~~improperly tagged deer or to use a tag issued to another hunter.~~

~~(bb)~~(u) **Illegal Methods:** The use of dogs, domestic animals, motor-driven conveyances, salt or bait of any kind to take deer is not permitted.

~~(cc) No person or persons shall possess sidearms while hunting deer.~~

COMMERCIAL PROCESSING ~~(dd)~~ (v) Any individual person or firm receiving, processing or having in custody any deer or parts thereof, shall maintain an accurate daily record showing the dates when such deer or parts thereof, were received, and when the same were disposed of, and the name and address of the owner of the deer or parts thereof, and the state or province from which the deer or parts thereof were taken and the official tag or seal number or certificate of ownership number.

Any enforcement officer may enter such establishment or plants at all reasonable hours and inspect the records and premises where operations are being carried on. The records required to be maintained shall be retained by the person or persons responsible for their preparation and maintenance for a period of one year following the close of the open season on deer prescribed for this state. A copy of these records shall be mailed to the Division of Law Enforcement, Room 606 State Office Building, Indianapolis, Indiana 46204 within seven (7) days from the last day of the deer season. *(Department of Natural Resources; Director's Discretionary Orders-FG No W-8; filed Dec 9, 1969, 3:00 pm: Rules and Regs. 1970, p. 183; filed Sep 24, 1970, 2:40 pm: Rules and Regs. 1971, p. 213; filed Sep 20, 1972: Rules and Regs. 1978, p.452; filed Aug 20, 1973, 4:30 pm: Rules and Regs. 1974, p. 397; filed Aug 20, 1974, 3:21 pm: Rules and Regs. 1975, p. 469; filed Aug 22, 1975, 9:45 am: Rules and Regs. 1976, p. 826; filed Aug 24, 1976, 2:45 pm: Rules and Regs. 1977, p. 279; filed Aug 16, 1977, 10:29 am: Rules and Regs. 1978, p. 576; filed Aug 17, 1978, 4:05 pm: 1 IR 663; filed Aug 8, 1979, 4:25 pm: 2 IR 1206; filed Aug 18, 1980, 1:40 pm: 3 IR 1604; filed Aug 14, 1981, 3:20 pm: 4 IR 1963; errata, 5 IR 400; filed Jul 19, 1982, 3:42 pm: 5 IR 1816; errata, 5 IR 2376; filed Aug 6, 1984, 8:32 am: 7 IR 2360; errata, 8 IR 78; errata, 8 IR 216; emergency rule filed Nov 5, 1984, 11:56 am: 8 IR 217; filed Jul 30, 1985, 3:32 pm)*

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US EPA RECORDS CENTER REGION 5
455880

TITLE 320 INDIANA ENVIRONMENTAL MANAGEMENT BOARD

LSA Document #84-58(F)

DIGEST

Adds 320 IAC 4.1 which replaces 320 IAC 4 in order to establish the entire hazardous waste management permitting system necessary for implementing the Environmental Management Act, IC 13-7, and consistent with the requirements of the Resource Conservation and Recovery Act, P.L.94-580, as amended (RCRA). 320 IAC 4.1 is written in the basic format of RCRA to facilitate continuity and clarity. Repeals 320 IAC 4. Effective 30 days after adoption approval and filing are complete.

320 IAC 4
320 IAC 4.1

SECTION 1. 320 IAC 4.1 is added to read as follows:

ARTICLE 4.1. HAZARDOUS WASTE MANAGEMENT PERMIT PROGRAM AND RELATED HAZARDOUS WASTE MANAGEMENT REQUIREMENTS

Rule 1. Hazardous Waste Management: General Provisions and Definitions

320 IAC 4.1-1-1 Purpose

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. The purpose of 320 IAC 4.1 is to establish policies, procedures, requirements, and standards to implement the Environmental Management Act (IC 13-7). 320 IAC 4.1 is being promulgated for the purpose of protecting and enhancing the quality of Indiana's environment and protecting the public health, safety, and well-being of its citizens. 320 IAC 4.1 establishes a hazardous waste management program consistent with the requirements of the Resource Conservation and Recovery Act (P.L.94-580,

42 USC 6901 et. seq.), as amended (hereafter referred to as RCRA), including those amendments made by the Solid Waste Disposal Act Amendment of 1980 (P.L.94-580), and regulations promulgated pursuant to RCRA. (40 CFR Part 260 to 265 and 270 to 271, 42 USC 6901 et. seq.) *(Indiana Environmental Management Board; 320 IAC 4.1-1-1)*

320 IAC 4.1-1-2 Scope

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. 320 IAC 4.1 establishes standards for identifying hazardous waste as well as standards for hazardous waste management procedures for generators, transporters, owners and operators of hazardous waste facilities. These rules also replace the permit program for existing hazardous waste facilities, which were regulated by 320 IAC 4-8 and 320 IAC 4-9 with a system equivalent to the Part A/Interim Status system of 40 CFR 270, and establish a new permit system and standards for all hazardous waste facilities. *(Indiana Environmental Management Board; 320 IAC 4.1-1-2)*

320 IAC 4.1-1-3 Number and gender

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. As used in 320 IAC 4.1-1 through 320 IAC 4.1-56:

(1) words in the masculine gender also include the feminine and neuter genders; and

(2) words in the singular include the plural; and

(3) words in the plural include the singular.

(Indiana Environmental Management Board; 320 IAC 4.1-1-3)

320 IAC 4.1-1-4 Waste produced at a particular facility; petition to exclude

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. A person who obtains temporary or final approval of a petition under Federal Rule 40 CFR 260.20 and 40 CFR 260.22 to exclude from hazardous waste regulation a particular waste produced at a particular facility shall apply for and may be granted that exclusion pursuant to IC 13-7-8.5-3(d). A waste which is so excluded may still, however, be a hazardous waste by operation of 320 IAC 4.1-5. *(Indiana Environmental Management Board; 320 IAC 4.1-1-4)*

320 IAC 4.1-1-5 Rulemaking petitions

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7 IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. Where the Administrator of EPA has granted a Rulemaking Petition pursuant to 40 CFR Part 260.20 and 260.21, the Board may, at its discretion, accept such determination and amend 320 IAC 4.1 accordingly provided that the petitioner can furnish appropriate evidence of the Administrator's actions and that the Board determines that granting such a petition is consistent with policies outlined in IC 13-7. *(Indiana Environmental Management Board; 320 IAC 4.1-1-5)*

320 IAC 4.1-1-6 Incorporation by reference

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. (a) When used in 320 IAC 4.1-1 through 320 IAC 4.1-56 the following publications are incorporated by reference:

"ASTM Standard Test Methods for Flash Point of Liquids by Setaflash Closed Tester," ASTM StandardD-3278-78, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

"ASTM Standard Test Methods for Flash Point by Pensky-Martens Closed Tester," ASTM Standard D-93-79 or D-93-80. D-93-80 is available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

"Flammable and Combustible Liquids Code" (1977 or 1981), available from the National Fire Protection Association, 470 Atlantic Avenue, Boston, Massachusetts 02210.

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (First Edition, 1980, as updated by Revisions A (August 1980), B (July 1981), and C (February 1982)) or (Second Edition, 1982). The first edition of SW-846 is no longer in print. Revisions A and B are available from EPA, Office of Solid Waste, (WH-565B), 401 M Street, S.W., Washington, D.C. 20460. Revision C is available from NTIS, 5285 Port Royal Road, Springfield, Virginia 22161. The second edition of SW-846 includes material from the first edition and Revisions A, B, and C in a reorganized format. It is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238, on a subscription basis.

49 CFR Parts 174, 175, 176 and 179 (1984).

40 CFR Part 264 Subpart H (1984), 40 CFR Part 265 Subpart H (1984).

33 CFR Part 153.203 (1984).

40 CFR Part 60, Appendix A (Method 3) (1984).

(b) Federal rules which have been incorporated by reference do not include any later amendments than those specified in the incorporation citation. Sales of the CFR are handled exclusively by the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402. (see phone number above for Government Printing Office order desk) The incorporated materials are available for public review at the offices of the Environmental Management Board. *(Indiana Environmental Management Board; 320 IAC 4.1-1-6)*

320 IAC 4.1-1-7 Definitions

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7
Affected: IC 13-7-1-2; IC 13-7-2; IC 13-7-8.5

Sec. 7. In addition to the definitions contained in IC 13-7, the following definitions shall apply to 320 IAC 4.1:

"Active portion" means that portion of a facility where treatment, storage, or disposal operations are being or have been conducted after November 19, 1980, and which is not a closed portion. (See also "closed portion" and "inactive portion.")

"Administrator" means the Administrator of the U.S. Environmental Protection Agency or his designee.

"Aquifer" means a geologic formation, group of formations or part of a formation capable of yielding a significant amount of groundwater to wells or springs.

"Authorized representative" means the person responsible for the overall operation of a facility or an operational unit (i.e., part of a facility), e.g., the plant manager, superintendent, or person of equivalent responsibility.

"Board" as used herein shall mean the Indiana Environmental Management Board as created by IC 13-7-2.

"Certification" means a statement of professional opinion based upon knowledge and belief.

"CFR" means the U.S. Code of Federal Regulations.

"Closed portion" means that portion of a facility which an owner or operator has closed in accordance with the approved facility closure plan and all applicable closure requirements. (See also "active portion" and "inactive portion.")

"Confined aquifer" means an aquifer bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself; an aquifer containing confined groundwater.

"Container" means any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.

"Contingency plan" means a document setting out an organized, planned, and coordinated course of action to be followed in case of a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

"Designated facility" means a hazardous waste treatment, storage, recovery, or disposal facility which has received an EPA permit or a State permit (or a facility with interim status) in accordance with the requirements of 40 CFR 270 and 124 or 320 IAC 4.1-34 and 320 IAC 4.1-38, or a permit from a state authorized in accordance with 40 CFR 271, that has been designated on the manifest by the generator pursuant to 320 IAC 4.1-8.

"Dike" means an embankment or ridge of either natural or man-made materials used to prevent the movement of liquids, sludges, solids, or other materials.

"Discharge" or "hazardous waste discharge" means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous waste into or on any land or water.

"Disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including groundwaters.

"Disposal facility" means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water and at which waste will remain after closure.

"Elementary neutralization unit" means a device which:

(i) is used for neutralizing wastes which are hazardous wastes only because they exhibit the corrosivity characteristic defined in 320 IAC 4.1-5-3, or are listed in 320 IAC 4.1-6 only for this reason; and

(ii) meets the definition of tank, container, transport vehicle, or vessel in 320 IAC 4.1-1-7.

"EMA" means the Environmental Management Act, IC 13-7, as amended.

"EPA" means the U.S. Environmental Protection Agency.

"EPA hazardous waste number" means the number assigned by U.S. EPA to each hazardous waste listed in 320 IAC 4.1-6 (see 40 CFR Part 261, Subpart D), and to each characteristic identified in 320 IAC 4.1-5 (see 40 CFR Part 261, Subpart C).

"U.S. EPA identification number" means the number assigned by EPA to each generator, transporter, and treatment, storage, or disposal facility.

"EPA region" means the states and territories found in any one of the following ten regions:

Region I—Maine, Vermont, New Hampshire, Massachusetts, Connecticut, and Rhode Island

Region II—New York, New Jersey, Commonwealth of Puerto Rico, and the U.S. Virgin Islands

Region III—Pennsylvania, Delaware, Maryland, West Virginia, Virginia, and the District of Columbia

Region IV—Kentucky, Tennessee, North Carolina, Mississippi, Alabama, Georgia, South Carolina, and Florida

Region V—Minnesota, Wisconsin, Illinois, Michigan, Indiana, and Ohio

Region VI—New Mexico, Oklahoma, Arkansas, Louisiana, and Texas

Region VII—Nebraska, Kansas, Missouri, and Iowa

Region VIII—Montana, Wyoming, North Dakota, South Dakota, Utah, and Colorado

Region IX—California, Nevada, Arizona, Hawaii, Guam, American Samoa, Commonwealth of the Northern Mariana Islands

Region X—Washington, Oregon, Idaho, and Alaska

"Equivalent method" means any testing or analytical method approved by the Board under 320 IAC 4.1-1-5.

"Existing hazardous waste management (HWM) facility" or "existing facility" means a facility which was in operation or for which construction commenced on or before November 19, 1980. A facility has commenced construction if:

(i) The owner or operator has obtained the Federal, State, and local approvals or permits necessary to begin physical construction; and either:

(A) a continuous on-site physical construction program has begun; or

(B) the owner or operator has entered into contractual obligations—which cannot be cancelled or modified without substantial loss—for physical construction of the facility to be completed within a reasonable time.

"Existing portion" means that land surface area of an existing waste management unit, included in the original Part A permit application on which wastes have been placed prior to the issuance of a permit.

"Facility" means all contiguous land and structures, other appurtenances, and improvements on the land used for treating, recovering, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combinations of them).

"Federal agency" means any department, agency, or other instrumentality of the Federal Government, any independent agency, or establishment of the Federal Government including any Government corporation and the Government Printing Office.

"Federal, State, and local approvals or permits necessary to begin physical construction" means permits and approvals required under Federal, State, or local hazardous waste control statutes, regulations, or ordinances.

"Final (State) Permit application" or "Final permit application" means the permit application required by 320 IAC 4.1-33 through 320 IAC 4.1-34. The application is equivalent to the Part B Permit application as specified in 40 CFR 270.

"Final (State) Permit" or "Final Permit" means the permit issued pursuant to 320 IAC 4.1-39. The permit is equivalent to the Part B Permit as specified in 40 CFR 270.

"Food-chain crops" means tobacco, crops grown for human consumption, and crops grown for feed for animals whose products are consumed by humans.

"Freeboard" means the vertical distance between the top of a tank or surface impoundment dike and the surface of the waste contained therein.

"Free liquids" means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

"Generator" means any person, by site, whose act or process produces hazardous waste identified or listed in 320 IAC 4.1-3 through 320 IAC 4.1-6 or whose act

first causes a hazardous waste to become subject to regulation.

"Groundwater" means water below the land surface in a zone of saturation.

"Hazardous waste" means a hazardous waste as defined in 320 IAC 4.1-3-3.

"Hazardous waste constituent" means a constituent that caused the Board to list the hazardous waste in 320 IAC 4.1-6, or a constituent listed in Table1 of 320 IAC 4.1-5-5.

"Hazardous waste facility" means a plant or site where hazardous waste is subjected to treatment, storage, disposal, or recovery.

"Inactive portion" means that portion of a facility which is not operated after November19, 1980. [See also "Active portion" and "Closed portion".]

"Incinerator" means an enclosed device using controlled flame combustion, the primary purpose of which is to thermally break down hazardous waste. Examples of incinerators are rotary kiln, fluidized bed, and liquid injection incinerators.

"Incompatible waste" means a hazardous waste which is unsuitable for:

(i) Placement in a particular device or facility because it may cause corrosion or decay of containment materials (e.g.,container inner liners or tank walls); or

(ii) Commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes or gases, or flammable fumes or gases. (See 320 IAC 4.1-32-5 for examples of potentially incompatible waste.)

"Individual generation site" means the contiguous site at or on which one or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous.

"Injection well" means a well into which fluids are injected. (See also "underground injection.")

"In operation" refers to a facility which is treating, storing, recovering, or disposing of hazardous waste.

"Inner liner" means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained waste or reagents used to treat the waste.

"Interim Status Standards," for the purposes of 320 IAC 4.1 means, for exisiting facilities, those requirements outlined in 320 IAC 4.1-15 through 320 IAC 4.1-32.

"Interim Status," for the purposes of 320 IAC 4.1, interim status means that interim period during which an existing hazardous waste management facility shall be treated as having been issued a permit. Interim status begins when an existing facility first becomes subject to 320 IAC 4.1 or 40 CFR 265 and complies with 320 IAC 4.1-38 or 40 CFR 270.70. Interim status terminates upon the final administrative disposition of its Final (State) permit pursuant to 320 IAC 4.1-39 or closure pursuant to 320 IAC 4.1-21.

"International shipment" means the transportation of hazardous waste into or out of the jurisdiction of the United States.

"Landfill" means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a land treatment facility, a surface impoundment, or an injection well.

"Landfill cell" means a discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes. Examples of landfill cells are trenches and pits.

"Land treatment facility" means a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface; such facilities are disposal facilities if the waste will remain after closure.

"Leachate" means any liquid, including any suspended components in the liquid, that has percolated through or drained from hazardous waste.

"Liner" means a continuous layer of natural or man-made materials, beneath or on the sides of a surface impoundment, landfill, or landfill cell, which restricts the downward or lateral escape of hazardous waste, hazardous waste constituents, or leachate.

"Management" or "hazardous waste management" means the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous waste.

"Manifest" means the shipping document EPA Form 8700-22 and, if necessary, EPA Form 8700-22A, originated and signed by the generator in accordance with the instructions outlined in 320 IAC 4.1-14-3.

"Manifest document number" means the U.S.EPA twelve digit identification number assigned to the generator plus a unique five digit document number

assigned to the Manifest by the generator for recording and reporting purposes.

"Mining overburden returned to the mine site" means any material overlying an economically valuable mineral deposit which is removed to gain access to that deposit and is then used for reclamation of a surface mine.

"Movement" means that hazardous waste which is transported to a facility in an individual vehicle.

"New hazardous waste management facility" or "new facility" means a facility which began operation or for which construction commenced after November 19, 1980. (See also "Existing hazardous waste management facility.")

"On-site" means the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a crossroads intersection and access is by crossing as opposed to going along the right-of-way. Non-contiguous properties owned by the same person but connected by a right-of-way which he controls and to which the public does not have access is also considered on-site property.

"Open burning" means the combustion of any material without the following characteristics:

(i) control of combustion air to maintain adequate temperature for efficient combustion,

(ii) containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and

(iii) control of emission of the gaseous combustion products.

(See also "incineration" and "thermal treatment.")

"Operator" means the person responsible for the overall operation of a facility.

"Owner" means the person who owns a facility or part of a facility.

"Part A," "Part A Permit," or "Part A permit application" means the EPA forms 3510-1 and 3510-3 which are submitted pursuant to 320 IAC 4.1-34-1(e). (These forms available from the Indiana Environmental Management Board)

"Partial closure" means the closure of a discrete part of a facility in accordance with the applicable closure requirements of 320 IAC 4.1-15 through 320 IAC 4.1-32 or 320 IAC 4.1-40 through 320 IAC 4.1-54. For example, partial closure may include the closure of a trench, a unit operation, a landfill cell, or a pit, while other parts of the same facility continue in operation or will be placed in operation in the future.

"Person" means the same as defined in IC 13-1-2(a)(3) including but not limited to: an individual, trust, firm, joint stock company, Federal Agency, corporation (including a government corporation), partnership, association, State, municipality, commission, political subdivision of a State, or any interstate body.

"Personnel" or "facility personnel" means all persons who work at or oversee the operations of a hazardous waste facility and whose actions or failure to act may result in noncompliance with the requirements of applicable portions of 320 IAC 4.1-15 through 320 IAC 4.1-32 and 320 IAC 4.1-40 through 320 IAC 4.1-54.

"Pile" means any non-containerized accumulation of solid, non-flowing hazardous waste that is used for treatment or storage.

"Point source" means any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

"Publicly owned treatment works" or "POTW" means any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a "State" or "municipality" (as defined by Section 502(4) of the Clean Water Act 33 USC 1251 et.seq.). This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

"RCRA" means the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended, 42 U.S.C. Section 6901, et seq.

"Regional Administrator" means the Regional Administrator for the U.S. EPA Region in which the facility is located or his designee.

"Representative sample" means a sample of a universe or whole (e.g., waste pile, lagoon, groundwater) which can be expected to exhibit the average properties of the universe or whole.

"Run-off" means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

"Run-on" means any rainwater, leachate, or other liquid that drains over land onto any part of a facility

"Saturated zone" or "zone of saturation" means that part of the earth's crust in which all voids are filled

with water.

"Sludge" means any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

"Solid waste" means a solid waste as defined in 320 IAC 4.1-3-2.

"State" means any of the several states, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

"Storage" means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere.

"Surface impoundment" or "impoundment" means a facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials) which is designed to hold an accumulation of liquid wastes or wastes containing free liquids and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

"Tank" means a stationary device, designed to contain an accumulation of hazardous waste which is constructed primarily of non-earthern materials (e.g., wood, concrete, steel, plastic) which provide structural support.

"Thermal treatment" means the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, incineration, wet air oxidation, and microwave discharge. (See also "incinerator" and "open burning.")

"Totally enclosed treatment facility" means a facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment. An example is a pipe in which waste acid is neutralized.

"Transfer facility" means any transportation related facility including loading docks, parking areas, storage areas, and other similar areas where shipments of hazardous waste are held during the normal course of transportation.

"Transport vehicle" means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (trailer, railroad freight car,etc.) is a separate transport vehicle.

"Transportation" means the movement of hazardous waste by air, rail, highway, or water.

"Transporter" means a person engaged in the off-site transportation of hazardous waste by air, rail, highway, or water.

"Treatment" means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.

"Treatment Zone" means a soil area of the unsaturated zone of a land treatment unit within which hazardous constituents are degraded, transformed, or immobilized.

"Underground injection" means the subsurface emplacement of fluids through a bored, drilled, or driven well; or through a dug well where the depth of the dug well is greater than the largest surface dimension. (See also "injection well.")

"Unsaturated zone" or "zone of aeration" means the zone between the land surface and the water table.

"United States" means the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, the U.S.Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

"Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

"Vessel" includes every description of watercraft, used or capable of being used as a means of transportation on the water.

"Wastewater treatment unit" means a device which:
(i) is part of a wastewater treatment facility which is subject to regulation under either Section 402 or Section 307(b) of the Clean Water Act (33 USC 1342 or 33 USC 1317); and

(ii) receives and treats or stores an influent wastewater which is a hazardous waste as defined in 320 IAC 4.1-3-3, or generates and accumulates a wastewater treatment sludge which is a hazardous waste as defined in 320 IAC 4.1-3-3, or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in 320 IAC 4.1-3-3; and
(iii) meets the definition of tank in 320 IAC 4.1-1-7.

"Water (bulk shipment)" means the bulk transportation of hazardous waste which is loaded or carried on board a vessel without containers or labels.

"Well" means any shaft or pit dug or bored into the earth, generally of a cylindrical form, and often walled with bricks or tubing to prevent the earth from caving in.

"Well injection" (see "underground injection"). *(Indiana Environmental Management Board; 320 IAC 4.1-1-7)*

Rule 2. Hazardous Waste Management: Notification of Hazardous Waste Activity

320 IAC 4.1-2-1 Notification required

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. Every hazardous waste generator, transporter, or owner or operator of a hazardous waste facility shall notify the Board of such activities on forms provided by the Board unless such activity is exempt from the notification requirements for hazardous waste generated by small quantity generators as prescribed in 320 IAC 4.1-3-5. *(Indiana Environmental Management Board; 320 IAC 4.1-2-1)*

320 IAC 4.1-2-2 Notification: time for notifying for existing generators, transporters, and owners or operators of hazardous waste facilities

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. (a) Any person who generates, transports, treats, stores, recovers, or disposes of hazardous waste, as defined in 320 IAC 4.1-3 through 320 IAC 4.1-6, shall notify the Board within 90 days from the effective date of 320 IAC 4.1, unless such notification has been previously provided to the Regional Administrator in accordance with 3010 of RCRA (42 USC 6930) or in accordance with 320 IAC 4-2.

(b) Any person who generates, transports, treats, stores, recovers, or disposes of a solid waste which has been determined to be hazardous, or is added to the listing of hazardous waste by any revision of 320 IAC 4.1-3 through 320 IAC 4.1-6, shall notify the Board of such activity, in accordance with Section 1 of 320 IAC 4.1-2, no later than 90 days from the effective date of the revision of 320 IAC 4.1-3 through 320 IAC 4.1-6, which causes the waste to be hazardous or adds the waste to the listing of hazardous waste. *(Indiana Environmental Management Board; 320 IAC 4.1-2-2)*

320 IAC 4.1-2-3 Notification: time for notifying for new hazardous waste generators

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. (a) Any person who becomes a generator of hazardous waste after the ninety (90) day period for notification under Section 2(b) shall notify the Board of such activity within thirty (30) days of the start of generation and obtain an identification number under 320 IAC 4.1-2-4.

(b) Any person who transports or offers for transportation a hazardous waste must first obtain an identification number under Section 4. *(Indiana Environmental Management Board; 320 IAC 4.1-2-3)*

320 IAC 4.1-2-4 Use of identification numbers

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. The Board shall require the use of identification numbers issued by the U.S.Environmental Protection Agency. *(Indiana Environmental Management Board; 320 IAC 4.1-2-4)*

Rule 3. Identification and Listing of Hazardous Waste: General

320 IAC 4.1-3-1 Purpose and scope

Authority: IC 13-7-3-1; IC 13-7-5-1
Affected: IC 13-7-1-2; IC 13-7-8.5-3; IC 13-7-12-1

Sec. 1. (a) 320 IAC 4.1-3 through 320 IAC 4.1-6 identify those solid wastes which are subject to regulation as hazardous wastes under 320 IAC 4.1-7 through 320 IAC 4.1-54 and which are subject to the notification requirements of 320 IAC 4.1-2. In 320 IAC 4.1-3 through 320 IAC 4.1-6:

(1) 320 IAC 4.1-3 defines the terms "solid waste" and "hazardous waste," identifies those wastes which are excluded from regulation under 320 IAC 4.1-7 through 320 IAC 4.1-54, and establishes special management requirements for hazardous waste produced by small quantity generators and

hazardous waste which is used, re-used, recycled, or reclaimed.

(2) 320 IAC 4.1-4 sets forth the criteria used by the Board to identify characteristics of hazardous waste and to list particular hazardous wastes.

(3) 320 IAC 4.1-5 identifies characteristics of hazardous waste.

(4) 320 IAC 4.1-6 lists particular hazardous wastes.

(b) These Rules identify only some of the materials which are hazardous wastes as defined by IC 13-7-1-2(17), including IC 13-7-8.5-3(b). A material which is not a hazardous waste identified by these Rules is still a hazardous waste for purposes of those sections if:

(1) In the case of 320 IAC 4.1-55-1, the Board has reason to believe that the material may be a hazardous waste within the meaning of IC 13-7-1-2(17).

(2) In the case of IC 13-7-12-1, the statutory elements are established.

(Indiana Environmental Management Board; 320 IAC 4.1-3-1)

320 IAC 4.1-3-2 Definition of solid waste

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 2. (a) A solid waste is any garbage, refuse, sludge, or any other waste material which is not excluded under 320 IAC 4.1-3-4.

(b) An "other waste material" is any solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, or agricultural operations, or from community activities which:

(1) is discarded or is being accumulated, stored, or physically, chemically, or biologically treated prior to being discarded; or

(2) has served its original intended use and sometimes is discarded; or

(3) is a manufacturing or mining by-product and sometimes is discarded.

(c) A material is "discarded" if it is abandoned (and not used, re-used, reclaimed, or recycled) by being:

(1) disposed of; or

(2) burned or incinerated except where the material is being burned as a fuel for the purpose of recovering usable energy; or

(3) physically, chemically, or biologically treated (other than burned or incinerated) in lieu of or prior to being disposed of.

(d) A material is "diposed of" if it is discharged, deposited, injected, spilled, leaked, or placed into or on any land or water so that such material or any constituent thereof may enter the environment or be emitted into the air or discharged into ground or surface waters.

(e) A "manufacturing or mining by-product" is a material that is not one of the primary products of a particular manufacturing or mining operation, is a secondary and incidental product of the particular operation, and would not be solely and separately manufactured or mined by the particular manufacturing or mining operation. The term does not include an intermediate manufacturing or mining product which results from one of the steps in a manufacturing or mining process and which is typically processed through the next step of the process within a short time. *(Indiana Environmental Management Board; 320 IAC 4.1-3-2)*

320 IAC 4.1-3-3 Definition of hazardous waste

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 3. (a) A solid waste, as defined in 320 IAC 4.1-3-2, is a hazardous waste if:

(1) it is not excluded from regulation as a hazardous waste under 320 IAC 4.1-3-4(b); and

(2) it meets any of the following criteria:

(i) It exhibits any of the characteristics of hazardous waste identified in 320 IAC 4.1-5.

(ii) It is listed in 320 IAC 4.1-6 and has not been excluded from the lists in 320 IAC 4.1-6 under 320 IAC 4.1-1-4.

(iii) It is a mixture of a solid waste and a hazardous waste that is listed in 320 IAC 4.1-6 solely because it exhibits one or more of the characteristics of hazardous waste identified in 320 IAC 4.1-5, unless the resultant mixture no longer exhibits any characteristic of hazardous waste identified in 320 IAC 4.1-5.

(iv) It is a mixture of solid waste and one or more hazardous wastes listed in 320 IAC 4.1-6 and has not been excluded from this paragraph under 320 IAC 4.1-1-4; however, the following mixtures of solid wastes and hazardous wastes listed in 320 IAC 4.1-1-6 are not hazardous wastes (except by application of paragraph (a)(2)(i) or (ii) of this section) if the generator can demonstrate that the mixture consists of wastewater, the discharge of which is subject to regulation under either Section 402 or Section 307(b) of the Clean Water Act (33 USC 1342 or 33 USC 1317) (including wastewater at facilities which have eliminated the discharge of wastewater), and:

(A) One or more of the following spent solvents listed in 320 IAC 4.1-6-2—carbon

tetrachloride, tetrachloroethylene, trichloroethylene—provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed one part per million; or

(B) One or more of the following spent solvents listed in 320 IAC 4.1-6-2—methylene chloride, 1, 1, 1-trichloroethane, chlorobenzene, o-dichlorobenzene, cresols, cresylic acids, nitrobenzene, toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, spent chloroflorocarbon solvents—provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 25 parts per million; or

(C) One of the following wastes listed in 320 IAC 4.1-6-3—heat exchanger bundle cleaning sludge from the petroleum refining industry (EPA Hazardous Waste No. K050); or

(D) A discarded commercial chemical product, or chemical intermediate listed in 320 IAC 4.1-6-4, arising from de minimis losses of these materials from manufacturing operations in which these materials are used as raw materials or are produced in the manufacturing process. For purposes of this subparagraph, "de minimis" losses include those from normal material handling operations (e.g., spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves, or other devices used to transfer materials); minor leaks of process equipment, storage tanks, or containers; leak from well maintained pump packings and seals; sample purgings; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing; or

(E) Wastewater resulting from laboratory operations containing toxic (T) wastes listed in 320 IAC 4.1-6, provided that the annualized average flow of laboratory wastewater does not exceed one percent of total wastewater flow into the headworks of the facility's wastewater treatment or pretreatment system, or provided the wastes' combined annualized average concentration does not exceed one part per million in the headworks of the facility's wastewater treatment or pretreatment facility. Toxic (T) wastes used in laboratories that are demonstrated not to be discharged to wastewater are not to be included in this calculation.

(b) A solid waste which is not excluded from regulation under paragraph (a)(1) of this section becomes a hazardous waste when any of the following events occur:

(1) In the case of a waste listed in 320 IAC 4.1-6, when the waste first meets the listing description set forth in 320 IAC 4.1-6.

(2) In the case of a mixture of solid waste and one or more listed hazardous wastes, when a hazardous waste listed in 320 IAC 4.1-6 is first added to the solid waste.

(3) In the case of any other waste (including a waste mixture), when the waste exhibits any of the characteristics identified in 320 IAC 4.1-5.

(c) Unless and until it meets the criteria of paragraph (d):

(1) A hazardous waste will remain a hazardous waste.

(2)(i) Except as otherwise provided in paragraph (c)(2)(ii) of this section, any solid waste generated from the treatment, storage, or disposal of a hazardous waste, including any sludge, spill residue, ash, emission control dust or leachate (but not including prescription run-off) is a hazardous waste.

(ii) The following solid wastes are not hazardous even though they are generated from the treatment, storage, or disposal of a hazardous waste, unless they exhibit one or more of the characteristics of hazardous waste: (A) Waste pickle liquor sludge generated by lime stablization of spent pickle liquor from the iron and steel industry (SIC codes 331 and 332).

(d) Any solid waste described in paragraph (c) of this section is not a hazardous waste if it meets the following criteria:

(1) In the case of any solid waste, it does not exhibit any of the characteristics of hazardous waste identified in 320 IAC 4.1-5.

(2) In the case of a waste which is a listed waste in 320 IAC 4.1-6, contains a waste listed in 320 IAC 4.1-6, or is derived from a waste listed in 320 IAC 4.1-6, it also has been excluded from paragraph (c) pursuant to 320 IAC 4.1-1.

(Indiana Environmental Management Board; 320 IAC 4.1-3-3)

320 IAC 4.1-3-4 Exclusions

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 4. (a) Materials which are not solid wastes. The following materials are not solid wastes for the purposes of 320 IAC 4.1-3 to 320 IAC 4.1-6:

(1)(i) Domestic sewage; and

(ii) Any mixture of domestic sewage and other wastes that passed through a sewer system to a publicly-owned treatment works (POTW) for treatment. "Domestic sewage" means untreated sanitary wastes that pass through a sewer system.

(2) Industrial wastewater discharges that are point source discharges subject to regulation under Section 402 of the Clean Water Act (33 USC 1342), as amended.

[Note: This exclusion applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being collected, stored, or treated before discharge, nor does it exclude sludges that are generated by industrial wastewater treatment.]

(3) Irrigation return flows.

(4) Source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011, et seq.

(5) Materials subjected to in-situ mining techniques which are not removed from the ground as part of the extraction process.

(b) Solid wastes which are not hazardous wastes. The following solid wastes are not hazardous wastes:

(1) Household waste, including household waste that has been collected, transported, stored, treated, disposed, recovered (e.g., refuse-derived fuel), or reused. "Household waste" mean any waste material (including garbage, trash, and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels, and motels).

(2) Solid wastes generated by any of the following and which are returned to the soils as fertilizers:

(i) The growing and harvesting of agricultural crops.

(ii) The raising of animals, including animal manure.

(3) Mining overburden returned to the mine site.

(4) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels.

(5) Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas, or geothermal energy.

(6)(i) Wastes which fail the test for the characteristic of EP toxicity because chromium is present or are listed in 320 IAC 4.1-6 due to the presence of chromium which do not fail the test for the characteristic of EP toxicity for any other constitutent or are not listed due to the presence of any other constitutent, and which do not fail the test for any other characteristic, if it is shown by a waste generator or by waste generators that:

(A) the chromium in the waste is exclusively (or nearly exclusively) trivalent chromium; and

(B) the waste is generated from an industrial process which uses trivalent chromium exclusively (or nearly exclusively) and the process does not generate hexavalent chromium; and

(C) the waste is typically and frequently managed in non-oxidizing environments.

(ii) Specific wastes which meet the standard in (b)(6)(i)(A), (B), and(C) (so long as they do not fail the test for the characteristic of EP toxicity, and do not fail the test for any other characteristic) are:

(A) Chrome (blue) trimmings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(B) Chrome (blue) shavings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(C) Buffing dust generated by the following subcategories of the leather tanning and finishing industry; hair pulp/chrome tan/retan/wet finish: hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue.

(D) Sewer screenings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(E) Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish: hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(F) Wastewater treatment sludges generated

by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; and through-the-blue.

(G) Waste scrap leather from the leather tanning industry, the shoe manufacturing industry, and other leather product manufacturing industries.

(H) Wastewater treatment sludges from the production of TiO2 pigment using chromium-bearing ores by the chloride process.

(7) Solid waste from the extraction, beneficiation, and processing of ores and minerals (including coal), including phosphate rock and overburden from the mining of uranium ore.

(8) Cement kiln dust waste.

(9) Solid waste which consists of discarded wood or wood products which fails the test for the characteristic of EPtoxicity and which is not a hazardous waste for any other reason if the waste is generated by persons who utilize the arsenical-treated wood and wood products for these materials' intended end use.

(c) Hazardous wastes which are exempted from certain regulations. A hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated non-waste-treatment-manufacturing unit, is not subject to regulation under 320 IAC 4.1-7 through 320 IAC 4.1-54 until it exits the unit in which it was generated, unless the unit is a surface impoundment, or unless the hazardous waste remains in the unit more than 90 days after the unit ceases to be operated for manufacturing or for storage or transportation of product or raw materials.

(d) Samples.

(1) Except as provided in paragraph (d)(2) of this section, a sample of solid waste or a sample of water, soil, or air, which is collected for the sole purpose of testing to determine its characteristics or composition, is not subject to any requirements of 320 IAC 4.1-7 through 320 IAC 4.1-54 when:

(i) the sample is being transported to a laboratory for the purpose of testing; or

(ii) the sample is being transported back to the sample collector after testing; or

(iii) the sample is being stored by the sample collector before transport to a laboratory for testing; or

(iv) the sample is being stored in a laboratory before testing; or

(v) the sample is being stored in a laboratory after testing but before it is returned to the sample collector; or

(vi) the sample is being stored temporarily in the laboratory after testing for a specific purpose (for example, until conclusion of a court case or enforcement action where further testing of the sample may be necessary).

(2) In order to qualify for the exemption in paragraph (d)(1)(i) and(ii) of this section, a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector must:

(i) comply with U.S.Department of Transportation(DOT), U.S. Postal Service (USPS), or any other applicable shipping requirements; or

(ii) comply with the following requirements if the sample collector determines that DOT, USPS, or other shipping requirements do not apply to the shipment of the sample:

(A) Assure that the following information accompanies the sample:

(1) the sample collector's name, mailing address, and telephone number;

(2) the laboratory's name, mailing address, and telephone number;

(3) the quantity of the sample;

(4) the date of shipment; and

(5) A description of the sample.

(B) Package the sample so that it does not leak, spill, or vaporize from its packaging.

(3) This exemption does not apply if the laboratory determines that the waste is hazardous but the laboratory is no longer meeting any of the conditions stated in paragraph (d)(1) of this section.

(Indiana Environmental Management Board; 320 IAC 4.1-3-4)

320 IAC 4.1-3-5 Special requirements for hazardous waste generated by small quantity generators

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 5. (a) A generator is a small quantity generator in a calendar month if he generates less than 1,000 kilograms of hazardous waste in that month.

(b) Except for those wastes identified in paragraphs (e) and(f) of this section, a small quantity generator's hazardous wastes are not subject to regulation under 320 IAC 4.1-7 through 320 IAC 4.1-54 provided the generator complies with the requirements of paragraph (g) of this section.

(c) Hazardous waste that is beneficially used or reused or legitimately recycled or reclaimed and that is excluded from regulation by 320 IAC 4.1-3-6(a) is not included in the quantity determinations of this section and is not subject to any requirements of this section. Hazardous waste that is subject to the special requirements of 320 IAC 4.1-3-6(b) is included in the quantity determinations of this section and is subject to the requirements of this section.

(d) In determining the quantity of hazardous waste he generates, a generator need not include:

(1) his hazardous waste when it is removed from on-site storage; or

(2) hazardous waste produced by on-site treatment of his hazardous waste.

(e) If a small quantity generator generates acutely hazardous waste in a calendar month in quantities greater than set forth below, all quantities of that acutely hazardous waste are subject to regulation under 320 IAC 4.1-7 through 320 IAC 4.1-54:

(1) A total of one kilogram of commercial chemical products and manufacturing chemical intermediates having the generic names listed in 320 IAC 4.1-6-4(e), and off-specification commercial chemical products and manufacturing chemical intermediates which, if they met specifications, would have the generic names listed in 320 IAC 4.1-6-4(e); or

(2) A total of one hundred (100) kilograms of any residue or contaminated soil, water, or other debris resulting from the clean-up of a spill, into or on any land or water, of any commercial chemical products or manufacturing chemical intermediates having the generic names listed in 320 IAC 4.1-6-4(e) or any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill, into or on any land or water, of any off-specification commercial chemical products or manufacturing chemical intermediates which, if they met specifications, would have the generic names listed in 320 IAC 4.1-6-4(e).

(f) A small quantity generator may accumulate hazardous waste on-site. If he accumulates at any time more than a total of 1,000 kilograms of his hazardous waste, or his acutely hazardous wastes in quantities greater than set forth in paragraphs (e)(1) or (e)(2) of this section, all of those accumulated wastes for which the accumulation limit was exceeded are subject to regulation under 320 IAC 4.1-7 through 320 IAC 4.1-54. The time period of 320 IAC 4.1-9-5 for accumulation of wastes on-site begins for a small quantity generator when the accumulated wastes exceed the applicable exclusion level.

(g) In order for hazardous waste generated by a small quantity generator to be excluded from full regulation under this section, the generator must:

(1) comply with Section 320 IAC 4.1-7-2;

(2) if he stores his hazardous waste on-site, store it in compliance with the requirements of paragraph (f) of this section; and

(3) either treat or dispose of his hazardous waste in an on-site facility, or ensure delivery to an off-site storage, treatment, or disposal facility, either of which is:

(i) permitted under 320 IAC 4.1-33 through 320 IAC 4.1-38, or a federally issued Part B Permit;

(ii) in interim status pursuant to 320 IAC 4.1-15 through 320 IAC 4.1-32 and 320 IAC 4.1-38;

(iii) authorized to manage hazardous waste by a state with a hazardous waste management program approved under 40 CFR Part 271 or has federal interim status in a state without a hazardous waste management program approved under 40 CFR Part 271;

(iv) permitted by Indiana to accept municipal or industrial solid waste and in accordance with 330IAC4 or its successor rule or permitted by any other state to accept municipal or industrial solid waste; or

(v) a facility which:

(A) beneficially uses or reuses, or legitimately recycles or reclaims his waste; or

(B) treats his waste prior to beneficial use or reuse, or legitimate recycling or reclamation.

(h) Hazardous waste subject to the reduced requirements of this section may be mixed with non-hazardous waste and remain subject to these reduced requirements even though the resultant mixture exceeds the quantity limitations identified in this section, unless the mixture meets any of the characteristics of hazardous wastes identified in 320 IAC 4.1-5.

(i) If a small quantity generator mixes a solid waste with a hazardous waste that exceeds a quantity exclusion level of this section, the mixture is subject to full regulation. *(Indiana Environmental Management Board; 320 IAC 4.1-3-5)*

320 IAC 4.1-3-6 Special requirements for hazardous waste which is used, reused, recycled, or reclaimed

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 6. (a) Except as otherwise provided in subsection (b) of this section, a hazardous waste which meets any of the following criteria is not subject to

regulation under 320 IAC 4.1-7 through 320 IAC 4.1-56 and is not subject to the notification requirements of 320 IAC 4.1-2:

(1) It is one of the following materials being used, reused, recycled, or reclaimed in the specified manner:

(i) a spent pickle liquor which is reused in wastewater treatment at a facility holding a National Pollutant Discharge Elimination System (NPDES) permit, or is being accumulated, stored, or physically, chemically, or biologically treated before such reuse; or

(2) A waste which is determined to be hazardous only because it exhibits one or more of the characteristics identified in 320 IAC 4.1-5 and which meets any of the following criteria:

(i) it is being transported for use, reuse, recycling, or reclamation at a facility which has interim status pursuant to 320 IAC 4.1-34 and 320 IAC 4.1-38, has a Final (State) permit issued pursuant to 320 IAC 4.1-34 through 320 IAC 4.1-37 and 320 IAC 4.1-39, has a final (Part B) permit issued by the EPA, has a hazardous waste management permit issued by another state if that state is authorized by the EPA under 40 CFR Part 271 to issue that permit, or has been designated as having interim status by the EPA in states which do not have a hazardous waste program authorized by the EPA under 40 CFR Part 271;

(ii) it is beneficially and legitimately recycled, recovered, or reused at the same site by the generator under IC 13-7-8.5-5(e); or

(iii) it is stored or treated on-site by the generator prior to transport off-site to a facility pursuant to paragraph (a)(2)(i) or prior to recycling, recovery, or reuse on-site pursuant to paragraph (a)(2)(ii).

(b) Except for those wastes listed in paragraph (a)(1) of this section, a hazardous waste which is a sludge, or which is listed in 320 IAC 4.1-6-2 or 320 IAC 4.1-6-3, or which contains one or more hazardous waste(s) listed in 320 IAC 4.1-6-2 or 320 IAC 4.1-6-3, and that is transported or stored prior to being used, reused, recycled, or reclaimed is subject to the following requirements with respect to such storage or transportation:

(1) notification requirements under 320 IAC 4.1-2;

(2) 320 IAC 4.1-7 through 320 IAC 4.1-11;

(3) 320 IAC 4.1-12 through 320 IAC 4.1-14;

(4) applicable provisions of 320 IAC 4.1-40 through 320 IAC 4.1-51;

(5) applicable provisions of 320 IAC 4.1-15 through 320 IAC 4.1-26;

(6) 320 IAC 4.1-33 through 320 IAC 4.1-39 with respect to storage facilities.

(Indiana Environmental Management Board; 320 IAC 4.1-3-6)

320 IAC 4.1-3-7 Residues of hazardous waste in empty containers

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 7. (a)(1) Any hazardous waste remaining in either (i)An empty container or (ii) an inner liner removed from any empty container, as defined in paragraph (b) of this section, is not subject to regulation under 320 IAC 4.1-3 through 320 IAC 4.1-54 or to the notification requirements of 320 IAC 4.1-2.

(2) Any hazardous waste in either (i) a container that is not empty or (ii) an inner liner removed from a container that is not empty, as defined in paragraph (b) of this section, is subject to regulation under 320 IAC 4.1-3 through 320 IAC 4.1-54 and to the notification requirements of 320 IAC 4.1-2.

(b)(1) A container or an inner liner removed from a container that has held any hazardous waste, except a waste that is a compressed gas or that is identified in 320 IAC 4.1-6-4(c), is empty if:

(i) all wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g.,pouring, pumping, and aspirating; AND

(ii) no more than 2.5centimeters (one inch) of residue remain on the bottom of the container or inner liner; OR

(iii)(A) no more than 3percent by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 110gallons in size; or

(B) no more than 0.3percent by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 110gallons in size.

(2) A container that has held a hazardous waste that is a compressed gas is empty when the pressure in the container approaches atmospheric.

(3) A container or an inner liner removed from a container that has held a hazardous waste identified in 320 IAC 4.1-6-4(c) is empty if:

(i) the container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate;

(ii) the container or inner liner has been cleaned by another method that has been shown in the scientific

literature, or by tests conducted by the generator, to achieve equivalent removal; or

(iii) in the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing chemical intermediate with the container, has been removed.

(Indiana Environmental Management Board; 320 IAC 4.1-3-7)

Rule 4. Criteria for Identifying the Characteristics of Hazardous Waste and for Listing Hazardous Waste

320 IAC 4.1-4-1 Criteria for identifying the characteristics of hazardous waste

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 1. (a) The Board shall identify and define a characteristic of hazardous waste in 320 IAC 4.1-5 only upon determining that:

(1) A solid waste that exhibits the characteristic may:

(i) cause, or significantly contribute to, an increase in mortality or increase in serious irreversible, or incapacitating reversible illness; or

(ii) pose a substantial present or potential hazard to human health or the environment when it is improperly treated, stored, transported, disposed of, or otherwise managed; and

(2) The characteristic can be:

(i) measured by an available standardized test method which is reasonably within the capability of generators of solid waste or private sector laboratories that are available to serve generators of solid waste; or

(ii) reasonably detected by generators of solid waste through their knowledge of their waste.

(Indiana Environmental Management Board; 320 IAC 4.1-4-1)

320 IAC 4.1-4-2 Criteria for listing hazardous waste.

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 2. (a) The Board shall list a solid waste as a hazardous waste only upon determining that the solid waste meets one of the following criteria:

(1) It exhibits any of the characteristics of hazardous waste identified in 320 IAC 4.1-5.

(2) It has been found to be fatal to humans in low doses or, in the absence of data on human toxicity, it has been shown in studies to have an oral LD 50 toxicity (rat) of less than 50 milligrams per kilogram, an inhalation LC 50 toxicity (rat) of less than 2 milligrams per liter, or a dermal LD 50 toxicity (rabbit) of less than 200 milligrams per kilogram or is otherwise capable of causing or significantly contributing to an increase in serious irreversible or incapacitating reversible illness. (Waste listed in accordance with these criteria will be designated Acute Hazardous Waste.)

(3) It contains any of the toxic constituents listed in 320 IAC 4.1-6-9 unless, after considering any of the following factors, the Board concludes that the waste is not capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed:

(i) The nature of the toxicity presented by the constituent.

(ii) The concentration of the constituent in the waste.

(iii) The potential of the constituent or any toxic degradation product of the constituent to migrate from the waste into the environment under the types of improper management considered in paragraph (a)(3)(vii) of this Section.

(iv) The persistence of the constituent or any toxic degradation product of the constituent.

(v) The potential for the constituent or any toxic degradation product of the constituent to degrade into non-harmful constituents and the rate of degradation.

(vi) The degree to which the constituent or any degradation product of the constituent bioaccumulates in ecosystems.

(vii) The plausible types of improper management to which the waste could be subjected.

(viii) The quantities of the waste generated at individual generation sites or on a regional or national basis.

(ix) The nature and severity of the human health and environmental damage that has occurred as a result of the improper management of wastes containing the constituent.

(x) Action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituent.

(xi) Such other factors as may be appropriate.

Substances will be listed on 320 IAC 4.1-6-9 only if they have been shown in scientific studies to have toxic, carcinogenic, mutagenic, or teratogenic effects on humans or other life forms.

(Wastes listed in accordance with these criteria will be

designated toxic wastes.)

(b) The Board may list classes or types of solid waste as hazardous waste if there is reason to believe that individual wastes, within the class or type of waste, typically or frequently are hazardous under the definition of hazardous waste found in IC 13-7.

(c) The Board will use the criteria for listing specified in this section to establish the exclusion limits referred to in 320 IAC 4.1-3-5(c). *(Indiana Environmental Management Board; 320 IAC 4.1-4-2)*

Rule 5. Characteristics of Hazardous Waste

320 IAC 4.1-5-1 General

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. (a) A solid waste, as defined in 320 IAC 4.1-3-2, which is not excluded from regulation as a hazardous waste under 320 IAC 4.1-3-4(b), is a hazardous waste if it exhibits any of the characteristics identified in 320 IAC 4.1-5.

[Note: 320 IAC 4.1-7-2 sets forth the generator's responsibility to determine whether his waste exhibits one or more of the characteristics identified in 320 IAC 4.1-5.]

(b) A hazardous waste which is identified by a characteristic in this Rule, but is not listed as a hazardous waste in 320 IAC 4.1-6, is assigned the EPA Hazardous Waste Number set forth in the respective characteristic in 320 IAC 4.1-5. This number must be used in complying with the notification requirements of 320 IAC 4.1-2 and certain recordkeeping and reporting requirements under 320 IAC 4.1-7 through 320 IAC 4.1-38.

(c) For purposes of 320 IAC 4.1-5, the Board will consider a sample obtained using any of the applicable sampling methods specified in 320 IAC 4.1-6-5 to be a representative sample within the meaning of 320 IAC 4.1-1 and 320 IAC 4.1-2.

[Note: Since the 320 IAC 4.1-6-5 sampling methods are not being formally adopted by the Board, a person who desires to employ an alternative sampling method is not required to demonstrate the equivalency of his method under the procedures set forth in 320 IAC 4.1-1-5.] *(Indiana Environmental Management Board; 320 IAC 4.1-5-1)*

320 IAC 4.1-5-2 Characteristic of ignitability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. (a) A solid waste exhibits the characteristic of ignitability if a representativ sample of the waste has any of the following properties.

(1) It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume, and has a flash point less than 60° C. (140° F.), as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard D-93-79, or D-93-80 or a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D-3278-78, or as determined by an equivalent test method approved by the Board under the procedures set forth in 320 IAC 4.1-1-5.

(2) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture, or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard.

(3) It is an ignitable compressed gas as defined in 49CFR173.300 and as determined by the test methods described in that regulation or equivalent test methods approved by the Board under 320 IAC 4.1-1-5.

(4) It is an oxidizer as defined in 49CFR173.151.

(b) A solid waste that exhibits the characteristic of ignitability, but is not listed as a hazardous waste in 320 IAC 4.1-6, has the EPA Hazardous Waste Number of D001. *(Indiana Environmental Management Board; 320 IAC 4.1-5-2)*

320 IAC 4.1-5-3 Characteristic of corrosivity

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. (a) A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties:

(1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using either the test method specified in the "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" or an equivalent test method approved by the Board under the procedures set forth in 320 IAC 4.1-1-5.

(2) It is a liquid and corrodes steel (SAE(Society of Automotive Engineers) 1020) at a rate greater than 6.35 mm. (0.250 inch) per year at a test temperature of 55° C. (130° F.) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69 as standardized in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," or an equivalent test method approved by the Board under the procedures set forth in 320 IAC 4.1-1-5.

(b) A solid waste that exhibits the characteristic of

corrosivity, but is not listed as a hazardous waste in 320 IAC 4.1-6, has the EPA Hazardous Waste Number of D002. *(Indiana Environmental Management Board; 320 IAC 4.1-5-3)*

320 IAC 4.1-5-4 Characteristic of reactivity

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. (a) A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:

(1) It is normally unstable and readily undergoes violent change without detonating.

(2) It reacts violently with water.

(3) It forms potentially explosive mixtures with water.

(4) When mixed with water, it generates toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment.

(5) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment.

(6) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.

(7) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.

(8) It is a forbidden explosive as defined in 49 CFR 173.51, or a Class A explosive as defined in 49 CFR 173.53, or a Class B explosive as defined in 49 CFR 173.88.

(b) A solid waste that exhibits the characteristic of reactivity, but is not listed as a hazardous waste in 320 IAC 4.1-6, has the EPA Hazardous Waste Number of D003. *(Indiana Environmental Management Board; 320 IAC 4.1-5-4)*

320 IAC 4.1-5-5 Characteristic of EP toxicity

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. (a) A solid waste exhibits the characteristic of EP toxicity if, using the test methods described in 320 IAC 4.1-6-6 or equivalent methods approved by the Board under the procedures set forth in 320 IAC 4.1-1-5, the extract from a representative sample of the waste contains any of the contaminants listed in Table I at a concentration equal to or greater than the respective value given in that Table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering, is considered to be the extract for the purposes of this section.

(b) A solid waste that exhibits the characteristic of EP toxicity, but is not listed as a hazardous waste in 320 IAC 4.1-6, has the EPA Hazardous Waste Number specified in Table I which corresponds to the toxic contaminant causing it to be hazardous.

Table I—Maximum Concentration of Contaminants for Characteristic of EP Toxicity

EPA Hazardous Waste Number	Contaminant	Maximum Concentration (milligrams per liter)
D004	Arsenic	5.0
D005	Barium	100.0
D006	Cadmium	1.0
D007	Chromium	5.0
D008	Lead	5.0
D009	Mercury	0.2
D010	Selenium	1.0
D011	Silver	5.0
D012	Endrin (1, 2, 3, 4, 10, 10- hexachloro 1,7-epoxy-1, 4, 4a, 5, 6, 7, 8, 8a-octahydro-1, 4-endo, endo-5, 8-dimethano naphathalene)	0.02
D013	Lindane (1, 2, 3, 4, 5, 6- hexa-chlorocyclohexane, gamma isomer)	0.4
D014	Methoxychlor [1, 1, 1- Trichloro-2, 2-bis [p-methoxyphenyl] ethane)	10.0

EPA Hazardous Waste Number	Contaminant	Maximum Concentration (milligrams per liter)
D015	Toxaphene ($C_{10}H_{10}Cl_8$), Technical chlorinated camphene, 67-69 percent chlorine)	0.5
D016	2, 4-D (2, 4-10.0 Dichlorophenoxyacetic acid)	10.0
D017	2, 4, 5-TP Silvex (2, 4, 5- Trichlorophenoxypropionic acid)	1.0

(Indiana Environmental Management Board; 320 IAC 4.1-5-5)

Rule 6. Lists of Hazardous Wastes

320 IAC 4.1-6-1 General

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. (a) A solid waste is a hazardous waste if it is listed in this Rule, unless it has been excluded from this list under 320 IAC 4.1-1-4 and 320 IAC 4.1-1-5.

(b) The Board will indicate the basis for listing the classes or types of wastes listed in 320 IAC 4.1-6 by employing one or more of the following Hazard Codes:

Ignitable Waste ..... (I)
Corrosive Waste ..... (C)
Reactive Waste ..... (R)
EP Toxic Waste ..... (E)
Acute Hazardous Waste ..... (H)
Toxic Waste ..... (T)

320 IAC 4.1-6-8 identifies the constituent which caused the Board to list the waste as an EP Toxic Waste (E) or Toxic Waste (T) in 320 IAC 4.1-6-2 and 320 IAC 4.1-6-3.

(c) Each hazardous waste listed in 320 IAC 4.1-6 is assigned an EPA Hazardous Waste Number which precedes the name of the waste. This number must be used in complying with the notification requirements of 320 IAC 4.1-2 and certain recordkeeping and reporting requirements under 320 IAC 4.1-7 through 320 IAC 4.1-54. *(Indiana Environmental Management Board; 320 IAC 4.1-6-1)*

320 IAC 4.1-6-2 Hazardous waste from non-specific sources

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. Hazardous waste from non-specific sources:

EPA Hazardous Waste No.	Hazardous Waste	Hazard Code
Generic:		
F001	The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; and sludges from the recovery of these solvents in degreasing operations.	(T)
F002	The following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, and trichlorofluoromethane; and the still bottoms from the recovery of these solvents.	(T)
F003	The following spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cycloh exanone, and methanol; and the still bottoms from the recovery of these solvents.	(I)
F004	The following spent non-halogenated solvents: cresols and cresylic acid, and nitrobenzene; and the still bottoms from the recovery of these solvents.	(T)

EPA Hazardous Waste No.	Hazardous Waste	Hazard Code
Generic:		
F005	The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, and pryidine; and the still bottoms from the recovery of these solvents.	(I,T)
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc, and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.	(T)
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum.	(T)
F007	Spent cyanide plating bath solutions from electroplating operations (except for precious metals electroplating spent cyanide plating bath solutions).	(R,T)
F008	Plating bath sludges from the bottom of plating baths from electroplating operations where cyanides are used in the process (except for precious metals electroplating plating bath sludges).	(R,T)
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process (except for precious metals electroplating spent stripping and cleaning bath solutions).	(R,T)
F010	Quenching bath sludge from oil baths from metal heat treating operations where cyanides are used in the process (except for precious metals heat-treating quenching bath sludges).	(R,T)
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations (except for precious metals heat treating spent cyanide solutions from salt bath pot cleaning).	(R,T)
F012	Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process (except for precious metals heat treating quenching wastewater treatment sludges).	(T)
F024	Wastes, including but not limited to distillation residues, heavy ends, tars, and reactor and reactor cleanout wastes from the production of chlorinated aliphatic hydrocarbons, having carbon content from one to five, utilizing free radical catalyzed processes. [This listing does not include light ends, spent filters and filter aids, spent desiccants, wastewater, wastewater treatment sludges, spent catalysts, and wastes listed in 320IAC4.1-6-3.]	(T)

(Indiana Environmental Management Board; 320 IAC 4.1-6-2)

320 IAC 4.1-6-3 Hazardous waste from specific sources.

Authority: IC 13-7-8-1; IC 13-7-8-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 3. Hazardous waste from specific sources:

EPA Hazardous Waste No.	Hazardous Waste	Hazard Code
Wood Preservation:		
K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.	(T)
Inorganic Pigments:		
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.	(T)
K003	Wastewater treatment sludge from the production of molybdate orange pigments.	(T)
K004	Wastewater treatment sludge from the production of zinc yellow pigments.	(T)
K005	Wastewater treatment sludge from the production of chrome green pigments.	(T)
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).	(T)
K007	Wastewater treatment sludge from the production of iron blue pigments.	(T)
K008	Oven residue from the production of chrome oxide green pigments.	(T)
Organic Chemicals:		
K009	Distillation bottoms from the production of acetaldehyde from ethylene.	(T)
K010	Distillation side cuts from the production of acetaldehyde from ethylene.	(T)
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile.	(R,T)
K013	Bottom stream from the acetonitrile column in the production of acrylonitrile.	(R,T)
K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile.	(T)
K015	Still bottoms from the distillation of benzyl chloride.	(T)
K016	Heavy ends or distillation residues from the production of carbon tetrachloride.	(T)
K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.	(T)
K018	Heavy ends from the fractionation column in ethyl chloride production.	(T)
K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.	(T)
K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production.	(T)
K021	Aqueous spent antimony catalyst waste from fluoromethanes production.	(T)
K022	Distillation bottom tars from the production of phenol/acetone from cumene.	(T)

EPA Hazardous Waste No.	Hazardous Waste	Hazard Code
K023	Distillation light ends from the production of phthalic anhydride from naphthalene.	(T)
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene.	(T)
K093	Distillation light ends from the production of phthalic anhydride from ortho-xylene.	(T)
K094	Distillation bottoms from the production of phthalic anhydride from ortho-xylene.	(T)
K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene.	(T)
K026	Stripping still tails from the production of methyl ethyl pyridines.	(T)
K027	Centrifuge and distillation residues from toluene diisocyanate production.	(R,T)
K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.	(T)
K029	Waste from the product steam stripper in the production of 1,1,1-trichloroethane.	(T)
K095	Distillation bottoms from the production of 1,1,1-trichloroethane.	(T)
K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.	(T)
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene.	(T)
K083	Distillation bottoms from aniline production.	(T)
K103	Process residues from aniline extraction from the production of aniline.	(T)
K104	Combined wastewater streams generated from nitrobenzene/aniline production.	(T)
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes.	(T)
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.	(T)
Inorganic Chemicals:		
K071	Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.	(T)
K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.	(T)
K106	Wastewater treatment sludge from the mercury cell process in chlorine production.	(T)
Pesticides:		
K031	By-product salts generated in the production of MSMA and cacodylic acid.	(T)

EPA Hazardous Waste No.	Hazardous Waste	Hazard Code
K032	Wastewater treatment sludge from the production of chlordane.	(T)
K033	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.	(T)
K034	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane.	(T)
K097	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane.	(T)
K035	Wastewater treatment sludges generated in the production of creosote.	(T)
K036	Still bottoms from toluene reclamation distillation in the production of disulfoton.	(T)
K037	Wastewater treatment sludges from the production of disulfoton.	(T)
K038	Wastewater from the washing and stripping of phorate production.	(T)
K039	Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate.	(T)
K040	Wastewater treatment sludge from the production of phorate.	(T)
K041	Wastewater treatment sludge from the production of toxaphene.	(T)
K098	Untreated process wastewater from the production of toxaphene.	(T)
K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.	(T)
K043	2,6-Dichlorophenol waste from the production of 2,4-D.	(T)
K099	Untreated wastewater from the production of 2,4-D.	(T)
Explosives:		
K044	Wastewater treatment sludges from the manufacturing and processing of explosives.	(R)
K045	Spent carbon from the treatment of wastewater containing explosives.	(R)
K046	Wastewater treatment sludges from the manufacturing, formulation, and loading of lead-based initiating compounds.	(R)
K047	Pink/red water from TNT operations.	(R)
Petroleum Refining:		
K048	Dissolved air flotation (DAF) float from the petroleum refining industry.	(T)
K049	Slop oil emulsion solids from the petroleum refining industry.	(T)
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry.	(T)
K051	API separator sludge from the petroleum refining industry.	(T)
K052	Tank bottoms (leaded) from the petroleum refining industry.	(T)
Iron and Steel:		
K061	Emission control dust/sludge from the primary production of steel in electric furnaces.	(T)

EPA Hazardous Waste No.	Hazardous Waste	Hazard Code
K062	Spent pickle liquor from steel finishing operations.	(C,T)
Secondary Lead:		
K069	Emission control dust/sludge from secondary lead smelting.	(T)
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.	(T)
Veterinary Pharmaceuticals:		
K084	Waste water treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
K101	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
K102	Residue from the use of activated carbon from decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
Ink Formulation:		
K086	Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.	(T)
Coking:		
K060	Ammonia still lime sludge from coking operations.	(T)
K087	Decanter tank tar sludge from coking operations.	(T)

(Indiana Environmental Management Board; 320 IAC 4.1-6-3)

320 IAC 4.1-6-4 Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded: (a) Any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in paragraphs (e) or(f) of this section.

(b) Any off-specification commercial chemical product or manufacturing chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraphs (e) or(f) of this section.

(c) Any container or inner liner removed from a container that has been used to hold any commercial chemical product or manufacturing chemical intermediate having the generic names listed in paragraph (e) of this section, or any container or inner liner removed from a container that has been used to hold any off-specification chemical product and manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) of this section, unless the container is empty as defined in 320IAC4.1-3-7(b)(3).

[Note: Unless the residue is being beneficially used or reused, or legitimately recycled or reclaimed, or being accumulated, stored, transported, or treated prior to such use, reuse, recycling, or reclamation, the Board considers the residue to be intended for discard and thus a hazardous waste. An example of a legitimate reuse of the residue would be where the residue remains in the container and the container is used to hold the same commercial chemical product or manufacturing chemical product or manufacturing

chemical intermediate it previously held. An example of the discard of the residue would be where the drum is sent to a drum reconditioner who reconditions the drum but discards the residue.]

(d) Any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill into or on any land or water of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this Section, or any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill, into or on any land or water, of any off-specification chemical product and manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraphs (e) or (f) of this Section.

[Note: The phrase "commercial chemical product or manufacturing chemical intermediate having the generic name listed in..." refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in paragraphs (e) or (f). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in paragraphs (e) or (f), such waste will be listed in either 320 IAC 4.1-6-2 or 320 IAC 4.1-6-3 or will be identified as a hazardous waste by the characteristics set forth in 320 IAC 4.1-5.]

(e) The commercial chemical products, manufacturing chemical intermediates or off-specification commercial chemical products or manufacturing chemical intermediates referred to in paragraphs (a) through (d) of this section, are identified as acute hazardous wastes (H) and are subject to the small quantity exclusion defined in 320 IAC 4.1-3-5(e).

[Note: For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), and R (Reactivity). Absence of a letter indicates that the compound only is listed for acute toxicity.]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

EPA Hazardous Waste No.	Acute Hazardous Waste
P023	Acetaldehyde, chloro-
P002	Acetamide, N-(aminothioxomethyl)-
P057	Acetamide, 2-fluoro-
P058	Acetic Acid, fluoro-, sodium salt
P066	Acetimidic acid, N-[(methylcarbamoyl)oxy]thio, methyl ester
P001	3-(alpha-acetonylbenzyl)-4-hydroxycoumarin and salts (warfarin) when present at concentrations greater than 0.3%
P002	1-Acetyl-2-thiourea
P003	Acrolein
P070	Aldicarb
P004	Aldrin
P005	Allyl alcohol
P006	Aluminum phosphide
P007	5-(Aminomethyl)-3-isoxazolol
P008	4-aAminopyridine
P009	Ammonium picrate (R)
P119	Ammonium vanadate
P010	Arsenic acid
P012	Arsenic (III) oxide
P011	Arsenic (V) oxide
P011	Arsenic pentoxide
P012	Arsenic trioxide
P038	Arsine, diethyl-

EPA Hazardous Waste No.	Acute Hazardous Waste
P054	Aziridine
P013	Barium cyanide
P024	Benzenamine, 4-chloro-
P077	Benzenamine, 4-nitro-
P028	Benzene, (chloromethyl)-
P042	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-
P014	Benzenethiol
P028	Benzyl chloride
P015	Beryllium dust
P016	Bis(chloromethyl) ether
P017	Bromoacetone
P018	Brucine
P021	Calcium cyanide
P123	Camphene, octachloro-
P103	Carbamimidoselenoic acid
P022	Carbon bisulfide
P022	Carbon disulfide
P095	Carbonyl chloride
P033	Chlorine cyanide
P023	Chloroacetaldehyde
P024	p-Chloroaniline
P026	1-(o-Chlorophenyl)thiourea
P027	3-Chloropropionitrile
P029	Copper cyanides
P030	Cyanides (soluble cyanide salts), not elsewhere specified
P031	Cyanogen
P033	Cyanogen chloride
P036	Dichlorophenylarsine
P037	Dieldrin
P038	Diethylarsine
P039	O,O-Diethyl S-[2-(ethylthio)ethyl] phosphorodithioate
P041	Diethyl-p-nitrophenyl phosphate
P040	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	Diisopropyl fluorophosphate
P044	Dimethoate
P045	3,3-Dimethyl-1-(methylthio)-2-butanone, O-[methylamino)carbonyl] oxime
P071	O,O-Dimethyl O-p-nitrophenyl phosphorothioate
P082	Dimethylnitrosamine
P046	alpha,alpha-Dimethylphenethylamine
P047	4,6-Dinitro-o-cresol and salts
P034	4,6-Dinitro-o-cyclohexylphenol
P048	2,4-Dinitrophenol
P020	Dinoseb
P085	Diphosphoramide, octamethyl-
P039	Disulfoton
P049	2,4-Dithiobiuret
P109	Dithiopyrophosphoric acid, tetraethyl ester
P050	Endosulfan
P088	Endothall
P051	Endrin
P042	Epinephrine
P046	Ethanamine, 1,1-dimethyl-2-phenyl-

EPA Hazardous Waste No.	Acute Hazardous Waste
P084	Ethenamine, N-methyl-N-nitroso-
P101	Ethyl cyanide
P054	Ethylenimine
P097	Famphur
P056	Fluorine
P057	Fluoroacetamide
P058	Fluoroacetic acid, sodium salt
P065	Fulminic acid, mercury (II) salt (R,T)
P059	Heptachlor
P051	1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo,endo-1,4:5,8-dimethanonaphthalene
P037	1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo,exo-1,4:5,8-dimethanonaphthalene
P060	1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1, 4:5, 8-endo, endo-dimethanonaphthalene
P004	1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo,exo-dimethanonaphthalene
P060	Hexachlorohexahydro-exo,exo-dimethanonaphthalene
P062	Hexaethyltetraphosphate
P116	Hydrazinecarbothioamide
P068	Hydrazine,methyl-
P063	Hydrocyanic acid
P063	Hydrogen cyanide
P096	Hydrogen phosphide
P064	Isocyanic acid, methyl ester
P007	3(2H)-Isoxazolone, 5-(aminomethyl)-
P092	Mercury, (acetato-0)phenyl-
P065	Mercury fulminate (R,T)
P016	Methane, oxybis(chloro-
P112	Methane, tetranitro- (R)
P118	Methanethiol, trichloro-
P059	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a, 4,7,7a-tetrahydro-
P066	Methomyl
P067	2-Methylaziridine
P068	Methyl hydrazine
P064	Methyl isocyanate
P069	2-Methyllactonitrile
P071	Methyl parathion
P072	alpha-Naphthylthiourea
P073	Nickel carbonyl
P074	Nickel cyanide
P074	Nickel(II) cyanide
P073	Nickel tetracarbonyl
P075	Nicotine and salts
P076	Nitric oxide
P077	p-Nitroaniline
P078	Nitrogen dioxide
P076	Nitrogen(II) oxide
P078	Nitrogen (IV) oxide
P081	Nitroglycerine(R)
P082	N-Nitrosodimethylamine
P084	N-Nitrosomethylvinylamine

EPA Hazardous Waste No.	Acute Hazardous Waste
P050	5-Norbornene-2,3-dimethanol, 1,4,5,6,7,7-hexachloro, cyclic sulfite
P085	Octamethylpyrophosphoramide
P087	Osmium oxide
P087	Osmium tetroxide
P088	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P089	Parathion
P034	Phenol, 2-cyclohexyl-4,6-dinitro-
P048	Phenol, 2,4-dinitro-
P047	Phenol, 2,4-dinitro-6-methyl-
P020	Phenol, 2,4-dinitro-6-(1-methylpropyl)-
P009	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P036	Phenyl dichloroarsine
P092	Phenylmercuric acetate
P093	N-Phenylthiourea
P094	Phorate
P095	Phosgene
P096	Phosphine
P041	Phosphoric acid, diethyl p-nitrophenyl ester
P044	Phosphorodithioic acid, 0,0-dimethyl S-[2-(methylamino)-2-oxoethyl]ester
P043	Phosphorofluoric acid, bis(1-methylethyl)- ester
P094	Phosphorothioic acid, 0,0-diethyl S-(ethylthio) methyl ester
P089	Phosphorothioic acid, 0,0-diethyl 0-(p-nitrophenyl) ester
P040	Phosphorothioic acid, 0,0-diethyl 0-pyrazinyl ester
P097	Phosphorothioic acid, 0,0-dimethyl 0-[p-((dimethylamino)-sulfonyl)phenyl] ester
P110	Plumbane, tetraethyl-
P098	Potassium cyanide
P099	Potassium silver cyanide
P070	Propanal, 2-methyl-2-(methylthio), 0-[(methylamino)carbonyl] oxime
P101	Propanenitrile
P027	Propanenitrile, 3-chloro-
P069	Propanenitrile, 2-hydroxy-2-methyl-
P081	1,2,3-Propanetriol, trinitrate- (R)
P017	2-Propanone, 1-bromo-
P102	Propargyl alcohol
P003	2-Propenal
P005	2-Propen-1-ol
P067	1,2-Propylenimine
P102	2-Propyn-1-ol
P008	4-Pyridinamine
P075	Pyridine, (S)-3-(1-methyl-2pyrrolidinyl)-, and salts
P111	Pyrophosphoric acid, tetraethyl ester
P103	Selenourea
P104	Silver cyanide
P105	Sodium azide
P106	Sodium cyanide
P107	Strontium sulfide
P108	Strychnidin-10-one, and salts
P018	Strychnidin-10-one, 2,3-dimethoxy-
P108	Strychnine and salts
P115	Sulfuric acid, thallium(I) salt
P109	Tetraethyldithiopyrophosphate
P110	Tetraethyl lead

EPA Hazardous Waste No.	Acute Hazardous Waste
P111	Tetraethylpyrophosphate
P112	Tetranitromethane (R)
P062	Tetraphosphoric acid, hexaethyl ester
P113	Thallic oxide
P113	Thallium (III) oxide
P114	Thallium (I) selenite
P115	Thallium (I) sulfate
P045	Thiofanox
P049	Thioimidodicarbonic diamide
P014	Thiophenol
P116	Thiosemicarbazide
P026	Thiourea, (2-chlorophenyl)-
P072	Thiourea, 1-naphthalenyl-
P093	Thiourea, phenyl-
P123	Toxaphene
P118	Trichloromethanethiol
P119	Vanadic acid, ammonium salt
P120	Vanadium pentoxide
P120	Vanadium(V) oxide
P001	Warfarin, when present at concentrations greater than 0.3%
P121	Zinc cyanide
P122	Zinc phosphide (R,T) when present at concentrations greater than 10%

(f) The commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products referred to in paragraphs (a) through (d) of this section, are identified as Toxic wastes (T) unless otherwise designated and are subject to the small quantity exclusion defined in 320 IAC 4.1-3-5(a) and (f).

[Note: For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), R (Reactivity), I (Ignitability), and C (Corrosivity). Absence of a letter indicates that the compound is only listed for toxicity.]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

EPA Hazardous Waste No.	Toxic Hazardous Waste
U001	Acetaldehyde (I)
U034	Acetaldehyde, trichloro-
U187	Acetamide, N-(4-ethoxyphenyl)-
U005	Acetamide, N-9H-fluoren-2-yl-
U112	Acetic acid, ethyl ester (I)
U144	Acetic acid, lead salt
U214	Acetic acid, thallium(I) salt
U002	Acetone (I)
U003	Acetonitrile (I,T)
U248	3(alpha-Acetonylbenzyl)-4 hydroxycoumarin and salts, when present at concentrations of 0.3% or less
U004	Acetophenone
U005	2-Acetylaminofluorene

EPA Hazardous Waste No.	Acute Hazardous Waste
P111	Tetraethylpyrophosphate
P112	Tetranitromethane (R)
P062	Tetraphosphoric acid, hexaethyl ester
P113	Thallic oxide
P113	Thallium (III) oxide
P114	Thallium (I) selenite
P115	Thallium (I) sulfate
P045	Thiofanox
P049	Thioimidodicarbonic diamide
P014	Thiophenol
P116	Thiosemicarbazide
P026	Thiourea, (2-chlorophenyl)-
P072	Thiourea, 1-naphthalenyl-
P093	Thiourea, phenyl-
P123	Toxaphene
P118	Trichloromethanethiol
P119	Vanadic acid, ammonium salt
P120	Vanadium pentoxide
P120	Vanadium(V) oxide
P001	Warfarin, when present at concentrations greater than 0.3%
P121	Zinc cyanide
P122	Zinc phosphide (R,T) when present at concentrations greater than 10%

(f) The commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products referred to in paragraphs (a) through (d) of this section, are identified as Toxic wastes (T) unless otherwise designated and are subject to the small quantity exclusion defined in 320 IAC 4.1-3-5(a) and (f).

[Note: For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), R (Reactivity), I (Ignitability), and C (Corrosivity). Absence of a letter indicates that the compound is only listed for toxicity.]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

EPA Hazardous Waste No.	Toxic Hazardous Waste
U001	Acetaldehyde (I)
U034	Acetaldehyde, trichloro-
U187	Acetamide, N-(4-ethoxyphenyl)-
U005	Acetamide, N-9H-fluoren-2-yl-
U112	Acetic acid, ethyl ester (I)
U144	Acetic acid, lead salt
U214	Acetic acid, thallium(I) salt
U002	Acetone (I)
U003	Acetonitrile (I,T)
U248	3(alpha-Acetonylbenzyl)-4 hydroxycoumarin and salts, when present at concentrations of 0.3% or less
U004	Acetophenone
U005	2-Acetylaminofluorene

EPA Hazardous Waste No.	Toxic Hazardous Waste
U006	Acetyl chloride (C,R,T)
U007	Acrylamide
U008	Acrylic acid (I)
U009	Acrylonitrile
U150	Alanine, 3-[p-bis(2-chloroethyl)amino]phenyl-, L-
U011	Amitrole
U012	Aniline (I,T)
U014	Auramine
U015	Azaserine
U010	Azirino(2',3':3,4)pyrrolo(1,2-a)indole-4,7-dione, 6-amino-8-[((aminocarbonyl) oxy) methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy5-methyl-,
U157	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
U016	Benz[c]acridine
U016	3,4-Benzacridine
U017	Benzal Chloride
U018	Benz[a]anthracene
U018	1,2-Benzanthracene
U094	1,2-Benzanthracene, 7,12-dimethyl-
U012	Benzenamine(I,T)
U014	Benzenamine, 4,4'-carbonimidoylbis(N,N-dimethyl-
U049	Benzenamine, 4-chloro-2-methyl
U093	Benzenamine, N,N-dimethyl-4-phenylazo-
U158	Benzenamine, 4,4'-methylenebis(2-chloro-
U222	Benzenamine, 2-methyl-, hydrochloride
U181	Benzenamine, 2-methyl-5-nitro
U019	Benzene (I,T)
U038	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy, ethyl ester
U030	Benzene, 1-bromo-4-phenoxy-
U037	Benzene, chloro-
U190	1,2-Benzenedicarboxylic acid anhydride
U028	1,2-Benzenedicarboxylic acid, [bis(2-ethylhexyl)] ester
U069	1,2-Benzenedicarboxylic acid, dibutyl ester
U088	1,2-Benzenedicarboxylic acid, diethyl ester
U102	1,2-Benzenedicarboxylic acid, dimethyl ester
U107	1,2-Benzenedicarboxylic acid, di-n-octyl ester
U070	Benzene, 1,2-dichloro-
U071	Benzene, 1,3-dichloro-
U072	Benzene, 1,4-dichloro-
U017	Benzene, (dichloromethyl)-
U223	Benzene, 1,3-diisocyanatomethyl- (R,T)
U239	Benzene, dimethyl- (I,T)
U201	1,3-Benzenediol
U127	Benzene, hexachloro-
U056	Benzene, hexahydro- (I)
U188	Benzene, hydroxy-
U220	Benzene, methyl-
U105	Benzene, 1-methyl-1,2,4-dinitro-
U106	Benzene, 1-methyl-2,6-dinitro-
U203	Benzene, 1,2-methylenedioxy-4-allyl-
U141	Benzene, 1,2,-methylenedioxy-4-propenyl-
U090	Benzene, 1,2,-methylenedioxy-4-propyl-
U055	Benzene, (1-methylethyl)- (I)
U169	Benzene, nitro(I,T)

EPA Hazardous Waste No.	Toxic Hazardous Waste
U006	Acetyl chloride (C,R,T)
U007	Acrylamide
U008	Acrylic acid (I)
U009	Acrylonitrile
U150	Alanine, 3-[p-bis(2-chloroethyl)amino]phenyl-, L-
U011	Amitrole
U012	Aniline (I,T)
U014	Auramine
U015	Azaserine
U010	Azirino(2',3':3,4)pyrrolo(1,2-a)indole-4,7-dione, 6-amino-8-[((aminocarbonyl) oxy) methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy5-methyl-,
U157	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
U016	Benz[c]acridine
U016	3,4-Benzacridine
U017	Benzal Chloride
U018	Benz[a]anthracene
U018	1,2-Benzanthracene
U094	1,2-Benzanthracene, 7,12-dimethyl-
U012	Benzenamine(I,T)
U014	Benzenamine, 4,4'-carbonimidoylbis(N,N-dimethyl-
U049	Benzenamine, 4-chloro-2-methyl
U093	Benzenamine, N,N-dimethyl-4-phenylazo-
U158	Benzenamine, 4,4'-methylenebis(2-chloro-
U222	Benzenamine, 2-methyl-, hydrochloride
U181	Benzenamine, 2-methyl-5-nitro
U019	Benzene (I,T)
U038	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy, ethyl ester
U030	Benzene, 1-bromo-4-phenoxy-
U037	Benzene, chloro-
U190	1,2-Benzenedicarboxylic acid anhydride
U028	1,2-Benzenedicarboxylic acid, [bis(2-ethylhexyl)] ester
U069	1,2-Benzenedicarboxylic acid, dibutyl ester
U088	1,2-Benzenedicarboxylic acid, diethyl ester
U102	1,2-Benzenedicarboxylic acid, dimethyl ester
U107	1,2-Benzenedicarboxylic acid, di-n-octyl ester
U070	Benzene, 1,2-dichloro-
U071	Benzene, 1,3-dichloro-
U072	Benzene, 1,4-dichloro-
U017	Benzene, (dichloromethyl)-
U223	Benzene, 1,3-diisocyanatomethyl- (R,T)
U239	Benzene, dimethyl- (I,T)
U201	1,3-Benzenediol
U127	Benzene, hexachloro-
U056	Benzene, hexahydro- (I)
U188	Benzene, hydroxy-
U220	Benzene, methyl-
U105	Benzene, 1-methyl-1,2,4-dinitro-
U106	Benzene, 1-methyl-2,6-dinitro-
U203	Benzene, 1,2-methylenedioxy-4-allyl-
U141	Benzene, 1,2,-methylenedioxy-4-propenyl-
U090	Benzene, 1,2,-methylenedioxy-4-propyl-
U055	Benzene, (1-methylethyl)- (I)
U169	Benzene, nitro(I,T)

EPA Hazardous Waste No.	Toxic Hazardous Waste
U183	Benzene, pentachloro-
U185	Benzene, pentachloro-nitro-
U020	Benzenesulfonic acid chloride (C,R)
U020	Benzenesulfonyl chloride (C,R)
U207	Benzene, 1,2,4,5-tetrachloro-
U023	Benzene, (trichloromethyl)- (C,R,T)
U234	Benzene, 1,3,5-trinitro- (R,T)
U021	Benzidine
U202	1,2-Benzisothiazolin-3-one, 1,1-dioxide
U120	Benzo[j,k]fluorene
U022	Benzo[a]pyrene
U022	3,4-Benzopyrene
U197	p-Benzoquinone
U023	Benzotrichloride (C,R,T)
U050	1,2-Benzphenanthrene
U085	2,2'-Bioxirane (I,T)
U021	(1,1'-Biphenyl)-4,4'-diamine
U073	(1,1'-Biphenyl)-4, 4'-diamine, 3,3'-dichloro-
U091	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethoxy-
U095	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethyl-
U024	Bis(2-chloroethoxy) methane
U027	Bis(2-chloroisopropyl) ether
U244	Bis(dimethylthiocarbamoyl) disulfide
U028	Bis(2-ethylhexyl) phthalate
U246	Bromine cyanide
U225	Bromoform
U030	4-Bromophenyl phenyl ether
U128	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U172	1-Butanamine, N-butyl-N-nitroso-
U035	Butanoic acid, 4-[Bis(2-chloroethyl)amino]benzene-
U031	1-Butanol (I)
U159	2-Butanone (I,T)
U160	2-Butanone peroxide (R,T)
U053	2-Butenal
U074	2-Butene, 1,4-dichloro- (I,T)
U031	n-Butyl alcohol (I)
U136	Cacodylic acid
U032	Calcium chromate
U238	Carbamic acid, ethyl ester
U178	Carbamic acid, methylnitroso-, ethyl ester
U176	Carbamide, N-ethyl-N-nitroso-
U177	Carbamide, N-methyl-N-nitroso-
U219	Carbamide, thio-
U097	Carbamoyl chloride, dimethyl-
U215	Carbonic acid, dithallium(I) salt
U156	Carbonochloridic acid, methyl ester (I,T)
U033	Carbon oxyfluoride (R,T)
U211	Carbon tetrachloride
U033	Carbonyl fluoride (R,T)
U034	Chloral
U035	Chlorambucil
U036	Chlordane, technical

EPA Hazardous Waste No.	Toxic Hazardous Waste
U026	Chlornaphazine
U037	Chlorobenzene
U039	4-Chloro-m-cresol
U041	1-Chloro-2,3-epoxypropane
U042	2-Chloroethyl vinyl ether
U044	Chloroform
U046	Chloromethyl methyl ether
U047	beta-Chloronaphthalene
U048	o-Chlorophenol
U049	4-Chloro-o-toluidine, hydrochloride
U032	Chromic acid, calcium salt
U050	Chrysene
U051	Creosote
U052	Cresols
U052	Cresylic acid
U053	Crotonaldehyde
U055	Cumene (I)
U246	Cyanogen bromide
U197	1,4-Cyclohexadienedione
U056	Cyclohexane (I)
U057	Cyclohexanone (I)
U130	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexa- chloro-
U058	Cyclophosphamide
U240	2,4-D, salts and esters
U059	Daunomycin
U060	DDD
U061	DDT
U142	Decachlorooctahydro-1,3,4-metheno-2H-cyclobuta[c,d]-pentalen-2-one
U062	Diallate
U133	Diamine (R,T)
U221	Diaminotoluene
U063	Dibenz[a,h]anthracene
U063	1,2:5,6-Dibenzanthracene
U064	1,2:7,8-Dibenzopyrene
U064	Dibenz[a,i]pyrene
U066	1,2-Dibromo-3-chloropropane
U069	Dibutylphthalate
U062	S-(2,3-Dichloroallyl)diisopropylthiocarbamate
U070	o-Dichlorobenzene
U071	m-Dichlorobenzene
U072	p-Dichlorobenzene
U073	3,3'-Dichlorobenzidine
U074	1,4-Dichloro-2-butene (I,T)
U075	Dichlorodifluoromethane
U192	3,5-Dichloro-N-(1,1-dimethyl-2-propynyl)benzamide
U060	Dichloro diphenyl dichloroethane
U061	Dichlorodiphenyl trichloroethane
U078	1,1-Dichloroethylene
U079	1,2-Dichloroethylene
U025	Dichloroethyl ether
U081	2,4-Dichlorophenol
U082	2,6-Dichlorophenol

EPA Hazardous Waste No.	Toxic Hazardous Waste
U240	2,4-Dichlorophenoxyacetic acid, salts and esters
U083	1,2-Dichloropropane
U084	1,3-Dichloropropene
U085	1,2:3,4-Diepoxybutane (I,T)
U108	1,4-Diethylene dioxide
U086	N,N-Diethylhydrazine
U087	0,0-Diethyl-S-methyl-dithiophosphate
U088	Diethyl phthalate
U089	Diethylstilbestrol
U148	1,2-Dihydro-3,6-pyradizinedione
U090	Dihydrosafrole
U091	3,3'-Dimethoxybenzidine
U092	Dimethylamine (I)
U093	Dimethylaminoazobenzene
U094	7,12-Dimethylbenz[a]anthracene
U095	3,3'-Dimethylbenzidine
U096	alpha,alpha-Dimethylbenzylhydroperoxide (R)
U097	Dimethylcarbamoyl chloride
U098	1,1-Dimethylhydrazine
U099	1,2-Dimethylhydrazine
U101	2,4-Dimethylphenol
U102	Dimethyl phthalate
U103	Dimethyl sulfate
U105	2,4-Dinitrotoluene
U106	2,6-Dinitrotoluene
U107	Di-n-octyl phthalate
U108	1,4-Dioxane
U109	1,2-Diphenylhydrazine
U110	Dipropylamine (I)
U111	Di-N-propylnitrosamine
U001	Ethanal (I)
U174	Ethanamine, N-ethyl-N-nitroso
U067	Ethane, 1,2-dibromo-
U076	Ethane, 1,1-dichloro-
U077	Ethane, 1,2-dichloro-
U114	1,2-Ethanediylbiscarbamodithioic acid
U131	Ethane, 1,1,1,2,2,2-hexachloro-
U024	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-
U003	Ethanenitrile (I,T)
U117	Ethane, 1,1'-oxybis- (I)
U025	Ethane, 1,1'-oxybis[2-chloro-
U184	Ethane, pentachloro-
U208	Ethane, 1,1,1,2-tetrachloro-
U209	Ethane, 1,1,2,2-tetrachloro-
U218	Ethanethioamide
U227	Ethane, 1,1,2-trichloro-
U247	Ethane, 1,1,1-trichloro-2,2-bis(p-methoxyphenyl)
U043	Ethene, chloro-
U042	Ethene, 2-chloroethoxy-
U078	Ethene, 1,1-dichloro-
U079	Ethene, trans-1,2-dichloro-
U210	Ethene, 1,1,2,2-tetrachloro-

EPA Hazardous Waste No.	Toxic Hazardous Waste
U173	Ethanol, 2,2'-(nitrosoimino)bis-
U004	Ethanone, 1-phenyl-
U006	Ethanoyl chloride (C,R,T)
U112	Ethyl acetate (I)
U113	Ethyl acrylate (I)
U238	Ethyl carbamate (urethan)
U038	Ethyl 4,4'-dichlorobenzilate
U114	Ethylenebis(dithiocarbamic acid)
U067	Ethylene dibromide
U077	Ethylene dichloride
U115	Ethylene oxide (I,T)
U116	Ethylenethiourea
U117	Ethyl ether(I)
U076	Ethylidene dichloride
U118	Ethylmethacrylate
U119	Ethyl methanesulfonate
U139	Ferricdextran
U120	Fluoranthene
U122	Formaldehyde
U123	Formic acid (C,T)
U124	Furan(I)
U125	2-Furancarboxaldehyde (I)
U147	2,5-Furandione
U213	Furan, tetrahydro(I)
U125	Furfural (I)
U124	Furfuran (I)
U206	D-Glucopyranose, 2-deoxy-2(3-methyl-3-nitrosoureido)-
U126	Glycidylaldehyde
U163	Guanidine, N-nitroso-N-methyl-N'nitro-
U127	Hexachlorobenzene
U128	Hexachlorobutadiene
U129	Hexachlorocyclohexane (gamma isomer)
U130	Hexachlorocyclopentadiene
U131	Hexachloroethane
U132	Hexachlorophene
U243	Hexachloropropene
U133	Hydrazine (R,T)
U088	Hydrazine, 1,2-diethyl-
U098	Hydrazine, 1,1-dimethyl-
U099	Hydrazine, 1,2-dimethyl-
U109	Hydrazine, 1,2-diphenyl-
U134	Hydrofluoric acid (C,T)
U134	Hydrogen fluoride (C,T)
U135	Hydrogen sulfide
U096	Hydroperoxide, 1-methyl-1-phenylethyl(R)
U136	Hydroxydimethylarsine oxide
U116	2-Imidazolidinethione
U137	Indeno[1,2,3-cd]pyrene
U139	Iron dextran
U140	Isobutyl alcohol (I,T)
U141	Isosafrole
U142	Kepone

EPA Hazardous Waste No.	Toxic Hazardous Waste
U143	Lasiocarpine
U144	Lead acetate
U145	Lead phosphate
U146	Lead subacetate
U129	Lindane
U147	Maleic anhydride
U148	Maleic hydrazide
U149	Malononitrile
U150	Melphalan
U151	Mercury
U152	Methacrylonitrile (I,T)
U092	Methanamine, N-methyl- (I)
U029	Methane, bromo-
U045	Methane, chloro- (I,T)
U046	Methane, chloromethyoxy-
U068	Methane, dibromo-
U080	Methane, dichloro-
U075	Methane, dichlorodifluoro-
U138	Methane, iodo-
U119	Methanesulfonic acid, ethyl ester
U211	Methane, tetrachloro-
U121	Methane, trichlorofluoro-
U153	Methanethiol (I,T)
U225	Methane, tribromo-
U044	Methane, trichloro-
U121	Methane, trichlorofluoro-
U123	Methanoic acid (C,T)
U036	4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-
U154	Methanol (I)
U155	Methapyrilene
U247	Methoxychlor
U154	Methyl alcohol (I)
U029	Methyl bromide
U186	1-Methylbutadiene (I)
U045	Methyl Chloride (I,T)
U156	Methyl chlorocarbonate (I,T)
U226	Methylchloroform
U157	3-Methylcholanthrene
U158	4,4'-Methylenebis(2-chloroaniline)
U132	2,2'-Methylenebis(3,4,6-trichlorophenol)
U068	Methylene bromide
U080	Methylene chloride
U122	Methylene oxide
U159	Methyl ethyl ketone (I,T)
U160	Methyl ethyl ketone peroxide (R,T)
U138	Methyl iodide
U161	Methyl isobutyl ketone (I)
U162	Methyl methacrylate (I,T)
U163	N-Methyl-N'-nitro-N-nitrosoguanidine
U161	4Methyl-2-pentanone (I)
U164	Methylthiouracil
U010	Mitomycin C

EPA Hazardous Waste No.	Toxic Hazardous Waste
U059	5,12-Naphthacenedione, (8S-cis)-8-acety'-10-[(3-amino-2,3,6-trideoxy-alpha-Llyxo-hexopyranosyl)oxyl]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-
U165	Naphthalene
U047	Naphthalene, 2-chloro-
U166	1,4-Naphthalenedione
U236	2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl (1,1'-biphenyl)-4,4'diyl)]-bis(azo)bis (5-amino-4-hydroxy)-,tetrasodium salt
U166	1,4Naphthaquinone
U167	1-Naphthylamine
U168	2-Naphthylamine
U167	alpha-Naphthylamine
U168	beta-Naphthylamine
U026	2-Naphthylamine, N,N'-bis(2-chloromethyl)-
U169	Nitrobenzene (I,T)
U170	p-Nitrophenol
U171	2-Nitropropane (I)
U172	N-Nitrosodi-n-butylamine
U173	N-Nitrosodiethanolamine
U174	N-Nitrosodiethylamine
U111	N-Nitroso-N-propylamine
U176	N-Nitroso-N-ethylurea
U177	N-Nitroso-N-methylurea
U178	N-Nitroso-N-methylurethane
U179	N-Nitrosopiperidine
U180	N-Nitrosopyrrolidine
U181	5-Nitro-o-toluidine
U193	1,2,-Oxathiolane, 2,2-dioxide
U058	2H-1,3,2-Oxazaphosphorine, 2-[bis(2-chloroethyl)amino] tetrahydro-, oxide 2-
U115	Oxirane (I,T)
U041	Oxirane, 2-(chloromethyl)-
U182	Paraldehyde
U183	Pentachlorobenzene
U184	Pentachloroethane
U185	Pentachloronitrobenzene
U242	Pentachlorophenol
U188	1,3-Pentadiene (I)
U187	Phenacetin
U188	Phenol
U048	Phenol, 2-chloro-
U039	Phenol, 4-chloro-3-methyl-
U081	Phenol, 2,4-dichloro-
U082	Phenol, 2,6-dichloro-
U101	Phenol, 2,4-dimethyl-
U170	Phenol, 4-nitro-
U242	Phenol, pentachloro-
U212	Phenol, 2,3,4,6-tetrachloro-
U230	Phenol, 2,4,5-trichloro-
U231	Phenol, 2,4,6-trichloro-
U137	1,10-(1,2-phenylene)pyrene
U145	Phosphoric acid, Lead salt
U087	Phosphorodithioic acid, 0,0-diethyl, S-methyl ester
U189	Phosphorous sulfide (R)

EPA Hazardous Waste No.	Toxic Hazardous Waste
U190	Phthalic anhydride
U191	2-Picoline
U192	Pronamide
U194	1-Propanamine (I,T)
U110	1-Propanamine, N-propyl- (I)
U066	Propane, 1,2-dibromo-3-chloro-
U149	Propanedinitrile
U171	Propane, 2-nitro-(I)
U027	Propane, 2,2'-oxybis[2-chloro-
U193	1,3-Propane sultone
U235	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U126	1-Propanol, 2,3-epoxy-
U140	1-Propanol, 2-methyl- (I,T)
U002	2-Propanone (I)
U007	2-Propenamide
U084	Propene, 1,3-dichloro-
U243	1-Propene, 1,1,2,3,3,3-hexachloro-
U009	2-Propenenitrile
U152	2-Propenenitrile, 2-methyl- (I,T)
U008	2-Propenoic acid (I)
U113	2-Propenoic acid, ethyl ester (I)
U118	2-Propenoic acid, 2-methyl-, ethyl ester
U152	2-Propenoic acid, 2-methyl, methyl ester (I,T)
U233	Propionic acid, 2-(2,4,5-trichlorophenoxy)-
U194	n-Propylamine (I,T)
U083	Propylene dichloride
U196	Pyridine
U155	Pyridine, 2-[(2-(dimethylamino)-2-thenylamino]-
U179	Pyridine, hexahydro-N-nitroso-
U191	Pyridine, 2-methyl
U164	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
U180	Pyrrole, tetrahydro-N-nitroso-
U200	Reserpine
U201	Resorcinol
U202	Saccharin and salts
U203	Safrole
U204	Selenious acid
U204	Selenium dioxide
U205	Selenium disulfide (R,T)
U015	L-Serine, diazoacetate (ester)
U233	Silvex
U089	4,4'-Stilbenediol, alpha,alpha'-diethyl-
U206	Streptozotocin
U135	Sulfur hydride
U103	Sulfuric acid, dimethyl ester
U189	Sulfur phosphide (R)
U205	Sulfur selenide (R,T)
U232	2,4,5-T
U207	1,2,4,5-Tetrachlorobenzene
U208	1,1,1,2-Tetrachloroethane
U209	1,1,2,2-Tetrachloroethane
U210	Tetrachloroethylene

EPA Hazardous Waste No.	Toxic Hazardous Waste
U212	2,3,4,6-Tetrachlorophenol
U213	Tetrahydrofuran (I)
U214	Thallium(I) acetate
U215	Thallium(I)carbonate
U216	Thallium(I) chloride
U217	Thallium(I) nitrate
U218	Thioacetamide
U153	Thiomethanol (I,T)
U219	Thiourea
U244	Thiram
U220	Toluene
U221	Toluenediamine
U223	Toluene diisocyanate (R,T)
U222	0-Toluidine hydrochloride
U011	1H-1,2,4-Triazol-3-amine
U226	1,1,1-Trichloroethane
U227	1,1,2-Trichloroethane
U228	Trichloroethene
U228	Trichloroethylene
U121	Trichloromonofluoromethane
U230	2,4,5-Trichlorophenol
U231	2,4,6-Trichlorphenol
U232	2,4,5-Trichlorophenoxyacetic acid
U234	sym-Trinitrobenzene (R,T)
U182	1,3,5-Trioxane, 2,4,5-trimethyl-
U235	Tris(2,3-dibromopropyl)phosphate
U236	Trypan blue
U237	Uracil, 5[bis(2-chloromethyl)amino]-
U237	Uracil mustard
U043	Vinyl chloride
U239	Xylene(I)
U200	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxy-benzoyl)oxy]-, methyl ester
U249	Zinc Phosphide, when present at concentrations of 10% or less

(Indiana Environmental Management Board; 320 IAC 4.1-6-4)

320 IAC 4.1-6-5 Appendix I; representative sampling methods

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 5. The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. Samples collected using the sampling protocols listed below, for sampling waste with properties similar to the indicated materials, will be considered by the Board to be representative of the waste.

Extremely viscous liquid—ASTM Standard D140-70 Crushed or powdered material—ASTM Standard D346-75 Soil or rock-like material—ASTM Standard D420-69 Soil-like material—ASTM Standard D1452-65.

Fly ash-like material—ASTM Standard D2234-76 [ASTM Standards are available from ASTM, 1916 Race Street, Philadelphia, Pennsylvania 19103].

Containerized liquid wastes—"COLIWASA" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods,"[1] U.S.Environ-

mental Protection Agency, Office of Solid Waste, Washington, D.C.20460. [Copies may be obtained from Solid Waste Information, U.S.Environmental Protection Agency, 26 W. St. Clair Street, Cincinnati, Ohio 45268].

Liquid waste in pits, ponds, lagoons, and similar reservoirs—"Pond Sampler" described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods."[1] This manual also contains additional information on application of these protocols.

[1]These methods are also described in "Samplers and Sampling Procedures for Hazardous Waste Streams," EPA 600/2-80-018, January 1980. *(Indiana Environmental Management Board; 320 IAC 4.1-6-5)*

320 IAC 4.1-6-6 Appendix II; EP toxicity test procedure

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. (A) Extraction Procedure (EP) 1. A representative sample of the waste to be tested (minimum size 100 grams) shall be obtained using the methods specified in Appendix I or any other method capable of yielding a representative sample within the meaning of 320 IAC 4.1-1. [For detailed guidance on conducting the various aspects of the EP, see "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (incorporated by reference, see 320 IAC 4.1-1-6).]

2. The sample shall be separated into its component liquid and solid phases using the method described in "Separation Procedure" below. If the solid residue[2] obtained using this method totals less than 0.5% of the original weight of the waste, the residue can be discarded and the operator shall treat the liquid phase as the extract and proceed immediately to Step 8.

3. The solid material obtained from the Separation Procedure shall be evaluated for its particle size. If the solid material has a surface area per gram of material equal to, or greater than, 3.1 cm.[2] or passes through a 9.5 mm (0.375 inch) standard sieve, the operator shall proceed to Step 4. If the surface area is smaller or the particle size larger than specified above, the solid material shall be prepared for extraction by crushing, cutting, or grinding the material so that it passes through a 9.5 mm (0.375 inch) sieve or, if the material is in a single piece, by subjecting the material to the "Structural Integrity Procedure" described below.

4. The solid material obtained in Step 3 shall be weighed and placed in an extractor with 16 times its weight of deionized water. Do not allow the material to dry prior to weighing. For purposes of this test, an acceptable extractor is one which will impart sufficient agitation to the mixture to not only prevent stratification of the sample and extraction fluid but also insure that all sample surfaces are continuously brought into contact with well mixed extraction fluid. Acceptable extractors are shown in figures 1-3 in Method 1310 of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" July 1982, SW-846.

5. After the solid material and deionized water are placed in the extractor, the operator shall begin agitation and measure the pH of the solution in the extractor. If the pH is greater than 5.0, the pH of the solution shall be decreased to 5.0 ± 0.2 by adding 0.5 N acetic acid. If the pH is equal to or less than 5.0, no acetic acid should be added. The pH of the solution shall be monitored, as described below, during the course of the extraction and if the pH rises above 5.2, 0.5 N acetic acid shall be added to bring the pH down to 5.0 ± 0.2. However, in no event shall the aggregate amount of acid added to the solution exceed 4 ml of acid per gram of solid. The mixture shall be agitated for 24 hours and maintained at 20°-40° C. (68°-104° F.) during this time. It is recommended that the operator monitor and adjust the pH during the course of the extraction with a device such as the Type 45-A pH Controller manufactured by Chemtrix, Inc., Hillsboro, Oregon 97123, or its equivalent, in conjunction with a metering pump and reservoir of 0.5 N acetic acid. If such a system is not available, the following manual procedure shall be employed:

(a) A pH meter shall be calibrated in accordance with the manufacturer's specifications.

(b) The pH of the solution shall be checked and, if necessary, 0.5 N acetic acid shall be manually added to the extractor until the pH reaches 5.0 ± 0.2. The pH of the solution shall be adjusted at 15, 30, and 60 minute intervals, moving to the next longer interval if the pH does not have to be adjusted more than 0.5 N pH units.

(c) The adjustment procedure shall be continued for at least 6 hours.

(d) If at the end of the 24-hour extraction period, the pH of the solution is not below 5.2 and the maximum amount of acid (4 ml per gram of solids) has not been added, the pH shall be adjusted to 5.0 ± 0.2 and the extraction continued for an additional four hours, during which the pH shall be adjusted at one hour intervals.

6. At the end of the 24-hour extraction period, deionized water shall be added to the extractor in an amount determined by the following equation:

V = (20)(W) - 16(W) - A(EP)
V = ml deionized water to be added
W = weight in grams of solid charged to extractor
A = ml of 0.5 N acetic acid added during extraction

7. The material in the extractor shall be separated into its component liquid and solid phases as described under "Separation Procedure."

8. The liquids resulting from Steps 2 and 7 shall be combined. This combined liquid (or the waste itself if it has less than 1/2 percent solids, as noted in Step 2) is the extract and shall be analyzed for the presence of any of the contaminants specified in Table I of 320 IAC 4.1-5-5 using the Analytical Procedures designated below.

Separation Procedure

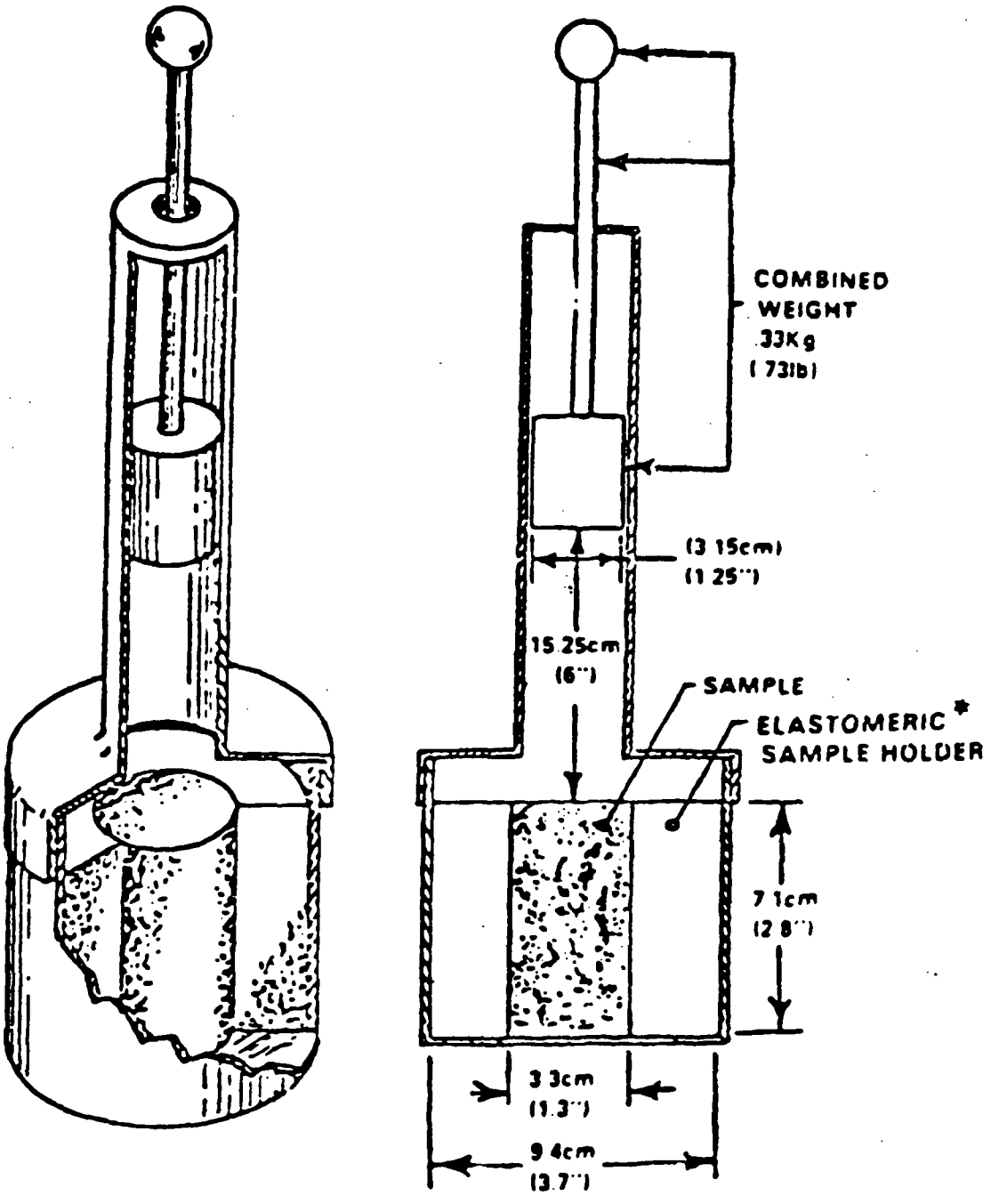
Equipment: A filter holder, designed for filtration media having a nominal pore size of 0.45 micrometers and capable of applying a 5.3 kg/cm² (75 psi) hydrostatic pressure to the solution being filtered, shall be used. For mixtures containing nonabsorptive solids, where separation can be effected without imposing a 5.3 kg/cm² pressure differential, vacuum filters employing a 0.45 micrometers filter media can be used. (For further guidance on filtration equipment or procedures see "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" incorporated by reference, see 320 IAC 4.1-1-6).

Procedure:[3]
(i) Following manufacturer's directions, the filter unit shall be assembled with a filter bed consisting of a 0.45 micrometer filter membrane. For difficult or slow to filter mixtures a prefilter bed consisting of the following prefilters in increasing pore size (0.65 micrometer membrane, fine glass fiber prefilter, and coarse glass fiber prefilter) can be used.
(ii) The waste shall be poured into the filtration unit.
(iii) The reservoir shall be slowly pressurized until liquid begins to flow from the filtrate outlet at which point the pressure in the filter shall be immediately lowered to 10-15 psig. Filtration shall be continued until liquid flow ceases.
(iv) The pressure shall be increased stepwise in 10 psi increments to 75 psig and filtration continued until flow ceases or the pressurizing gas begins to exit from the filtrate outlet.
(v) The filter unit shall be depressurized, the solid material removed and weighed and then transferred to the extraction apparatus, or, in the case of final filtration prior to analysis, discarded. Do not allow the material retained on the filter pad to dry prior to weighing.
(vi) The liquid phase shall be stored at 4° C. for subsequent use in Step 8.

(B) Structural Integrity Procedure

Equipment: A Structural Integrity Tester having a 3.18 cm (1.25 in.) diameter hammer weighing 0.33 kg (0.73 lbs.) and having a free fall of 15.24 cm (6 in.) shall be used. This device is available from Associated Design and Manufacturing Company, Alexandria, Virginia 22314, as Part No. 125, or it may be fabricated to meet the specifications shown in Figure 1.

Procedure
1. The sample holder shall be filled with the material to be tested. If the sample of waste is a large monolithic block, a portion shall be cut from the block having the dimensions of a 3.3 cm (1.3 in.) diameterx 7.1 cm (2.8 in.) cylinder. For a fixated waste, samples may be cast in the form of a 3.3 cm (1.3 in.) diameterx 7.1 cm (2.8 in.) cylinder for purposes of conducting this test. In such cases, the waste may be allowed to cure for 30 days prior to further testing.



*ELASTOMERIC SAMPLE HOLDER FABRICATED OF MATERIAL FIRM ENOUGH TO SUPPORT THE SAMPLE

Figure 1

COMPACTION TESTER

[45 FR 33119, May 19, 1980, as amended at 46 FR 35247, July 7, 1981]

2. The sample holder shall be placed into the Structural Integrity Tester, then the hammer shall be raised to its maximum height and dropped. This shall be repeated fifteen times.
3. The material shall be removed from the sample holder, weighed, and transferred to the extraction apparatus for extraction.

Analytical Procedures for Analyzing Extract Contaminants

The test methods for analyzing the extract are as follows:

1. For arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, endrin, lindane, methoxychlor, toxaphene, 2,4-D[2,4-dichlorophenoxyacetic acid] or 2,4,5-TP [2,4,5-trichlorophenoxypropionic acid]: "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (incorporated by reference, see 320 IAC 4.1-1-6).

For all analyses, the method of standard additions shall be used for quantification of species concentration. The method of standard additions is described in Section 8.49 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," SW-846,1980.

[2]The percent solids is determined by drying the filter pad at 80 C. until it reaches constant weight and then calculating the percent solids using the following equation:

$$\text{Percent solids} = \frac{(\text{weight of pad + solid}) - (\text{tare weight of pad})}{\text{initial weight of sample}} \times 100$$

[3]This procedure is intended to result in separation of the "free" liquid portion of the waste from any solid matter having a particle size greater than 0.45 um. If the sample will not filter, various other separation techniques can be used to aid in the filtration. As described above, pressure filtration is employed to speed up the filtration process. This does not alter the nature of the separation. If liquid does not separate during filtration, the waste can be centrifuged. If separation occurs during centrifugation, the liquid portion (centrifugate) is filtered through the 0.45 um filter prior to becoming mixed with the liquid portion of the waste obtained from the initial filtration. Any material that will not pass through the filter after centrifugation is considered a solid and is extracted.

(Indiana Environmental Management Board; 320 IAC 4.1-6-6)

320 IAC 4.1-6-7 Appendix III; chemical analysis test methods

Authority: IC 13-7-8-1; IC 13-7-8-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. Tables 1, 2, and 3 specify the appropriate analytical procedures, described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," (incorporated by reference, see 320 IAC 4.1-1-6) which shall be used to determine whether a sample contains a given 320 IAC 4.1-6-8 or 320 IAC 4.1-6-9 toxic constituent.

Table 1 identifies each 320 IAC 4.1-6-8 or 320 IAC 4.1-6-9 organic constituent along with the approved measurement method. Table 2 identifies the corresponding methods for inorganic species. Table 3 summarizes the contents of SW-846 and supplies specific section and method numbers for sampling and analysis methods.

Prior to final sampling and analysis method selection, the analyst should consult the specific section or method described in SW-846 for additional guidance on which of the approved methods should be employed for a specific sample analysis situation.

TABLE 1—ANALYSIS METHODS FOR ORGANIC CHEMICALS CONTAINED IN SW-846

Compound	First edition method(s)	Second edition method(s)
Acetonitrile	8.03, 8.24	8030, 8240
Acrolein	8.03, 8.24	8030, 8240
Acrylamide	8.01, 8.24	8015, 8240
Acrylonitrile	8.03, 8.24	8030, 8240
Benzene	8.02, 8.24	8020, 8240
Benz(a)anthracene	8.10, 8.25	8100, 8250, 8310

Compound	First edition method(s)	Second edition method(s)
Benzo(a)pyrene	8.10, 8.25	8100, 8250, 8310
Benzotrichloride	8.12, 8.25	8120, 8250
Benzyl chloride	8.01, 8.12, 8.24, 8.25	8120, 8250
Benzo(b)fluoanthene	8.10, 8.25	8100, 8250, 8310
Bis(2-chloroethoxymethane)	8.01, 8.24	8010, 8240
Bis(2-chloroethyl)ether	8.01, 8.24	8010, 8240
Bis(2-chloroisopropyl)ether	8.01, 8.24	8010, 8240
Carbon disulfide	8.01, 8.24	8015, 8240
Carbon tetrachloride	8.01, 8.24	8010, 8240
Chlordane	8.08, 8.25	8080, 8250
Chlorinated dibenzodioxins	8.08, 8.25	8080, 8250
Chlorinated biphenyls	8.08, 8.25	8080, 8250
Chloroacetaldehyde	8.01, 8.24	8010, 8240
Chlorobenzene	8.01, 8.02, 8.24	8020, 8240
Chloroform	8.01, 8.24	8010, 8240
Chloromethane	8.01, 8.24	8010, 8240
2-Chlorophenol	8.04, 8.25	8040, 8250
Chrysene	8.10, 8.25	8100, 8250, 8310
Creosote[4]	8.10, 8.25	8100, 8250
Cresol(s)	8.04, 8.25	8040, 8250
Cresylic Acid(s)	8.04, 8.25	8040, 8250
Dichlorobenzene(s)	8.01, 8.02, 8.12, 8.25	8010, 8120 8250
Dichloroethane(s)	8.01, 8.24	8010, 8240
Dichloromethane	8.01, 8.24	8010, 8240
Dichlorophenoxyacetic acid	8.40, 8.25	8150, 8250
Dichloropropanol	8.12, 8.25	8120, 8250
2,4-Dimethylphenol	8.04, 8.25	8040, 8250
Dinitrobenzene	8.09, 8.25	8090, 8250
4,6-Dinitro-o-cresol	8.04, 8.25	8040, 8250
2,4-Dinitrotoluene	8.09, 8.25	8090, 8250
Endrin	8.08, 8.25	8080, 8250
Ethyl ether	8.01, 8.02, 8.24	8015, 8240
Formaldehyde	8.01, 8.24	8015, 8240
Formic acid	8.06, 8.25	8250
Heptachlor	8.06, 8.25	8080, 8250
Hexachlorobenzene	8.12, 8.25	8120, 8250
Hexachlorobutadiene	8.12, 8.25	8120, 8250
Hexachloroethane	8.12, 8.25	8010, 8240
Hexachlorocyclopentadiene	8.12, 8.25	8120, 8250
Lindane	8.08, 8.25	8080, 8250
Maleic anhydride	8.06, 8.25	8250
Methanol	8.01, 8.24	8010, 8240
Methomyl	8.32	8250
Methyl ethyl ketone	8.01, 8.02, 8.24	8015, 8240

Compound	First edition method(s)	Second edition method(s)
Methyl isobutyl ketone	8.01, 8.02, 8.24	8015, 8240
Naphthalene	8.10, 8.25	8100, 8250
Napthoquinone	8.06, 8.09, 8.25	8090, 8250
Nitrobenzene	8.09, 8.25	8090, 8250
4-Nitrophenol	8.04, 8.25	8040, 8240
Paraldehyde (trimer of acetaldehyde)	8.01, 8.24	8015, 8240
Pentachlorophenol	8.04, 8.25	8040, 8250
Phenol	8.04, 8.25	8040, 8250
Phorate	8.22	8140
Phosphorodithioic acid esters	8.06. 8.09, 8.22	8140
Phthalic anhydride	8.06, 8.09, 8.25	8090, 8250
2-Picoline	8.06, 8.09, 8.25	8090, 8250
Pyridine	8.06, 8.09, 8.25	8090, 8250
Tetrachlorobenzene(s)	8.12, 8.25	8120, 8250
Tetrachloroethane(s)	8.01, 8.24	8010, 8240
Tetrachloroethene	8.01, 8.24	8010, 8240
Tetrachlorophenol	8.04, 8.24	8040, 8250
Toluene	8.02, 8.24	8020, 8240
Toluenediamine	8.25	8250
Toluene diisocyanate(s)	8.06, 8.25	8250
Toxaphene	8.08, 8.25	8080, 8250
Trichloroethane	8.01, 8.24	8010, 8240
Trichloroethene(s)	8.01, 8.24	8010, 8240
Trichlorofluoromethane	8.01, 8.24	8010, 8240
Trichlorophenol(s)	8.04, 8.25	8040, 8250
2,4,5-Trichlorophenoxy propionic acid	8.40, 8.24	8150, 8250
Trichloropropane	8.01, 8.24	8010, 8240
Vinyl chloride	8.01, 8.24	8010, 8240
Vinylidene chloride	8.01, 8.24	8010, 8240
Xylene	8.02, 8.24	8020, 8240

[a]Analyze for phenanthrene and carbazole; if these are present in a ratio between 1.4:1 and 5:1, creosote should be considered present.

TABLE 2—ANALYSIS METHODS FOR INORGANIC CHEMICALS CONTAINED IN SW-846

Compound	First edition method(s)	Second edition method(s)
Antimony	8.50	7040, 7041
Arsenic	8.51	7060, 7061
Barium	8.52	7080, 7081
Cadmium	8.53	7090, 7091
Chromium	8.54	7190, 7191

Compound	First edition method(s)	Second edition method(s)
Chromium: Hexavalent	8.545, 8.546, 8.547	7195, 7196, 7197
Lead	8.56	7420, 7421
Mercury	8.57	7470, 7471
Nickel	8.58	7520, 7521
Selenium	8.59	7740, 7741
Silver	8.60	7760, 7761
Cyanides	8.55	9010
Total Organic Halogen	8.66	9020
Sulfides	8.67	9030

TABLE 3—SAMPLING AND ANALYSIS METHODS CONTAINED IN SW-846

Title	First Edition		Second Edition	
	Section No.	Method No.	Section No.	Method No.
Sampling of Solid Wastes	1.0		1.0	
Development of Appropriate Sampling Plans		1.0		1.1
Regulatory and Scientific Objectives	1.0-2		1.1.1	
Fundamental Statistical Concepts	1.0-3		1.1.2	
Basic Statistical Strategies	1.0-7		1.1.3	
Simple Random Sampling			1.1.3.1	
Stratified Random Sampling			1.1.3.2	
Systematic Random Sampling			1.1.3.3	
Special Considerations	1.0-7			
Composite Sampling			1.1.4.1	
Subsampling			1.1.4.2	
Cost and Loss Functions			1.1.4.3	
Implementation of Sampling Plan	1.0-7		1.2	
Selection of Sampling Equipment			1.2.1	
Composite Liquid Waste Sampler	3.2.1		1.2.1.1	
Weighted Bottle	3.2.2		1.2.1.2	
Dipper	3.2.3		1.2.1.3	
Thief	3.2.4		1.2.1.4	
Trier	3.2.5		1.2.1.5	
Auger	3.2.6		1.2.1.6	
Scoop and Shovel	3.2.7		1.2.1.7	
Selection of Sample Containers	3.3		1.2.2	
Processing and Storage of Samples	3.3		1.2.3	
Documentation of Chain of Custody	2.0		1.3	
Sample Labels	2.0-1		1.3.1	
Sample Seals	2.0-3		1.3.2	
Field Log Book	2.0-5		1.3.3	
Chain-of-Custody Record	2.0-6		1.3.4	
Sample Analysis Request Sheet	2.0-9		1.3.5	
Sample Delivery to Laboratory	2.0-10		1.3.6	
Shipping of Samples	2.0-10		1.3.7	
Receipt and Logging of Sample	2.0-12		1.3.8	
Assignment of Sample for Analysis	2.0-13		1.3.9	
Sampling Methodology	3.0		1.4	
Containers	3.2-2		1.4.1	
Tanks	3.2-2		1.4.2	

Title	First Edition Section No.	First Edition Method No.	Second Edition Section No.	Second Edition Method No.
Waste Piles	3.2-2		1.4.3	
Landfills and Lagoons	3.2-2		1.4.4	
Waste Evaluation Procedures			2.0	
Characteristics of Hazardous Waste			2.1	
Ignitability	4.0		2.1.1	
Pensky-Martens Closed-Cup Method	4.1		2.1.1	1010
Setaflash Closed-Cup Method	4.1		2.1.1	1020
Corrosivity	5.0		2.1.2	
Corrosivity Toward Steel	5.3		2.1.2	1110
Reactivity	6.0		2.1.3	
Extraction Procedure Toxicity	7.0		2.1.4	
Extraction Procedure Toxicity Test	7.1, 7.2, 7.5			
Method and Structural Integrity Test	7.4		2.1.4	1310
Sample Workup Techniques			4.0	
Inorganic Techniques	8.49		4.1	
Acid Digestion for Flame AAS			4.1	3010
Acid Digestion for Furnace AAS			4.1	3020
Acid Digestion of Oil, Grease, or Wax	8.49-9		4.1	3030
Dissolution Procedure for Oil, Grease, or Wax	8.49-8			
Alkaline Digestion	8.0	8.458	4.1	3060
Organic Techniques	8.0		4.2	
Separatory Funnel Liquid-Liquid Extraction	9.0	9.1	4.2	3510
Continuous Liquid-Liquid Extraction	9.0	9.01	4.2	3520
Acid-Base Cleanup Extraction	8.0	8.84	4.2	3530
Soxhlet Extraction	8.0	8.86	4.2	3540
Sonication Extraction	8.0	8.85	4.2	3550
Sample Introduction Techniques			5.0	
Headspace	8.0	8.82	5.0	5020
Purge-and-Trap	8.0	8.83	5.0	5030
Inorganic Analytical Methods	8.0		7.0	
Antimony, Flame AAS	8.0	8.50	7.0	7470
Antimony, Furnace AAS	8.0	8.50	7.0	7471
Arsenic, Flame AAS	8.0	8.51	7.0	7060
Arsenic, Furnace AAS	8.0	8.51	7.0	7061
Barium, Flame AAS	8.0	8.52	7.0	7080
Barium, Furnace AAS	8.0	8.52	7.0	7081
Cadmium, Flame AAS	8.0	8.53	7.0	7130
Cadmium, Furnace AAS	8.0	8.53	7.0	7131
Chromium, Flame AAS	8.0	8.54	7.0	7090
Chromium, Furnace AAS	8.0	8.54	7.0	7191
Chromium, Hexavalent, Coprecipitation	8.0	8.545	7.0	7195
Chromium, Hexavalent, Colorimetric	8.0	8.546	7.0	7196
Chromium, Hexavalent, Chelation	8.0	8.547	7.0	7197
Lead, Flame AAS	8.0	8.56	7.0	7420
Lead, Furnace AAS	8.0	8.56	7.0	7421

Title	First Edition Section No.	First Edition Method No.	Second Edition Section No.	Second Edition Method No.
Mercury, Cold Vapor, Liquid	8.0	8.57	7.0	7470
Mercury, Cold Vapor, Solid	8.0	8.57	7.0	7471
Nickel, Flame AAS	8.0	8.58	7.0	7520
Nickel, Furnace AAS	8.0	8.58	7.0	7521
Selenium, Flame AAS	8.0	8.59	7.0	7740
Selenium, Gaseous Hydride AAS	8.0	8.59	7.0	7741
Silver, Flame AAS	8.0	8.60	7.0	7760
Silver, Furnace AAS	8.0	8.60	7.0	7761
Organic Analytical Methods	8.0		8.0	
Gas Chromatographic Methods	8.0		8.1	
Halogenated Volatile Organics	8.0	8.01	8.1	8010
Nonhalogenated Volatile Organics	8.0	8.01	8.1	8015
Aromatic Volatile Organics	8.0	8.02	8.1	8020
Acrolein, Acrylonitrile, Acetonitrile	8.0	8.03	8.1	8030
Phenols	8.0	8.04	8.1	8040
Phthalate Esters	8.0	8.06	8.1	8060
Organochlorine Pesticides and PCBs	8.0	8.08	8.1	8080
Nitroaromatics and Cyclic Ketones	8.0	8.09	8.1	8090
Polynuclear Aromatic Hydrocarbons	8.0	8.10	8.1	8100
Chlorinated Hydrocarbons	8.0	8.12	8.1	8120
Organophosphorus Pesticides	8.0	8.22	8.1	8140
Chlorinated Herbicides	8.0	8.40	8.1	8150
Gas Chromatographic/Mass Spectroscopy Methods (GC/MS)	8.0		8.2	
GC/MS Volatiles	8.0	8.24	8.2	8240
GC/MS Semi-Volatiles, Packed Column	8.0	8.25	8.2	8250
GC/MS Semi-Volatiles, Capillary	8.0	8.27	8.2	8270
High Performance Liquid Chromatographic Methods (HLPC)	8.0		8.3	
Polynuclear Aromatic Hydrocarbons	8.0	8.10	8.3	8310
Miscellaneous Analytical Methods	8.0		9.0	
Cyanide; Total and Amenable to Chlorination	8.0	8.55	9.0	9010
Total Organic Halogen (TOX)	8.0	8.66	9.0	9020
Sulfides	8.0	8.67	9.0	9030
pH Measurement	5.0	5.2	9.0	9040
Quality Control/Quality Assurance	10.0		10.1	
Introduction	10.0		10.1	
Program Design	10.0		10.2	
Sampling	10.0		10.3	
Analysis	10.0		10.4	
Data Handling	10.0		10.5	

(Indiana Environmental Management Board; 320 IAC 4.1-6-7)

320 IAC 4.1-6-8 Appendix VII; basis for listing hazardous waste

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 8.

EPA Hazardous Waste No.	Hazardous Constituents for Which Listed
F001	Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chlorinated fluorocarbons.
F002	Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane.
F003	N.A.
F004	Cresols and cresylic acid, nitrobenzene.
F005	Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine.
F006	Cadmium, hexavalent chromium, nickel, cyanide (complexed).
F007	Cyanide (salts).
F008	Cyanide (salts).
F009	Cyanide (salts).
F010	Cyanide (salts).
F011	Cyanide (salts).
F012	Cyanide (complexed).
F019	Hexavalent chromium, cyanide (complexed).
F024	Chloromethane, dichloromethane, trichloromethane, carbon tetrachloride, chloroethlylene, 1,1-dichloroethane, 1,2-dichloroethane, trans-1-2-dichloroethylene, 1,1-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, 1,1,1,2-tetra-chloroethane, 1,1,2,2-tetrachloroethane, tetrachloroethylene, pentachloroethane, hexachloroethane, allyl chloride (3-chloropropene), dichloropropane, dichloropropene, 2-chloro-1,3-butadiene, hexachloro-1,3-butadiene, hexachlorocyclopentadiene, hexachlorocyclohexane, benzene, chlorbenzene, dichlorobenzenes, 1,2,4-trichlorobenzene, tetrachlorobenzene, pentachlorobenzene, hexachlorobenzene, toluene, naphtalene.
K001	Pentachlorophenol, phenol, 2-chlorophenol, p-chloro-m-cresol, 2,4-dimethylphenyl, 2,4-dinitrophenol, trichlorophenols, tetrachlorophenols, 2,4-dinitrophenol, creosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benz(a)anthracene, dibenz(a)anthracene, acenaphthalene.
K002	Hexavalent chromium, lead.
K003	Hexavalent chromium, lead.
K004	Hexavalent chromium.
K005	Hexavalent chromium, lead.
K006	Hexavalent chromium.
K007	Cyanide (complexed), hexavalent chromium.

EPA Hazardous Waste No.	Hazardous Constituents for Which Listed
K008	Hexavalent chromium.
K009	Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid.
K010	Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid, chloroacetaldehyde.
K011	Acrylonitrile, acetonitrile, hydrocyanic acid.
K013	Hydrocyanic acid, acrylonitrile, acetonitrile.
K014	Acetonitrile, acrylamide.
K015	Benzyl chloride, chlorobenzene, toluene, benzotrichloride.
K016	Hexachlorobenzene, hexachlorobutadiene, carbon tetrachloride, hexachloroethane, perchloroethylene.
K017	Epichlorohydrin, chloroethers [bis(chloromethyl)ether and bis (2-chloroethyl) ethers], trichloropropane, dichloropropanols.
K018	1,2-dichloroethane, trichloroethylene, hexachlorobutadiene, hexachlorobenzene.
K019	Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride.
K020	Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride.
K021	Antimony, carbon tetrachloride, chloroform.
K022	Phenol, tars (polycyclic aromatic hydrocarbons).
K023	Phthalic anhydride, maleic anhydride.
K024	Phthalic anhydride, 1,4-naphthoquinone.
K025	Meta-dinitrobenzene, 2,4-dinitrotoluene.
K026	Paraldehyde, pyridines, 2-picoline.
K027	Toluene diisocyanate, toluene-2, 4-diamine.
K028	1,1,1-trichloroethane, vinyl chloride.
K029	1,2-dichloroethane, 1,1,1-trichloroethane, vinyl chloride, vinylidene chloride, chloroform.
K030	Hexachlorobenzene, hexachlorobutadiene, hexachloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, ethylene dichloride.
K031	Arsenic.
K032	Hexachlorocyclopentadiene.
K033	Hexachlorocyclopentadiene.
K034	Hexachlorocyclopentadiene.
K035	Creosote, chrysene, naphthalene, fluoranthene benzo(b) fluoranthene, benzo(a)pyrene indeno(1,2,3-cd)pyrene, benzo(a)anthracene, dibenzo(a)anthracene, acenaphthalene.
K036	Toluene, phosphorodithioic and phosphorothioic acid esters.

EPA Hazardous Waste No.	Hazardous Constituents for Which Listed
K037	Toluene, phosphorodithioic and phosphorothioic acid esters.
K038	Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters.
K039	Phosphorodithioic and phosphorothioic acid esters.
K040	Phorate , formaldehyde, phosphorodithioic and phosphorothioic acid esters.
K041	Toxaphene.
K042	Hexachlorobenzene, ortho-dichlorobenzene.
K043	2,4-dichlorophenol, 2,6-dichlorophenol, 2,4,6-trichlorophenol.
K044	N.A.
K045	N.A.
K046	Lead.
K047	N.A.
K048	Hexavalent chromium, lead.
K049	Hexavalent chromium, lead.
K050	Hexavalent chromium.
K051	Hexavalent chromium, lead.
K052	Lead.
K060	Cyanide, napthalene, phenolic compounds, arsenic.
K061	Hexavalent chromium, lead, cadmium.
K062	Hexavalent chromium, lead.
K069	Hexavalent chromium, lead, cadmium.
K071	Mercury.
K073	Chloroform, carbon tetrachloride, hexachloroethane, trichloroethane, tetrachloroethylene, dichloroethylene, 1,1,2,2-tetrachloroethane.
K083	Aniline, diphenylamine, nitrobenzene, phenylenediamine.
K084	Arsenic.
K085	Benzene, dichlorobenzenes, trichlorobenzenes, tetrachlorobenzenes, pentachlorobenzene, hexachlorobenzene, benzylchloride.
K086	Lead, hexavalent chromium.
K087	Phenol, naphthalene.
K093	Phthalic anhydride, maleic anhydride.
K094	Phthalic anhydride.
K095	1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane.
K096	1,2-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane.
K097	Chlordane, heptachlor.
K098	Toxaphene.
K099	2,4-dichlorophenol, 2,4,6-trichlorophenol.

EPA Hazardous Waste No.	Hazardous Constituents for Which Listed
K100	Hexavalent chromium, lead, cadmium.
K101	Arsenic.
K102	Arsenic.
K103	Aniline, nitrobenzene, phenylenediamine.
K104	Aniline, benzene, diphenylamine, nitrobenzene, phenylenediamine.
K105	Benzene, monochlorobenzene, dichlorobenzenes, 2,4,6-trichlorophenol.
K106	Mercury.

N.A.—Waste is hazardous because it fails the test for the characteristic of ignitabilty, corrosivity, or reactivity.

(Indiana Environmental Management Board; 320 IAC 4.1-6-8)

320 IAC 4.1-6-9 Appendix VIII; hazardous constituents

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 9. Hazardous Constituents

Acetonitrile (Ethanenitrile)
Acetophenone (Ethanone, 1-phenyl)
3-(alpha-Acetonylbenzyl)-4-hydroxycoumarin and salts (Warfarin)
2-Acetylaminofluorene (Acetamide, N-(9H-fluoren-2-yl)-)
Acetyl chloride (Ethanoyl chloride)
1-Acetyl-2-thiourea (Acetamide, N-(aminothioxomethyl)-)
Acrolein (2-Propenal)
Acrylamide (2-Propenamide)
Acrylonitrile (2-Propenenitrile)
Aflatoxins
Aldrin (1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a,8b-hexahydro-endo,exo- 1,4:5,8-Dimethanonaphthalene)
Allyl alcohol (2-Propen-1-ol)
Aluminum phosphide
4-Aminobiphenyl ([1,1'-Biphenyl]-4-amine)
6-Amino-1,1a,2,8,8a, 8b-hexahydro-8-(hydroxymethyl)-8a-methoxy-5-methyl-carbamate azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, (ester)(Mitomycin C)(Azirino[2'3':3,4]pyrrolo(1,2-a)indole-4,7-dione, 6-amino-8-[((amino-carbonyl)oxy)methyl]-1, 1a,2,8, 8a,8b-hexahydro-8amethoxy-5-methy-)
5-(Aminomethyl)-3-isoxazolol [3(2H)-Isoxazolone,5-(aminomethyl)-) 4-Aminopyridine (4-Pyridinamine)
Amitrole (1H-1,2,4-Triazol-3-amine)
Aniline (Benzenamine)
Antimony and compounds, N.O.S.*
Aramite (Sulfurous acid, 2-chloroethyl-, 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester)
Arsenic and compounds, N.O.S.*
Arsenic acid (Orthoarsenic acid)
Arsenic pentoxide (Arsenic (V) oxide)
Arsenic trioxide (Arsenic (III) oxide)
Auramine (Benzenamine, 4,4'-carbonimidoylbis[N,N-Dimethyl-, monohydrochloride)
Azaserine (L-Serine, diazoacetate (ester))
Barium and compounds, N.O.S.*
Barium cyanide
Benz[c]acridine (3,4-Benzacridine)
Benz[a]anthracene (1,2-Benzanthracene)
Benzene (Cyclohexatriene)
Benzenearsonic acid (Arsonic acid, phenyl-)
Benzene, dichloromethyl-(Benzal chloride)
Benzenethiol (Thiophenol)
Benzidine ([1,1'-Biphenyl]-4,4'diamine)
Benzo[b]fluoranthene (2,3-Benzofluoranthene)
Benzo[j]fluoranthene (7,8-Benzofluoranthene)
Benzo[a]pyrene (3,4-Benzopyrene)
p-Benzoquinone (1,4-Cyclohexadienedione)
Benzotrichloride (Benzene, trichloromethyl)
Benzyl chloride (Benzene, (chloromethyl)-)
Beryllium and compounds, N.O.S.*
Bis(2-chloroethoxy)methane (Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-])
Bis(2-chloroethyl) ether (Ethane, 1,1'-oxybis[2-chloro-])
N,N-Bis(2-chloroethyl)-2-naphthylamine (Chlornaphazine)
Bis(2-chloroisopropyl) ether (Propane, 2,2'-oxybis[2-chloro-])
Bis(chloromethyl) ether (Methane, oxybis[chloro-])
Bis(2-ethylhexyl) phthalate (1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester)
Bromoacetone (2-Propanone, 1-bromo-)
Bromomethane (Methyl bromide)
4-Bromophenyl phenyl ether (Benzene, 1-bromo-4-phenoxy-)

Brucine (Strychnidin-10-one, 2,3-dimethoxy-)
2-Butanone peroxide (Methyl ethyl ketone, peroxide)
Butyl benzyl phthalate (1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester)
2-sec-Butyl-4,6-dinitrophenol (DNBP) (Phenol, 2,4-dinitro-6-(1-methylpropyl)-)
Cadmium and compounds, N.O.S.*
Calcium chromate (Chromic acid, calcium salt)
Calcium cyanide
Carbon disulfide (Carbon bisulfide)
Carbon oxyfluoride (Carbonyl fluoride)
Chloral (Acetaldehyde, trichloro-)
Chlorambucil (Butanoic acid, 4-[bis(2-chloroethyl)amino]benzene-)
Chlordane (alpha and gamma isomers) (4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3,4,7,7a-tetrahydro-) (alpha and gamma isomers)
Chlorinated benzenes, N.O.S.*
Chlorinated ethane, N.O.S.*
Chlorinated fluorocarbons, N.O.S.*
Chlorinated naphthalene, N.O.S.*
Chlorinated phenol, N.O.S.*
Chloroacetaldehyde (Acetaldehyde, chloro-)
Chloroalkyl ethers, N.O.S.*
p-Chloroaniline (Benzenamine, 4-chloro-)
Chlorobenzene (Benzene, chloro-)
Chlorobenzilate (Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-,ethyl ester)
p-Chloro-in-cresol (Phenol, 4-chloro-3-methyl)
1-Chloro-2,3-epoxypropane (Oxirane, 2-(chloromethyl)-)
2-Chloroethyl vinyl ether (Ethene, (2-chloroethoxy)-)
Chloroform (Methane, trichloro-)
Chloromethane (Methyl chloride)
Chloromethyl methyl ether (Methane, chloromethoxy-)
2Chloronaphthalene (Naphthalene, beta-chloro-)
2-Chlorophenol (Phenol, o-chloro-)
1-(o-Chlorophenyl)thiourea (Thiourea, (2-chlorophenyl)-)
3-Chloropropionitrile (Propanenitrile, 3-chloro-)
Chromium and compounds, N.O.S.*
Chrysene (1,2-Benzphenanthrene)
Citrus red No. 2 (2-Naphthol, 1-[(2,5-dimethoxyphenyl)azo]-)
Coal tars
Copper cyanide
Creosote (Creosote, wood)
Cresols (Cresylic acid) (Phenol, methyl-)
Crotonaldehyde (2-Butenal)
Cyanides (soluble salts and complexes), N.O.S.*
Cyanogen (Ethanedinitrile)
Cyanogen bromide (Bromine cyanide)
Cyanogen chloride (Chlorine cyanide)
Cycasin (beta-D-Glucopyranoside, (methyl-ONN-azoxy)methyl-)
2-Cyclohexyl-4,6-dinitrophenol (Phenol, 2-cyclohexyl-4,6-dinitro-)
Cyclophosphamide (2H-1,3,2,-Oxazaphosphorine, [bis(2-chloroethyl)amino]-tetrahydro-, 2-oxide)
Daunomycin(5,12-Naphthacenedione,(8S-cis)-8-acetyl-10-[(3amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-)
DDD (Dichlorodiphenyldichloroethane) (Ethane,1,1-dichloro-2,2-bis(p-chlorophenyl)-)
DDE (Ethylene, 1,1-dichloro-2,2-bis(4-chlorophenyl)-)
DDT (Dichlorodiphenyltrichloroethane) (Ethane,1,1,1-trichloro-2,2-bis(p-chlorophenyl)-)
Diallate (S-(2,3-dichloroallyl) diisopropylthiocarbamate)
Dibenz[a,h]acridine (1,2,5,6-Dibenzacridine)
Dibenz[a,j]acridine (1,2,7,8-Dibenzacridine)
Dibenz[a,h]anthracene (1,2,5,6-Dibenzanthracene)
7H-Dibenzo[c,g]carbazole (3,4,5,6-Dibenzcarbazole)
Dibenzo[a,e]pyrene (1,2,4,5-Dibenzpyrene)
Dibenzo[a,h]pyrene (1,2,5,6-Dibenzpyrene)
Dibenzo[a,i]pyrene (1,2,7,8-Dibenzpyrene)
1,2-Dibromo-3-chloropropane (Propane, 1,2-dibromo-3-chloro-)
1,2-Dibromoethane (Ethylene dibromide)
Dibromomethane (Methylene bromide)
Di-n-butyl phthalate (1,2-Benzenedicarboxylic acid, dibutyl ester)
o-Dichlorobenzene (Benzene, 1,2-dichloro-)
m-Dichlorobenzene (Benzene, 1,3-dichloro-)
p-Dichlorobenzene (Benzene, 1,4-dichloro-)
Dichlorobenzene, N.O.S.* (Benzene, dichloro-, N.O.S.*)
3,3'-Dichlorobenzidine ([1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-)
1,4-Dichloro-2-butene (2-Butene, 1,4-dichloro-)
Dichlorodifluoromethane (Methane, dichlorodifluoro-)
1,1-Dichloroethane (Ethylidene dichloride)
1,2-Dichloroethane (Ethylene dichloride) trans-1,2-Dichloroethene (1,2-Dichloroethylene)
Dichloroethylene, N.O.S.* (Ethene, dichloro-, N.O.S.*)
1,1-Dichloroethylene (Ethene, 1,1-dichloro-)
Dichloromethane (Methylene chloride)
2,4-Dichlorophenol (Phenol, 2,4-dichloro-)
2,6-Dichlorophenol (Phenol, 2,6-dichloro-)
2,4-Dichlorophenoxyacetic acid (2,4-D), salts and esters (Acetic acid, 2,4-dichlorophenoxy-, salts and esters)
Dichlorophenylarsine (Phenyl dichloroarsine)
Dichloropropane, N.O.S.* (Propane, dichloro-, N.O.S.*)
1,2-Dichloropropane (Propylene dichloride)
Dichloropropanol, N.O.S.* (Propanol, dichloro-, N.O.S.*)
Dichloropropene, N.O.S.* (Propene, dichloro-,

N.O.S.*)
1,3-Dichloropropene (1-Propene, 1,3-dichloro-)
Dieldrin(1,2,3,4,10.10-hexachloro-6,7epoxy-1,4,4a,5,6, 7,8,8a octa-hydro-endo,exo-1,4:5,8-Dimethanonaphthalene)
1,2:3,4-Diepoxybutane (2,2'-Bioxirane)
Diethylarsine (Arsine, diethyl-)
N,N-Diethylhydrazine (Hydrazine, 1,2-diethyl)
0,0-Diethyl S-methyl ester of phosphorodithioic acid (Phosphorodithioic acid, 0,0-diethyl S-methyl ester
0,0-Diethylphosphoric acid, 0-p-nitrophenyl ester (Phosphoric acid, diethyl p-nitrophenyl ester)
Diethyl phthalate (1,2-Benzenedicarboxylic acid, diethyl ester)
0,0-Diethyl 0-2-pyrazinyl phosphorothioate (Phosphorothioic acid, 0,0-diethyl 0-pyrazinyl ester
Diethylstilbesterol (4,4'-Stilbenediol, alpha,alpha-diethyl, bis(dihydrogen phosphate, (E)-)
Dihydrosafrole (Benzene, 1,2-methylenedioxy-4-propyl-)
3,4-Dihydroxy-alpha-(methylamino)methyl benzyl alcohol (1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-)
Diisopropylfluorophosphate (DFP) (Phosphorofluoridic acid, bis(1-methylethyl)ester)
Dimethoate(Phosphorodithioicacid,0,0-dimethyl S-[2-(methylamino)-2-oxoethyl] ester
3,3'-Dimethoxybenzidine ([1,1'-Biphenyl]-4,4'diamine, 3-3'-dimethoxy-)
p-Dimethylaminoazobenzene (Benzenamine, N,N-dimethyl-4-(phenylazo)-)
7,12-Dimethylbenz[a]anthracene (1,2-Benzanthracene, 7,12-dimethyl-)
3,3'-Dimethylbenzidine ([1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-)
Dimethylcarbamoyl chloride (Carbamoyl chloride, dimethyl-)
1,1-Dimethylhydrazine (Hydrazine, 1,1-dimethyl-)
1,2-Dimethylhydrazine (Hydrazine, 1,2-dimethyl-)
3,3-Dimethyl-1-(methylthio)-2-butanone, 0-[(methylamino) carbonyl]oxime (Thiofanox)
alpha,alpha-Dimethylphenethylamine (Ethanamine, 1,1-dimethyl-2-phenyl-)
2,4-Dimethylphenol (Phenol, 2,4-dimethyl-)
Dimethyl phthalate (1,2-Benzenedicarboxylic acid, dimethyl ester)
Dimethyl sulfate (Sulfuric acid, dimethyl ester)
Dinitrobenzene, N.O.S.* (Benzene, dinitro-, N.O.S.*)
4,6-Dinitro-o-cresol and salts (Phenol, 2,4-dinitro-6-methyl-, and salts)
2,4-Dinitrophenol (Phenol, 2,4-dinitro-)
2,4-Dinitrotoluene (Benzene, 1-methyl-2,4-dinitro-)
2,6-Dinitrotoluene (Benzene, 1-methyl-2,6-dinitro-)
Di-n-octyl phthalate (1,2-Benzenedicarboxylic acid, dioctyl ester)
1,4-Dioxane (1,4-Diethylene oxide)
Diphenylamine (Benzenamine, N-phenyl-)
1,2-Diphenylhydrazine (Hydrazine, 1,2-diphenyl-)
Di-n-propylnitrosamine (N-Nitroso-di-n-propylamine)
Disulfoton (0,0-diethyl S-[2-(ethylthio)ethyl] phosphorodithioate)
2,4-Dithiobiuret (Thioimidodicarbonic diamide)
Endosulfan (5-Norbornene, 2,3-dimethanol, 1,4,5,6,7,7-hexachloro-, cyclic sulfite)
Endrin and metabolites(1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo,endo-1,4: 5,8-dimethanonaphthalene, and metabolites)
Ethyl carbamate (Urethan) (Carbamic acid, ethyl ester)
Ethyl cyanide (propanenitrile)
Ethylenebisdithiocarbamic acid, salts and esters (1,2-Ethanediylbiscarbamodithioic acid, salts and esters
Ethyleneimine (Aziridine)
Ethylene oxide (Oxirane)
Ethylenethiourea (2-Imidazolidinethione)
Ethyl methacrylate (2-Propenoic acid, 2-methyl-, ethyl ester)
Ethyl methanesulfonate (Methanesulfonic acid, ethyl ester)
Fluoranthene (Benzo[j,k]fluorene)
Fluorine
2-Fluoroacetamide (Acetamide, 2-fluoro-)
Fluoroacetic acid, sodium salt (Acetic acid, fluoro-, sodium salt)
Formaldehyde (Methylene oxide)
Formic acid (Methanoic acid)
Glycidylaldehyde (1-Propanol-2,3-epoxy)
Halomethane, N.O.S.*
Heptachlor (4,7 Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-)
Heptachlor epoxide (alpha, beta, and gamma isomers) (4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7-tetrahydro-, alpha, beta, and gamma isomers)
Hexachlorobenzene (Benzene, hexachloro-)
Hexachlorobutadiene (1,3-Butadiene, 1,1,2,3,4,4-hexachloro-)
Hexachlorocyclohexane (all isomers) (Lindane and isomers)
Hexachlorocyclopentadiene (1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-)
Hexachloroethane (Ethane, 1,1,1,2,2,2-hexachloro-)
1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo,endo- dimethanonaphthalene (Hexachlorohexahydro-endo,endo-dimethanonaphthalene)
Hexachlorophene (2,2'-Methylenebis(3,4,6-trichlorophenol))
Hexachloropropene (1-Propene, 1,1,2,3,3,3-

hexachloro-)
Hexaethyl tetraphosphate (Tetraphosphoric acid, hexaethyl ester)
Hydrazine (Diamine)
Hydrocyanic acid (Hydrogen cyanide)
Hydrofluoric acid (Hydrogen fluoride)
Hydrogen sulfide (Sulfur hydride)
Hydroxydimethylarsine oxide (Cacodylic acid)
Indeno(1,2,3-cd)pyrene (1,10-(1,2-phenylene)pyrene)
Iodomethane (Methyl iodide)
Iron dextran (Ferric dextran)
Isocyanic acid, methyl ester (Methyl isocyanate)
Isobutyl alcohol (1-Propanol, 2-methyl-)
Isosafrole (Benzene, 1,2-methylenedioxy-4-allyl-)
Kepone (Decachlorooctahydro-1,3,4-Methano-2H-cyclobuta[cd]pentalen-2-one)
Lasiocarpine (2-Butenoic acid, 2-methyl-, 7-[(2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy) methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester)
Lead and compounds, N.O.S.*
Lead acetate (Acetic acid, lead salt)
Lead phosphate (Phosphoric acid, lead salt)
Lead subacetate (Lead, bis(acetato-O)tetrahydroxytri-)
Maleic anhydride (2,5-Furandione)
Maleic hydrazide (1,2-Dihydro-3,6-pyridazinedione)
Malononitrile (Propanedinitrile)
Melphalan (Alanine, 3-[p-bis(2-chloroethyl)amino] phenyl-, L-)
Mercury fulminate (Fulminic acid, mercury salt)
Mercury and compounds, N.O.S.*
Methacrylonitrile (2-Propenenitrile, 2-methyl-)
Methanethiol (Thiomethanol)
Methapyrilene (Pyridine, 2-[(2-dimethylamino)ethyl]-2-thenylamino-)
Metholmyl (Acetimidic acid, N-[(methylcarbamoyl) oxy]thio-, methyl ester
Methoxychlor (Ethane, 1,1,1-trichloro-2,2'-bis(p-methoxyphenyl)-)
2-Methylaziridine (1,2-Propylenimine)
3-Methylcholanthrene (Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-)
Methyl chlorocarbonate (Carbonochloridic acid, methyl ester)
4,4'-Methylenebis(2-chloroaniline) (Benzenamine, 4,4'-methylenebis-(2-chloro-)
Methyl ethyl ketone (MEK) (2-Butanone)
Methyl hydrazine (Hydrazine, methyl-)
2-Methyllactonitrile (Propanenitrile, 2-hydroxy-2-methyl-)
Methyl methacrylate (2-Propenoic acid, 2-methyl-, methyl ester)
Methyl methanesulfonate (Methanesulfonic acid, methyl ester)
2-Methyl-2-(methylthio)propionaldehyde-o-(methylcarbonyl) oxime (Propanol, 2-methyl-2-(methylthio)-, 0-[(methylamino) carbonyl]oxime)
N-Methyl-N'-nitro-N-nitrosoguanidine (Guanidine, N-nitroso-N-methyl-N'-nitro-)
Methyl parathion (0,0-dimethyl 0-(4-nitrophenyl) phosphorothioate)
Methylthiouracil (4-1H-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-)
Mustard gas (Sulfide, bis(2-chloroethyl)-)
Naphthalene
1,4-Naphthoquinone (1,4-Naphthalenedione)
1-Naphthylamine (alpha-Naphthylamine)
2-Naphthylamine (beta-Naphthylamine)
1-Naphthyl-2-thiourea (Thiourea, 1-naphthalenyl-)
Nickel and compounds, N.O.S.*
Nickel carbonyl (Nickel tetracarbonyl)
Nickel cyanide (Nickel (II) cyanide)
Nicotine and salts (Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts)
Nitric oxide (Nitrogen (II) oxide)
p-Nitroaniline (Benzenamine, 4-nitro-)
Nitrobenzine (Benzene, nitro-)
Nitrogen dioxide (Nitrogen (IV) oxide)
Nitrogen mustard and hydrochloride salt (Ethanamine, 2-chloro-, N-(2-chloroethyl)-N-methyl-, and hydrochloride salt)
Nitrogen mustard N-Oxide and hydrochloride salt (Ethanamine, 2-chloro-, N-(2-chloroethyl)-N-methyl-, and hydrochloride salt)
Nitroglycerine (1,2,3-Propanetriol, trinitrate)
4-Nitrophenol (Phenol, 4-nitro-)
4-Nitroquinoline-1-oxide (Quinoline, 4-nitro-1-oxide-)
Nitrosamine, N.O.S.*
N-Nitrosodi-n-butylamine (1-Butanamine, N-butyl-N-nitroso-)
N-Nitrosodiethanolamine (Ethanol, 2,2'-(nitrosoimino)bis-)
N-Nitrosodiethylamine (Ethanamine, N-ethyl-N-nitroso-)
N-Nitrosodimethylamine (Dimethylnitrosamine)
N-Nitroso-N-ethylurea (Carbamide, N-ethyl-N-nitroso-)
N-Nitrosomethylethylamine (Ethanamine, N-methyl-N-nitroso-)
N-Nitroso-N-methylurea (Carbamide, N-methyl-N-nitroso-)
N-Nitroso-Nmethylurethane (Carbamic acid, methylnitroso-, ethyl ester)
N-Nitrosomethylvinylamine (Ethenamine, N-methyl-N-nitroso-)
N-Nitrosomorpholine (Morpholine, N-nitroso-)
N-Nitrosonornicotine (Nornicotine, N-nitroso-)
N-Nitrosopiperidine (Pyridine, hexahydro-, N-nitroso-)
Nitrosopyrrolidine (Pyrrole, tetrahydro-, N-nitroso-)

N-Nitrososarcosine (Sarcosine, N-nitroso-)
5-Nitro-o-toluidine (Benzenamine, 2-methyl-5-nitro-)
Octamethylpyrophosphoramide (Diphosphoramide, octamethyl-)
Osmium tetroxide (Osmium (VIII) oxide)
7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid (Endothal)
Paraldehyde (1,3,5-Trioxane, 2,4,6-trimethyl-)
Parathion (Phosphorothioic acid, 0,0-diethyl 0-(p-nitrophenyl) ester
Pentachlorobenzene (Benzene, pentachloro-)
Pentachloroethane (Ethane, pentachloro-)
Pentachloronitrobenzene (PCNB) (Benzene, pentachloronitro-)
Pentachlorophenol (Phenol, pentachloro-)
Phenacetin (Acetamide, N-(4-ethoxyphenyl)-)
Phenol (Benzene, hydroxy-)
Phenylenediamine (Benzenediamine)
Phenylmercury acetate (Mercury, acetatophenyl-)
N-Phenylthiourea (Thiourea, phenyl-)
Phosgene (Carbonyl chloride)
Phosphine (Hydrogen phosphide)
Phosphorodithioic acid, 0,0-diethyl S-[(ethylthio) methyl] ester (Phorate)
Phosphorothioic acid, 0,0-dimethyl 0-[p-((dimethylamino)sulfonyl) phenyl] ester (Famphur)
Phthalic acid esters, N.O.S.* (Benzene, 1,2-dicarboxylic acid, esters, N.O.S.*)
Phthalic anhydride (1,2-Benzenedicarboxylic acid anhydride)
2-Picoline (Pyridine, 2-methyl-)
Polychlorinated biphenyl, N.O.S.*
Potassium cyanide
Potassium silver cyanide (Argentate(1-), dicyano-, potassium)
Pronamide (3,5-Dichloro-N-(1,1-dimethyl-2-propynyl)benzamide)
1,3-Propane sultone (1,2-Oxathiolane, 2,2-dioxide)
n-Propylamine (1-Propanamine)
Propylthiouracil (Undecamethylenediamine, N,N'-bis(2-chlorobenzyl)-, dihydrochloride)
2-Propyn-1-ol (Propargyl alcohol)
Pyridine
Reserpine (Yohimban-16-carboxylic acid,11,17-dimethoxy - 18 - [(3,4,5-trimethoxybenzoyl)oxy] -, methyl ester)
Resorcinol (1,3-Benzenediol)
Saccharin and salts (1,2-Benzoisothiazolin-3-one, 1,1-dioxide, and salts)
Safrole (Benzene, 1,2-methylenedioxy-4allyl-)
Selenious acid (Selenium dioxide)
Selenium and compounds, N.O.S.*
Selenium sulfide (Sulfur selenide)
Selenourea (Carbamimidoselenoic acid)
Silver and compounds, N.O.S.*
Silver cyanide
Sodium cyanide
Streptozotocin (D-Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-)
Strontium sulfide
Strychnine and salts (Strychnidin-10-one, and salts)
1,2,4,5-Tetrachlorobenzene (Benzene, 1,2,4,5-tetrachloro-)
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) (Dibenzo-p-dioxin, 2,3,7,8-tetrachloro-)
Tetrachloroethane, N.O.S.* (Ethane, tetrachloro-, N.O.S.*)
1,1,1,2-Tetrachlorethane (Ethane, 1,1,1,2-tetrachloro-)
1,1,2,2-Tetrachlorethane (Ethane, 1,1,2,2-tetrachloro-)
Tetrachloroethylene (Ethene, 1,1,2,2-tetrachloro-)
Tetrachloromethane (Carbon tetrachloride)
2,3,4,6Tetrachlorophenol (Phenol, 2,3,4,6-tetrachloro-)
Tetraethyldithiopyrophosphate (Dithiopyrophosphoric acid, tetraethyl-ester)
Tetraethyl lead (Plumbane, tetraethyl-)
Tetraethylpyrophosphate (Pyrophosphoric acide, tetraethyl ester)
Tetranitromethane (Methane, tetranitro-)
Thallium and compounds, N.O.S.*
Thallic oxide (Thallium (III) oxide)
Thallium (I) acetate (Acetic acid, thallium (I) salt)
Thallium (I) carbonate (Carbonic acid, dithallium (I) salt)
Thallium (I) chloride
Thallium (I) nitrate (Nitric acid, thallium (I) salt)
Thallium selenite
Thallium (I) sulfate (Sulfuric acid, thallium (I) salt)
Thioacetamide (Ethanethioamide)
Thiosemicarbazide (Hydrazinecarbothioamide)
Thiourea (Carbamide thio-)
Thiuram (Bis(dimethylthiocarbamoyl)disulfide)
Toluene (Benzene, methyl-)
Toluenediamine (Diaminotoluene)
o-Toluidine hydrochloride (Benzenamine, 2-methyl-, hydrochloride)
Tolylene diisocyanate (Benzene, 1,3-diisocyanatomethyl-)
Toxaphene (Camphene, octachloro-)
Tribromomethane (Bromoform)
1,2,4-Trichlorobenzene (Benzene, 1,2,4-trichloro-)
1,1,1-Trichloroethane (Methylchloroform)
1,1,2-Trichloroethane (Ethane, 1,1,2-trichloro-)
Trichloroethene (Trichloroethylene)
Trichloromethanethiol (Methanethiol, trichloro-)
Trichloromonofluoromethane (Methane, trichlorofluoro-)
2,4,5-Trichlorophenol (Phenol, 2,4,5-trichloro-)
2,4,6-Trichlorophenol (Phenol, 2,4,6-trichloro-)
2,4,5-Trichlorophenoxyacetic acid (2,4,5-T) (Acetic acid, 2,4,5-trichlorophenoxy-)
2,4,5-Trichlorophenoxypropionic acid (2,4,5-TP)

(Silvex) (Propionoic acid, 2-(2,4,5-trichlorophenoxy)-)
Trichloropropane, N.O.S.* (Propane, trichloro-, N.O.S.*)
1,2,3-Trichloropropane (Propane, 1,2,3-trichloro-)
0,0,0-Triethyl phosphorothioate (Phosphorothioic acid, 0,0,0-triethyl ester)
sym-Trinitrobenzene (Benzene, 1,3,5-trinitro-)
Tris(1-azridinyl)phosphine sulfide (Phosphine sulfide, tris(1-aziridinyl-)
Tris(2,3-dibromopropyl) phosphate (1-Propanol, 2,3-dibromo-, phosphate)
Trypan blue (2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl) (1,1'-biphenyl)-4,4'-diyl)bis(azo)]bis (5-amino-4-hydroxy-,tetrasodium salt)
Uracil mustard (Uracil 5-[bis(2-chloroethyl)amino]-)
Vanadic acid, ammonium salt (ammonium vanadate)
Vanadium pentoxide (Vanadium (V) oxide)
Vinyl chloride (Ethene, chloro-)
Zinc cyanide
Zinc phosphide

*The abbreviation N.O.S. (not otherwise specified) signifies those members of the general class not specifically listed by name in this appendix.

(Indiana Environmental Management Board; 320 IAC 4.1-6-9)

Rule 7. Standards Applicable To Generators Of Hazardous Waste: General

320 IAC 4.1-7-1 Purpose, scope, and applicability
Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. (a) 320 IAC 4.1-7 through 320 IAC 4.1-11 establish standards for generators of hazardous waste.

(b) A generator who treats, stores, or disposes of hazardous waste on-site must only comply with the following sections 320 IAC 4.1-7 through 320 IAC 4.1-11 with respect to that waste: 320 IAC 4.1-7-2 for determining whether or not he has a hazardous waste, 320 IAC 4.1-7-3 for obtaining an EPA identification number, 320 IAC 4.1-9-5 for accumulation of hazardous waste, 320 IAC 4.1-10-1(c) and (d) for recordkeeping, 320 IAC 4.1-10-4 for additional reporting, and, if applicable, 320 IAC 4.1-11-2 for farmers.

(c) Any person who imports hazardous waste into Indiana from outside the United States must comply with the standards applicable to generators established in 320 IAC 4.1-7 through 320 IAC 4.1-11.

(d) A farmer who generates waste pesticides which are hazardous waste and who complies with all of the requirements of 320 IAC 4.1-11-2 is not required to comply with other standards in 320 IAC 4.1-7 through 320 IAC 4.1-11 or 320 IAC 4.1-15 through 320 IAC 4.1-54 with respect to such pesticides.

(e) A person who generates a hazardous waste as defined by 320 IAC 4.1-3 through 320 IAC 4.1-6 is subject to the compliance requirements and penalties prescribed in IC 13-7-11 and IC 13-7-13 if he does not comply with the requirements of these Rules.

(f) An owner or operator who initiates a shipment of hazardous waste from a treatment, storage, recovery, or disposal facility must comply with the generator standards established in these Rules.

[Note: The provisions of 320 IAC 4.1-9-5 are applicable to the on-site accumulation of hazardous waste by generators. Therefore, the provisions of 320 IAC 4.1-9-5 only apply to owners or operators who are shipping hazardous waste which they generated at that facility.]

[Note: A generator who treats, stores, recovers, or disposes of hazardous waste on-site must comply with the applicable standards and permit requirements set forth in 320 IAC 4.1-15 through 320 IAC 4.1-54] *(Indiana Environmental Management Board; 320 IAC 4.1-7-1)*

320 IAC 4.1-7-2 Hazardous waste determination
Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. A person who generates a solid waste, as defined in 320 IAC 4.1-3-2, must determine if that waste is a hazardous waste using the following method: (a) He should first determine if the waste is excluded from regulation under 320 IAC 4.1-3-4.

(b) He must then determine if the waste is listed as a hazardous waste in 320 IAC 4.1-6.

[Note: Even if the waste is listed, the generator still has an opportunity under 320 IAC 4.1-1-4 to demonstrate to the Board that the waste from his particular facility or operation is not a hazardous waste.]

(c) If the waste is not listed as a hazardous waste in 320 IAC 4.1-6, he must determine whether the waste is identified in 320 IAC 4.1-5 by either:

(1) testing the waste according to the methods set forth in 320 IAC 4.1-5, or according to an equivalent method approved by the Board under 320 IAC 4.1-1-5; or

(2) applying knowledge of the hazard

characteristic of the waste in light of the materials or the processes used.

(Indiana Environmental Management Board; 320 IAC 4.1-7-2)

320 IAC 4.1-7-3 EPA identification numbers

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 3. (a) A generator must not treat, store, dispose of, transport, or offer for transportation, hazardous waste without having received an EPA identification number from the Administrator of U.S.EPA.

(b) A generator who has not received an EPA identification number may obtain one by applying to the Administrator using EPA form 8700-12. Upon receiving the request the Administrator will assign an EPA identification number to the generator.

(c) A generator must not offer his hazardous waste to transporters or to treatment, storage, recovery, or disposal facilities that have not received an EPA identification number.

[*See following pages for EPA form 8700-12*]

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Please print or type with ELITE type (12 characters/inch) in the unshaded areas only.

EPA U.S. ENVIRONMENTAL PROTECTION AGENCY

NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

I. INSTALLATION'S EPA I.D. NO.

I. NAME OF INSTALLATION

II. INSTALLATION MAILING ADDRESS

III. LOCATION OF INSTALLATION

PLEASE PLACE LABEL IN THIS SPACE

INSTRUCTIONS: If you received a preprinted label, affix it in the space at left. If any of the information on the label is incorrect, draw a line through it and supply the correct information in the appropriate section below. If the label is complete and correct, leave items I, II, and III below blank. If you did not receive a preprinted label, complete all items. "Installation" means a single site where hazardous waste is generated, treated, stored and/or disposed of, or a transporter's principal place of business. Please refer to the INSTRUCTIONS FOR FILING NOTIFICATION before completing this form. The information requested herein is required by law (Section 3010 of the Resource Conservation and Recovery Act).

FOR OFFICIAL USE ONLY

COMMENTS

INSTALLATION'S EPA I.D. NUMBER | APPROVED | DATE RECEIVED (Yr., mo., & day)

I. NAME OF INSTALLATION

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX

CITY OR TOWN | ST. | ZIP CODE

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER

CITY OR TOWN | ST. | ZIP CODE

IV. INSTALLATION CONTACT

NAME AND TITLE (last, first, & job title) | PHONE NO. (area code & no.)

V. OWNERSHIP

A. NAME OF INSTALLATION'S LEGAL OWNER

B. TYPE OF OWNERSHIP (enter the appropriate letter into box)

F = FEDERAL
M = NON-FEDERAL

VI. TYPE OF HAZARDOUS WASTE ACTIVITY (enter "X" in the appropriate box(es))

- A. GENERATION
- B. TRANSPORTATION (complete item VII)
- C. TREAT/STORE/DISPOSE
- D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION (transporters only - enter "X" in the appropriate box(es))

- A. AIR
- B. RAIL
- C. HIGHWAY
- D. WATER
- E. OTHER (specify)

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your installation's EPA I.D. Number in the space provided below.

- A. FIRST NOTIFICATION
- B. SUBSEQUENT NOTIFICATION (complete item C)

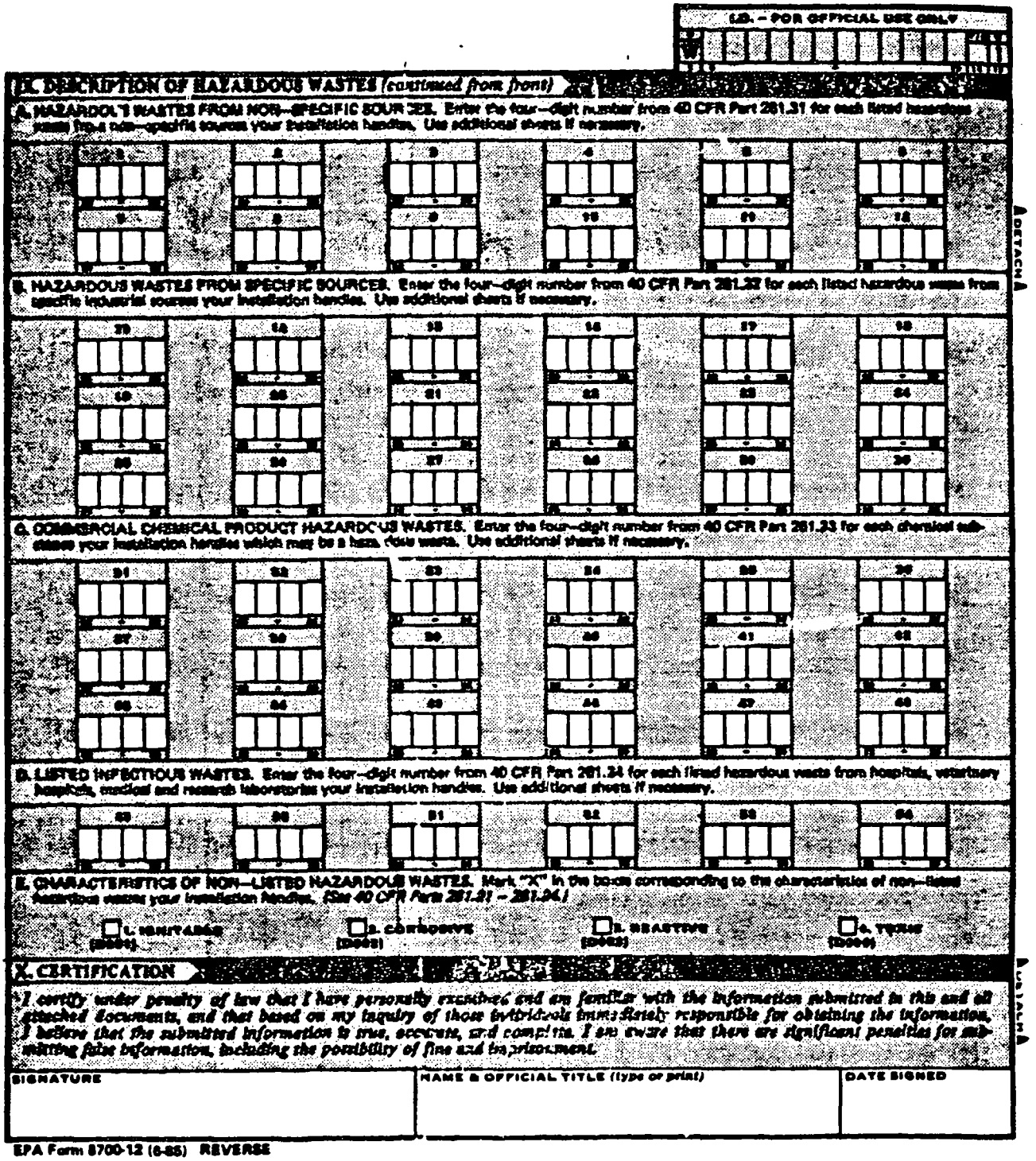
C. INSTALLATION'S EPA I.D. NO.

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

EPA Form 8700-12 (6-85)

CONTINUE ON REVERSE



(I.D. – FOR OFFICIAL USE ONLY)

IC. DESCRIPTION OF HAZARDOUS WASTES (continued from front)

A. HAZARDOUS WASTES FROM NON–SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.31 for each listed hazardous waste from non–specific sources your installation handles. Use additional sheets if necessary.

1 | 2 | 3 | 4 | 5 | 6
7 | 8 | 9 | 10 | 11 | 12

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13 | 14 | 15 | 16 | 17 | 18
19 | 20 | 21 | 22 | 23 | 24
25 | 26 | 27 | 28 | 29 | 30

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four–digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31 | 32 | 33 | 34 | 35 | 36
37 | 38 | 39 | 40 | 41 | 42
43 | 44 | 45 | 46 | 47 | 48

D. LISTED INFECTIOUS WASTES. Enter the four–digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49 | 50 | 51 | 52 | 53 | 54

E. CHARACTERISTICS OF NON–LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non–listed hazardous wastes your installation handles. (See 40 CFR Parts 261.21 – 261.24.)

☐ 1. IGNITABLE (D001) ☐ 2. CORROSIVE (D002) ☐ 3. REACTIVE (D003) ☐ 4. TOXIC (D004)

X. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE	NAME & OFFICIAL TITLE (type or print)	DATE SIGNED

EPA Form 8700-12 (6-85) REVERSE

DETACH A

DETACH A

(Indiana Environmental Management Board, 320 IAC 4.1-7-8)

Rule 8. The Manifest

320 IAC 4.1-8-1 General requirements

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 1. (a) A generator who transports, or offers for transportation, hazardous waste for off-site treatment, storage, recovery, or disposal must prepare a Manifest, (OMB control number 2000-0404) on EPA form 8700-22, and if necessary, EPA form 8700-22A, according to the instructions included in 320 IAC 4.1-14-3.

(b) A generator must designate on the manifest one facility which is permitted to handle the waste described on the manifest.

(c) A generator may also designate on the manifest one alternate facility which is permitted to handle his waste in the event an emergency prevents delivery of the waste to the primary designated facililty.

(d) If the transporter is unable to deliver the hazardous waste to the designated facililty or the alternate facility, the generator must either designate another facility or instruct the transporter to return the waste. *(Indiana Environmental Management Board; 320 IAC 4.1-8-1)*

320 IAC 4.1-8-2 Acquisition of manifests

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 2. (a) If the state to which the shipment is manifested (consignment state) supplies the manifest and requires its use, then the generator must use that manifest.

(b) If the consignment state does not supply the manifest, but the state in which the generator is located (generator state) supplies the manifest and requires its use, then the generator must use that state's manifest.

(c) If neither the generator state nor the consignment state supplies the manifest, then the generator may obtain the manifest from any source.

[Note: Indiana will not supply the manifest and will accept any state manifest so long as it contains all of the information contained on the Uniform Hazardous Waste Manifest (including optional information), and is identical to EPA form 8700-22 and if necessary EPA form 8700-22A. See 320 IAC 4.1-14-3 for instructions.] *(Indiana Environmental Management Board; 320 IAC 4.1-8-2)*

320 IAC 4.1-8-3 Number of copies

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 3. The manifest consists of at least the number of copies which will provide the generator, each transporter, and the owner or operator of the designated facility with one copy each for their records and another copy to be returned to the generator. *(Indiana Environmental Management Board; 320 IAC 4.1-8-3)*

320 IAC 4.1-8-4 Use of the manifest

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 4. (a) The generator must:

(1) sign the manifest certification by hand; and

(2) obtain the handwritten signature of the initial transporter and date of acceptance on the manifest; and

(3) Retain one copy, in accordance with 320 IAC 4.1-10-1(a).

(b) The generator must give the transporter the remaining copies of the manifest.

(c) For shipments of hazardous waste within the United States solely by water (bulk shipments only), the generator must send three copies of the manifest, dated and signed in accordance with this section, to the owner or operator of the designated facility or the last water (bulk shipment) transporter to handle the waste in the United States if exported by water. Copies of the manifest are not required for each transporter.

(d) For rail shipments of hazardous waste within the United States which originate at the site of generation, the generator must send at least three copies of the manifest dated and signed in accordance with this section to:

(1) The next non-rail transporter, if any; or

(2) The designated facility if transported solely by rail; or

(3) The last rail transporter to handle the waste in the United States if exported by rail.

[Note: See 320 IAC 4.1-13-1(e) and (f) for special provisions for rail or water (bulk shipment) transporters.] *(Indiana Environmental Management Board; 320 IAC 4.1-8-4)*

Rule 9. Pre-Transport Requirements

320 IAC 4.1-9-1 Packaging

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7

Affected: IC 8-2-7-43.5; IC 13-7-8.5

Sec. 1. Before transporting or offering hazardous waste for transportation off-site, a generator must package the waste in accordance with the applicable Department of Transportation regulations on packaging under 49 CFR Parts 173, 178 (as incorporated in IC 8-2-7-43.5) and 49 CFR Part 179 (see 320 IAC 4.1-1-6 for incorporation). *(Indiana Environmental Management Board; 320 IAC 4.1-9-1)*

320 IAC 4.1-9-2 Labeling

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7
Affected: IC 8-2-7-43.5; IC 13-7-8.5

Sec. 2. Before transporting or offering hazardous waste for transportation off-site, a generator must label each package in accordance with the applicable Department of Transportation regulations on hazardous materials under 49 CFR Part 172 as incorporated in IC 8-2-7-43.5. *(Indiana Environmental Management Board; 320 IAC 4.1-9-2)*

320 IAC 4.1-9-3 Marking

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7
Affected: IC 8-2-7-43.5; IC 13-7-8.5

Sec. 3. (a) Before transporting or offering hazardous waste for transportation off-site, a generator must mark each package of hazardous waste in accordance with the applicable Department of Transportation regulations on hazardous materials under 49 CFR Part 172 (as incorporated in IC 8-2-7-43.5);

(b) Before transporting or offering hazardous waste for transportation off-site, a generator must mark each container of 110gallons or less used in such transportation with the following words and information displayed in accordance with the requirements of 49 CFR 172.304 (as incorporated in IC 8-2-7-43.5):

HAZARDOUS WASTE—Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S.Environmental Protection Agency.

Generator's Name and Address _____.

Manifest Document Number _____.

(Indiana Environmental Management Board; 320 IAC 4.1-9-3)

320 IAC 4.1-9-4 Placarding

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7
Affected: IC 8-2-7-43.5; IC 13-7-8.5

Sec. 4. Before transporting or offering hazardous waste for transportation off-site, a generator must placard or offer the initial transporter the appropriate placards according to Department of Transportation regulations for hazardous materials under 49 CFR Part 172, Subpart F (as incorporated in IC 8-2-7-43.5,. *(Indiana Environmental Management Board; 320 IAC 4.1-9-4)*

320 IAC 4.1-9-5 Accumulation time

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7
Affected: IC 8-2-7-43.5; IC 13-7-8.5

Sec. 5. (a) A generator may accumulate hazardous waste on-site for ninety (90) days or less without a permit or without having interim status, provided that:

(1) The waste is placed in containers and the generator complies with 320 IAC 4.1-23, or the waste is placed in tanks and the generator complies with 320 IAC 4.1-24 except 320 IAC 4.1-24-3.

(2) The date upon which each period of accummulation begins is clearly marked and visible for inspection on each container.

(3) While being accummulated on-site, each container and tank is labeled or clearly marked with the words, "Hazardous Waste;" and

(4) The generator complies with the requirements for owners or operators in 320 IAC 4.1-17 and 320 IAC 4.1-18 and with 320 IAC 4.1-16-7.

(b) A generator who accumulates hazardous waste for more than ninety (90) days is an operator of a storage facility and is subject to the requirements of 320 IAC 4.1-15 through 320 IAC 4.1-32 and 320 IAC 4.1-40 through 320 IAC 4.1-54 and the permit requirements of 320 IAC 4.1-33 through 320 IAC 4.1-39 unless he has been granted an extension to the 90-day period. Such extensions may be granted by the State if hazardous waste must remain on site for longer than 90 days due to unforeseen, temporary, and uncontrollable circumstances. An extension of up to 30 days may be granted at the discretion of the Technical Secretary on a case-by-case basis. *(Indiana Environmental Management Board; 320 IAC 4.1-9-5)*

Rule 10. Recordkeeping and Reporting

320 IAC 4.1-10-1 Recordkeeping

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. (a) A generator must keep a copy of each manifest signed in accordance with 320 IAC 4.1-8-4(a) for three years or until he receives a signed copy from the designated facility which received the waste. This signed copy must be retained as a record for at least three years from the date the waste was accepted by the initial transporter.

(b) A generator must keep a copy of each Biennial

Report and Exception Report for a period of at least three years from the due date of the report.

(c) A generator must keep records of any test results, waste analyses, or other determinations made in accordance with 320 IAC 4.1-7-2 for at least three years from the date that the waste was last sent to an on-site or off-site treatment, storage, or disposal facility.

(d) The periods of retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Board. *(Indiana Environmental Management Board; 320 IAC 4.1-10-1)*

320 IAC 4.1-10-2 Biennial reporting

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. (a) A generator who ships his hazardous waste off-site must prepare and submit Biennial Reports:

(1) On forms provided by the Board according to the instructions on the form.

(2) To the: Environmental Management Board
Division of Land Pollution Control
Indiana State Board of Health
1330 W. Michigan Street,
Indianapolis, Indiana 46206

(3) No later than March1 of each even numbered year.

(b) Any generator who treats, stores, recovers, or disposes of hazardous wastes on-site must submit an Biennial Report covering those hazardous wastes in accordance with the provisions of 320 IAC 4.1-15 through 320 IAC 4.1-54. *(Indiana Environmental Management Board; 320 IAC 4.1-10-2)*

320 IAC 4.1-10-3 Exception reporting

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. (a) A generator who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 35 days of the date the waste was accepted by the initial transporter must contact the transporter and the owner or operator of the designated facility to determine the status of the hazardous waste.

(b) A generator must submit an Exception Report to the Board if he has not received a copy of the manifest, with the handwritten signature of the owner or operator of the designated facility, within 45 days of the date the waste was accepted by the initial transporter. The Exception Report must include:

(1) A legible copy of the manifest for which the generator does not have confirmation of delivery;

(2) A cover letter signed by the generator or his authorized representative explaining the efforts taken to locate the hazardous waste and the results of those efforts.

(Indiana Environmental Management Board; 320 IAC 4.1-10-3)

320 IAC 4.1-10-4 Additional reporting

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7 IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. The Technical Secretary, as he deems necessary under IC 13-7-8.5-2, may require generators to furnish additional reports concerning the quantities and disposition of wastes identified or listed in 320 IAC 4.1-3 through 320 IAC 4.1-6. *(Indiana Environmental Management Board; 320 IAC 4.1-10-4)*

Rule 11. Special Conditions

320 IAC 4.1-11-1 International shipments

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. (a) Any person who exports hazardous waste to a foreign country or imports hazardous waste from a foreign country into Indiana must comply with the requirements of this Rule and with the special requirements of this section.

(b) When shipping hazardous waste outside the United States, the generator must:

(1) Notify the Administrator of the U.S.EPA and the Indiana Environmental Management Board in writing four weeks before the initial shipment of hazardous waste to each country in each calendar year:

(i) the waste must be identified by its EPA hazardous waste identification number and its DOT shipping description;

(ii) the name and address of the foreign consignee must be included in this notice;

(iii) these notices must be sent to: Office of International Activities (A-106), United States Environmental Protection Agency, Washington, D.C. 20460 and The Environmental Management Board, Indiana State Board of Health, 1330 West Michigan Street, Indianapolis, Indiana 46206.

(2) Require that the foreign consignee confirm the delivery of the waste in the foreign country. A copy of the manifest signed by the foreign consignee may be used for this purpose;

(3) Meet the requirements under 320 IAC 4.1-8-1 for the manifest, except that:

(i) in place of the name, address, and EPA identification number of the designated facility, the name and address of the foreign consignee must be used;

(ii) the generator must identify the point of departure from the United States through which the waste must travel before entering a foreign country.

(4) Obtain the manifest from the generator's state if that state supplies the manifest form and requires its use. If the generator's state does not supply the manifest form, then the generator may obtain the manifest form from any source.

(c) A generator must file an Exception Report if:

(1) he has not received a copy of the manifest signed by the transporter stating the date and place of departure from the United States within 45 days from the date it was accepted by the initial transporter; or

(2) within 90 days from the date the waste was accepted by the initial transporter, the generator has not received written confirmation from the foreign consignee that the hazardous waste was received.

(d) When importing hazardous waste, a person must meet all requirements of 320 IAC 4.1-8-1 for the manifest except that:

(1) In place of the generator's name, address, and EPA identification number, the name and address of the foreign generator and the importer's name, address, and EPA identification number must be used.

(2) In place of the generator's signature on the certification statement, the U.S. importer or his agent must sign and date the certification and obtain the signature of the initial transporter.

(e) A person who imports hazardous waste must obtain the manifest form from the consignment state if that state supplies the manifest and requires its use. If the consignment state does not supply the manifest form, then the manifest form may be obtained from any source.

[Note: Indiana will not supply the manifest and will accept any state manifest so long as it contains all the information (including optional information) required on the Uniform Hazardous Waste Manifest and is identical to EPA Form 8700-22 and if necessary EPA Form 8700-22A. See 320 IAC 4.1-14-3 for proper instruction.] *(Indiana Environmental Management Board; 320 IAC 4.1-11-1)*

320 IAC 4.1-11-2 Farmers

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. A farmer disposing of waste pesticides from his own use which are hazardous wastes is not required to comply with the standards in this Rule or other standards contained in 320 IAC 4.1-15 through 320 IAC 4.1-54 for those wastes provided he triple rinses each emptied pesticide container in accordance with 320 IAC 4.1-3-7(b)(3) and disposes of the pesticide residues on his own farm in a manner consistent with the disposal instructions on the pesticide label. *(Indiana Environmental Management Board; 320 IAC 4.1-11-2)*

Rule 12. Standards Applicable to Transporters of Hazardous Waste: General Provisions

320 IAC 4.1-12-1 Scope

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. (a) These regulations establish standards which apply to persons transporting hazardous waste within Indiana if the transportation requires a manifest under 320 IAC 4.1-7 through 320 IAC 4.1-11.

(b) These regulations do not apply to on-site transportation of hazardous waste by generators or by owners or operators of permitted hazardous waste management facilities.

(c) A transporter of hazardous waste must also comply with 320 IAC 4.1-7 through 320 IAC 4.1-11, Standards Applicable to Generators of Hazardous Waste, if he:

(1) transports hazardous waste into Indiana from abroad; or

(2) mixes hazardous wastes of different DOT shipping descriptions by placing them into a single container.

(Indiana Environmental Management Board; 320 IAC 4.1-12-1)

320 IAC 4.1-12-2 EPA identification number

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. (a) A transporter must not transport hazardous wastes without having received an EPA identification number from the Administrator of U.S. EPA.

(b) A transporter who has not received an EPA identification number may obtain one by applying to

the Administrator using EPA Form8700-12. Upon receiving the request, the Administrator will assign an EPA identification number to the transporter and notify the State. *(Indiana Environmental Management Board; 320 IAC 4.1-12-2)*

320 IAC 4.1-12-3 Transfer facility requirements

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 3. A transporter who stores manifested shipments of hazardous waste in containers meeting the requirements of 320 IAC 4.1-9-1 at a transfer facility for a period of ten days or less is not subject to regulation under 320 IAC 4.1-15 through 320 IAC 4.1-54 with respect to the storage of those wastes. *(Indiana Environmental Management Board; 320 IAC 4.1-12-3)*

Rule 13. Standards Applicable to Transporters of Hazardous Waste: Compliance With the Manifest System and Recordkeeping

320 IAC 4.1-13-1 The manifest system

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 1. (a) A transporter may not accept hazardous waste from a generator unless it is accompanied by a manifest, signed by the generator in accordance with the provisions of 320 IAC 4.1-7 through 320 IAC 4.1-11.

(b) Before transporting the hazardous waste, the transporter must sign and date the manifest acknowledging acceptance of the hazardous waste from the generator. The transporter must return a signed copy to the generator before leaving the generator's property.

(c) The transporter must ensure that the manifest accompanies the hazardous waste.

(d) A transporter who delivers a hazardous waste to another transporter or to the designated facility must:

(1) obtain the date of delivery and the handwritten signature of that transporter or of the owner or operator of the designated facility on the manifest; and

(2) retain one(1) copy of the manifest in accordance with 320 IAC 4.1-13-3; and

(3) give the remaining copies of the manifest to the accepting transporter or designated facility.

(e) The requirements of paragraph (c), (d), and (f) of this section do not apply to water (bulk shipment) transporters if:

(1) the hazardous waste is delivered by water (bulk shipment) to the designated facility; and

(2) a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification, and signatures) accompanies the hazardous waste; and

(3) the delivering transporter obtains the date of delivery and handwritten signature of the owner or operator of the designated facility on either the manifest or the shipping paper; and

(4) the person delivering the hazardous waste to the initial water (bulk shipment) transporter obtains the date of delivery and signature of the water (bulk shipment) transporter on the manifest and forwards it to the designated facility; and

(5) a copy of the shipping paper or manifest is retained by each water (bulk shipment) transporter in accordance with 320 IAC 4.1-13-3.

(f) For shipments involving rail transportation, the requirements of paragraphs (c), (d), and (e) do not apply and the following requirements do apply:

(1) When accepting hazardous waste from a non-rail transporter, the initial rail transporter must:

(i) Sign and date the manifest acknowledging acceptance of the hazardous waste.

(ii) Return a signed copy of the manifest to the non-rail transporter.

(iii) Forward at least three copies of the manifest to:

(A) the next non-rail transporter, if any; or

(B) the designated facility, if the shipment is delivered to that facility by rail; or

(C) the last rail transporter designated to handle the waste in Indiana.

(iv) Retain one copy of the manifest and rail shipping paper in accordance with 320 IAC 4.1-13-3.

(2) Rail transporters must ensure that a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification, and signatures) accompanies the hazardous waste at all times.

[Note: Intermediate rail transporters are not required to sign either the manifest or shipping paper.]

(3) When delivering hazardous waste to the designated facility, a rail transporter must:

(i) obtain the date of delivery and handwritten signature of the owner or operator of the designated facility on the manifest or the shipping paper (if the manifest has not been received by the facility); and

(ii) retain a copy of the manifest or signed

shipping paper in accordance with 320 IAC 4.1-13-3.

(4) When delivering hazardous waste to a non-rail transporter, a rail transporter must:

(i) obtain the date of delivery and the handwritten signature of the next non-rail transporter on the manifest; and

(ii) retain a copy of the manifest in accordance with 320 IAC 4.1-13-3.

(5) Before accepting hazardous waste from a rail transporter, a non-rail transporter must sign and date the manifest and provide a copy to the rail transporter.

(g) Transporters who transport hazardous waste out of the United States must:

(1) indicate on the manifest the date the hazardous waste left the United States; and

(2) sign the manifest and retain one(1) copy in accordance with 320 IAC 4.1-13-3(c); and

(3) return a signed copy of the manifest to the generator.

(Indiana Environmental Management Board; 320 IAC 4.1-13-1)

320 IAC 4.1-13-2 Compliance with the manifest

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 2. (a) The transporter must deliver the entire quantity of hazardous waste which he has accepted from a generator or a transporter to:

(1) the designated facility listed on the manifest; or

(2) the alternate designated facility, if the hazardous waste cannot be delivered to the designated facility because an emergency prevents delivery; or

(3) the next designated transporter; or

(4) the place outside the United States designated by the generator.

(b) If the hazardous waste cannot be delivered in accordance with paragraph (a) of this section, the transporter must contact the generator for further directions and must revise the manifest according to the generator's instructions. *(Indiana Environmental Management Board; 320 IAC 4.1-13-2)*

320 IAC 4.1-13-3 Recordkeeping

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 3. (a) A transporter of hazardous waste must keep a copy of the manifest signed by the generator, himself, and the next designated transporter or the owner or operator of the designated facility for a period of three years from the date the hazardous waste was accepted by the initial transporter.

(b) For shipments delivered to the designated facility by water (bulk shipment), each water (bulk shipment)transporter must retain a copy of the shipping paper containing all the information required in 320 IAC 4.1-13-1(e)(2) for a period of three years from the date the hazardous waste was accepted by the initial transporter.

(c) For shipments of hazardous waste by rail within Indiana:

(1) the initial rail transporter must keep a copy of the manifest and shipping paper with all the information required in 320 IAC 4.1-13-1(f)(2)for a period of three years from the date the hazardous waste was accepted by the initial transporter; and

(2) the final rail transporter must keep a copy of the signed manifest (or the shipping paper if signed by the designated facility in lieu of the manifest) for a period of three years from the date the hazardous waste was accepted by the initial transporter.

[Note: Intermediate rail transporters are not required to keep records pursuant to these regulations.]

(d) A transporter who transports hazardous waste out of Indiana must keep a copy of the manifest indicating that the hazardous waste left Indiana for a period of three years from the date the hazardous waste was accepted by the initial transporter.

(e) The periods of retention referred to in this Section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Administrator or the Board. *(Indiana Environmental Management Board; 320 IAC 4.1-13-3)*

Rule 14. Hazardous Waste Discharges

320 IAC 4.1-14-1 Immediate action

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 1. (a) In the event of a discharge of hazardous waste during transportation, the transporter must take appropriate immediate action to protect human health and the environment (e.g., notify state and local authorities: by calling Indiana Emergency Response 24-hour phone 317/633-0144), dike the discharge area.

(b) If a discharge of hazardous waste occurs during transportation and an official (State or local govern-

ment or a Federal Agency) acting within the scope of his official responsibilities determines that immediate removal of the waste is necessary to protect human health or the environment, that official may authorize the removal of the waste by transporters who do not have EPA identification numbers and without the preparation of a manifest.

(c) An air, rail, highway, or water transporter who has discharged hazardous waste must:

(1) Give notice, if required by 330 IAC 1-6 to the Indiana Environmental Management Board and Indiana Stream Pollution Control Board (317/633-0144).

(2) Give notice, if required by 49 CFR 171.15 (as incorporated in IC 8-2-7-43.5), to the National Response Center (800/424-8802 or 202/426-2675); and

(3) Report in writing to the Technical Secretary of the Indiana Stream Pollution Control Board as required by 330 IAC 1-6.

(4) Report in writing as required by 49 CFR 171.16 (as incorporated in IC 8-2-7-43.5)to the Director, Office of Hazardous Materials Regulations, Materials Transportation Bureau, Department of Transportation, Washington,D.C.20590.

(d) A water (bulk shipment) transporter who has discharged hazardous waste must give the same notice as required by 33 CFR 153.203 for oil and hazardous substances. *(Indiana Environmental Management Board; 320 IAC 4.1-14-1)*

320 IAC 4.1-14-2 Discharge clean up

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. A transporter must clean up any hazardous waste discharge that occurs during transportation or take such action as may be required or approved by Federal, State, or local officials so that the hazardous waste discharge no longer presents a hazard to human health or the environment. *(Indiana Environmental Management Board; 320 IAC 4.1-14-2)*

320 IAC 4.1-14-3 Appendix; uniform hazardous waste manifest and instructions (EPA *forms* 8700-22 and 8700-22A and their instructions)

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. Uniform Hazardous Waste Manifest and Instructions.

U.S. EPA Form 8700-22

Read all instructions before completing this form.

This form has been designed for use on a 12-pitch (elite) typewriter; a firm point pen may also be used-press down hard.

Federal regulations require generators and transporters of hazardous waste and owners or operators of hazardous waste treatment, storage, recovery, and disposal facilities to use EPA Form 8700-22 and, if necessary, the continuation sheet (Form 8700-22A) for both inter- and intrastate transportation.

State regulations also require generators and transporters of hazardous waste and owners or operators of hazardous waste treatment, storage and disposal facilities to complete the following information:

* *

GENERATORS

Item 1. Generator's U.S. EPA ID Number-Manifest Document Number

Enter the generator's U.S. EPA twelve digit identification number and the unique five digit number assigned to this Manifest (e.g., 00001) by the generator.

Item 2. Page 1 of _____

Enter the total number of pages used to complete this Manifest, i.e.,the first page (EPA Form 8700-22) plus the number of Continuation Sheets (EPA Form 8700-22A), if any.

Item 3. Generator's Name and Mailing Address

Enter the name and mailing address of the generator. The address should be the location that will manage the returned Manifest forms.

Item 4. Generator's Phone Number

Enter a telephone number where an authorized agent of the generator may be reached in the event of an emergency.

Item 5. Transporter 1 Company Name

Enter the company name of the first transporter who will transport the waste

Item 6. U.S. EPA ID Number

Enter the U.S. EPA twelve digit identification number of the first transporter identified in item 5.

Item 7. Transporter 2 Company Name

If applicable, enter the company name of the second transporter who will transport the waste. If more than two transporters are used to transport the waste, use a Continuation Sheet(s) (EPA Form 8700-22A) and list the transporters in the order they will be transporting the waste.

Item 8. U.S. EPA ID Number

If applicable, enter the U.S. EPA twelve digit identification number of the second transporter identified in item 7.

[Note: If more than two transporters are used, enter each additional transporter's company name and U.S. EPA twelve digit identification number in items 24-27 on the Continuation Sheet (EPA Form 8700-22A). Each Continuation Sheet has space to record two additional transporters. Every transporter used between the generator and the designated facility must be listed.]

Item 9. Designated Facility Name and Site Address

Enter the company name and site address of the facility designated to receive the waste listed on this Manifest. The address must be the site address, which may differ from the company mailing address.

Item 10. U.S. EPA ID Number

Enter the U.S. EPA twelve digit identification number of the designated facility identified in item 9.

Item 11. U.S. DOT Description [Including Proper Shipping Name, Hazard Class, and I.D. Number (UN/NA)]

Enter the U.S. DOT Proper Shipping Name, Hazard Class, and IDNumber (UN/NA) for each waste as identified in 49 CFR 171 through 177.

[Note: If additional space is needed for waste descriptions, enter these additional descriptions in item28 on the Continuation Sheet (EPA Form 8700-22A).]

Item 12. Containers (No. and Type)

Enter the number of containers for each waste and the appropriate abbreviation from Table I (below) for the type of container.

Table I-Types of Containers

DM=Metal drums, barrels, kegs
DW=Wooden drums, barrels, kegs
DF=Fiberboard or plastic drums, barrels, kegs
TP=Tanks portable
TT=Cargo tanks (tank trucks)
TC=Tank cars
DT=Dump truck
CY=Cylinders
CM=Metal boxes, cartons, cases (including roll-offs)
CW=Wooden boxes, cartons, cases
CF=Fiber or plastic boxes, cartons, cases
BA=Burlap, cloth, paper or plastic bags

Item 13. Total Quantity

Enter the total quantity of waste described on each line.

Item 14. Unit (Wt./Vol.)

Enter the appropriate abbreviation from Table II (below) for the unit of measure.

Table II-Units of Measure

G=Gallons (liquids only)
P=Pounds
T=Tons (2000 lbs)
Y=Cubic yards
L=Liters (liquids only)
K=Kilograms
M=Metric tons (1000 kg)
N=Cubic meters

Item 15. Special Handling Instructions and Additional Information

Generators may use this space to indicate special transportation, treatment, storage, or disposal information or Bill of Lading information. For international shipments, generators must enter in this space the point of departure (City and State) for those shipments destined for treatment, storage, or disposal outside the jurisdiction of the United States.

Item 16. Generator's Certification

The generator must read, sign (by hand), and date the certification statement. If a mode other than highway is used, the word "highway" should be lined out and the appropriate mode (rail, water, or air) inserted in the space below. If another mode in addition to the highway mode is used, enter the appropriate additional mode (e.g., and rail) in the space below.

[Note: All of the above information except the handwritten signature required in item 16 may be preprinted.]

* *

TRANSPORTERS

Item 17. Transporter 1—Acknowledgement of Receipt of Materials

Enter the name of the person accepting the waste on

behalf of the first transporter. That person must acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

Item 18. Transporter 2—Acknowledgement of Receipt of Materials

Enter, if applicable, the name of the person accepting the waste on behalf of the second transporter. That person must acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

International Shipments-Transporter Responsibilities

Exports—Transporters must sign and enter the date the waste left the United States in item 15 of Form 8700-22.

Imports—Shipments of hazardous waste regulated by 320 IAC 4.1 and transported into the United States from another country must upon entry be accompanied by the U.S. EPA Uniform Hazardous Waste Manifest. Transporters who transport hazardous waste into Indiana from another country are responsible for completing the Manifest (320 IAC 4.1-12-1(c)(1)).

* *

OWNERS AND OPERATORS OF TREATMENT, STORAGE, OR DISPOSAL FACILITIES

Item 19. Discrepancy Indication Space

The authorized representative of the designated (or alternate) facility's owner or operator must note in this space any significant discrepancy between the waste described on the Manifest and the waste actually received at the facility. A significant discrepancy must be resolved as outlined in 320 IAC 4.1-19-3.

Item 20. Facility Owner or Operator: Certification of Receipt of Hazardous Materials Covered by This Manifest Except as Noted in Item 19

Print or type the name of the person accepting the waste on behalf of the owner or operator of the facility. That person must acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

* *

Additional Items Required by State Regulation

The following additional information must be typed or printed on the Manifest:

D=Transporter's Phone
F=Transporter's Phone
H=Facility's Phone
I=EPA Hazardous Waste Number

Instructions—Continuation Sheet, U.S. EPA Form 8700-22A

Read all instructions before completing this form.

This form has been designed for use on a 12-pitch (elite) typewriter; a firm point pen may also be used—press down hard.

This form must be used as a continuation sheet to U.S. EPA Form 8700-22 if:

—More than two transporters are to be used to transport the waste;
—More space is required for the U.S. DOT description and related information in Item 11 of U.S. EPA Form 8700-22.

Federal regulations require generators and transporters of hazardous waste and owners or operators of hazardous waste treatment, storage, or disposal facilities to use the Uniform Hazardous Waste Manifest (EPA Form 8700-22) and, if necessary, this Continuation Sheet (EPA Form 8700-22A) for both inter- and intrastate transportation.

GENERATORS

Item 21. Generator's U.S. EPA I.D. Number—Manifest Document Number

Enter the generator's U.S. EPA twelve digit identification number and the unique five digit number assigned to this Manifest (e.g., 00001) as it appears in item 1 on the first page of the Manifest.

Item 22. Page _____

Enter the page number of this Continuation Sheet.

Item 23. Generator's Name

Enter the generator's name as it appears in item 3 on the first page of the Manifest.

Item 24. Transporter _____ Company Name

If additional transporters are used to transport the waste described on this Manifest, enter the company name of each additional transporter in the order in which they will transport the waste. Enter after the word "Transporter" the order of the transporter. For example, Transporter3 Company Name. Each Continuation Sheet will record the names of two additional transporters.

Item 25. U.S. EPA I.D. Number

Enter the U.S. EPA twelve digit identification number of the transporter described in item 24.

Item 26. Transporter _____ Company Name

If additional transporters are used to transport the waste described on this Manifest, enter the company name of each additional transporter in the order in which they will transport the waste. Enter after the word "Transporter" the order of the transporter. For example, Transporter4 Company Name. Each Continuation Sheet will record the names of two additional transporters.

Item 27. U.S. EPA I.D. Number

Enter the U.S. EPA twelve digit identification number of the transporter described in item 26.

Item 28. U.S. DOT Description Including Proper Shipping Name, Hazardous Class, and I.D. Number (UN/NA)

Refer to item 11.

Item 29. Containers (No. and Type)

Refer to item 12.

Item 30. Total Quantity

Refer to item 13.

Item 31. Unit (Wt./Vol.)

Refer to item 14.

Item 32. Special Handling Instructions

Generators may use this space to indicate special transportation, treatment, storage, or disposal information or Bill of Lading information.

* *

TRANSPORTERS

Item 33. Transporter _____ Acknowledgement of Receipt of Materials

Enter the same number of the Transporter as identified in item 24. Enter also the name of the person accepting the waste on behalf of the Transporter (Company Name) identified in item 24. That person must acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

Item 34. Transporter _____ Acknowledgement of Receipt of Materials

Enter the same number as identified in item 26. Enter also the name of the person accepting the waste on behalf of the Transporter (Company Name) identified in item 26. That person must acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

* *

Owners and Operators of Treatment, Storage, or Disposal Facilities

Item 35. Discrepancy Indication Space

Refer to item 19.

Additional Items Required by State Regulation

O=Transporter phone
Q=Transporter phone
R=Waste number

[See following pages for EPA form 8700-22]

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2000-0404. Expires 7-31-86

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. | Manifest Document No.

2. Page 1 of

Information in the shaded areas is not required by Federal law.

GENERATOR

3. Generator's Name and Mailing Address

4. Generator's Phone ( )

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name | 6. US EPA ID Number

C. State Transporter's ID

D. Transporter's Phone

7. Transporter 2 Company Name | 8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address | 10. US EPA ID Number

G. State Facility's ID

H. Facility's Phone

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a.					
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Printed/Typed Name | Signature | Date (Month Day Year)

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date (Month Day Year)

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date (Month Day Year)

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name | Signature | Date (Month Day Year)

EPA Form 8700-22 (3-84)

BILLING CODE 6560-50-C

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2000-0404 Expires 7-31-86

UNIFORM HAZARDOUS WASTE MANIFEST *(Continuation Sheet)*

21. Generator's US EPA ID No. | Manifest Document No.

22. Page | Information in the shaded areas is not required by Federal law.

23. Generator's Name

L. State Manifest Document Number

M. State Generator's ID

24. Transporter ____ Company Name | 25. US EPA ID Number | N. State Transporter's ID | O. Transporter's Phone

26. Transporter ____ Company Name | 27. US EPA ID Number | P. State Transporter's ID | Q. Transporter's Phone

GENERATOR

28. US DOT Description *(Including Proper Shipping Name, Hazard Class, and ID Number)*	29. Containers No.	Type	30. Total Quantity	31. Unit Wt./Vol.	R. Waste No.
a.					
b.					
c.					
d.					
e.					
f.					
g.					
h.					
i.					

S. Additional Codes for Wastes Listed Above

T. Handling Codes for Wastes Listed Above

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter ____ Acknowledgement of Receipt of Materials | Printed/Typed Name | Signature | Date (Month, Day, Year)

34. Transporter ____ Acknowledgement of Receipt of Materials | Printed/Typed Name | Signature | Date (Month, Day, Year)

FACILITY

35. Discrepancy Indication Space

EPA Form 8700-22A (3-84)
BILLING CODE 6560-50-C

(Indiana Environmental Management Board; 320 IAC 4.1-14-3)

Rule 15. Existing Hazardous Waste Management Facility Standards: General

320 IAC 4.1-15-1 Purpose, scope, and applicability

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. (a) The purpose of 320 IAC 4.1-15 through 320 IAC 4.1-32 is to establish minimum State standards which define the acceptable management of hazardous waste during the period of Interim Status.

(b) The standards in 320 IAC 4.1-15 through 320 IAC 4.1-32-1 apply to owners and operators of facilities which treat, store, recycle, or dispose of hazardous waste who have fully complied with the requirements of 320 IAC 4.1-34 and 320 IAC 4.1-38, until disposition of their Final Permit application is made, and to those owners and operators of facilities in existence on November 19, 1980, who have failed to provide timely notification as required by Section 3010(a) of RCRA, and/or failed to file Part A of the permit application pursuant to 320 IAC 4.1-34 and 320 IAC 4.1-38.

These standards apply to all treatment, storage, recycling, or disposal of hazardous waste at these facilities except as specifically provided otherwise in this Rule or 320 IAC 4.1-3 through 320 IAC 4.1-6.

(c) The requirements of 320 IAC 4.1-15 through 320 IAC 4.1-32 do not apply to:

(1) a person disposing of hazardous waste by means of ocean disposal subject to a permit issued under the Marine Protection, Research, and Sanctuaries Act (16 USC 1431 et. seq. and 33 USC 1401 et. seq.);

[Note: 320 IAC 4.1-15 through 320 IAC 4.1-32 do apply to the treatment or storage of hazardous waste before it is loaded onto an ocean vessel for incineration or disposal at sea, as provided in paragraph (b) of this Section.]

(2) a person disposing of hazardous waste by means of underground injection subject to a permit issued under an Underground Injection Control (UIC) program approved or promulgated under the Safe Drinking Water Act (42 USC 300f et. seq.);

[Note: 320 IAC 4.1-15 through 320 IAC 4.1-32 do apply to the aboveground treatment or storage of hazardous waste before it is injected underground. 320 IAC 4.1-15 through 320 IAC 4.1-32 also apply to the disposal of hazardous waste by means of underground injection, as provided in paragraph (b) of this Section, until final disposition of a person's Final State permit application is made under 320 IAC 4.1-34 or under an approved or promulgated UIC program.]

(3) the owner or operator of a POTW which treats, stores, or disposes of hazardous waste;

[Note: The owner or operator of a facility under paragraphs (c)(1) through (c)(3) of this Section is subject to the requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54 to the extent they are included in a permit-by-rule granted to such a person under 320 IAC 4.1-33 through 320 IAC 4.1-39, or are required by 40 CFR 144.14.]

(4) the owner or operator of a facility permitted, licensed, or registered by the Board to manage municipal or industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation under 320 IAC 4.1-3-5;

(5) the owner or operator of a facility which is beneficially using or reusing or legitimately recycling or reclaiming hazardous waste which is generated by the owner or operator of the facility, except to the extent the requirements are included in 320 IAC 4.1-3-6(b);

(6) a generator accumulating waste on-site in compliance with 320 IAC 4.1-9-5, except to the extent the requirements are included in 320 IAC 4.1-9-5;

(7) a farmer disposing of waste pesticides from his own use in compliance with 320 IAC 4.1-11-2; or

(8) the owner or operator of a totally enclosed treatment facility, as defined in 320 IAC 4.1-1-7;

(9) the owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in 320 IAC 4.1-1-7;

(10)(i) Except as provided in paragraph (c)(10)(ii) of this Section, a person engaged in treatment or containment activities during immediate response to any of the following situations:

(A) a discharge of a hazardous waste;

(B) an imminent and substantial threat of a discharge of a hazardous waste;

(C) a discharge of a material which, when discharged, becomes a hazardous waste.

(ii) An owner or operator of a facility otherwise regulated by 320 IAC 4.1-15 through 320 IAC 4.1-32 must comply with all applicable requirements of 320 IAC 4.1-17 and 320 IAC 4.1-18.

(iii) Any person who is covered by paragraph (c)(10)(i) of this Section and who continues or initiates hazardous waste treatment or containment activities after the immediate response is over, is subject to all applicable requirements of 320 IAC 4.1-15 through 320 IAC 4.1-39 for those activities.

(11) a transporter storing manifested shipments of

hazardous waste in containers meeting the requirements of 320 IAC 4.1-9-1 at a transfer facility for a period of ten days or less.

(12) the addition of absorbent material to waste in a container (as defined in 320 IAC 4.1-1-7) or the addition of waste to the absorbent material in a container provided that these actions occur at the time waste is first placed in the container and 320 IAC 4.1-16-8(b), 320 IAC 4.1-23-2, and 320 IAC 4.1-23-3 are complied with.

(Indiana Environmental Management Board; 320 IAC 4.1-15-1)

320 IAC 4.1-15-2 Imminent hazard action

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. Notwithstanding any other provisions of 320 IAC 4.1-15 through 320 IAC 4.1-32, enforcement actions may be brought pursuant to IC 13-7-12. *(Indiana Environmental Management Board; 320 IAC 4.1-15-2)*

Rule 16. Existing Hazardous Waste Facility Standards: General Facility Standards

320 IAC 4.1-16-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. 320 IAC 4.1-16 applies to owners and operators of all hazardous waste facilities, except as 320 IAC 4.1-15-1 provides otherwise. *(Indiana Environmental Management Board; 320 IAC 4.1-16-1)*

320 IAC 4.1-16-2 Identification number

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. Every facility owner or operator must obtain an identification number pursuant to 320 IAC 4.1-2. *(Indiana Environmental Management Board; 320 IAC 4.1-16-2)*

320 IAC 4.1-16-3 Required notices

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. (a) The owner or operator of a facility that has arranged to receive hazardous waste from a foreign source must notify the Technical Secretary in writing at least four weeks in advance of the date the waste is expected to arrive at the facility. Notice of subsequent shipments of the same waste from the same foreign source is not required.

(b) Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the post-closure care period, the owner or operator must notify the new owner or operator in writing of the requirements of 320 IAC 4.1-15 through 320 IAC 4.1-39. (Also see 320 IAC 4.1-38-3.)

[Note: An owner's or operator's failure to notify the new owner or operator of the requirements of this Section in no way relieves the new owner or operator of his obligation to comply with all applicable requirements.] *(Indiana Environmental Management Board; 320 IAC 4.1-16-3)*

320 IAC 4.1-16-4 General waste analysis

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. (a)(1) Before an owner or operator treats, stores, recovers, or disposes of any hazardous waste, he must obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum, this analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with the requirements of 320 IAC 4.1-15 through 320 IAC 4.1-32.

(2) The analysis may include data developed under 320 IAC 4.1-3 through 320 IAC 4.1-6, and existing published or documented data on the hazardous waste or on waste generated from similar processes.

[Note: For example, the facility's record of analyses performed on the waste before the effective date of 320 IAC 4, or studies conducted on hazardous waste generated from processes similar to that which generated the waste to be managed at the facility, may be included in the data base required to comply with paragraph (a)(1) of this Section. The owner or operator of an off-site facility may arrange for the generator of the hazardous waste to supply part or all of the information required by paragraph (a)(1) of this Section. If the generator does not supply the information, and the owner or operator chooses to accept a hazardous waste, the owner or operator is responsible for obtaining the information required to comply with this section.]

(3) The analysis must be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis must be repeated:

(i) when the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous waste has changed; and

(ii) for off-site facilities, when the results of the inspection required in paragraph (a)(4) of this Section indicate that the hazardous waste received at

the facility does not match the waste designated on the accompanying manifest or shipping paper.

(4) The owner or operator of an off-site facility must inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

(b) The owner or operator must develop and follow a written waste analysis plan which describes the procedures which he will carry out to comply with paragraph (a) of this Section. He must keep this plan at the facility. At a minimum, the plan must specify:

(1) the parameters for which each hazardous waste will be analyzed and the rationale for the selection of these parameters (i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with paragraph (a) of this Section);

(2) the test methods which will be used to test for these parameters;

(3) the sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:

(i) one of the sampling methods described in 320 IAC 4.1-6-5; or

(ii) an equivalent sampling method.

[Note: See 320 IAC 4.1-1-5 for related discussion.]

(4) the frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date;

(5) for off-site facilities, the waste analyses that hazardous waste generators have agreed to supply; and

(6) where applicable, the methods which will be used to meet the additional waste analysis requirements for specific waste management methods as specified in 320 IAC 4.1-24-3, 320 IAC 4.1-25-4, 320 IAC 4.1-26-3, 320 IAC 4.1-27-3, 320 IAC 4.1-29-2, 320 IAC 4.1-30-3, and 320 IAC 4.1-31-3.

(c) For off-site facilities, the waste analysis plan required in paragraph (b) of this Section must also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan must describe:

(1) the procedures which will be used to determine the identity of each movement of waste managed at the facility; and

(2) the sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

(Indiana Environmental Management Board; 320 IAC 4.1-16-4)

320 IAC 4.1-16-5 Security

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 5. (a) The owner or operator must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of his facility, unless:

(1) physical contact with the waste, structures, or equipment within the active portion of the facility will not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility, and

(2) disturbance of the waste or equipment, by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility, will not cause a violation of the requirements of this section.

(b) Unless exempt under paragraphs (a)(1) and (a)(2) of this Section, a facility must have:

(1) a 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the active portion of the facility; or

(2)(i) an artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff), which completely surrounds the active portion of the facility; and

(ii) a means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance, or controlled roadway access to the facility).

[Note: The requirements of paragraph (b) of this Section are satisfied if the facility or plant within which the active portion is located itself has a surveillance system or a barrier and a means to control entry, which complies with the requirements of paragraph (b)(1) or (b)(2) of this Section.]

(c) Unless exempt under paragraphs (a)(1) and (a)(2) of this Section, a sign with the legend, "Danger—Unauthorized Personnel Keep Out," must be posted at each entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. The legend must be written in English and in any other language predominant in the area surrounding the facility (e.g., facilities in counties bordering the Canadian province

of Quebec must post signs in French; facilities in counties bordering Mexico must post signs in Spanish), and must be legible from a distance of at least 25feet. Existing signs with a legend other than "Danger—Unauthorized Personnel Keep Out" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.

[Note: See 320 IAC 4.1-21-7 for discussion of security requirements at disposal facilities during the post-closure care period.] *(Indiana Environmental Management Board; 320 IAC 4.1-16-5)*

16.6

320 IAC 4.1-16-6 General inspection requirements

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. (a) The owner or operator must inspect his facility for malfunctions and deterioration, operator errors, and discharges which may be causing—or may lead to:

(1) release of hazardous waste constituents to the environment; or

(2) a threat to human health.

The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

(b)(1) The owner or operator must develop and follow a written schedule for inspecting all monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

(2) He must keep this schedule at the facility.

(3) The schedule must identify the types of problems (e.g., malfunctions or deterioration) which are to be looked for during the inspection (e.g., inoperative sump pump, leaking fitting, eroding dike, etc.).

(4) The frequency of inspection may vary for the items on the schedule. However, it should be based on the rate of possible deterioration of the equipment and the probability of an environmental or human health incident if the deterioration or malfunction or any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use. At a minimum, the inspection schedule must include the items and frequencies called for in 320 IAC 4.1-23-7, 320 IAC 4.1-24-4, 320 IAC 4.1-25-5, 320 IAC 4.1-29-4, 320 IAC 4.1-30-4, and 320 IAC 4.1-31-4.

(c) The owner or operator must remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

(d) The owner or operator must record those inspections in an inspection log or summary. He must keep these records for at least three years from the date of inspection. At a minimum, these records must include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions. *(Indiana Environmental Management Board; 320 IAC 4.1-16-6)*

320 IAC 4.1-16-7 Personnel training

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. (a)(1) Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of 320 IAC 4.1-15 through 320 IAC 4.1-32. The owner or operator must ensure that this program includes all the elements described in the document required under paragraph (d)(3) of this Section.

(2) This program must be directed by a person trained in hazardous waste management procedures, and must include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

(3) At a minimum, the training program must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including where applicable:

(i) procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;

(ii) key parameters for automatic waste feed cut-off systems;

(iii) communications or alarm systems;

(iv) response to fires or explosions;

(v) response to groundwater contamination incidents; and
(vi) shutdown of operations.

(b) Facility personnel must successfully complete the program required in paragraph (a) of this Section within six months after the date of their employment or assignment to a facility, or to a new position at a facility. New employees or employees transferred into new positions must not work in unsupervised capacities until they have completed the training requirements of paragraph (a) of this Section.

(c) Facility personnel must take part in an annual review of the initial training required in paragraph (a) of this Section.

(d) The owner or operator must maintain the following documents and records at the facility:
(1) the job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job;
(2) a written job description for each position listed under paragraph (d)(1) of this Section. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education, or other qualifications, and duties of facility personnel assigned to each position;
(3) a written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under paragraph (d)(1) of this Section;
(4) records that document that the training or job experience required under paragraphs (a), (b), and (c) of this Section has been given to, and completed by, facility personnel.

(e) Training records on current personnel must be kept until closure of the facility. Training records on former employees must be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company. *(Indiana Environmental Management Board; 320 IAC 4.1-16-7)*

320 IAC 4.1-16-8 General requirements for ignitable, reactive, or incompatible wastes

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 8. (a) The owner or operator must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the owner or operator must confine smoking and open flame to specially designated locations. "No Smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(b) Where specifically required by other sections of 320 IAC 4.1-15 through 320 IAC 4.1-32, the treatment, storage, or disposal of ignitable or reactive wastes, and the mixture or commingling of incompatible wastes, or incompatible wastes and materials, must be conducted so that it does not:
(1) generate extreme heat or pressure, fire or explosion, or violent reaction;
(2) produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health;
(3) produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;
(4) damage the structural integrity of the device or facility containing the waste; or
(5) through other like means threaten human health or the environment.
(Indiana Environmental Management Board; 320 IAC 4.1-16-8)

Rule 17. Existing Hazardous Waste Facility Standards: Preparedness and Prevention

320 IAC 4.1-17-1 Applicability

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. 320 IAC 4.1-17 applies to owners and operators of all hazardous waste facilities, except as 320 IAC 4.1-15-1 provides otherwise. *(Indiana Environmental Management Board; 320 IAC 4.1-17-1)*

320 IAC 4.1-17-2 Maintenance and operation of facility

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. Facilities must be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment. *(Indiana Environmental Management Board; 320 IAC 4.1-17-2)*

320 IAC 4.1-17-3 Required equipment

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. All facilities must be equipped with the following, unless none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:

(a) an internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;

(b) a device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or state or local emergency response teams;

(c) portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and

(d) water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

(Indiana Environmental Management Board; 320 IAC 4.1-17-3)

320 IAC 4.1-17-4 Testing and maintenance of equipment

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency. *(Indiana Environmental Management Board; 320 IAC 4.1-17-4)*

320 IAC 4.1-17-5 Access to communications or alarm system

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. (a) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless such a device is not required under 320 IAC 4.1-17-3.

(b) If there is ever just one employee on premises while the facility is operating, he must have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, unless such a device is not required under 320 IAC 4.1-17-3. *(Indiana Environmental Management Board; 320 IAC 4.1-17-5)*

320 IAC 4.1-17-6 Required aisle space

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. The owner or operator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes. *(Indiana Environmental Management Board; 320 IAC 4.1-17-6)*

320 IAC 4.1-17-7 Arrangements with local authorities

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. (a) The owner or operator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations:

(1) arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;

(2) where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;

(3) agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and

(4) arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(b) Where state or local authorities decline to enter into such arrangements, the owner or operator must

document the refusal in the operating record. *(Indiana Environmental Management Board; 320 IAC 4.1-17-7)*

Rule 18. Existing Hazardous Waste Facility Standards: Contingency Plan and Emergency Procedures

320 IAC 4.1-18-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 1. 320 IAC 4.1-18 applies to owners and operators of all hazardous waste facilities, except as 320 IAC 4.1-15-1 provides otherwise. *(Indiana Environmental Management Board; 320 IAC 4.1-18-1)*

320 IAC 4.1-18-2 Contingency plan; purpose and implementation

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 2. (a) Each owner or operator must have a contingency plan for his facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.

(b) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment. *(Indiana Environmental Management Board; 320 IAC 4.1-18-2)*

320 IAC 4.1-18-3 Contingency plan; content

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 3. (a) The contingency plan must describe the actions facility personnel must take to comply with 320 IAC 4.1-18-2 and 320 IAC 4.1-18-7 in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.

(b) If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with 40 CFR Part 112, or National Oil & Hazardous Substance Pollution Contingency Plan 40 CFR Part 300, or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of 320 IAC 4.1-15 through 320 IAC 4.1-32.

(c) The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services, pursuant to 320 IAC 4.1-17-7.

(d) The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see 320 IAC 4.1-18-6), and this list must be kept up to date. Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates.

(e) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(f) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires). *(Indiana Environmental Management Board; 320 IAC 4.1-18-3)*

320 IAC 4.1-18-4 Copies of contingency plan

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 4. A copy of the contingency plan and all revisions to the plan must be:

(a) maintained at the facility; and

(b) Submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.

(Indiana Environmental Management Board; 320 IAC 4.1-18-4)

320 IAC 4.1-18-5 Contingency plan; amendment

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 5. The contingency plan must be reviewed, and immediately amended, if necessary, whenever:

(a) applicable regulations are revised;
(b) the plan fails in an emergency;
(c) the facility changes—in its design, construction, operation, maintenance, or other circumstances—in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;
(d) the list of emergency coordinators changes; or
(e) the list of emergency equipment changes.
(Indiana Environmental Management Board; 320 IAC 4.1-18-5)

320 IAC 4.1-18-6 Emergency coordinator

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. At all times, there must be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

[Note: The emergency coordinator's responsibilities are more fully spelled out in 320 IAC 4.1-18-7. Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of waste(s) handled by the facility, and type and complexity of the facility.] *(Indiana Environmental Management Board; 320 IAC 4.1-18-6)*

320 IAC 4.1-18-7 Emergency procedures

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. (a) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:
(1) activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and
(2) notify appropriate State or local agencies with designated response roles if their help is needed.

(b) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and the real extent of any released materials. He may do this observation or review of facility records or manifests and, if necessary, by chemical analysis.

(c) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-offs from water or chemical agents used to control fire and heat-induced explosions).

(d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows:
(1) if his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated, and
(2) he must immediately notify the Indiana State Board of Health, Indiana Environmental Emergency Response 24-hour number, AC317/633-0144, and the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include:
(i) name and telephone number of reporter;
(ii) name and address of facility;
(iii) time and type of incident (e.g., release, fire);
(iv) name and quantity of material(s) involved, to the extent known;
(v) the extent of injuries, if any; and
(vi) the possible hazards to human health, or the environment, outside the facility.

(e) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.

(f) If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment wherever this is appropriate.

(g) Immediately after an emergency, the emergency coordinator must provide for treating,

storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

[Note: Unless the owner or operator can demonstrate, in accordance with 320 IAC 4.1-3-3(c) or (d), that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of 320 IAC 4.1-7 through 320 IAC 4.1-32.]

(h) The emergency coordinator must ensure that, in the affected area(s) of the facility:

(1) no waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and

(2) all emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(i) The owner or operator must notify the Technical Secretary, and appropriate local authorities, that the facility is in compliance with paragraph (h) of this Section before operations are resumed in the affected area(s) of the facility.

(j) The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he must submit a written report on the incident to the Technical Secretary. The report must include:

(1) name, address, and telephone number of the owner or operator;

(2) name, address, and telephone number of the facility;

(3) date, time, and type of incident (e.g., fire, explosion);

(4) name and quantity of material(s) involved;

(5) the extent of injuries, if any;

(6) an assessment of actual or potential hazards to human health or the environment, where this is applicable; and

(7) estimated quantity and disposition of recovered material that resulted from the incident.

(Indiana Environmental Management Board; 320 IAC 4.1-18-7)

Rule 19. Existing Hazardous Waste Facility Standards: Manifest System, Recordkeeping, and Reporting

320 IAC 4.1-19-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 1. 320 IAC 4.1-19 applies to owners and operators of both on-site and off-site facilities, except as 320 IAC 4.1-15-1 provides otherwise. Sections 320 IAC 4.1-19-2, 320 IAC 4.1-19-3, and 320 IAC 4.1-19-7 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources. *(Indiana Environmental Management Board; 320 IAC 4.1-19-1)*

320 IAC 4.1-19-2 Use of manifest system

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 2. (a) If a facility receives hazardous waste accompanied by a manifest, the owner or operator, or his agent, must:

(1) sign and date each copy of the manifest to certify that the hazardous waste covered by the manifest was received;

(2) note any significant discrepancies in the manifest (as defined in 320 IAC 4.1-19-3(a)) on each copy of the manifest;

[Note: The Board does not intend that the owner or operator of a facility whose procedures under 320 IAC 4.1-16-4(c) include waste analysis must perform that analysis before signing the manifest, and giving it to the transporter. 320 IAC 4.1-19-3(b), however, requires reporting an unreconciled discrepancy discovered during later analysis.]

(3) immediately give the transporter at least one copy of the signed manifest;

(4) within 30 days after the delivery, send a copy of the manifest to the generator; and

(5) retain at the facility a copy of each manifest for at least three years from the date of delivery.

(b) If a facility receives, from a rail or water (bulk shipment) transporter, hazardous waste which is accompanied by a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator's certification, and signatures), the owner or operator, or his agent, must:

(1) sign and date each copy of the manifest or shipping paper (if the manifest has not been received) to certify that the hazardous waste covered by the manifest or shipping paper was received;

(2) note any significant discrepancies (as defined in 320 IAC 4.1-19-3(a)) in the manifest or shipping paper (if the manifest has not been received) on each copy of the manifest or shipping paper;

[Note: The Board does not intend that the owner or operator of a facility whose procedures under 320 IAC

4.1-16-4(c) include waste analysis must perform that analysis before signing the shipping paper and giving it to the transporter. 320 IAC 4.1-19-3(b), however, requires reporting an unreconciled discrepancy discovered during later analysis.]

(3) immediately give the rail or water (bulk shipment) transporter at least one copy of the manifest or shipping paper (if the manifest has not been received);

(4) within 30 days after the delivery, send a copy of the signed and dated manifest to the generator; however, if the manifest has not been received within 30 days after delivery, the owner or operator, or his agent, must send a copy of the shipping paper signed and dated to the generator; and

[Note: 320 IAC 4.1-8-4(c) requires the generator to send three copies of the manifest to the facility when hazardous waste is sent by rail or water (bulk shipment).]

(5) retain at the facility a copy of the manifest and shipping paper (if signed in lieu of the manifest at the time of delivery) for at least three years from the date of delivery.

(c) Whenever a shipment of hazardous waste is initiated from a facility, the owner or operator of that facility must comply with the requirements of 320 IAC 4.1-7 through 320 IAC 4.1-11.

[Note: The provisions of 320 IAC 4.1-9-5 are applicable to the on-site accumulation of hazardous wastes by generators. Therefore, the provisions of 320 IAC 4.1-9-5 only apply to owners or operators who are shipping hazardous waste which they generated at the facility.] *(Indiana Environmental Management Board; 320 IAC 4.1-19-2)*

320 IAC 4.1-19-3 Manifest discrepancies

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. (a) Manifest discrepancies are differences between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity or type of hazardous waste a facility actually receives. Significant discrepancies in quantity are: (1) for bulk waste, variations greater than 10 percent in weight, and (2) for batch waste, any variation in piece count, such as a discrepancy of one drum in a truckload. Significant discrepancies in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.

(b) Upon discovering a significant discrepancy, the owner or operator must attempt to reconcile the discrepancy with the waste generator or transporter (e.g., with telephone conversations). If the discrepancy is not resolved within 15 days after receiving the waste, the owner or operator must immediately submit to the Technical Secretary a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest or shipping paper at issue. *(Indiana Environmental Management Board; 320 IAC 4.1-19-3)*

320 IAC 4.1-19-4 Operating record

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. (a) The owner or operator must keep a written operating record at his facility.

(b) The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility:

(1) a description and the quantity of each hazardous waste received, and the method(s) and date(s)of its treatment, storage, or disposal at the facility as required by 320 IAC 4.1-32-2;

(2) the location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of each hazardous waste must be recorded on a map or diagram of each cell or disposal area. For all facilities, this information must include cross-references to specific manifest document numbers, if the waste was accompanied by a manifest;

[Note: See 320 IAC 4.1-21-9, 320 IAC 4.1-27-6, and 320 IAC 4.1-28-3 for related requirements.]

(3) records and results of waste analysis and trial tests performed as specified in 320 IAC 4.1-16-4, 320 IAC 4.1-24-3, 320 IAC 4.1-25-4, 320 IAC 4.1-26-3, 320 IAC 4.1-27-3, 320 IAC 4.1-29-2, 320 IAC 4.1-30-3, and 320 IAC 4.1-31-3;

(4) summary reports and details of all incidents that require implementing the contingency plan as specified in 320 IAC 4.1-18-7(j);

(5) records and results of inspections as required by 320 IAC 4.1-16-6(d) (except these data need be kept only three years);

(6) monitoring, testing, or analytical data where required by 320 IAC 4.1-20-1, 320 IAC 4.1-20-5, 320 IAC 4.1-27-4, 320 IAC 4.1-27-5, 320 IAC 4.1-27-7(d)(1), 320 IAC 4.1-29-4, 320 IAC 4.1-30-4; and

[Note: As required by 320 IAC 4.1-20-5, monitoring data at disposal facilities must be kept throughout the post-closure period.]

(7) all closure cost estimates under 320 IAC 4.1-22-3 and, for disposal facilities, all post-closure cost estimates under 320 IAC 4.1-22-13.

(Indiana Environmental Management Board; 320 IAC 4.1-19-4)

320 IAC 4.1-19-5 Availability, retention, and disposition of records

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 5. (a) All records, including plans, required under 320 IAC 4.1-15 through 320 IAC 4.1-32 must be furnished upon request, and made available at all reasonable times for inspection, by any officer, employee, or representative of the Board who is duly designated by the Technical Secretary.

(b) The retention period for all records required under 320 IAC 4.1-15 through 320 IAC 4.1-32 is extended automatically during the course of any unresolved enforcement action regarding the facility or as requested by the Board.

(c) A copy of records of waste disposal locations and quantities under 320 IAC 4.1-19-4(b)(2) must be submitted to the Board and local land authority upon closure of the facility (see 320 IAC 4.1-21-9). *(Indiana Environmental Management Board; 320 IAC 4.1-19-5)*

320 IAC 4.1-19-6 Biennial report

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 6. The owner or operator must prepare and submit a single copy of an biennial report to the Board no later than March 1 of each even numbered year. The biennial report must be submitted on forms provided by the Board. The report must cover facility activities during the previous calendar year and must include the following information:

(a) the EPA identification number, name, and address of the facility;

(b) the calendar year covered by the report;

(c) for off-site facilities, the EPA identification number of each hazardous waste generator from which the facility received a hazardous waste during the year; for imported shipments, the report must give the name and address of the foreign generator;

(d) a description and the quantity of each hazardous waste the facility received during the year. For off-site facilities, this information must be listed by EPA identification number of each generator;

(e) the method of treatment, storage, or disposal for each hazardous waste;

(f) monitoring data under 320 IAC 4.1-20-5(a)(2)(ii) and (iii), and (b)(2), where required;

(g) the most recent closure cost estimate under 320 IAC 4.1-22-3 and, for disposal facilities, the most recent post-closure cost estimate under 320 IAC 4.1-22-13;

(h) the certification signed by the owner or operator of the facility or his authorized representative.

(Indiana Environmental Management Board; 320 IAC 4.1-19-6)

320 IAC 4.1-19-7 Unmanifested waste report

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 7. If a facility accepts for treatment, storage, or disposal any hazardous waste from an off-site source without an accompanying manifest, or without an accompanying shipping paper as described in 320 IAC 4.1-13-1(e)(2), and if the waste is not excluded from the manifest requirement by 320 IAC 4.1-3-5, then the owner or operator must prepare and submit a single copy of a report to the Technical Secretary within fifteen days after receiving the waste. The unmanifested waste report must be submitted on forms provided by the Board (EPA Form 8700-13B). Such report must be designated 'Unmanifested Waste Report' and include the following information:)

(a) the EPA identification number, name, and address of the facility;

(b) the date the facility received the waste;

(c) the EPA identification number, name, and address of the generator and the transporter, if available;

(d) a description and the quantity of each unmanifested hazardous waste the facility received;

(e) the method of treatment, storage, or disposal for each hazardous waste;

(f) the certification signed by the owner or operator of the facility or his authorized representative; and

(g) a brief explanation of why the waste was unmanifested, if known.)

[Note: Small quantities of hazardous waste are excluded from regulation under 320 IAC 4.1-15 through 320 IAC 4.1-32 and do not require a manifest. Where a facility receives unmanifested hazardous wastes, the Board suggests that the owner or operator obtain from each generator a certification that the waste qualifies for exclusion. Otherwise, the Board suggests that the owner or operator file an

unmanifested waste report for the hazardous waste movement.] *(Indiana Environmental Management Board; 320 IAC 4.1-19-7)*

320 IAC 4.1-19-8 Additional reports

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 8. In addition to submitting the Biennial Report and unmanifested waste reports described in 320 IAC 4.1-19-6 and 320 IAC 4.1-19-7, the owner or operator must also report to the Board:

(a) releases, fires, and explosions as specified in 320 IAC 4.1-18-7(j);

(b) groundwater contamination and monitoring data as specified in 320 IAC 4.1-20-4 and 320 IAC 4.1-20-5; and

(c) facility closure as specified in 320 IAC 4.1-21-6. *(Indiana Environmental Management Board; 320 IAC 4.1-19-8)*

Rule 20. Existing Hazardous Waste Facility Standards: Groundwater Monitoring

320 IAC 4.1-20-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. (a) The owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste must implement a groundwater monitoring program capable of determining the facility's impact on the quality of groundwater in the uppermost aquifer underlying the facility, except as 320 IAC 4.1-15-1 and paragraph (c) of this Section provide otherwise.

(b) Except as paragraphs (c) and (d) of this Section provide otherwise, the owner or operator must install, operate, and maintain a groundwater monitoring system which meets the requirements of 320 IAC 4.1-20-2, and must comply with 320 IAC 4.1-20-3 to 320 IAC 4.1-20-5. This groundwater monitoring program must be carried out during the active life of the facility, and for disposal facilities, during the post-closure care period as well.

(c) All or part of the groundwater monitoring requirements of 320 IAC 4.1-20 may be waived if the owner or operator can demonstrate that there is a low potential for migration of hazardous waste or hazardous waste constituents from the facility via the uppermost aquifer to water supply wells (domestic, industrial, or agricultural) or to surface water. This demonstration must be in writing, and must be kept at the facility. This demonstration must be certified by a qualified geologist or geotechnical engineer and must establish the following:)

(1) The potential for migration of hazardous waste or hazardous waste constituents from the facility to the uppermost aquifer, by an evaluation of:)

(i) a water balance of precipitation, evapotranspiration, runoff, and infiltration; and

(ii) unsaturated zone characteristics (i.e., geologic materials, physical properties, and depth to groundwater); and

(2) The potential for hazardous waste or hazardous waste constituents which enter the uppermost aquifer to migrate to a water supply well or surface water, by an evaluation of:

(i) saturated zone characteristics (i.e., geologic materials, physical properties, and rate of groundwater flow); and

(ii) the proximity of the facility to water supply wells or surface water.

(d) If an owner or operator assumes (or knows) that groundwater monitoring of indicator parameters in accordance with 320 IAC 4.1-20-2 and 320 IAC 4.1-20-3 would show statistically significant increases (or decreases in the case of pH) when evaluated under 320 IAC 4.1-20-4(b), he may install, operate, and maintain an alternate groundwater monitoring system (other than the one described in 320 IAC 4.1-20-2 and 320 IAC 4.1-20-3). If the owner or operator decides to use an alternate groundwater monitoring system he must:

(1) submit to the Technical Secretary a specific plan certified by a qualified geologist or geotechnical engineer, which satisfies the requirements of 320 IAC 4.1-20-4(d)(3), for an alternate groundwater monitoring system;

(2) initiate the determinations specified in 320 IAC 4.1-20-4(d)(4);

(3) prepare and submit a written report in accordance with 320 IAC 4.1-20-4(d)(5);

(4) continue to make the determinations specified in 320 IAC 4.1-20-4(d)(4) on a quarterly basis until final closure of the facility; and

(5) comply with the recordkeeping and reporting requirements in 320 IAC 4.1-20-5(b).

(e) The groundwater monitoring requirements of 320 IAC 4.1-20 may be waived with respect to any surface impoundment that (1) is used to neutralize wastes which are hazardous solely because they exhibit the corrosivity characteristic under 320 IAC 4.1-5-3 or are listed as hazardous wastes in 320 IAC 4.1-6 only for this reason, and (2) contains no other hazardous wastes, if the owner or operator can demonstrate that there is no potential for migration of hazardous wastes from the impoundment. The demonstration must establish, based upon considera-

tion of the characteristics of the wastes and the impoundment, that the corrosive wastes will be neutralized to the extent that they no longer meet the corrosivity characteristic before they can migrate out of the impoundment. The demonstration must be in writing and must be certified by a qualified professional. *(Indiana Environmental Management Board; 320 IAC 4.1-20-1)*

320 IAC 4.1-20-2 Groundwater monitoring system

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. (a) A groundwater monitoring system must be capable of yielding groundwater samples for analysis and must consist of:

(1) monitoring wells (at least one) installed hydraulically upgradient (i.e., in the direction of increasing static head) from the limit of the waste management area. Their number, locations, and depths must be sufficient to yield groundwater samples that are:

(i) representative of background groundwater quality in the uppermost aquifer near the facility; and

(ii) not affected by the facility; and

(2) monitoring wells (at least three) installed hydraulically downgradient (i.e., in the direction of decreasing static head)at the limit of the waste management area. Their number, locations, and depths must ensure that they immediately detect any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer.

(b) Separate monitoring systems for each waste management component of a facility are not required provided that provisions for sampling upgradient and downgradient water quality will detect any discharge from the waste management area.

(1) In the case of a facility consisting of only one surface impoundment, landfill, or land treatment area, the waste management area is described by the waste boundary (perimeter).

(2) In the case of a facility consisting of more than one surface impoundment, landfill, or land treatment area, the waste management area is described by an imaginary boundary line which circumscribes the several waste management components.

(c) All monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing must be screened or perforated, and packed with gravel or sand where necessary, to enable sample collection at depths where appropriate aquifer flow zones exist. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed with a suitable material (e.g., cement grout or bentonite slurry) to prevent contamination of samples and groundwater. *(Indiana Environmental Management Board; 320 IAC 4.1-20-2)*

320 IAC 4.1-20-3 Sampling and analysis

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. (a) The owner or operator must obtain and analyze samples from the installed groundwater monitoring system. The owner or operator must develop and follow a groundwater sampling and analysis plan. He must keep this plan at the facility. The plan must include procedures and techniques for:

(1) sample collection;
(2) sample preservation and shipment;
(3) analytical procedures; and;
(4) chain of custody control.

[Note: See "Procedures Manual for Groundwater Monitoring at Solid Waste Disposal Facilities," EPA-530/SW-611, August 1977 and "Methods for Chemical Analysis of Water and Wastes," EPA-600/4-79-020, March 1979 for discussions of sampling and analysis procedures.]

(b) The owner or operator must determine the concentration or value of the following parameters in groundwater samples in accordance with paragraphs (c) and (d) of this section:

(1) parameters characterizing the suitability of the groundwater as a drinking water supply, as specified in 320 IAC 4.1-32-3.

(2) parameters establishing groundwater quality:
(i) chloride
(ii) iron
(iii) manganese
(iv) phenols
(v) sodium
(vi) sulfate

[Note: These parameters are to be used as a basis for comparison in the event a groundwater quality assessment is required under 320 IAC 4.1-20-4(d).]

(3) Parameters used as indicators of groundwater contamination:
(i) pH
(ii) specific conductance
(iii) total organic carbon
(iv) total organic halogen

(c)(1) For all monitoring wells, the owner or operator must establish initial background concentrations or values of all parameters specified in paragraph (b) of this section. He must do this quarterly for one year.

(2) For each of the indicator parameters specified in paragraph (b)(3) of this section, at least four replicate measurements must be obtained for each sample and the initial background arithmetic mean and variance must be determined by pooling the replicate measurements for the respective parameter concentrations or values in samples obtained from upgradient wells during the first year.

(d) After the first year, all monitoring wells must be sampled and the samples analyzed with the following frequencies:

(1) Samples collected to establish groundwater quality must be obtained and analyzed for the parameters specified in paragraph (b)(2) of this section at least annually.

(2) Samples collected to indicate groundwater contamination must be obtained and analyzed for the parameters specified in paragraph (b)(3) of this section at least semi-annually.

(e) Elevation of the groundwater surface at each monitoring well must be determined each time a sample is obtained. *(Indiana Environmental Management Board; 320 IAC 4.1-20-3)*

320 IAC 4.1-20-4 Preparation, evaluation, and response

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 4. (a) The owner or operator must prepare an outline of a groundwater quality assessment program. The outline must describe a more comprehensive groundwater monitoring program (than that described in 320 IAC 4.1-20-2 and 320 IAC 4.1-20-3) capable of determining:

(1) whether hazardous waste or hazardous waste constituents have entered the groundwater;

(2) the rate and extent of migration of hazardous waste or hazardous waste constituents in the groundwater; and

(3) the concentrations of hazardous waste or hazardous waste constituents in the groundwater.

(b) For each indicator parameter specified in 320 IAC 4.1-20-3(b)(3), the owner or operator must calculate the arithmetic mean and variance, based on at least four replicate measurements on each sample, for each well monitored in accordance with 320 IAC 4.1-20-3(d)(2), and compare these results with its initial background arithmetic mean. The comparison must consider individually each of the wells in the monitoring system, and must use the Student's t-test at the 0.01 level of significance (see 320 IAC 4.1-32-7) to determine statistically significant increases (and decreases, in the case of pH) over initial background.

(c)(1) If the comparisons for the upgradient wells made under paragraph (b) of this section show a significant increase (or pH decrease), the owner or operator must submit this information in accordance with 320 IAC 4.1-20-5(a)(2)(ii).

(2) If the comparisons for downgradient wells made under paragraph (b) of this section show a significant increase (or pH decrease), the owner or operator must then immediately obtain additional groundwater samples from those downgradient wells where a significant difference was detected, split the samples in two, and obtain analyses of all additional samples to determine whether the significant difference was a result of laboratory error.

(d)(1) If the analyses performed under paragraph (c)(2) of this section confirm the significant increase (or pH decrease), the owner or operator must provide written notice to the Technical Secretary—within seven days of the date of such confirmation—that the facility may be affecting groundwater quality.

(2) Within 15 days after the notification under paragraph (d)(1) of this section, the owner or operator must develop and submit to the Technical Secretary a specific plan, based on the outline required under paragraph (a) of this section and certified by a qualified geologist or geotechnical engineer, for a groundwater quality assessment program at the facility.

(3) The plan to be submitted under 320 IAC 4.1-20-1(d)(1) or paragraph (d)(2) of this section must specify:

(i) the number, location, and depth of wells;

(ii) sampling and analytical methods for those hazardous wastes or hazardous waste constituents in the facility;

(iii) evaluation procedures, including any use of previously-gathered groundwater quality information; and

(iv) a schedule of implementation.

(4) The owner or operator must implement the groundwater quality assessment plan which satisfies the requirements of paragraph (d)(3) of this section, and, at a minimum, determine:

(i) the rate and extent of migration of the hazardous waste or hazardous waste constituents in the groundwater; and

(ii) the concentrations of the hazardous waste or

hazardous waste constituents in the groundwater.

(5) The owner or operator must make his first determination under paragraph (d)(4) of this section as soon as technically feasible, and, within 15 days after that determination, submit to the Technical Secretary a written report containing an assessment of the groundwater quality.

(6) If the owner or operator determines, based on the results of the first determination under paragraph (d)(4) of this section, that no hazardous waste or hazardous waste constituents from the facility have entered the groundwater, then he may reinstate the indicator evaluation program described in 320 IAC 4.1-20-3 and paragraph (b) of this section. If the owner or operator reinstates the indicator evaluation program, he must so notify the Technical Secretary in the report submitted under paragraph (d)(5) of this section.

(7) If the owner or operator determines, based on the first determination under paragraph (d)(4) of this section, that hazardous waste or hazardous waste constituents from the facility have entered the groundwater, then he:

(i) must continue to make the determinations required under paragraph (d)(4) of this section on a quarterly basis until final closure of the facility, if the groundwater quality assessment plan was implemented prior to final closure of the facility; or

(ii) may cease to make the determinations required under paragraph (d)(4) of this section, if the groundwater quality assessment plan was implemented during the post-closure care period.

(e) Notwithstanding any other provision of this 320 IAC 4.1-20, any groundwater quality assessment to satisfy the requirements of 320 IAC 4.1-20-4(d)(4) which is initiated prior to final closure of the facility must be completed and reported in accordance with 320 IAC 4.1-20-4(d)(5).

(f) Unless the groundwater is monitored to satisfy the requirements of 320 IAC 4.1-20-4(d)(4), at least annually the owner or operator must evaluate the data on groundwater surface elevations obtained under 320 IAC 4.1-20-3(e) to determine whether the requirements under 320 IAC 4.1-20-2(a) for locating the monitoring wells continue to be satisfied. If the evaluation shows that 320 IAC 4.1-20-2(a) is no longer satisfied, the owner or operator must immediately modify the number, location, or depth of the monitoring wells to bring the groundwater monitoring system into compliance with this requirement. *(Indiana Environmental Management Board; 320 IAC 4.1-20-4)*

320 IAC 4.1-20-5 Recordkeeping and reporting

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 5. (a) Unless the groundwater is monitored to satisfy the requirements of 320 IAC 4.1-20-4(d)(4), the owner or operator must:

(1) keep records of the analyses required in 320 IAC 4.1-20-3(c) and(d), the associated groundwater surface elevations required in 320 IAC 4.1-20-3(e), and the evaluations required in 320 IAC 4.1-20-4(b) throughout the active life of the facility, and, for disposal facilities, throughout the post-closure care period as well; and

(2) report the following groundwater monitoring information to the Technical Secretary;

(i) During the first year when initial background concentrations are being established for the facility: concentrations or values of the parameters listed in 320 IAC 4.1-20-3(b)(1) for each groundwater monitoring well within 15 days after completing each quarterly analysis. The owner or operator must separately identify for each monitoring well any parameters whose concentration or value has been found to exceed the maximum contaminant levels listed in 320 IAC 4.1-32-3.

(ii) Annually: Concentrations or values of the parameters listed in 320 IAC 4.1-20-3(b)(3) for each groundwater monitoring well, along with the required evaluations for these parameters under 320 IAC 4.1-20-4(b). The owner or operator must separately identify any significant differences from initial background found in the upgradient wells, in accordance with 320 IAC 4.1-20-4(c)(1). During the active life of the facility, this information must be submitted no later than March 1 following each calendar year.

(iii) No later than March1 following each calendar year: Results of the evaluations of groundwater surface elevations under 320 IAC 4.1-20-4(f), and a description of the response to that evaluation, where applicable.

(b) If the groundwater is monitored to satisfy the requirements of 320 IAC 4.1-20-4(d)(4), the owner or operator must:

(1) keep records of the analyses and evaluations specified in the plan, which satisfies the requirements of 320 IAC 4.1-20-4(d)(3), throughout the active life of the facility, and, for disposal facilities, throughout the post-closure care period as well; and

(2) annually, until final closure of the facility, submit to the Technical Secretary a report containing the results of his or her groundwater

quality assessment program which includes, but is not limited to, the calculated (or measured) rate of migration of hazardous waste or hazardous waste constituents in the groundwater during the reporting period. This information must be submitted no later than March1 following each calendar year.

(Indiana Environmental Management Board; 320 IAC 4.1-20-5)

Rule 21. Existing Hazardous Waste Facility Standards: Closure and Post-Closure

320 IAC 4.1-21-1 Applicability

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. Except as 320 IAC 4.1-15-1 provides otherwise:

(a) 320 IAC 4.1-21-2 to 320 IAC 4.1-21-6 (which concern closure) apply to the owners and operators of all hazardous waste management facilities; and

(b) 320 IAC 4.1-21-7 to 320 IAC 4.1-21-10 (which concern post-closure care) apply to the owners and operators of all hazardous waste disposal facilities.

(Indiana Environmental Management Board; 320 IAC 4.1-21-1)

320 IAC 4.1-21-2 Closure performance standard

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. The owner or operator must close his facility in a manner that:

(a) minimizes the need for further maintenance, and

(b) controls, minimizes, or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous waste constituents, leachate, contaminated rainfall, or waste decomposition products to the ground or surface waters or to the atmosphere.

(Indiana Environmental Management Board; 320 IAC 4.1-21-2)

320 IAC 4.1-21-3 Closure plan; amendment of plan

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. (a) The owner or operator must have a written closure plan. He must keep a copy of the closure plan and all revisions to the plan at the facility until closure is completed and certified in accordance with 320 IAC 4.1-21-6. This plan must identify the steps necessary to completely or partially close the facility at any point during its intended operating life and to completely close the facility at the end of its intended operating life. The closure plan must include, at least:

(1) a description of how and when the facility will be partially closed, if applicable, and finally closed. The description must identify the maximum extent of the operation which will be unclosed during the life of the facility, and how the requirements of 320 IAC 4.1-21-2, 320 IAC 4.1-21-4, 320 IAC 4.1-21-5, and 320 IAC 4.1-21-6 and the applicable closure requirements of 320 IAC 4.1-24-5, 320 IAC 4.1-25-6, 320 IAC 4.1-27-7, 320 IAC 4.1-28-4, 320 IAC 4.1-29-5, 320 IAC 4.1-30-5, and 320 IAC 4.1-31-5 will be met;

(2) an estimate of the maximum inventory of wastes in storage and in treatment at any time during the life of the facility;

(3) a description of the steps needed to decontaminate facility equipment during closure; and

(4) an estimate of the expected year of closure and a schedule for final closure. The schedule must include, at a minimum, the total time required to close the facility and the time required for intervening closure activities which will allow tracking of the progress of closure. (For example, in the case of a landfill, estimates of the time required to treat and dispose of all waste inventory and of the time required to place a final cover must be included.)

(b) The owner or operator may amend his closure plan at any time during the active life of the facility. (The active life of the facility is that period during which wastes are periodically received.) The owner or operator must amend the plan whenever changes in operating plans or facility design affect the closure plan, or whenever there is a change in the expected year of closure of the facility. The plan must be amended within 60 days of the changes.

(c) The owner or operator must submit his closure plan to the Technical Secretary at least 180 days before the date he expects to begin closure. The owner or operator must submit two (2) copies of his closure plan to the Technical Secretary no later than 15 days after:

(1) termination of Interim Status (except when a final permit is issued to the facility simultaneously with termination of this Interim Permit); or

(2) issuance of a judicial decree or compliance order under IC13-7-11 or IC13-7-12 to cease receiving wastes or close.

[Note: The date when closure commences should be within 30 days after the date on which the owner or operator expects to receive the final volume of wastes.]

(d) The Technical Secretary will provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the plan and request modifications of the plan within 30 days of the date of the notice. He will also, in response to a request or at his own discretion, hold a public hearing whenever such a hearing might clarify one or more issues concerning a closure plan. The Technical Secretary will give public notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the two notices may be combined.) The Technical Secretary will approve, modify, or disapprove the plan within 90 days of its receipt. If the Technical Secretary does not approve the plan, the owner or operator must modify the plan or submit a new plan for approval within 30 days. The Technical Secretary will approve or modify this plan in writing within 60 days. If the Technical Secretary modifies the plan, this modified plan becomes the approved closure plan. The Technical Secretary's decision must assure that the approved closure plan is consistent with 320 IAC 4.1-21-2, 320 IAC 4.1-21-4, 320 IAC 4.1-21-5, and 320 IAC 4.1-21-6 and the applicable requirements of 320 IAC 4.1-24-5, 320 IAC 4.1-25-6, 320 IAC 4.1-27-7, 320 IAC 4.1-28-4, 320 IAC 4.1-29-5, 320 IAC 4.1-30-5, and 320 IAC 4.1-31-5. A copy of this modified plan must be mailed to the owner or operator. *(Indiana Environmental Management Board; 320 IAC 4.1-21-3)*

320 IAC 4.1-21-4 Closure; time allowed for closure

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 4. (a) Within 90 days after receiving the final volume of hazardous wastes, or 90 days after approval of the closure plan, if that is later, the owner or operator must treat, remove from the site, or dispose of on-site all hazardous wastes in accordance with the approved closure plan. The Technical Secretary may approve a longer period using the procedures under 320 IAC 4.1-21-3(d) if the owner or operator demonstrates that:

(1)(i) the activities required to comply with this paragraph will, of necessity, take him longer than 90 days to complete; or

(ii)(A) the facility has the capacity to receive additional wastes;

(B) there is a reasonable likelihood that a person other than the owner or operator will recommence operation of the site; and

(C) closure of the facility would be incompatible with continued operation of the site; and

(2) he has taken and will continue to take all steps to prevent threats to human health and the environment.

(b) The owner or operator must complete closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of wastes or 180 days after approval of the closure plan, if that is later. The Technical Secretary may approve a longer closure period using the procedures under 320 IAC 4.1-21-3(d) if the owner or operator demonstrates that:

(1)(i) the closure activities will, of necessity, take him longer than 180 days to complete; or

(ii)(A) the facility has the capacity to receive additional waste;

(B) there is a reasonable likelihood that a person other than the owner or operator will recommence operation of the site;

(C) closure of the facility would be incompatible with continued operation of the site; and

(2) he has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but inactive facility.

[Note: Under paragraphs (a)(1)(ii) and (b)(1)(ii) of this section, if operation of the facility is recommenced, the Technical Secretary may defer completion of closure activities until the new operation is terminated.] *(Indiana Environmental Management Board; 320 IAC 4.1-21-4)*

320 IAC 4.1-21-5 Disposal or decontamination of equipment

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 5. When closure is completed, all facility equipment and structures must have been properly disposed of, or decontaminated by removing all hazardous waste and residues. *(Indiana Environmental Management Board; 320 IAC 4.1-21-5)*

320 IAC 4.1-21-6 Certification of closure

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 6. When closure is completed, the owner or operator must submit to the Technical Secretary certification both by the owner or operator and by an independent registered professional engineer that the facility has been closed in accordance with the

specifications in the approved closure plan. *(Indiana Environmental Management Board; 320 IAC 4.1-21-6)*

320 IAC 4.1-21-7 Post-closure care and use of property

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. (a) Post-closure care must continue for 30years after the date of completing closure and must consist of at least the following:

(1) groundwater monitoring and reporting in accordance with the requirements of 320 IAC 4.1-20; and

(2) maintenance of monitoring and waste containment systems as specified in 320 IAC 4.1-20-2, 320 IAC 4.1-25-3, 320 IAC 4.1-25-6, 320 IAC 4.1-27-7, and 320 IAC 4.1-28-4, where applicable.

(b) The Technical Secretary may require continuation of any of the security requirements of 320 IAC 4.1-16-5 for 30years after the date closure has been completed when:

(1) wastes may remain exposed after completion of closure; or

(2) access by the public or domestic livestock may pose a hazard to human health.

In extending any of these requirements the Technical Secretary will use the procedures of 320 IAC 4.1-21-8(c).

(c) Post-closure use of property, on or in which hazardous wastes remain after closure, must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of any containment system, or the function of the facility's monitoring systems, unless the owner or operator can demonstrate to the Board, either in the post-closure plan or by petition, through the procedures in 320 IAC 4.1-21-8(c) or (f), as appropriate, that the disturbance:

(1) is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

(2) is necessary to reduce a threat to human health or the environment.

(d) All post-closure care activities must be performed in accordance with the provisions of the approved post-closure plan as specified in 320 IAC 4.1-21-8. *(Indiana Environmental Management Board; 320 IAC 4.1-21-7)*

320 IAC 4.1-21-8 Post-closure plan; amendment of plan

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 8. (a) The owner or operator of a disposal facility must have a written post-closure plan. He must keep a copy of the post-closure plan and all revisions to the plan at the facility until the post-closure care period begins. The post-closure plan must identify the activities which will be carried on after closure and the frequency of these activities, and include at least:

(1) a description of the planned groundwater monitoring activities and frequencies at which they will be performed to comply with 320 IAC 4.1-20 during the post-closure period;

(2) a description of the planned maintenance activities and frequencies at which they will be performed, to ensure:

(i) the integrity of the cap and final cover or other containment structures as specified in 320 IAC 4.1-25-3, 320 IAC 4.1-25-6, 320 IAC 4.1-27-7, and 320 IAC 4.1-28-4, where applicable; and

(ii) the function of the facility monitoring equipment as specified in 320 IAC 4.1-20-2; and

(3) the name, address, and phone number of the person or office to contact about the disposal facility during the post-closure care period. This person or office must keep an updated post-closure plan during the post-closure care period.

(b) The owner or operator may amend his post-closure plan at any time during the active life of the disposal facility. The owner or operator must amend his plan any time changes in operating plans or facility design, or events which occur during the active life of the facility, affect his post-closure plan. The plan must be amended within 60 days after the changes or events occur.

(c) The owner or operator of a disposal facility must submit his post-closure plan to the Technical Secretary at least 180 days before the date he expects to begin closure. The date when he "expects to begin closure" should be immediately after the date on which he expects to receive the final volume of wastes. The owner or operator must submit his closure plan to the Technical Secretary no later than 15 days after:

(1) termination of the Interim Status (except when the Final (State) Permit is issued to the facility simultaneously with termination of this permit); or

(2) issuance of a judicial decree or compliance order under IC 13-7-11 and IC 13-7-12 to cease receiving wastes or close.

[Note: The date when closure commences should be within 30 days after the date on which the owner or operator expects to receive the final volume of wastes.]

(d) The Technical Secretary will provide the owner or operator and the public through a newspaper notice the opportunity to submit written comments on the

plan and request modifications of the plan including modification of the 30-year post-closure period required in 320 IAC 4.1-21-7 within 30 days of the date of the notice. He may also, in response to a request or at his own discretion, hold a public hearing whenever a hearing might clarify one or more issues concerning the post-closure plan. The Technical Secretary will give the public notice of the hearing at least thirty (30) days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for written public comments, and the two notices may be combined.) The Technical Secretary will approve, modify, or disapprove the plan within 90 days of its receipt. If the Technical Secretary does not approve the plan, the owner or operator must modify the plan or submit a new plan for approval within 30 days. The Technical Secretary will approve or modify this plan in writing within 60 days. If the Technical Secretary modifies the plan, this modified plan becomes the approved post-closure plan. The Technical Secretary must base his decision upon the criteria required of petitions under paragraph (f)(1)(i) of this Section. A copy of this modified plan must be mailed to the owner or operator.

(e) The owner or operator may amend his post-closure plan during the post-closure care period. The owner or operator must amend his plan any time changes in monitoring or maintenance plans or events which occur during the post-closure care period affect the post-closure plan. The owner or operator must petition the Technical Secretary within 60 days of the changes or events, under the procedures of paragraph (f) of this Section, to allow the plan to be modified.

(f) The post-closure plan (or period) may be modified during the post-closure care period or at the end of the post-closure care period in either of the following two ways:

(1) The owner or operator or any member of the public may petition the Technical Secretary to extend or reduce the post-closure care period based on cause, or alter the requirements of the post-closure care period based on cause.

(i) The petition must include evidence demonstrating that:

(A) the secure nature of the facility makes the post-closure care requirement(s) unnecessary or supports reduction of the post-closure care period specified in the current post-closure plan (e.g., leachate or groundwater monitoring results, characteristics of the waste, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the facility is secure); or

(B) the requested extension in the post-closure care period or alteration of post-closure care requirements is necessary to prevent threats to human health and the environment.

(ii) These petitions will be considered by the Technical Secretary only when they present new and relevant information not previously considered by the Technical Secretary. Whenever the Technical Secretary is considering a petition, the Technical Secretary will provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments within 30 days of the date of the notice. The Technical Secretary will also, in response to a request or at his own discretion, hold a public hearing whenever a hearing might clarify one or more issues concerning the post-closure plan. The Technical Secretary will give the public notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for written public comments, and the two notices may be combined.) After considering the comments, the Technical Secretary will issue a final determination, based upon the criteria set forth in subparagraph (1).

(iii) If the Technical Secretary denies the petition, the Technical Secretary will send the petitioner a brief written response giving a reason for the denial.

(2) The Technical Secretary may tentatively decide to modify the post-closure plan if he deems it necessary to prevent threats to human health and the environment. He may propose to extend or reduce the post-closure care period based on cause or alter the requirements of the post-closure care period based on cause.

(i) The Technical Secretary will provide the owner or operator and the affected public, through a newspaper notice, the opportunity to submit written comments within 30 days of the date of the notice and the opportunity for a public hearing as in subparagraph (a)(1)(ii) of this Section. After considering the comments, he will issue a final determination.

(ii) The Technical Secretary will base his final determination upon the same criteria as required for petitions under paragraph (f)(1)(i) of this Section.

[Note: A modification of the post-closure plan may include where appropriate the temporary suspension rather than permanent deletion of one or more post-closure care requirements. At the end of the specified period of suspension, the Technical Secretary would then determine whether the requirement(s) should be

permanently discontinued or reinstated to prevent threats to human health and the environment.] *(Indiana Environmental Management Board; 320 IAC 4.1-21-8)*

320 IAC 4.1-21-9 Notice to local land authority

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 9. Within 90 days after closure is completed, the owner or operator of a disposal facility must submit to the local land authority and to the Board a survey plat indicating the location and dimensions of landfill cells or other disposal areas with respect to permanently surveyed benchmarks. This plat must be prepared and certified by a professional land surveyor. The plat filed with the local land authority must contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the site as specified in 320 IAC 4.1-21-7(c). In addition, the owner or operator must submit to the Board and to the local land authority a record of the type, location, and quantity of hazardous wastes disposed of within each cell or area of the facility. The owner or operator must identify the type, location, and quantity of hazardous wastes disposed of within each cell or area of the facility. For wastes disposed of before the promulgation of 320 IAC 4 and 320 IAC 4.1, the owner or operator must identify the type, location, and quantity of the wastes to the best of his knowledge and in accordance with any records he has kept. *(Indiana Environmental Management Board; 320 IAC 4.1-21-9)*

320 IAC 4.1-21-10 Notice in deed to property

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 10. The owner of the property on which a disposal facility is located must record, in accordance with State law (IC 13-7-8.5-5(d)), a notation on the deed to the facility property—or on some other instrument which is normally examined during title search—that will in perpetuity notify any potential purchaser of the property that: (1)the land has been used to manage hazardous waste, and (2)its use is restricted under 320 IAC 4.1-21-7(c). *(Indiana Environmental Management Board; 320 IAC 4.1-21-10)*

Rule 22. Hazardous Waste Existing Facility Standards: Financial Requirements

320 IAC 4.1-22-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 1. (a) 320 IAC 4.1-22-3, 320 IAC 4.1-2 through 320 IAC 4.1-22-12 and 320 IAC 4.1-22-24 through 320 IAC 4.1-22-35 apply to owners and operators of all hazardous waste facilities, except as provided otherwise in this section or in 320 IAC 4.1-15-1.

(b) 320 IAC 4.1-22-13, 320 IAC 4.1-22-14 through 320 IAC 4.1-22-22 and 320 IAC 4.1-22-23 apply only to owners and operators of disposal facilities.

(c) State and federal government are exempt from the requirements of 320 IAC 4.1-22. *(Indiana Environmental Management Board; 320 IAC 4.1-22-1)*

320 IAC 4.1-22-2 Definitions

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 2. (a) As used in 320 IAC 4.1-22:

"Closure plan" means the plan for closure prepared in accordance with the requirements of 320 IAC 4.1-21-3.

"Current closure cost estimate" means the most recent of the estimates prepared in accordance with 320 IAC 4.1-22-3(a), (b), and (c).

"Current post-closure cost estimate" means the most recent of the estimates prepared in accordance with 320 IAC 4.1-22-13(a), (b), and (c).

"Parent corporation" means a corporation which directly owns at least 50percent of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a "subsidiary" of the parent corporation.

"Post-closure plan" means the plan for post-closure care prepared in accordance with the requirements of 320 IAC 4.1-21-7 through 320 IAC 4.1-21-10.

(b) The following terms are used in the specifications for the financial tests for closure, post-closure care, and liability coverage. The definitions are intended to assist in the understanding of 320 IAC 4.1-22 and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices.

"Assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity.

"Current assets" means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

"Current liabilities" means obligations whose liquidation is reasonably expected to require the use of the existing resources properly classifiable as current assets or the creation of other current liabilities.

"Independently audited" refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

"Liabilities" means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

"Net working capital" means current assets minus current liabilities.

"Net worth" means total assets minus total liabilities and is equivalent to owner's equity.

"Tangible net worth" means the tangible assets that remain after deducting liabilities; such assets would not include intangibles such as goodwill and rights to patents or royalties.

(c) In the liability insurance requirements, the terms "bodily injury" and "property damage" shall have the meanings given these terms by Indiana law. However, these terms do not include those liabilities which, consistent with standard industry practice, are excluded from coverage in liability policies for bodily injury and property damage. The Board intends the meanings of other terms used in the liability insurance requirements to be consistent with their common meanings within the insurance industry. The definitions given below of several of the terms are intended to assist in the understanding of 320 IAC 4.1-22 and are not intended to limit their meanings in a way that conflicts with general insurance industry usage.

"Accidental occurrence" means an accident, including continous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

"Legal defense costs" means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

"Nonsudden accidental occurrence" means an occurrence which takes place over time and involves continous or repeated exposure.

"Sudden accidental occurrence" means an occurrence which is not continous or repeated in nature. *(Indiana Environmental Management Board; 320 IAC 4.1-22-2)*

320 IAC 4.1-22-3 Cost estimate for closure

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 3. (a) The owner or operator must prepare a written estimate, in current dollars, of the cost of closing the facility in accordance with the closure plan as specified in 320 IAC 4.1-21-3. The closure cost estimate must equal the cost of closure at the point in the facility's operating life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan.

(b) The owner or operator must adjust the closure cost estimate for inflation within thirty (30) days after each anniversary of the date on which the first closure cost estimate was prepared. The adjustment must be made as specified in subsections (b)(1) and (b)(2) of this section, using an inflation factor derived from the annual Implicit Price Deflator for Gross National Product as published by the U.S Department of Commerce in its Survey of Current Business. The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year.

(1) The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.

(c) The owner or operator must revise the closure cost estimate whenever a change in the closure plan increases the cost of closure. The revised closure cost estimate must be adjusted for inflation as specified in subsection (b) of this section.

(d) The owner or operator must keep the following at the facility during the operating life of the facility: the latest closure cost estimate prepared in accordance with subsections (a) and (c) of this section and, when this estimate has been adjusted in accordance with subsection (b) of this section, the latest adjusted closure cost estimate. *(Indiana Environmental Management Board; 320 IAC 4.1-22-3)*

320 IAC 4.1-22-4 Financial assurance for closure; approach options

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 4. An owner or operator of each facility must establish financial assurance for closure of the facility. He must choose from the options as specified in 320 IAC 4.1-22-5 through 320 IAC 4.1-22-9. *(Indiana Environmental Management Board; 320 IAC 4.1-22-4)*

320 IAC 4.1-22-5 Closure trust fund option

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 5. (a) An owner or operator may satisfy the requirements of 320 IAC 4.1-22-4 by establishing a closure trust fund which conforms to the requirements of this section and submitting an originally signed duplicate of the trust agreement to the Technical Secretary. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or State of Indiana agency.

(b) The wording of the trust agreement must be identical to the wording specified in 320 IAC 4.1-22-26(a), and the trust agreement must be accompanied by a formal certification of acknowledgement (for example, see 320 IAC 4.1-22-26(a)). ScheduleA of the trust agreement must be updated within sixty (60) days after a change in the amount of the current closure cost estimate covered by the agreement.

(c) Payments into the trust fund must be made annually by the owner or operator over the 20 years beginning with July1, 1982, or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in-period." The payments in the closure trust fund must be made as follows:

(1) The first payment must be made by July1, 1982, except as provided in subsection (e) of this section. The first payment must be at least equal to the current closure cost estimate, except as provided in 320 IAC 4.1-22-10, divided by the number of years in the pay-in period.

(2) Subsequent payments must be made no later than thirty (30) days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{Next payment} = \frac{CE\text{-}CV}{Y}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(d) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current closure cost estimate at the time the fund is established. However, he must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in subsection (c) of this section.

(e) If the owner or operator establishes a closure trust fund after having used one or more alterna mechanisms specified in 320 IAC 4.1-22-5 through 320 IAC 4.1-22-9, his first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made as specified in subsection (c) of this section.

(f) After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within sixty (60) days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in 320 IAC 4.1-22-5 through 320 IAC 4.1-22-9 to cover the difference.

(g) If the value of the trust fund is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the Technical Secretary for release of the amount in excess of the current closure cost estimate.

(h) If an owner or operator substitutes other financial assurance as specified in 320 IAC 4.1-22-5 through 320 IAC 4.1-22-9 for all or part of the trust fund, he may submit a written request to the Technical Secretary for release of the amount in excess of the current closure cost estimate covered by the trust fund.

(i) Within sixty (60) days after receiving a request from the owner or operator for release of funds as specified in subsection (g) or (h) of this section, the Technical Secretary will instruct the trustee to release to the owner or operator such funds as the Technical Secretary specifies in writing.

(j) After beginning final closure, an owner or operator or any other person authorized to perform closure may request reimbursement for closure expenditures by submitting itemized bills to the Technical Secretary. Within sixty (60) days after receiving bills for closure activities, the Technical Secretary will determine whether the closure expenditures are in accordance with the closure plan or otherwise justified, and if so, he will instruct the trustee to make reimbursement in such amounts as the Technical Secretary specifies in writing. If the Technical Secretary has reason to believe that the cost of closure will be significantly greater than the value of the trust fund, he may withold reimbursement of such amounts as he deems prudent until he determines, in accordance with 320 IAC 4.1-22-12,

that the owner or operator is no longer required to maintain financial assurance for closure.

(k) The Technical Secretary will agree to termination of the trust when:

(1) an owner or operator substitutes alternate financial assurance as specified in 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11; or

(2) the Technical Secretary releases the owner or operator from the requirements of 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11 in accordance with 320 IAC 4.1-22-12.

(Indiana Environmental Management Board; 320 IAC 4.1-22-5)

320 IAC 4.1-22-6 Surety bond guaranteeing payment into a closure trust fund option

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1; IC 23-1-16

Sec. 6. (a) An owner or operator may satisfy the requirements of 320 IAC 4.1-22 by obtaining a surety bond which conforms to the requirements of this section and submitting the bond to the Technical Secretary. The surety company issuing the bond must, at a minimum, be authorized to do business in Indiana or be among those listed as acceptable sureties on federal bonds in Circular 570 of the U. S. Department of Treasury.

(b) The wording of the surety bond must be identical to the wording specified in 320 IAC 4.1-22-27.

(c) The owner or operator who uses a surety bond to satisfy the requirements of 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11 must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Technical Secretary. This standby trust fund must meet the requirements specified in 320 IAC 4.1-22-5, except that:

(1) an originally signed duplicate of the trust agreement must be submitted to the Technical Secretary with the surety bond; and

(2) until the standby trust fund is funded pursuant to the requirements of 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11, the following are not required by 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11:

(A) payments into the trust fund as specified in 320 IAC 4.1-22-5;

(B) updating of Schedule A of the trust agreement (see 320 IAC 4.1-22-26) to show current closure cost estimates;

(C) annual valuations as required by the trust agreement; and

(D) notices of nonpayment as required by the trust agreement.

(d) The bond must guarantee that the owner or operator will:

(1) fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(2) fund the standby trust fund in an amount equal to the penal sum within fifteen (15) days after an order to begin closure is issued by the Technical Secretary or court of competent jurisdiction; or

(3) provide alternate financial assurance as specified in 320 IAC 4.1-22-5 through 320 IAC 4.1-22-9, and obtain the Technical Secretary's written approval of the assurance provided, within ninety (90) days after receipt by both the owner or operator and the Technical Secretary of a notice of cancellation of the bond from the surety.

(e) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(f) The penal sum of the bond must be in an amount at least equal to the current closure cost estimate, except as provided in 320 IAC 4.1-22-10.

(g) Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within sixty (60) days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Technical Secretary, or obtain other financial assurance as specified in 320 IAC 4.1-22-5 through 320 IAC 4.1-22-9 to cover the increase. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the Technical Secretary.

(h) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Technical Secretary. Cancellation may not occur, however, during the one hundred twenty (120) days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Technical Secretary, as evidenced by the return receipts.

(i) The owner or operator may cancel the bond if the Technical Secretary has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in 320 IAC 4.1-22-5 through 320 IAC 4.1-22-9. *(Indiana Environmental Management Board; 320 IAC 4.1-22-6)*

320 IAC 4.1-22-7 Closure letter of credit option

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1; IC 13-7-11

Sec. 7. (a) An owner or operator may satisfy the requirements of 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11 by obtaining an irrevocable standby letter of credit which conforms to the requirements of this section and submitting the letter to the Technical Secretary. The issuing institution must be an entity which has the authority to issue letters of credit and whose letters-of-credit operations are regulated and examined by a federal or state agency.

(b) The wording of the letter of credit must be identical to the wording specified in 320 IAC 4.1-22-29.

(c) An owner or operator who uses a letter of credit to satisfy the requirements of 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11 must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Technical Secretary will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Technical Secretary. This standby trust fund must meet the requirements of the trust fund specified in 320 IAC 4.1-22-5, except that:

(1) an originally signed duplicate of the trust agreement must be submitted to the Technical Secretary with the letter of credit; and

(2) unless the standby trust fund is funded pursuant to the requirements of 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11, the following are not required by 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11:

(A) payments into the trust fund as specified in 320 IAC 4.1-22-5;

(B) updating of Schedule A of the trust agreement (see 320 IAC 4.1-22-26) to show current closure cost estimates;

(C) annual valuations as required by the trust agreement; and

(D) notices of nonpayment as required by the trust agreement.

(d) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the EPA Identification Number, name, and address of the facility, and the amount of funds assured for closure of the facility by the letter of credit.

(e) The letter of credit must be irrevocable and issued for a period of at least one (1) year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least one year unless, at least one hundred twenty (120) days before the current expiration date, the issuing institution notifies both the owner or operator and the Technical Secretary by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the one hundred twenty (120) days will begin on the date when both the owner or operator and the Technical Secretary have received the notice, as evidenced by the return receipts.

(f) The letter of credit must be issued in an amount at least equal to the current closure cost estimate, except as provided in 320 IAC 4.1-22-10.

(g) Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within sixty (60) days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current closure cost estimate and submit evidence of such increase to the Technical Secretary, or obtain other financial assurance as specified in 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11 to cover the increase. Whenever the current closure cost estimate decreases, the amount of the credit may be reduced to the amount of the current closure cost estimate following written approval by the Technical Secretary.

(h) Following a determination pursuant to IC 13-7-11 or Section 3008 of RCRA that the owner or operator has failed to perform final closure in accordance with the closure plan and other interim status requirements when required to do so, the Technical Secretary may draw on the letter of credit.

(i) If the owner or operator does not establish alternate financial assurance as specified in 320 IAC 4.1-22-5 through 320 IAC 4.1-22-9 and obtain written approval of such alternate assurance from the Technical Secretary within ninety (90) days after receipt by both the owner or operator and the Technical Secretary of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Technical Secretary will draw on the letter of credit. The Technical Secretary may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last thirty (30) days of any such extension, the Technical Secretary will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in 320 IAC 4.1-22-5 through 320 IAC 4.1-22-9 and obtain written approval of such assurance from the Technical Secretary.

(j) The Technical Secretary will return the letter of

credit to the issuing institution for termination when:

(1) an owner or operator substitutes alternate financial assurance as specified in 320 IAC 4.1-22-5 through 320 IAC 4.1-22-9; or

(2) the Technical Secretary releases the owner or operator from the requirements of 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11 in accordance with 320 IAC 4.1-22-12.

(Indiana Environmental Management Board; 320 IAC 4.1-22-7)

320 IAC 4.1-22-8 Closure insurance option

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 8. (a) An owner or operator may satisfy the requirements of 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11 by obtaining closure insurance which conforms to the requirements of this section and submitting a certificate of such insurance to the Technical Secretary. The owner or operator must submit the certificate of insurance to the Technical Secretary or establish other financial assurance as specified in 320 IAC 4.1-22-5 through 320 IAC 4.1-22-9. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

(b) The wording of the certificate of insurance must be identical to the wording specified in 320 IAC 4.1-22-30.

(c) The closure insurance policy must be issued for a face amount at least equal to the current closure cost estimate, except as provided in 320 IAC 4.1-22-10. The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(d) The closure insurance policy must guarantee that funds will be available to close the facility whenever final closure occurs. The policy must also guarantee that once final closure begins, the insurer will be responsible for paying out funds up to an amount equal to the face amount of the policy, upon the direction of the Technical Secretary, to such party or parties as the Technical Secretary specifies.

(e) After beginning final closure, an owner or operator or any other person authorized to perform closure may request reimbursement for closure expenditures by submitting itemized bills to the Technical Secretary. Within sixty (60) days after receiving bills for closure activities, the Technical Secretary will determine whether the closure expenditures are in accordance with the closure plan or otherwise justified, and if so, he will instruct the insurer to make reimbursement in such amounts as the Technical Secretary specifies in writing. If the Technical Secretary has reason to believe that the cost of closure will be significantly greater than the face amount of the policy, he may withhold reimbursement of such amounts as he deems prudent until he determines, in accordance with 320 IAC 4.1-22-12, that the owner or operator is no longer required to maintain financial assurance for closure of the facility.

(f) The owner or operator must maintain the policy in full force and effect until the Technical Secretary consents to termination of the policy by the owner or operator as specified in subsection (j) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in 320 IAC 4.1-22-5 through 320 IAC 4.1-22-9, will constitute a significant violation of 320 IAC 4.1-22, warranting such remedy as the Technical Secretary deems necessary. Such violation will be deemed to begin upon receipt by the Technical Secretary of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(g) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(h) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Technical Secretary. Cancellation, termination, or failure to renew may not occur, however, during the one hundred twenty (120) days beginning with the date of receipt of the notice by both the Technical Secretary and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(1) the Technical Secretary deems the facility abandoned; or

(2) interim Status is terminated or revoked; or

(3) closure is ordered by the Technical Secretary, U.S. EPA, or court of competent jurisdiction; or

(4) the owner or operator is named as debtor in a

voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(5) the premium due is paid.

(i) Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within sixty (60) days after the increase, must either cause the face amount to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Technical Secretary, or obtain other financial assurance as specified in 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11 to cover the increase. Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following written approval by the Technical Secretary.

(j) The Technical Secretary will give written consent to the owner or operator that he may terminate the insurance policy when:

(1) an owner or operator substitutes alternate financial assurance as specified in 320 IAC 4.1-22-5 through 320 IAC 4.1-22-9; or

(2) the Technical Secretary releases the owner or operator from the requirements of 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11 in accordance with 320 IAC 4.1-22-12.

(Indiana Environmental Management Board; 320 IAC 4.1-22-8)

320 IAC 4.1-22-9 Financial test and corporate guarantee for closure option

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 9. (a) An owner or operator may satisfy the requirements of 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11 by demonstrating that he passes a financial test as specified in 320 IAC 4.1-22-9. To pass this test the owner or operator must meet the criteria of either subsection (a)(1) or subsection (a)(2) of this section:

(1) The owner or operator must have:

(A) two of the following three ratios: A ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) net working capital and tangible net worth each at least six (6) times the sum of the current closure and post-closure cost estimates; and

(C) tangible net worth of at least ten million dollars; and

(D) assets in the United States amounting to at least ninety percent (90%) of his total assets or at least six (6) times the sum of the current closure and post-closure cost estimates.

(2) The owner or operator must have:

(A) a current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) tangible net worth at least six (6) times the sum of the current closure and post-closure cost estimates; and

(C) tangible net worth of at least ten million dollars; and

(D) assets located in the United States amounting to at least ninety percent (90%) of his total assets or at least six (6) times the sum of the current closure and post-closure cost estimates.

(b) The phrase "current closure and post-closure cost estimates" as used in subsection (a) of this section refers to the cost estimates required to be shown in 320 IAC 4.1-22-31 of the letter from the owner's or operator's chief financial officer.

(c) To demonstrate that he meets this test, the owner or operator must submit the following items to the Technical Secretary:

(1) a letter signed by the owner's or operator's chief financial officer and worded as specified in 320 IAC 4.1-22-31; and

(2) a copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(3) a special report from the owner's or operator's independent certified public accountant to the owner or operator stating:

(A) he has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) in connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(d) After the initial submission of items specified in subsection (c) of this section, the owner or operator must send updated information to the Technical Secretary within ninety (90) days after the close of each succeeding fiscal year. This information must consist of all three items specified in subsection (c) of this section.

(e) If the owner or operator no longer meets the requirements of subsection (a) of this section, he must

send notice to the Technical Secretary of intent to establish alternate financial assurance as specified in 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11. The notice must be sent by certified mail within ninety (90) days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within one hundred twenty (120) days after the end of such fiscal year.

(f) The Technical Secretary may, based on a reasonable belief that the owner or operator may no longer meet the requirements of subsection (a) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in subsection (c) of this section. If the Technical Secretary finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of subsection (a) of this section, the owner or operator must provide alternate financial assurance as specified in 320 IAC 4.1-22-5 through 320 IAC 4.1-22-9 within thirty (30) days after notification of such a finding.

(g) The Technical Secretary may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see subsection (c)(2) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Technical Secretary will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11 within thirty (30) days after notification of the disallowance.

(h) The owner or operator is no longer required to submit the items specified in subsection (c) of this section when:

(1) an owner or operator substitutes alternate financial assurance as specified in 320 IAC 4.1-22-5 through 320 IAC 4.1-22-9; *or*

(2) the Technical Secretary releases the owner or operator from the requirements of 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11 in accordance with 320 IAC 4.1-22-12.

(i) An owner or operator may meet the requirements of 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11 by obtaining a written guarantee, hereafter referred to as "corporate guarantee." The guarantor must be the parent corporation of the owner or operator. The guarantor must meet the requirements for owners or operators in subsections (a) through (g) of this section and must comply with the terms of the corporate guarantee. The wording of the corporate guarantee must be identical to the wording specified in 320 IAC 4.1-22-33. The corporate guarantee must accompany the items sent to the Technical Secretary as specified in subsection (c) of this section. The terms of the corporate guarantee must provide that:

(1) If the owner or operator fails to perform final closure of a facility covered by the corporate guarantee in accordance with the closure plan and other interim status requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in 320 IAC 4.1-22-5 in the name of the owner or operator.

(2) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Technical Secretary. Cancellation may not occur, however, during the one hundred twenty (120) days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Technical Secretary, as evidenced by the return receipts.

(3) If the owner or operator fails to provide alternate financial assurance as specified in 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11 and obtain the written approval of such alternate assurance from the Technical Secretary within ninety (90) days after receipt by both owner or operator and the Technical Secretary of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator.

(Indiana Environmental Management Board; 320 IAC 4.1-22-9)

320 IAC 4.1-22-10 Use of multiple financial mechanisms option

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 10 An owner or operator may satisfy the requirements of 320 IAC 4.1-22-4 through 320 IAC 4.1-22-11 by establishing more than one (1) financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds, letters of credit, and insurance. The mechanisms must be as specified in 320 IAC 4.1-22-5 through 320 IAC 4.1-22-8, respectively, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The

Technical Secretary may use any or all of the mechanisms to provide for closure of the facility. *(Indiana Environmental Management Board; 320 IAC 4.1-22-10)*

320 IAC 4.1-22-11 Use of a financial mechanism for multiple facilities option

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 11. An owner or operator may use a financial assurance mechanism specified in 320 IAC 4.1-22-4 to meet the requirements of 320 IAC 4.1-22-4 for more than one facility. Evidence of financial assurance submitted to the Technical Secretary must include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for closure assured by the mechanism. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for closure of any of the facilities covered by the mechanism, the Technical Secretary may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism. *(Indiana Environmental Management Board; 320 IAC 4.1-22-11)*

320 IAC 4.1-22-12 Release of owner or operator from the requirements for financial assurance for closure

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 12. Within sixty (60) days after receiving certifications from the owner or operator and an independent registered professional engineer that closure has been accomplished in accordance with the closure plan, the Technical Secretary will notify the owner or operator in writing that he is no longer required by 320 IAC 4.1-22-4 to maintain financial assurance for closure of the particular facility, unless the Technical Secretary has reason to believe that closure has not been accomplished in accordance with the closure plan. *(Indiana Environmental Management Board; 320 IAC 4.1-22-12)*

320 IAC 4.1-22-13 Cost estimate for post-closure care

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 13. (a) The owner or operator of a disposal facility must prepare a written estimate, in current dollars, of the annual cost of post-closure monitoring and maintenance of the facility in accordance with the applicable post-closure regulations in 320 IAC 4.1-21-7 through 320 IAC 4.1-21-10. The post-closure cost estimate is calculated by multiplying the annual post-closure cost estimate by the number of years of post-closure care required under 320 IAC 4.1-21.

(b) During the operating life of the facility, the owner or operator must adjust the post-closure cost estimate for inflation within thirty (30) days after each anniversary of the date on which the first post-closure cost estimate was prepared. The adjustment must be made as specified in subsections (b)(1) and (b)(2) of this section, using an inflation factor derived from the annual Implicit Price Deflator for Gross National Product as published by the U.S. Department of Commerce in its Survey of Current Business. The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year.

(1) The first adjustment is made by multiplying the post-closure cost estimate by the inflation factor. The result is the adjusted post-closure cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted post-closure cost estimate by the latest inflation factor.

(c) The owner or operator must revise the post-closure cost estimate during the operating life of the facility whenever a change in the post-closure plan increases the cost of post-closure care. The revised post-closure cost estimate must be adjusted for inflation as specified in subsection (b) of this section.

(d) The owner or operator must keep the following at the facility during the operating life of the facility: the latest post-closure cost estimate prepared in accordance with subsections (a) and (c) of this section and, when this estimate has been adjusted in accordance with subsection (b) of this section, the latest adjusted post-closure cost estimate. *(Indiana Environmental Management Board; 320 IAC 4.1-22-13)*

320 IAC 4.1-22-14 Financial assurance for post-closure care; approach options

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 14. After July 1, 1982, an owner or operator of each disposal facility must establish financial assurance for post-closure care of the facility. He must choose from the options as specified in 320 IAC 4.1-22-15 through 320 IAC 4.1-22-19. *(Indiana Environmental Management Board; 320 IAC 4.1-22-14)*

320 IAC 4.1-22-15 Post-closure trust fund option

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5; IC 13-7-10-1

Sec. 15. (a) An owner or operator may satisfy the requirements of 320 IAC 4.1-22-14 by establishing a post-closure trust fund which conforms to the requirements of this section and submitting an originally signed duplicate of the trust agreement to the Technical Secretary. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or State of Indiana agency.

(b) The wording of the trust agreement must be identical to the wording specified in 320 IAC 4.1-22-26(a), and the trust agreement must be accompanied by a formal certification of acknowledgment (for example, see 320 IAC 4.1-22-26(b) and (c)). Schedule A of the trust agreement must be updated within sixty (60) days after a change in the amount of the current post-closure cost estimate covered by the agreement.

(c) Payments into the trust fund must be made annually by the owner or operator over the 20 years beginning with July 1, 1982, or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in-period." The payments into the post-closure trust fund must be made as follows:

(1) The first payment must be made by July 1, 1982, except as provided in subsection (e) of this section. The first payment must be at least equal to the current post-closure cost estimate, except as provided in 320 IAC 4.1-22-20, divided by the number of years in the pay-in-period.

(2) Subsequent payments must be made no later than thirty (30) days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current post-closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in-period.

(d) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current post-closure cost estimate at the time the fund is established. However, he must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in subsection (c) of this section.

(e) If the owner or operator establishes a post-closure trust fund after having used one or more alternate mechanisms specified in 320 IAC 4.1-22-15 through 320 IAC 4.1-22-19, his first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made as specified in subsection (c) of this section.

(f) After the pay-in-period is completed, whenever the current post-closure cost estimate changes during the operating life of the facility, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within sixty (60) days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current post-closure cost estimate, or obtain other financial assurance as specified in 320 IAC 4.1-22-15 through 320 IAC 4.1-22-19 to cover the difference.

(g) During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current post-closure cost estimate, the owner or operator may submit a written request to the Technical Secretary for release of the amount in excess of the current post-closure cost estimate.

(h) If an owner or operator substitutes other financial assurance as specified in 320 IAC 4.1-22-15 through 320 IAC 4.1-22-19 for all or part of the trust fund, he may submit a written request to the Technical Secretary for release of the amount in excess of the current post-closure cost estimate covered by the trust fund.

(i) Within sixty (60) days after receiving a request from the owner or operator for release of funds as specified in subsections (g) or (h) of this section, the Technical Secretary will instruct the trustee to release to the owner or operator such funds as the Technical Secretary specifies in writing.

(j) During the period of post-closure care, the Technical Secretary may approve a release of funds if the owner or operator demonstrates to the Technical Secretary that the value of the trust fund exceeds the remaining cost of post-closure care.

(k) An owner or operator or any other person authorized to perform post-closure care may request reimbursement for post-closure expenditures by submitting itemized bills to the Technical Secretary. Within sixty (60) days after receiving bills for post-closure activities, the Technical Secretary will determine whether the post-closure expenditures are in accordance with the post-closure plan or otherwise

justified and, if so, he will instruct the trustee to make reimbursement in such amounts as the Technical Secretary specifies in writing.

(l) The Technical Secretary will agree to termination of the trust when:

(1) an owner or operator substitutes alternate financial assurance as specified in 320 IAC 4.1-22-15 through 320 IAC 4.1-22-19; or

(2) the Technical Secretary releases the owner or operator from the requirements of 320 IAC 4.1-22-14 in accordance with 320 IAC 4.1-22-22.

(Indiana Environmental Management Board; 320 IAC 4.1-22-15)

320 IAC 4.1-22-16 Surety bond guaranteeing payment into a post-closure trust fund option

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1; IC 23-1-16-5

Sec. 16. (a) An owner or operator may satisfy the requirements of 320 IAC 4.1-22-14 by obtaining a surety bond which conforms to the requirements of this section and submitting the bond to the Technical Secretary. The surety company issuing the bond must, at a minimum, be authorized to do business in Indiana or be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. Department of the Treasury.

(b) The wording of the surety bond must be identical to the wording specified in 320 IAC 4.1-22-27.

(c) The owner or operator who uses a surety bond to satisfy the requirements of 320 IAC 4.1-22-14 must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Technical Secretary. This standby trust fund must meet the requirements specified in 320 IAC 4.1-22-15, except that:

(1) an originally signed duplicate of the trust agreement must be submitted to the Technical Secretary with the surety bond; and

(2) until the standby trust fund is funded pursuant to the requirements of 320 IAC 4.1-22-14 through 320 IAC 4.1-22-21, the following are not required by 320 IAC 4.1-22-14 through 320 IAC 4.1-22-21:

(A) payments into the trust fund as specified in 320 IAC 4.1-22-15;

(B) updating of Schedule A of the trust agreement (see 320 IAC 4.1-22-26) to show current post-closure cost estimates;

(C) annual valuations as required by the trust agreement; and

(D) notices of nonpayment as required by the trust agreement.

(d) The bond must guarantee that the owner or operator will:

(1) fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(2) fund the standby trust fund in an amount equal to the penal sum within fifteen (15) days after an order to begin closure is issued by the Technical Secretary or court of competent jurisdiction; or

(3) provide alternate financial assurance as specified in 320 IAC 4.1-22-15 through 320 IAC 4.1-22-19, and obtain the Technical Secretary's written approval of the assurance provided, within ninety (90) days after receipt by both the owner or operator and the Technical Secretary of a notice of cancellation of the bond from the surety.

(e) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(f) The penal sum of the bond must be in an amount at least equal to the current post-closure cost estimate, except as provided in 320 IAC 4.1-22-20.

(g) Whenever the current post-closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within sixty (60) days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Technical Secretary, or obtain other financial assurance as specified in 320 IAC 4.1-22-15 through 320 IAC 4.1-22-19 to cover the increase. Whenever the current post-closure cost estimate decreases, the penal sum may be reduced to the amount of the current post-closure cost estimate following written approval by the Technical Secretary.

(h) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Technical Secretary. Cancellation may not occur, however, during the one hundred twenty (120) days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Technical Secretary, as evidenced by the return receipts.

(i) The owner or operator may cancel the bond if the Technical Secretary has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in 320 IAC 4.1-22-15

through 320 IAC 4.1-22-19. *(Indiana Environmental Management Board; 320 IAC 4.1-22-16)*

320 IAC 4.1-22-17 Post-closure letter of credit option

Authority: IC 13-7-8-1; IC 13-7-8-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1; IC 13-7-11

Sec. 17. (a) An owner or operator may satisfy the requirements of 320 IAC 4.1-22-14 by obtaining an irrevocable standby letter of credit which conforms to the requirements of this section and submitting the letter to the Technical Secretary. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency.

(b) The wording of the letter of credit must be identical to the wording specified in 320 IAC 4.1-22-29.

(c) An owner or operator who uses a letter of credit to satisfy the requirements of 320 IAC 4.1-22-14 must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Technical Secretary will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Technical Secretary. This standby trust fund must meet the requirements of the trust fund specified in 320 IAC 4.1-22-15 except that:

(1) an originally signed duplicate of the trust agreement must be submitted to the Technical Secretary with the letter of credit; and

(2) unless the standby trust fund is funded pursuant to the requirements of 320 IAC 4.1-22-14 through 320 IAC 4.1-22-21, the following are not required by 320 IAC 4.1-22-14 through 320 IAC 4.1-22-21:

(A) payments into the trust fund as specified in 320 IAC 4.1-22-15;

(B) updating of Schedule A of the trust agreement (see 320 IAC 4.1-22-26) to show current post-closure cost estimates;

(C) annual valuations as required by the trust agreement; and

(D) notices of nonpayment as required by the trust agreement.

(d) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the EPA Identification Number, name, and address of the facility, and the amount of funds assured for post-closure care of the facility by the letter of credit.

(e) The letter of credit must be irrevocable and issued for a period of at least one (1) year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least one (1) year unless, at least one hundred twenty (120) days before the current expiration date, the issuing institution notifies both the owner or operator and the Technical Secretary by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the one hundred twenty (120) days will begin on the date when both the owner or operator and the Technical Secretary have received the notice, as evidenced by the return receipts.

(f) The letter of credit must be issued in an amount at least equal to the current post-closure cost estimate, except as provided in 320 IAC 4.1-22-20.

(g) Whenever the current post-closure cost estimate increases to an amount greater than the amount of the credit during the operating life of the facility, the owner or operator, within sixty (60) days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current post-closure cost estimate and submit evidence of such increase to the Technical Secretary, or obtain other financial assurance as specified in 320 IAC 4.1-22-15 through 320 IAC 4.1-22-19 to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the amount of the credit may be reduced to the amount of the current post-closure cost estimate following written approval by the Technical Secretary.

(h) During the period of post-closure care, the Technical Secretary may approve a decrease in the amount of the letter of credit if the owner or operator demonstrates to the Technical Secretary that the amount exceeds the remaining cost of post-closure care.

(i) Following a determination pursuant to IC13-7-11 or Section 3008 of RCRA that the owner or operator has failed to perform post-closure care in accordance with the post-closure plan and other interim status requirements, the Technical Secretary may draw on the letter of credit.

(j) If the owner or operator does not establish alternate financial assurance as specified in 320 IAC 4.1-22-15 through 320 IAC 4.1-22-19 and obtain written approval of such alternate assurance from the Technical Secretary within ninety (90) days after receipt by both the owner or operator and the Technical Secretary of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the

Technical Secretary will draw on the letter of credit. The Technical Secretary may delay the drawing if the issuing institution grants an extension of the term of credit. During the last thirty (30) days of any such extension, the Technical Secretary will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in 320 IAC 4.1-22-15 through 320 IAC 4.1-22-19 and obtain written approval of such assurance from the Technical Secretary.

(k) The Technical Secretary will return the letter of credit to the issuing institution for termination when:

(1) an owner or operator substitutes alternate financial assurance as specified in 320 IAC 4.1-22-14 through 320 IAC 4.1-22-21; or

(2) the Technical Secretary releases the owner or operator from the requirements of 320 IAC 4.1-22-14 in accordance with 320 IAC 4.1-22-22.

(Indiana Environmental Management Board; 320 IAC 4.1-22-17)

320 IAC 4.1-22-18 Post-closure insurance option

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 18. (a) An owner or operator may satisfy the requirements of 320 IAC 4.1-22-14 by obtaining post-closure insurance which conforms to the requirements of this section and submitting a certificate of such insurance to the Technical Secretary. The owner or operator must submit the certificate of insurance to the Technical Secretary or establish other financial assurance as specified in 320 IAC 4.1-22-15 through 320 IAC 4.1-22-19. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

(b) The wording of the certificate of insurance must be identical to the wording specified in 320 IAC 4.1-22-30.

(c) The post-closure insurance policy must be issued for a face amount at least equal to the current post-closure cost estimate, except as provided in 320 IAC 4.1-22-20. The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(d) The post-closure insurance policy must guarantee that funds will be available to provide post-closure care of the facility whenever the post-closure period begins. The policy must also guarantee that once post-closure care begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Technical Secretary, to such party or parties as the Technical Secretary specifies.

(e) An owner or operator or any other person authorized to perform post-closure care may request reimbursement for post-closure expenditures by submitting itemized bills to the Technical Secretary. Within sixty (60) days after receiving bills for post-closure activities, the Technical Secretary will determine whether the post-closure expenditures are in accordance with the post-closure plan or otherwise justified, and if so, he will instruct the insurer to make reimbursement in such amounts as the Technical Secretary specifies in writing.

(f) The owner or operator must maintain the policy in full force and effect until the Technical Secretary consents to termination of the policy by the owner or operator as specified in subsection (k) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in 320 IAC 4.1-22-14 through 320 IAC 4.1-22-21, will constitute a significant violation of 320 IAC 4.1-22, warranting such remedy as the Technical Secretary deems necessary. Such violation will be deemed to begin upon receipt by the Technical Secretary of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(g) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(h) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Technical Secretary. Cancellation, termination, or failure to renew may not occur, however, during the one hundred twenty (120) days beginning with the date of receipt of the notice by both the Technical Secretary and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(1) the Technical Secretary deems the facility abandoned; or
(2) the interim status is terminated or revoked; or
(3) closure is ordered by the Technical Secretary, U.S. EPA, or court of competent jurisdiction; or
(4) the owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or
(5) the premium due is paid.

(i) Whenever the current post-closure cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within sixty (60) days after the increase, must either cause the face amount to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Technical Secretary, or obtain other financial assurance as specified in 320 IAC 4.1-22-15 through 320 IAC 4.1-22-19 to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the face amount may be reduced to the amount of the current post-closure cost estimate following written approval by the Technical Secretary.

(j) Commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to eighty-five percent (85%) of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26-week Treasury securities.

(k) The Technical Secretary will give written consent to the owner or operator that he may terminate the insurance policy when:
(1) an owner or operator substitutes alternate financial assurance as specified in 320 IAC 4.1-22-15 through 320 IAC 4.1-22-19; or
(2) the Technical Secretary releases the owner or operator from the requirements of 320 IAC 4.1-22-14 in accordance with 320 IAC 4.1-22-22.

(Indiana Environmental Management Board; 320 IAC 4.1-22-18)

320 IAC 4.1-22-19 Financial test and corporate guarantee for post-closure care option

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 19. (a) An owner or operator may satisfy the requirements of 320 IAC 4.1-22-14 by demonstrating that he passes a financial test as specified in this section. To pass this test the owner or operator must meet the criteria either of subsections (a)(1) or (a)(2) of this section:
(1) The owner or operator must have:
(A) two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and
(B) net working capital and tangible net worth each at least six (6) times the sum of the current closure and post-closure cost estimates; and
(C) tangible net worth of at least ten million dollars; and
(D) assets in the United States amounting to at least ninety percent (90%) of his total assets or at least six (6) times the sum of the current closure and post-closure cost estimates.
(2) The owner or operator must have:
(A) a current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's; and
(B) tangible net worth at least six (6) times the sum of the current closure and post-closure cost estimates; and
(C) tangible net worth of at least ten million dollars; and
(D) assets located in the United States amounting to at least ninety percent (90%) of his total assets or at least six (6) times the sum of current closure and post-closure cost estimates.

(b) The phrase "current closure and post-closure cost estimates" as used in subsection (a) of this section refers to the cost estimates required to be shown in 320 IAC 4.1-22-31 of the letter from the owner's or operator's chief financial officer.

(c) To demonstrate that he meets this test, the owner or operator must submit the following items to the Technical Secretary:
(1) a letter signed by the owner's or operator's chief financial officer and worded as specified in 320 IAC 4.1-22-31; and
(2) a copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and
(3) a special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:
(A) he has compared the data which the letter from the chief financial officer specifies as having been derived from the independently

audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) in connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(d) After the initial submission of items specified in subsection (c) of this section, the owner or operator must send updated information to the Technical Secretary within ninety (90) days after the close of each succeeding fiscal year. This information must consist of all three items specified in subsection (c) of this section.

(e) If the owner or operator no longer meets the requirements of subsection (a) of this section, he must send notice to the Technical Secretary of intent to establish alternate financial assurance as specified in 320 IAC 4.1-22-15 through 320 IAC 4.1-22-19. The notice must be sent by certified mail within ninety (90) days after the end of the fiscal year for which the year-end financial data shows that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within one hundred twenty (120) days after the end of such fiscal year.

(f) The Technical Secretary may, based on a reasonable belief that the owner or operator may no longer meet the requirements of subsection (a) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in subsection (c) of this section. If the Technical Secretary finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of subsection (a) of this section, the owner or operator must provide alternate financial assurance as specified in 320 IAC 4.1-22-15 through 320 IAC 4.1-22-19 within thirty (30) days after notification of such a finding.

(g) The Technical Secretary may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see subsection (c)(2) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Technical Secretary will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in 320 IAC 4.1-22-15 through 320 IAC 4.1-22-19 within thirty (30) days after notification of the disallowance.

(h) During the period of post-closure care, the Technical Secretary may approve a decrease in the current post-closure cost estimate for which this test demonstrates financial assurance if the owner or operator demonstrates to the Technical Secretary that the amount of the cost estimate exceeds the remaining cost of post-closure care.

(i) The owner or operator is no longer required to submit the items specified in subsection (c) of this section when:

(1) an owner or operator substitutes alternate financial assurance as specified in 320 IAC 4.1-22-15 through 320 IAC 4.1-22-19; or

(2) the Technical Secretary releases the owner or operator from the requirements of 320 IAC 4.1-22-14 in accordance with 320 IAC 4.1-22-22.

(j) An owner or operator may meet the requirements of 320 IAC 4.1-22-14 through 320 IAC 4.1-22-21 by obtaining a written guarantee, hereafter referred to as "corporate guarantee." The guarantor must be the parent corporation of the owner or operator. The guarantor must meet the requirements for owners or operators in subsections (a) through (h) of this section and must comply with the terms of the corporate guarantee. The wording of the corporate guarantee must be identical to the wording specified in 320 IAC 4.1-22-33. The corporate guarantee must accompany the items sent to the Technical Secretary as specified in subsection (c) of this section. The terms of the corporate guarantee must provide that:

(1) If the owner or operator fails to perform post-closure care of a facility covered by the corporate guarantee in accordance with the post-closure plan and other interim status requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in 320 IAC 4.1-22-15 in the name of the owner or operator.

(2) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Technical Secretary. Cancellation may not occur, however, during the one hundred twenty (120) days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Technical Secretary, as evidenced by the return receipts.

(3) If the owner or operator fails to provide alternate financial assurance as specified in 320 IAC 4.1-22-15 through 320 IAC 4.1-22-19 and obtain the written approval of such alternate assurance from the Technical Secretary within ninety (90) days after receipt by both the owner or operator and the Technical Secretary of a notice of cancellation of the corporate guarantee from the guarantor, the

guarantor will provide such alternate financial assurance in the name of the owner or operator. *(Indiana Environmental Management Board; 320 IAC 4.1-22-19)*

320 IAC 4.1-22-20 Use of multiple financial mechanisms option

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 20. An owner or operator may satisfy the requirements of 320 IAC 4.1-22-14 by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds, letters of credit, and insurance. The mechanisms must be as specified in 320 IAC 4.1-22-15 through 320 IAC 4.1-22-18, respectively, except that it is the combination of mechanisms rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current post-closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The Technical Secretary may use any or all of the mechanisms to provide for post-closure care of the facility. *(Indiana Environmental Management Board; 320 IAC 4.1-22-20)*

320 IAC 4.1-22-21 Use of a financial mechanism for multiple facilities option

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 21. An owner or operator may use a financial assurance mechanism specified in 320 IAC 4.1-22-14 to meet the requirements of 320 IAC 4.1-22-14 for more than one facility. Evidence of financial assurance submitted to the Technical Secretary must include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for post-closure care assured by the mechanism. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for post-closure care of any of the facilities covered by the mechanism, the Technical Secretary may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism. *(Indiana Environmental Management Board; 320 IAC 4.1-22-21)*

320 IAC 4.1-22-22 Release of owner or operator from requirements for financial assurance for post-closure care

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 22. When an owner or operator has completed, to the satisfaction of the Technical Secretary, all post-closure care requirements in accordance with the post-closure plan, the Technical Secretary will, at the request of the owner or operator, notify him in writing that he is no longer required by 320 IAC 4.1-22-14 to maintain financial assurance for post-closure care of the particular facility. *(Indiana Environmental Management Board; 320 IAC 4.1-22-22)*

320 IAC 4.1-22-23 Use of a mechanism for financial assurance of both closure and post-closure care

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 23. An owner or operator may satisfy the requirements for financial assurance for both closure and post-closure care for one or more facilities by using a trust fund, surety bond, letter of credit, insurance, financial test, or corporate guarantee that meets the specifications for the mechanism in both 320 IAC 4.1-22-4 through 320 IAC 4.1-22-12 and 320 IAC 4.1-22-14 through 320 IAC 4.1-22-22. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for financial assurance of closure and of post-closure care. *(Indiana Environmental Management Board; 320 IAC 4.1-22-23)*

320 IAC 4.1-22-24 Liability requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 24. (a) Coverage for sudden accidental occurences. After July 1, 1982, an owner or operator of a hazardous waste treatment, storage, or disposal facility or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for sudden accidental occurrences in the amount of at least one million dollars per occurrence with an annual aggregate of at least two million dollars, exclusive of legal defense costs. This liability coverage may be demonstrated in

one of three ways, as specified in 320 IAC 4.1-22-24(a)(1), (a)(2) and (a)(3):

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in 320 IAC 4.1-22-24(a)(1).

(i) Each insurance policy must be amended by attachment of the hazardous waste facility liability endorsement or evidenced by a certificate of liability insurance. The wording of the endorsement must be identical to the wording specified in 320 IAC 4.1-22-34. The wording of the certificate of insurance must be identical to the wording specified in 320 IAC 4.1-22-35. The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Technical Secretary. If requested by the Technical Secretary, the owner or operator must provide a signed duplicate original of the insurance policy.

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

(2) An owner or operator may meet the requirements of this section by passing a financial test for liability coverage as specified in subsection (f) of this section.

(3) An owner or operator may demonstrate the required liability coverage through use of both the financial test and insurance as these mechanisms are specified in 320 IAC 4.1-22-24. The amounts of coverage demonstrated must total at least the minimum amounts required by 320 IAC 4.1-22-24(a).

(b) Coverage for nonsudden accidental occurence. An owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least three million dollars per occurrence with an annual aggregate of at least six million dollars, exclusive of legal defense costs. This liability coverage may be demonstrated in one of three ways, as specified in 320 IAC 4.1-22-24(b)(1), (b)(2) and (b)(3):

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in 320 IAC 4.1-22-24(b)(1).

(i) Each insurance policy must be amended by attachment of the hazardous waste facility liability endorsement or evidenced by a certificate of liability insurance. The wording of the endorsement must be identical to the wording specified in 320 IAC 4.1-22-34. The wording of the certificate of insurance must be identical to the wording specified in 320 IAC 4.1-22-35. The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Technical Secretary. If requested by the Technical Secretary, the owner or operator must provide a signed duplicate original of the insurance policy.

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

(2) An owner or operator may meet the requirements of this section by passing a financial test for liability coverage as specified in subsection (f) of this section.

(3) An owner or operator may demonstrate the required liability coverage through use of both the financial test and insurance as these mechanisms are specified in this section. The amounts of coverage must total at least the minimum amounts required by 320 IAC 4.1-22-24(b).

(4) The required liability coverage for nonsudden accidental occurrences must be demonstrated by the dates listed below. The total sales or revenues of the owner or operator in all lines of business, in the fiscal year preceding July 15, 1982, will determine which of the dates applies. If the owner and operator of a facility are two different parties, or if there is more than one owner or operator, the sales or revenues of the party with the largest sales or revenues will determine the date by which the coverage must be demonstrated. The dates are as follows:

(i) For an owner or operator with sales or revenues totaling ten million dollars or more, January 16, 1983.

(ii) For an owner or operator with sales or revenues greater than five million dollars but less than ten million dollars, January 16, 1984.

(iii) All other owners or operators, January 16, 1985.

(5) An owner or operator who is within either of the last two categories (subsections (b)(4)(ii) or (b)(4)(iii) of this section) must, unless he has demonstrated liability coverage for nonsudden accidental occurrences, send a letter to the Technical Secretary stating the date by which he plans to establish such coverage.

(c) Request for variance. If an owner or operator can demonstrate to the satisfaction of the Technical Secretary that the levels of financial responsibility required by subsections (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the owner or operator may obtain a variance from the Technical Secretary. The request for a variance must be submitted in writing to the Technical Secretary. If granted, the variance will take the form of an adjusted level of required liability coverage, such level to be based on the Technical Secretary's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The Technical Secretary may require an owner or operator who requests a variance to provide such technical and engineering information as is deemed necessary by the Technical Secretary to determine a level of financial responsibility other than that required by subsections (a) or (b) of this section. The Technical Secretary will process a variance request as if it were a permit modification request under 320 IAC 4.1-36-2 and subject to the procedures of 320 IAC 4.1-39-3. Notwithstanding any other provision, the Technical Secretary may hold a public hearing at his discretion or whenever he finds, on the basis of requests for a public hearing, a significant degree of public interest in a decision to grant a variance.

(d) Adjustments by the Technical secretary. If the Technical Secretary determines that the levels of financial responsibility required by subsections (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the Technical Secretary may adjust the level of financial responsibility required under subsections (a) or (b) of this section as may be necessary to protect human health and the environment. This adjusted level will be based on the Technical Secretary's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the Technical Secretary determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of a facility that is not a surface impoundment, landfill, or land treatment facility, he may require that an owner or operator of the facility comply with subsection (b) of this section. An owner or operator must furnish to the Technical Secretary, within a reasonable time, any information which the Technical Secretary requests to determine whether cause exists for such adjustments of level or type of coverage. The Technical Secretary will process an adjustment of the level of required coverage as if it were a permit modification under 320 IAC 4.1-36-2 subject to the procedures of 320 IAC 4.1-39-3. Notwithstanding any other provision, the Technical Secretary may hold a public hearing at his discretion or whenever he finds, on the basis of requests for a public hearing, a significant degree of public interest in a decision to adjust the level or type of required coverage.

(e) Period of coverage. An owner or operator must continuously provide liability coverage for a facility as required by this section until certifications of closure of the facility, as specified in 320 IAC 4.1-21-6 are received by the Technical Secretary.

(f) Financial Test for Liability Coverage.

(1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes this financial test. To pass this test, the owner or operator must meet the criteria of 320 IAC 4.1-22-24(f)(1)(i) or (f)(1)(ii):

(i) The owner or operator must have:

(A) net working capital and tangible net worth each at least six (6) times the amount of liability coverage to be demonstrated by this test; and

(B) tangible net worth of at least ten million dollars; and

(C) assets in the United States amounting to either: (1) at least ninety percent (90%) of his total assets; or (2) at least six (6) times the amount of liability coverage to be demonstrated by this test.

(ii) The owner or operator must have:

(A) a current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) tangible net worth of at least ten million dollars; and

(C) tangible net worth of at least six (6) times the amount of liability coverage to be demonstrated by this test; and

(D) assets in the United States amounting to either: (1) at least ninety percent (90%) of his total assets; or (2) at least six (6) times the amount of liability coverage to be demonstrated by this test.

(2) The phrase "amount of liability coverage" as used in this subsection refers to the annual aggregate amounts for which coverage is required under subsections (a) and (b) of this section.

(3) To demonstrate that he meets this test, the owner or operator must submit the following three items to the Technical Secretary:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in 320 IAC 4.1-22-32. If an owner or operator is using the financial test to demonstrate both assurance for closure or post-closure care, as specified by 320 IAC 4.1-22-9 and 320 IAC 4.1-22-19, AND liability coverage, he must submit the letter specified in 320 IAC 4.1-22-32 to cover both forms of financial responsibility; a separate letter as specified in 320 IAC 4.1-22-31 is not required.
(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year.
(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:
(A) he has compared the data which the letter from the chief financial officer specified as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and
(B) in connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) After the initial submission of items specified in 320 IAC 4.1-22-24(f)(3), the owner or operator must send updated information to the Technical Secretary within ninety (90) days after the close of each succeeding fiscal year. This information must consist of all three items specified in 320 IAC 4.1-22-24(f)(3).

(5) If the owner or operator no longer meets the requirements of 320 IAC 4.1-22-24(f)(1), he must obtain insurance for the entire amount of required liability coverage as specified in this section. Evidence of insurance must be submitted to the Technical Secretary within ninety (90) days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements.

(6) The Technical Secretary may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements. An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Technical Secretary will evaluate other qualifications on an individual basis. The owner or operator must provide evidence of insurance for the entire amount of required liability coverage as specified in this section within thirty (30) days after notification of disallowance.

(Indiana Environmental Management Board; 320 IAC 4.1-22-24)

320 IAC 4.1-22-25 Incapacity of owners, operators, guarantors, or financial institutions

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 25. (a) An owner or operator must notify the Technical Secretary by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within ten (10) days after commencement of the proceeding. A guarantor of corporate guarantee as specified in 320 IAC 4.1-22-9 and 320 IAC 4.1-22-19 must make such a notification if he is named as debtor, as required under the terms of the corporate guarantee (320 IAC 4.1-22-33).

(b) An owner or operator who fulfills the requirements of 320 IAC 4.1-22-4 through 320 IAC 4.1-22-12, 320 IAC 4.1-22-14, 320 IAC 4.1-22-23, or 320 IAC 4.1-22-24 by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments. The owner or operator must establish other financial assurance or liability coverage within sixty (60) days after such an event. *(Indiana Environmental Management Board; 320 IAC 4.1-22-25)*

320 IAC 4.1-22-26 Wording of the instruments: trust agreement

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 26. (a) A trust agreement for a trust fund, as specified in 320 IAC 4.1-22-5 or 320 IAC 4.1-22-15, 320 IAC 4.1-47-4(a) or 320 IAC 4.1-47-6(a) (see 320 IAC 4.1-47-10(a)) must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Trust Agreement

Trust Agreement, the "Agreement," entered into as of [date] by and between [name of the owner or operator], a [name of State] [insert "corporation," "partnership," "association," or "proprietorship"], the "Grantor," and [name of corporate trustee], [insert "incorporated in the state of _____," or "a national bank"], the "Trustee."

Whereas, the Indiana Environmental Management Board, "EMB," an agency of the State of Indiana, has established certain regulations applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility shall provide assurance that funds will be available when needed for closure and/or post-closure care of the facility.

Whereas, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the facilities identified herein.

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee.

Now, Therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:
(a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.
(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities and Cost Estimates. This Agreement pertains to the facilities and cost estimates identified on attached Schedule A [on Schedule A, for each facility list the EPA Identification Number, name, address, and the current closure and/or post-closure cost estimates, or portions thereof, for which financial assurance is demonstrated by the Agreement].

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, the "Fund," for the benefit of the EMB. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsiblity for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the EMB.

Section 4. Payment for Closure and Post-Closure Care. The Trustee shall make payments from the Fund as the EMB Technical Secretary shall direct, in writing, to provide for the payment of the costs of closure and/or post-closure care of the facilities covered by this Agreement. The Trustee shall reimburse the Grantor or other persons as specified by the EMB Technical Secretary from the Fund for closure and post-closure expenditures in such amounts as the EMB Technical Secretary shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as the EMB Technical Secretary specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:
(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;
(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and
(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:
(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or

collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in any other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation. The Trustee shall annually, at least thirty (30) days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the EMB Technical Secretary a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than sixty (60) days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within ninety (90) days after the statement has been furnished to the Grantor and the EMB Technical Secretary shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the EMB Technical Secretary, and the

present Trustee by certified mail ten (10) days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the EMB Technical Secretary to the Trustee shall be in writing, signed by the EMB Technical Secretary, or his designee, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or EMB hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or EMB, except as provided for herein.

Section 15. Notice of Nonpayment. The Trustee shall notify the Grantor and the EMB Technical Secretary, by certified mail within ten (10) days following the expiration of the thirty-day period after the anniversary of the establishment of the Trust, if no payment is received from the Grantor during that period. After the pay-in period is completed, the Trustee shall not be required to send a notice of nonpayment.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the EMB Technical Secretary, or by the Trustee and the EMB Technical Secretary if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the EMB Technical Secretary, or by the Trustee and the EMB Technical Secretary, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses shall be delivered to the Grantor.

Section 18. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the EMB Technical Secretary issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of Indiana.

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written: The parties below certify that the wording of this Agreement is identical to the wording specified in 320 IAC 4.1-22-26 as such regulations were constituted on the date first above written.

[Signature of Grantor]
[Title]

Attest:
[Title]
[Seal]
[Signature of Trustee]

Attest:
[Title]
[Seal]

(Note: Corporate seal is not required by Indiana law)

(b) Form of certification of acknowledgement. The following is an example of the certification of acknowledgement which must accompany the trust agreement for a trust fund as specified in 320 IAC 4.1-22-5 or 320 IAC 4.1-22-15 and 320 IAC 4.1-47-4(a) or 320 IAC 4.1-47-6(a).

Form of certification of acknowledgement.

State of _____

County of _____

On this [date], before me personally came [owner or

operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

(Signature of Notary Public)

(c) Indiana form of acknowledgement (Trust agreements notarized in Indiana must use this form of acknowledgement):

Form of Indiana certificate of acknowledgement.

ACKNOWLEDGEMENT

State of _____)
) SS:
County of _____)

Before me, the undersigned, a Notary Public in and for said County and State, personally appeared [owner or operator] to be known by me to be the person who [(only for corporate party), as [insert title] of _____, Inc., the corporation which] executed the foregoing instrument, signed the same and acknowledged to me that he/she did so sign the same [in the name and on behalf of the said corporation as such officer], and that the same is his free act and deed [and the free corporate act and deed of said corporation, and that he/she was duly authorized by the Board of Directors of said corporation] and that the statements made in the foregoing instrument are true.

IN WITNESS WHEREOF, I have set my hand and official seal this _____ day of _____, 19____.

I am a resident of _____

County, _____.

_____

Notary Public

My Commission Expires:

_____

(Indiana Environmental Management Board; 320 IAC 4.1-22-26)

320 IAC 4.1-22-27 Wording of instrument: surety bonds

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-8.5-4

Affected: IC 13-7-8.5-5, IC 13-7-10-1

Sec. 27. A surety bond guaranteeing payment into a trust fund, as specified in 320 IAC 4.1-22-6 or 320 IAC 4.1-22-16, 320 IAC 4.1-47-4(b) or 320 IAC 4.1-47-6(b) (see 320 IAC 4.1-47-10(b)) must be worded follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Financial Guarantee Bond

Date bond executed: _____

Effective date: _____

Principal: [legal name and business address of owner or operator]

Type of organization: [insert "individual," "joint venture," "partnership," or "corporation"]

State of incorporation: _____

Surety(ies): [name(s) and business address(es)]

EPA Identification Number, name, address, and closure and/or post-closure amount(s) for each facility guaranteed by this bond [indicate closure and post-closure amounts separately]: _____

Total penal sum of bond: $_____

Surety's bond number: _____

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the Environmental Management Board of the State of Indiana (hereinafter called EMB), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas said Principal is required, under the Indiana Environmental Management Act (IC 13-7), to have a permit or interim status in order to own or operate each hazardous waste management facility identified above, and

Whereas said Principal is required to provide financial assurance for closure, or closure and post-closure care, as a condition of the permit or interim status, and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, therefore, the conditions of the obligation are such that if the Principal shall faithfully, before the beginning of final closure of each facility identified above, fund the standby trust fund in the amount(s) identified above for the facility,

Or, if the Principal shall fund the standby trust fund in such amount(s) within fifteen (15) days after an order to begin closure is issued by the EMB or court of competent jurisdiction,

Or, if the Principal shall provide alternate financial assurance, as specified in 320 IAC 4.1-22, as applicable, and obtain the EMB Technical Secretary's written approval of such assurance, within ninety (90) days after the date notice of cancellation is received by both the Principal and the EMB Technical Secretary from the Surety(ies), then this obligation shall be null and void, otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by the EMB Technical Secretary that the Principal has failed to perform as guaranteed by this bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the EMB Technical Secretary.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and to the EMB Technical Secretary, provided, however, that cancellation shall not occur during the one hundred twenty (120) days beginning on the date of receipt of the notice of cancellation by both the Principal and the EMB Technical Secretary, as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the EMB Technical Secretary.

[The following paragraph is an optional rider that may be included but is not required.]

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure and/or post-closure amount, provided that the penal sum does not increase by more than 20 percent in any one year, and no decrease in the penal sum takes place without the written permission of the EMB Technical Secretary.

In Witness Whereof, the Principal and Surety(ies) have executed this Financial Guarantee Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in 320 IAC 4.1-22-27 as such regulations were constituted on the date this bond was executed.

Principal

[Signature(s)]
[Name(s)]
[Title(s)]
[Corporate seal]

Corporate Surety(ies)

[Name and address]
State of incorporation: _____
Liability limit: $_____
[Signature(s)]
[Name(s) and title(s)]
[Corporate seal]
[For every co-surety, provide signature(s) and other information in the same manner as for Surety above.]
Bond premium: $_____

(Note: Corporate seal not required by Indiana law) *(Indiana Environmental Management Board; 320 IAC 4.1-22-27)*

320 IAC 4.1-22-28 Wording of instrument: performance bonds

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-8.5-4
Affected: IC 13-7-8.5-5; IC 13-7-10-1

Sec. 28. (a) A surety bond guaranteeing performance of closure and/or post-closure care, as specified in 320 IAC 4.1-47-4(c) or 320 IAC 4.1-47-6(c) (see 320 IAC 4.1-47-10(c)), must be worded as follows, except that the instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Performance Bond

Date bond executed: _____

Effective date: _____

Principal: [legal name and business address of owner or operator]

Type of organization: [insert "individual," "joint venture," "partnership," or "corporation"]

State of incorporation: _____

Surety(ies): [name(s) and business address(es)]: _____

EPA Identification Number, name, address, and closure and/or post-closure amount(s) for each facility guaranteed by this bond [indicate closure and post-closure amounts separately]: ____

Total penal sum of bond: $ _____

Surety's bond number: _____

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the Environmental Management Board of the State of Indiana (hereinafter called EMB), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself jointly and severally with the Principal, for the payment of such sum only aa is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas said Principal is required, under the Indiana Environmental Management Act (IC 13-7), to have a permit in order to own or operate each hazardous waste management facility identified above, and

Whereas said Principal is required to provide financial assurance for closure, or closure and post-closure care, as a condition of the permit, and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, Therefore, the conditions of this obligation are such that if the Principal shall faithfully perform closure, whenever required to do so, of each facility for which this bond guarantees closure, in accordance with the closure plan and other requirements of the permit as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended,

And, if the Principal shall faithfully perform post-closure care of each facility for which this bond guarantees post-closure care, in accordance with th post-closure plan and other requirements of the permit, as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended,

Or, if the Principal shall provide alternate financial assurance as specified in 320 IAC 4.1-47, and obtain the EMB Technical Secretary's written approval of such assurance, within ninety (90) days after the date notice of cancellation is received by both the Principal and the EMB Technical Secretary from the Surety(ies), then this obligation shall be null and void, otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above.

Upon notification by the EMB Technical Secretary that the Principal has been found in violation of the closure requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54, for a facility for which this bond guarantees performance of closure, the Surety(ies) shall either perform closure in accordance with the closure plan and other permit requirements or place the closure amount guaranteed for the facility into the standby trust fund as directed by the EMB Technical Secretary.

Upon notification by the EMB Technical Secretary that the Principal has been found in violation of the post-closure requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54 for a facility for which this bond guarantees performance of post-closure care, the Surety(ies) shall either perform post-closure care in accordance with the post-closure plan and other permit requirements or place the post-closure amount guaranteed for the facility into the standby trust fund as directed by the EMB Technical Secretary.

Upon notification by the EMB Technical Secretary that the Principal has failed to provide alternate financial assurance as specified in 320 IAC 4.1-47, and obtain written approval of such assurance from the EMB Technical Secretary during the ninety (90) days following receipt by both the Principal and the EMB Technical Secretary of a notice of cancellation of the bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the EMB Technical Secretary.

The Surety(ies) hereby waive(s) notification of amendments to closure plans, permits, applicable laws, statutes, rules, and regulations and agree(s) that no such amendment shall in any way alleviate its (their) obligation on this bond.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the EMB Technical Secretary, provided, however, that cancellation shall not occur during the one hundred twenty (120) days beginning on the date of receipt of the notice of cancellation by both the Principal and the EMB Technical Secretary, as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the Surety(ies) provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the EMB Technical Secretary.

[The following paragraph is an optional rider that may be included but is not required.]

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure and/or post-closure amount, provided that the penal sum does not increase by more than 20 percent in any one year, and no decrease in the penal sum takes place without the written permission of the EMB Technical Secretary.

In Witness Whereof, The Principal and Surety(ies) have executed this Performance Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in 320 IAC 4.1-22-28 as such regulation was constituted on the date this bond was executed.

Principal

[Signature(s)]
[Name(s)]
[Title(s)]
[Corporate seal]
Corporate Surety(ies)
[Name and address] _____
State of incorporation: _____
Liability limit: $_____
[Signatures(s)]
[Name(s) and title(s)]
[Corporate seal]:
[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]
Bond premium: $_____

(Note: Corporate seal not required by Indiana law)
(Indiana Environmental Management Board; 320 IAC 4.1-22-28)

320 IAC 4.1-22-29 Wording of instrument: letter of credit

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 29. A letter of credit, as specified in 320 IAC 4.1-22-7 or 320 IAC 4.1-22-17, 320 IAC 4.1-47-4(d) or 320 IAC 4.1-47-6(d) (see 320 IAC 4.1-47-10(d)) must be worded as follows, except that instructions in brackets are to be replaced with relevant information and the brackets deleted:

Irrevocable Standby Letter of Credit

Technical Secretary
Environmental Management Board
State of Indiana

Dear Sir or Madam: We hereby establish our Irrevocable Standby Letter of Credit No. ____ in your favor, at the request and for the account of [owner's or operator's name and address] up to the aggregate amount of [in words] U.S. dollars $_____, available upon presentation of

(1) your sight draft, bearing reference to this letter of credit No. _____, and

(2) your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under authority of the Indiana Environmental Management Law (IC 13-7) as amended."

This letter of credit is effective as of [date] and shall expire on [date at least 1 year later], but such expiration date shall be automatically extended for a period of [at least 1 year] on [date] and on each successive expiration date, unless, at least one hundred twenty (120) days before the current expiration date, we notify both you and [owner's or operator's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for one hundred twenty (120) days after the date of receipt by both you and [owner's or operator's name], as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of [owner's or operator's name] in accordance with your instructions.

We certify that the wording of this Letter of Credit is identical to the wording specified in 320 IAC 4.1-22-29 as such regulations were constituted on the date shown immediately below.

[Signature(s) and title(s) of official(s) of issuing institution] [Date]

This credit is subject to Article 5 of the Uniform Commerical Code (IC 26-1-5-101 through IC 26-1-5-117 set forth Indiana's version of Article 5 of the Uniform Commerical Code). *(Indiana Environmental Management Board; 320 IAC 4.1-22-29)*

320 IAC 4.1-22-30 Wording of instrument: certificate of insurance

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 30. A certificate of insurance, as specified in 320 IAC 4.1-22-8 or 320 IAC 4.1-22-18, 320 IAC 4.1-47-4(e) or 320 IAC 4.1-47-6(e) (see 320 IAC 4.1-47-10(e)) must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Certificate of Insurance for Closure or Post-Closure Care

Name and Address of Insurer
(herein called the "Insurer"): _____
Name and Address of Insured
(herein called the "Insured"): _____

Facilities Covered: [List for each facility: The EPA Identification Number, name, address, and the amount of insurance for closure and/or the amount for post-closure care (these amounts for all facilities covered must total the face amount shown below).]

Face Amount: _____
Policy Number: _____
Effective Date: _____

The Insurer hereby certifies that it has issued to the Insured the policy of insurance identified above to provide financial assurance for [insert "closure" or "closure and post-closure care" or "post-closure care"] for the facilities identified above. The Insurer further warrants that such policy conforms in all respects with the requirements of 320 IAC 4.1-22-8 and 320 IAC 4.1-22-18, 320 IAC 4.1-47-4(e) or 320 IAC 4.1-47-6(e) (see 320 IAC 4.1-47-10(e)) as applicable and as such regulations were constituted on the date shown immediately below. It is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such inconsistency.

Whenever requested by the EMB Technical Secretary, the Insurer agrees to furnish to the EMB Technical Secretary a duplicate original of the policy listed above including all endorsements thereon.

I hereby certify that the wording of this certificate is identical to the wording specified in 320 IAC 4.1-22-30 as such regulation was constituted on the date shown immediately below.

[Authorized signature for Insurer]
[Name of person signing]
[Title of person signing]
Signature of witness or notary: _____
[Date]

(Indiana Environmental Management Board; 320 IAC 4.1-22-30)

320 IAC 4.1-22-31 Wording of instrument: chief financial officer letter for closure and/or post-closure

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 31. A letter from the chief financial officer, as specified in 320 IAC 4.1-22-9 or 320 IAC 4.1-22-19, or 320 IAC 4.1-47-4(f) or 320 IAC 4.1-47-6(f) (see 320 IAC 4.1-47-10(f)) must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Letter From Chief Financial Officer

[Address to Technical Secretary of the Indiana Environmental Management Board]

I am the chief financial officer of [name and address of firm]. This letter is in support of this firm's use of the financial test to demonstrate financial assurance, as specified in 320 IAC 4.1-24.

[Fill out the following four paragraphs regarding facilities and associated cost estimates. If your firm has no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its EPA Identification Number, name, address, and current closure and/or post-closure cost estimates. Identify each cost estimate as to whether it is for closure or post-closure care.]

1. This firm is the owner or operator of the

following facilities for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by the test are shown for each facility: _____.

2. This firm guarantees, through the corporate guarantee specified in Subpart H of 40 CFR Parts 264 and 265, the closure or post-closure care of the following facilities owned or operated by subsidiaries of this firm. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility: _____.

3. In states where EPA is not administering the financial requirements of Subpart H of 40 CFR Parts 264 or 265, this firm, as owner or operator or guarantor, is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility: _____.

4. This firm is the owner or operator of the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to EPA or a State through the financial test or any other financial assurance mechanism specified in Subpart H of 40 CFR Parts 264 and 265 or equivalent or substantially equivalent State mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility: _____.

This firm (insert "is required" or "is not required") to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended [date].

[Fill in Alternative I if the criteria of paragraph (f)(1)(i) of sections 264.143 or 264.145 or of paragraph (e)(1)(i) of sections 265.143 or 265.145 of this chapter (or of 320 IAC 4.1-24-9(a)(1) or 320 IAC 4.1-24-19(a)(1)) are used. Fill in Alternative II if the criteria of paragraph (f)(1)(ii) of sections 264.143 or 264.145, or of paragraph (e)(1)(ii) of sections 265.143 or 265.145 of this chapter (or of 320 IAC 4.1-24-9(a)(2) or 320 IAC 4.1-24-19(a)(2)) are used.]

Alternative I

1.	Sum of current closure and post-closure cost estimates [total of all cost estimates shown in the four paragraphs above]	$.....
*2.	Total liabilities [if any portion of the closure or post-closure cost estimates is included in total liabilities, you may deduct the amount of that portion from this line and add that amount to lines 3 and 4]	.....
*3.	Tangible net worth	.....
*4.	Net worth	.....
*5.	Current assets	.....
*6.	Current liabilities	.....
7.	Net working capital [line 5 minus line 6]	.....
*8.	The sum of net income plus depreciation, depletion, and amortization	.....
*9.	Total assets in U.S. (required only if less than 90% of firm's assets are located in the U.S.)	.....

		YES	NO
10.	Is line 3 at least $10 million?		
11.	Is line 3 at least 6 times line 1?		
12.	Is line 7 at least 6 times line 1?		
*13.	Are at least 90% of firm's assets located in the U.S.? If not, complete line 14		
14.	Is line 9 at least 6 times line 1?		
15.	Is line 2 divided by line 4 less than 2.0?		
16.	Is line 8 divided by line 2 greater than 0.1?		
17.	Is line 5 divided by line 6 greater than 1.5?		

Alternative II

1.	Sum of current closure and post-closure cost estimates [total of all cost estimates shown in the four paragraphs above]	$.....
2.	Current bond rating of most recent issuance of this firm and name of rating service	.....
3.	Date of issuance of bond	.....
4.	Date of maturity of bond	.....
5.	Tangible net worth (if any portion of the closure and post-closure cost estimates is included in "total liabilities" on your firm's financial statements, you may add the amount of that portion to this line)	$.....
*6.	Total assets in U.S. (required only if less than 90% of firm's assets are located in the U.S.)	$.....

		YES	NO
7.	Is line 5 at least $10 million?		
8.	Is line 5 at least 6 times line 1?		
*9.	Are at least 90% of firm's assets located in the U.S.? If not, complete line 10		
10.	Is line 6 at least 6 times line 1?		

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR 264.151(f) as such regulations were constituted on the date shown immediately below.

[Signature]
[Name]
[Title]
[Date]

(Indiana Environmental Management Board; 320 IAC 4.1-22-31)

320 IAC 4.1-22-32 Wording of instrument: chief financial officer letter; liability coverage

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 32. A letter from the chief financial officer, as specified in 320 IAC 4.1-22-24, or 320 IAC 4.1-47-8(f) (see 320 IAC 4.1-47-10(g)) must be worded as follows, except that instructions in brackets are to be replaced

with the relevant information and the brackets deleted:

Letter from Chief Financial Officer (to demonstrate liability coverage or to demonstrate both liability coverage and assurance of closure or post-closure care).

[Address to Technical Secretary of the Indiana Environmental Management Board, State of Indiana]

I am the chief financial officer of [owner's or operator's name and address]. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage [insert "and closure and/or post-closure care" if applicable] as specified in 320 IAC 4.1-22 or 320 IAC 4.1-47.

[Fill out the following paragraph regarding facilities and liability coverage. For each facility, include its EPA Identification Number, name, and address.]

The owner or operator identified above is the owner or operator of the following facilities for which liability coverage is being demonstrated through the financial test specified in 320 IAC 4.1-22 or 320 IAC 4.1-47:

[If you are using the financial test to demonstrate coverage of both liability and closure and/or post-closure care, fill in the following four paragraphs regarding facilities and associated closure and post-closure cost estimates. If there are no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its EPA Identification Number, name, address, and current closure and/or post-closure cost estimates. Identify each cost estimate as to whether it is for closure or post-closure care.]

1. The owner or operator identified above owns or operates the following facilities for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in 320 IAC 4.1-22 or 320 IAC 4.1-47. The current closure and/or post-closure cost estimates covered by the test are shown for each facility: _____.

2. The owner or operator identified above guarantees, through the corporate guarantee specified in 320 IAC 4.1-22 or 320 IAC 4.1-47, the closure and post-closure care of the following facilities owned or operated by its subsidiaries. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility: _____.

3. This firm, as owner or operator or guarantor, is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test specified in 320 IAC 4.1-22 or 320 IAC 4.1-47. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility: _____.

4. The owner or operator identified above owns or operates the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to EPA or a State through the financial test or any other financial assurance mechanism specified in Subpart H of 40 CFR Parts 264 and 265 or equivalent or substantially equivalent State mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility: _____.

This owner or operator [insert "is required" or "is not required"] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this owner or operator ends on [month, day]. The figures for the following items marked with an asterisk (*) are derived from this owner's or operator's independently audited, year-end financial statements for the latest completed fiscal year, ended [date].

[Fill in Part A if you are using the financial test to demonstrate coverage ONLY for the liability requirements.]

Part A. Liability Coverage for Accidental Occurrences

[Fill in Alternative I if the criteria of 320 IAC 4.1-47-8(f)(1)(i) or 320 IAC 4.1-22-24(f)(1)(i) are used. Fill in Alternative II if the criteria of 320 IAC 4.1-47-8(f)(1)(ii) or 320 IAC 4.1-22-24(f)(1)(ii) are used.]

ALTERNATIVE I

1.	Amount of annual aggregate liability coverage to be demonstrated	$.....
*2.	Current assets	$.....
*3.	Current liabilities	$.....
4.	Net working capital (line 2 minus line 3)	$.....
*5.	Tangible net worth	$.....
*6.	If less than 90% of assets are located in the U.S., give total U.S. assets	$.....

		YES	NO
7.	Is line 5 at least $10 million?		
8.	Is line 4 at least 6 times line 1?		
9.	Is line 5 at least 6 times line 1?		
*10.	Are at least 90% of assets located in the U.S.? If not, complete line 11		
11.	Is line 6 at least 6 times line 1?		

ALTERNATIVE II

1.	Amount of annual aggregate liability coverage to be demonstrated	$.....
2.	Current bond rating of most recent issuance and name of rating service	.....
3.	Date issuance of bond	.....
4.	Date maturity of bond	.....
*5.	Tangible net worth	$.....
*6.	Total assets in U.S. (required only if less than 90% of assets are located in the U.S.)	$.....

		YES	NO
7.	Is line 5 at least $10 million?		
8.	Is line 5 at least 6 times line 1?		
*9.	Are at least 90% of assets located in the U.S.? If not, complete line 10		
10.	Is line 6 at least 6 times line 1?		

[Fill in Part B if you are using the financial test to demonstrate assurance of both liability coverage and closure or post-closure care.]

Part B. Closure or Post-Closure Care and Liability Coverage

[Fill in Alternative I if the criteria of paragraphs (f)(1)(i) of 40 CFR 264.143 or 264.145 and (f)(1)(i) of 40 CFR 264.147 are used or if the criteria of paragraphs (e)(1)(i) of 40 CFR 265.143 or 265.145 (or 320 IAC 4.1-24-9(a)(1) or 320 IAC 4.1-24-19(a)(1)) and (f)(1)(i) of 40 CFR 265.147 (or 320 IAC 4.1-24-24) are used. Fill in Alternative II if the criteria of paragraphs (f)(1)(ii) of 40 CFR 264.143 or 264.145 and (f)(1)(ii) of 40 CFR 264.147 are used or if the criteria of paragraphs (e)(1)(ii) of 40 CFR 265.143 or 265.145 (or 320 IAC 4.1-24-9(a)(2) or 320 IAC 4.1-24-19(a)(2)) and (f)(1)(ii) of 40 CFR 265.147 (or 320 IAC 4.1-24-24) are used.]

ALTERNATIVE I

1.	Sum of current closure and post-closure cost estimates (total of all cost estimates listed above)	$.....
2.	Amount of annual aggregate liability coverage to be demonstrated	$.....
3.	Sum of lines 1 and 2	$.....
*4.	Total liabilities (if any portion of your closure or post-closure cost estimates is included in your total liabilities, you may deduct that portion from this line and add that amount to lines 5 and 6)	$.....
*5.	Tangible net worth	$.....
*6.	Net worth	$.....
*7.	Current assets	$.....
*8.	Current liabilities	$.....
9.	Net working capital (line 7 minus line 8)	$.....
*10.	The sum of net income plus depreciation, depletion, and amortization	$.....
*11.	Total assets in U.S. (required only if less than 90% of assets located in the U.S.)	$.....

		YES	NO
12.	Is line 5 at least $10 million?		
13.	Is line 5 at least 6 times line 3?		
14.	Is line 9 at least 6 times line 3?		
*15.	Are at least 90% of assets located in the U.S.? If not, complete line 16		
16.	Is line 11 at least 6 times line 3?		
17.	Is line 4 divided by line 6 less than 2.0?		
18.	Is line 10 divided by line 4 greater than 0.1?		
19.	Is line 7 divided by line 8 greater than 1.5?		

ALTERNATIVE II

1.	Sum or current closure and post-closure cost estimates (total of all cost estimates listed above)	$.....
2.	Amount of annual aggregate liability coverage to be demonstrated	$.....
3.	Sum of lines 1 and 2	$.....
4.	Current bond rating of most recent issuance and name of rating service	.....
5.	Date of issuance of bond	.....
6.	Date of maturity of bond	.....
*7.	Tangible net worth (if any portion of the closure or post-closure cost estimates is included in "total liabilities" on your financial statements you may add that portion to this line)	$.....
*8.	Total assets in the U.S. (required only if less than 90% of assets are located in the U.S.)	$.....

	YES	NO
9. Is line 7 at least $10 million?		
10. Is line 7 at least 6 times line 3?		
*11. Are at least 90% of assets located in the U.S.? If not, complete line 12		
12. Is line 8 at least 6 times line 3?		

I hereby certify that the wording of this letter is identical to the wording specified in 320 IAC 4.1-24-32 as such regulations were constituted on the date shown immediately below.

[Signature]
[Name]
[Title]
[Date]

(Indiana Environmental Management Board; 320 IAC 4.1-22-32)

320 IAC 4.1-22-33 Wording of instrument: corporate guarantee for closure or post-closure care

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 33. A corporate guarantee, as specified in 320 IAC 4.1-22-9 or 320 IAC 4.1-22-19 or 320 IAC 4.1-47-4(f) or 320 IAC 4.1-47-6(f) (see 320 IAC 4.1-47-10(h)), must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Corporate Guarantee for Closure or Post-Closure Care

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of the State of [insert state's name], herein referred to as guarantor, to the Environmental Management Board of the State of Indiana (EMB), obligee, on behalf of our subsidiary [owner or operator] of [business address].

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in 320 IAC 4.1-22-9 and 320 IAC 4.1-22-19 or 320 IAC 4.1-47-4 and 320 IAC 4.1-47-6.
2. [Owner or operator] owns or operates the following hazardous waste management facility(ies) covered by this guarantee: [List for each facility: EPA Identification Number, name, and address. Indicate for each whether guarantee is for closure, post-closure care, or both.]
3. "Closure plans" and "post-closure plans" as used below refer to the plans maintained as required by 320 IAC 4.1-21 and 320 IAC 4.1-46 for the closure and post-closure care of facilities as identified above.
4. For value received from [owner or operator], guarantor guarantees to EMB that in the event that [owner or operator] fails to perform [insert "closure," "post-closure care" or "closure and post-closure care"] of the above facility(ies) in accordance with the closure or post-closure plans and other permit or interim status requirements whenever required to do so, the guarantor shall do so or establish a trust fund as specified in 320 IAC 4.1-22 and 320 IAC 4.1-47, as applicable, in the name of [owner or operator] in the amount of the current closure or post-closure cost estimates as specified in 320 IAC 4.1-22 and 320 IAC 4.1-47.
5. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within ninety (90) days, by certified mail, notice to the EMB Technical Secretary and to [owner or operator] that he intends to provide alternate financial assurance as specified in 320 IAC 4.1-22 and 320 IAC 4.1-47, as applicable, in the name of [owner or operator]. Within one hundred twenty (120) days after the end of such fiscal year, the guarantor shall establish such financial assurance unless [owner or operator] has done so.
6. The guarantor agrees to notify the EMB

Technical Secretary by certified mail, of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming guarantor as debtor, within ten (10) days after commencement of the proceeding.

7. Guarantor agrees that within thirty (30) days after being notified by the EMB Technical Secretary of a determination that guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor of closure or post-closure care, he shall establish alternate financial assurance as specified in 320 IAC 4.1-22 and 320 IAC 4.1-47, as applicable, in the name of [owner or operator] unless [owner or operator] has done so.

8. Guarantor agrees to remain bound under this guarantee notwithstanding any or all of the following: amendment or modification of the closure or post-closure plan, amendment or modification of the permit, the extension or reduction of the time of performance of closure or post-closure, or any other modification or alteration of an obligation of the owner or operator pursuant to 320 IAC 4.1-22-15 through 320 IAC 4.1-32 or 320 IAC 4.1-40 through 320 IAC 4.1-54.

9. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable financial assurance requirements of 320 IAC 4.1-22 and 320 IAC 4.1-47 for the above-listed facilities, except that guarantor may cancel this guarantee by sending notice by certified mail to the EMB Technical Secretary and to [owner or operator], such cancellation to become effective no earlier than one hundred twenty (120) days after receipt of such notice by both the EMB and [owner or operator], as evidenced by the return receipts.

10. Guarantor agrees that if [owner or operator] fails to provide alternate financial assurance as specified in 320 IAC 4.1-22 and 320 IAC 4.1-47, as applicable, and obtain written approval of such assurance from the EMB Technical Secretary within ninety (90) days after a notice of cancellation by the guarantor is received by the EMB Technical Secretary from guarantor, guarantor shall provide such alternate financial assurance in the name of [owner or operator].

11. Guarantor expressly waives notice of acceptance of this guarantee by the EMB or by [owner or operator]. Guarantor also expressly waives notice of amendments or modifications of the closure and/or post-closure plan and of amendments or modifications of the facility permit(s).

I hereby certify that the wording of this guarantee is identical to the wording specified in 320 IAC 4.1-22-33 as such regulation was constituted on the date first above written.

Effective date: _____
[Name of guarantor]
[Authorized signature for guarantor]
[Name of person signing]
[Title of person signing]
Signature of witness or notary: _____

(Indiana Environmental Management Board; 320 IAC 4.1-22-33)

320 IAC 4.1-22-34 Wording of instrument: hazardous waste facility liability endorsement form

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 34. A hazardous waste facility liability endorsement as required in 320 IAC 4.1-22-24 or 320 IAC 4.1-47-8 (see 320 IAC 4.1-47-10(i)) must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Hazardous Waste Facility Liability Endorsement

1. This endorsement certifies that the policy to which the endorsement is attached provides liability insurance covering bodily injury and property damage in connection with the insured's obligation to demonstrate financial responsibility under 320 IAC 4.1-22-24 or 320 IAC 4.1-47-8. The coverage applies at [list EPA Identification Number, name, and address for each facility] for [insert "sudden accidental occurrences," "nonsudden accidental occurrences," or "sudden and nonsudden accidental occurrences"; if coverage is for multiple facilities and the coverage is different for *different* facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences, and which are insured for both]. The limits of liability are [insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the Insurer's liability], exclusive of legal defense costs.

2. The insurance afforded with respect to such

occurrences is subject to all of the terms and conditions of the policy; provided, however, that any provisions of the policy inconsistent with subsections (a) through (e) of this Paragraph 2 are hereby amended to conform with subsections (a) through (e):

(a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy to which this endorsement is attached.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in 320 IAC 4.1-22-24 or 320 IAC 4.1-47-8.

(c) Whenever requested by the Technical Secretary of the Indiana Environmental Management Board (EMB), the Insurer agrees to furnish to the Technical Secretary a signed duplicate original of the policy and all endorsements.

(d) Cancellation of this endorsement, whether by the Insurer or the insured, will be effective only upon written notice and only after the expiration of sixty (60) days after a copy of such written notice is received by the Technical Secretary.

(e) Any other termination of this endorsement will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Technical Secretary.

Attached to and forming part of policy No. _____ issued by [name of Insurer], herein called the Insurer, of [address of Insurer] to [name of insured] of [address] this _____ day of _____. The effective date of said policy is _____ day of _____, 19____.

I hereby certify that the wording of this endorsement is identical to the wording specified in 320 IAC 4.1-22-34 as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

[Signature of Authorized Representative of Insurer]
[Type name]
[Title], Authorized Representative of [name of Insurer]
[Address of Representative]

(Indiana Environmental Management Board; 320 IAC 4.1-22-34)

320 IAC 4.1-22-35 Wording of instrument: hazardous waste facility certificate of liability insurance

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 35. A certificate of liability insurance as required in 320 IAC 4.1-22-24 or 320 IAC 4.1-47-8 (see 320 IAC 4.1-47-10(j)) must be worded as follows, except that the instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Hazardous Waste Facility Certificate of Liability Insurance

1. [Name of Insurer], (the "Insurer"), of [address of Insurer] hereby certifies that it has issued liability insurance covering bodily injury and property damage to [name of insured], (the "Insured"), of [address of insured] in connection with the Insured's obligation to demonstrate financial responsibility under 320 IAC 4.1-22-24 or 320 IAC 4.1-47-8. The coverage applies at [list EPA Identification Number, name, and address for each facility] for [insert "sudden accidental occurrences," "nonsudden accidental occurrences," or "sudden and nonsudden accidental occurrences"; if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences, and which are insured for both]. The limits of liability are [insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the Insurer's liability], exclusive of legal defense costs. The coverage is provided under policy number _____, issued on [date]. The effective date of said policy is [date].
2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:

(a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the Insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in 320 IAC 4.1-22-24(f) or 320 IAC 4.1-47-8(f).

(c) Whenever requested by the Technical Secretary of the Environmental Management Board of the State of Indiana (EMB), the Insurer agrees to furnish to the Technical Secretary a signed duplicate original of the policy and all endorsements.

(d) Cancellation of the insurance, whether by the Insurer or the Insured, will be effective only upon written notice and only after the expiration of sixty (60) days after a copy of such written notice is received by the Technical Secretary of the EMB.

(e) Any other termination of the insurance will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Technical Secretary.

I hereby certify that the wording of this instrument is identical to the wording specified in 320 IAC 4.1-22-35 as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

[Signature of authorized representative of Insurer]
[Type name]
[Title], Authorized Representative of [name of Insurer]
[Address of Representative]

(Indiana Environmental Management Board; 320 IAC 4.1-22-35)

Rule 23. Existing Hazardous Waste Facility Standards: Use and Management of Containers

320 IAC 4.1-23-1 Applicability

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. 320 IAC 4.1-23 applies to owners and operators of all hazardous waste facilities that store containers of hazardous waste, except as 320 IAC 4.1-15-1 provides otherwise. *(Indiana Environmental Management Board; 320 IAC 4.1-23-1)*

320 IAC 4.1-23-2 Condition of containers

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. If a container holding hazardous waste is not in good condition, or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition, or manage the waste in some other way that complies with the requirements of 320 IAC 4.1-15 through 320 IAC 4.1-32. *(Indiana Environmental Management Board; 320 IAC 4.1-23-2)*

320 IAC 4.1-23-3 Compatibility of waste with container

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. The owner or operator must use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired. *(Indiana Environmental Management Board; 320 IAC 4.1-23-3)*

320 IAC 4.1-23-4 Management of containers

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. (a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

(b) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

(c) Containers of thirty (30) gallons or more must be stored so that they can be inspected for leaks and for deterioration caused by corrosion or other factors, without having to move the containers during the inspection and must have adequate aisle space between rows (approximately two and one-half feet) to facilitate inspection.

[Note: Reuse of containers in transportation is governed by U.S.Department of Transportation regulations, including those set forth in 49 CFR 173.28.] *(Indiana Environmental Management Board; 320 IAC 4.1-23-4)*

320 IAC 4.1-23-5 Inspections

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. The owner or operator must inspect areas where containers are stored, at least weekly, looking for leaks and for deterioration caused by corrosion or other factors.

[Note: See 320 IAC 4.1-23-2 for remedial action required if deterioration or leaks are detected.] *(Indiana Environmental Management Board; 320 IAC 4.1-23-5)*

320 IAC 4.1-23-6 Ignitable or reactive wastes; special requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. Containers holding ignitable or reactive waste must be located at least 15 meters (50 feet) from the facility's property line.

[Note: See 320 IAC 4.1-16-8(a) for additional requirements.] *(Indiana Environmental Management Board; 320 IAC 4.1-23-6)*

320 IAC 4.1-23-7 Incompatible wastes, special requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. (a) Incompatible wastes, or incompatible wastes and materials, (see 320 IAC 4.1-32-5 for examples) must not be placed in the same container, unless 320 IAC 4.1-16-8(b) is complied with.

(b) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material (see 320 IAC 4.1-32-5 for examples), unless 320 IAC 4.1-16-8(b) is complied with.

(c) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

[Note: If distance is used as the mechanism for separation, the rationale must be justifiable. The purpose of this requirement is to prevent fires, explosions, gaseous emissions, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials if containers break or leak.] *(Indiana Environmental Management Board; 320 IAC 4.1-23-7)*

Rule 24. Existing Hazardous Waste Facility Standards; Tanks

320 IAC 4.1-24-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. 320 IAC 4.1-24 applies to owners and operators of facilities that use tanks to treat or store hazardous waste, except as 320 IAC 4.1-15-1 provides otherwise. *(Indiana Environmental Management Board; 320 IAC 4.1-24-1)*

320 IAC 4.1-24-2 General operating requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. (a) Treatment or storage of hazardous waste in tanks must comply with 320 IAC 4.1-16-8(b).

(b) Hazardous wastes or treatment reagents must not be placed in a tank if they could cause the tank or its inner liner to rupture, leak, corrode, or otherwise fail before the end of its intended life.

(c) Uncovered tanks must be operated to ensure at least 60 centimeters (2 feet) of freeboard, unless the tank is equipped with a containment structure (e.g., dike or trench), a drainage control system, or a diversion structure (e.g., standby tank) with a capacity that equals or exceeds the volume of the top 60 centimeters (2 feet) of the tank.

(d) Where hazardous waste is continuously fed into a tank, the tank must be equipped with a means to stop this inflow (e.g., a waste feed cutoff system or by-pass system to a stand-by tank).

[Note: These systems are intended to be used in the event of a leak or overflow from the tank due to a system failure (e.g., a malfunction in the treatment process, a crack in the tank, etc.).] *(Indiana Environmental Management Board; 320 IAC 4.1-24-2)*

320 IAC 4.1-24-3 Waste analysis and trial tests

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. (a) In addition to the waste analysis required by 320 IAC 4.1-16-4, whenever a tank is to be used to:

(1) chemically treat or store a hazardous waste which is substantially different from waste previously treated or stored in that tank; or

(2) chemically treat hazardous waste with a substantially different process than any previously used in that tank;

the owner or operator must, before treating or storing the different waste or using the different process:

(i) conduct waste analyses and trial treatment or storage tests (e.g., bench scale or pilot plant scale tests); or

(ii) obtain written, documented information on similar storage or treatment of similar waste under similar operating conditions;

to show that this proposed treatment or storage will meet all applicable requirements of 320 IAC 4.1-24-2(a) and(b).

[Note: As required by 320 IAC 4.1-16-4, the waste analysis plan must include analyses needed to comply with 320 IAC 4.1-24-6 and 320 IAC 4.1-24-7. As required by 320 IAC 4.1-19-4, the owner or operator must place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility.] *(Indiana Environmental Management Board; 320 IAC 4.1-24-3)*

320 IAC 4.1-24-4 Inspections

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. (a) The owner or operator of a tank must inspect, where present:

(1) discharge control equipment (e.g., waste feed cut-off systems, by-pass systems, and drainage systems), at least once each operating day, to ensure that it is in good working order;

(2) data gathered from monitoring equipment (e.g., pressure and temperature gauges), at least once each operating day, to ensure that the tank is being operated according to its design;

(3) the level of waste in the tank, at least once each operating day, to ensure compliance with 320 IAC 4.1-24-2(c);

(4) the construction materials of the tank, at least weekly, to detect corrosion or leaking of fixtures or seams; and

(5) the construction materials of, and the area immediately surrounding, discharge confinement structures (e.g., dikes), at least weekly, to detect erosion or obvious signs of leakage (e.g., wet spots or dead vegetation).

[Note: As required by 320 IAC 4.1-16-6(c), the owner or operator must remedy any deterioration or malfunction he finds.] *(Indiana Environmental Management Board; 320 IAC 4.1-24-4)*

320 IAC 4.1-24-5 Closure

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. At closure, all hazardous waste and hazardous waste residues must be removed from tanks, discharge control equipment, and discharge confinement structures.

[Note: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with 320 IAC 4.1-3-3(c) or(d), that any solid waste removed from his tank is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of 320 IAC 4.1-7 through 320 IAC 4.1-32.] *(Indiana Environmental Management Board; 320 IAC 4.1-24-5)*

320 IAC 4.1-24-6 Special requirements for ignitable or reactive waste

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. (a) Ignitable or reactive waste must not be placed in a tank, unless:

(1) the waste is treated, rendered, or mixed before or immediately after placement in the tank so that (i) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under 320 IAC 4.1-5-2 or 320 IAC 4.1-5-4, and (ii) 320 IAC 4.1-16-8(b) is complied with; or

(2) the waste is stored or treated in such a way that it is protected from any material or conditions which may cause the waste to ignite or react; or

(3) the tank is used solely for emergencies.

(b) The owner or operator of a facility which treats or stores ignitable or reactive waste in covered tanks must comply with the buffer zone requirements for tanks contained in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code" (1977 or 1981), (incorporated by reference, see 320 IAC 4.1-1-6). *(Indiana Environmental Management Board; 320 IAC 4.1-24-6)*

320 IAC 4.1-24-7 Incompatible wastes; special requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. (a) Incompatible wastes, or incompatible wastes and materials, (see 320 IAC 4.1-32-5 for

examples) must not be placed in the same tank, unless 320 IAC 4.1-16-8(b) is complied with.

(b) Hazardous waste must not be placed in an unwashed tank which previously held an incompatible waste or material, unless 320 IAC 4.1-16-8(b) is complied with. *(Indiana Environmental Management Board; 320 IAC 4.1-24-7)*

Rule 25. Existing Hazardous Waste Facility Standards; Surface Impoundments

320 IAC 4.1-25-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 1. 320 IAC 4.1-25 applies to owners and operators of facilities that use surface impoundments to treat, store, recover, or dispose of hazardous waste, except as 320 IAC 4.1-15-1 provides otherwise. *(Indiana Environmental Management Board; 320 IAC 4.1-25-1)*

320 IAC 4.1-25-2 General operating requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 2. A surface impoundment must maintain enough freeboard to prevent any overtopping of the dike by overfilling, wave action, or a storm. There must be at least 60 centimeters (2 feet) of freeboard.

[Note: Any point source discharge from a surface impoundment to waters of the State is subject to the requirements of IC 13-1-3 and regulations promulgated thereunder. Spills may be subject to Section 311 of the Clean Water Act (33 USC 1321).] *(Indiana Environmental Management Board; 320 IAC 4.1-25-2)*

320 IAC 4.1-25-3 Containment system

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 3. All earthen dikes must have a protective cover, such as grass, shale, or rock, to minimize wind and water erosion and to preserve their structural integrity. *(Indiana Environmental Management Board; 320 IAC 4.1-25-3)*

320 IAC 4.1-25-4 Waste analysis and trial tests

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 4. (a) In addition to the waste analyses required by 320 IAC 4.1-16-4, whenever a surface impoundment is to be used to:

(1) chemically treat a hazardous waste which is substantially different from waste previously treated in the impoundment; or

(2) chemically treat hazardous waste with a substantially different process than any previously used in that impoundment;

the owner or operator must, before treating the different waste or using the different process:

(i) conduct waste analyses and trial treatment tests (e.g., bench scale or pilot plant scale tests); or

(ii) obtain written, documented information on similar treatment of similar waste under similar operating conditions;

to show that this treatment will comply with 320 IAC 4.1-16-8(b).

[Note: As required by 320 IAC 4.1-16-4, the waste analysis plan must include analyses needed to comply with 320 IAC 4.1-25-7 and 320 IAC 4.1-25-8. As required by 320 IAC 4.1-19-4, the owner or operator must place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility.] *(Indiana Environmental Management Board; 320 IAC 4.1-25-4)*

320 IAC 4.1-25-5 Inspections

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7 IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 5. (a) The owner or operator must inspect:

(1) the freeboard level at least once each operating day to ensure compliance with 320 IAC 4.1-25-2; and

(2) the surface impoundment, including dikes and vegetation surrounding the dike, at least once a week to detect any leaks, deterioration, or failures in the impoundment.

[Note: As required by 320 IAC 4.1-16-6(c), the owner or operator must remedy any deterioration or malfunction he finds.] *(Indiana Environmental Management Board; 320 IAC 4.1-25-5)*

320 IAC 4.1-25-6 Closure and post-closure

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7 IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 6. (a) At closure, the owner or operator may elect to remove from the impoundment:

(1) standing liquids;

(2) waste and waste residues;

(3) the liner, if any; and

(4) underlying and surrounding contaminated soil.

(b) If the owner or operator removes all the impoundment materials in paragraph (a) of this Section, or can demonstrate under 320 IAC 4.1-3-3(c) and (d) that none of the materials listed in paragraph (a) of this Section remaining at any stage of removal are hazardous wastes, the impoundment is not further subject to the requirements of 320 IAC 4.1-15 through 320 IAC 4.1-32.

[Note: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with 320 IAC 4.1-3-3(c) or (d), that any solid waste removed from the surface impoundment is not a hazardous waste, he becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of 320 IAC 4.1-7 through 320 IAC 4.1-32. The surface impoundment may be subject to 330 IAC 5 (Solid Waste Regulations) or its successor rule if it is not subject to 320 IAC 4.1-25.]

(c) If the owner or operator does not remove all the impoundment materials in paragraph (a) of this Section, or does not make the demonstration in paragraph (b) of this Section, he must close the impoundment and provide post-closure care as for a landfill under 320 IAC 4.1-21 and 320 IAC 4.1-28-4. If necessary to support the final cover specified in the approved closure plan, the owner or operator must treat remaining liquids, residues, and soils by removal of liquids, drying, or other means.

[Note: The closure requirements under 320 IAC 4.1-28-4 will vary with the amount and nature of the residue remaining, if any, and the degree of contamination of the underlying and surrounding soil. Section 320 IAC 4.1-21-7(d) allows the Technical Secretary to vary post-closure care requirements.] *(Indiana Environmental Management Board; 320 IAC 4.1-25-6)*

320 IAC 4.1-25-7 Ignitable or reactive waste; special requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. (a) Ignitable or reactive waste must not be placed in a surface impoundment, unless:

(1) the waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that (i)the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under 320 IAC 4.1-5-2 or 320 IAC 4.1-5-4, and (ii)320 IAC 4.1-16-8(b) is complied with; or

(2) the surface impoundment is used solely for emergencies.

(Indiana Environmental Management Board; 320 IAC 4.1-25-7)

320 IAC 4.1-25-8 Incompatible wastes; special requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 8. Incompatible wastes, or incompatible wastes and materials, (see 320 IAC 4.1-32-5 for examples) must not be placed in the same surface impoundment, unless 320 IAC 4.1-16-8(b) is complied with. *(Indiana Environmental Management Board; 320 IAC 4.1-25-7)*

Rule 26. Existing Hazardous Waste Facility Standards: Waste Piles

320 IAC 4.1-26-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. 320 IAC 4.1-26 applies to owners and operators of facilities that treat or store hazardous waste in piles, except as 320 IAC 4.1-15-1 provides otherwise. Alternatively, a pile of hazardous waste may be managed as a landfill under 320 IAC 4.1-28. *(Indiana Environmental Management Board; 320 IAC 4.1-26-1)*

320 IAC 4.1-26-2 Protection from wind

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. The owner or operator of a pile containing hazardous waste which could be subject to dispersal by wind must cover or otherwise manage the pile so that wind dispersal is controlled. *(Indiana Environmental Management Board; 320 IAC 4.1-26-2)*

320 IAC 4.1-26-3 Waste analysis

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. In addition to the waste analyses required by 320 IAC 4.1-16-4, the owner or operator must analyze a representative sample of waste from each incoming movement before adding the waste to any existing pile, unless (1) the only wastes the facility receives which are amenable to piling are compatible with each other, or (2) the waste received is compatible with the waste in the pile to which it is to be added. The analysis conducted must be capable of differentiating

between the types of hazardous waste the owner or operator places in piles, so that the mixing of incompatible waste does not inadvertently occur. The analysis must include a visual comparison of color and texture.

[Note: As required by 320 IAC 4.1-16-4, the waste analysis plan must include analyses needed to comply with 320 IAC 4.1-26-5 and 320 IAC 4.1-26-6. As required by 320 IAC 4.1-19-4, the owner or operator must place the results of this analysis in the operating record of the facility.] *(Indiana Environmental Management Board; 320 IAC 4.1-26-3)*

320 IAC 4.1-26-4 Containment

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. If leachate or run-off from a pile is a hazardous waste, then either:

(a)(1) The pile must be placed on an impermeable base that is compatible with the waste under the conditions of treatment or storage;

(2) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 25-year storm;

(3) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm; and

(4) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously to maintain design capacity of the system; or

(b)(1) The pile must be protected from precipitation and run-on by some other means; and

(2) No liquids or wastes containing free liquids may be placed in the pile.

[Note: If collected leachate or run-off is discharged through a point source to waters of the State, it is subject to IC 13-1-3 and regulations promulgated thereunder.] *(Indiana Environmental Management Board; 320 IAC 4.1-26-4)*

320 IAC 4.1-26-5 Ignitable or reactive waste; special requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. (a) Ignitable or reactive wastes must be placed in a pile, unless:

(1) addition of the waste to an existing pile (i) results in the waste or mixture no longer meeting the definition of ignitable or reactive waste under 320 IAC 4.1-5-2 or 320 IAC 4.1-5-4, and (ii) complies with 320 IAC 4.1-16-8(b); or

(2) the waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

(Indiana Environmental Management Board; 320 IAC 4.1-26-5)

320 IAC 4.1-26-6 Incompatible wastes; special requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. (a) Incompatible wastes, or incompatible wastes and materials, (see 320 IAC 4.1-32-5 for examples) must not be placed in the same pile, unless 320 IAC 4.1-16-8(b) is complied with.

(b) A pile of hazardous waste that is incompatible with any waste or other material stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials, or protected from them by means of a dike, berm, wall, or other device.

[Note: The purpose of this requirement is to prevent fires, explosions, gaseous emissions, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the contact or mixing of incompatible wastes or materials.]

(c) Hazardous waste must not be piled on the same area where incompatible wastes or materials were previously piled, unless that area has been decontaminated sufficiently to ensure compliance with 320 IAC 4.1-16-8(b). *(Indiana Environmental Management Board; 320 IAC 4.1-26-6)*

320 IAC 4.1-26-7 Closure and post-closure care

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. (a) At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate and manage them as hazardous waste unless 320 IAC 4.1-3-3(d) applies; or

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effec

removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (320 IAC 4.1-28-4). *(Indiana Environmental Management Board; 320 IAC 4.1-26-7)*

Rule 27. Existing Hazardous Waste Facility Standards: Land Treatment

320 IAC 4.1-27-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. 320 IAC 4.1-27 applies to owners and operators of hazardous waste land treatment facilities, except as 320 IAC 4.1-15-1 provides otherwise. *(Indiana Environmental Management Board; 320 IAC 4.1-27-1)*

320 IAC 4.1-27-2 General operating requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. (a) Hazardous waste must not be placed in or on a land treatment facility unless the waste can be made less hazardous or non-hazardous by biological degradation or chemical reactions occurring in or on the soil.

(b) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portions of the facility during peak discharge from at least a 25-year storm.

(c) The owner or operator must design, construct, operate, and maintain a run-off management system capable of collecting and controlling a water volume at least equivalent to a 24-hour, 25-year storm.

(d) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(e) If the treatment zone contains particulate matter which may be subject to wind dispersal, the owner or operator must manage the unit to control wind dispersal. *(Indiana Environmental Management Board; 320 IAC 4.1-27-2)*

320 IAC 4.1-27-3 Waste analysis

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. In addition to the waste analyses required by 320 IAC 4.1-16-4, before placing a hazardous waste in or on a land treatment facility, the owner or operator must:

(a) determine the concentrations in the waste of any substances which exceed the maximum concentrations contained in Table I of 320 IAC 4.1-5-5 that cause a waste to exhibit the EP toxicity characteristic;

(b) for any waste listed in 320 IAC 4.1-6, determine the concentrations of any substances which caused the waste to be listed as a hazardous waste; and

(c) if food chain crops are grown, determine the concentrations in the waste of each of the following constituents: arsenic, cadmium, lead, and mercury, unless the owner or operator has written, documented data that show that the constituent is not present.

[Note: 320 IAC 4.1-3 through 320 IAC 4.1-6 specify the substances for which a waste is listed as a hazardous waste. As required by 320 IAC 4.1-16-4, the waste analysis plan must include analyses needed to comply with 320 IAC 4.1-27-8 and 320 IAC 4.1-27-9. As required by 320 IAC 4.1-19-4, the owner or operator must place the results from each waste analysis, or the documented information, in the operating record of the facility.] *(Indiana Environmental Management Board; 320 IAC 4.1-27-3)*

320 IAC 4.1-27-4 Food chain crops

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. (a) An owner or operator of a hazardous waste land treatment facility on which food chain crops are being grown, or have been grown and will be grown in the future, must notify the Board within 60 days after the effective date 320 IAC 4.1-15 through 320 IAC 4.1-32.

[Note: The growth of food chain crops at a facility which has never before been used for this purpose is a change in process under 320 IAC 4.1-38-3. Owners or operators of such land treatment facilities who propose to grow food chain crops after the effective date of 320 IAC 4.1 must comply with 320 IAC 4.1-38-3.]

(b)(1) Food chain crops must not be grown on the treated area of a hazardous waste land treatment facility unless the owner or operator can demonstrate, based on field testing, that any arsenic, lead, mercury,

or other constituents identified under 320 IAC 4.1-27-3(b):

(i) will not be transferred to the food portion of the crop by plant uptake or direct contact, and will not otherwise be ingested by food chain animals (e.g., by grazing); or

(ii) will not occur in greater concentrations in the crops grown on the land treatment facility than in the same crops grown on untreated soils under similar conditions in the same region.

(2) The information necessary to make the demonstration required by paragraph (b)(1) of this Section must be kept at the facility and must, at a minimum:

(i) be based on tests for the specific waste and application rates being used at the facility; and

(ii) include descriptions of crop and soil characteristics, sample selection criteria, sample size determination, analytical methods, and statistical procedures.

(c) Food chain crops must not be grown on a land treatment facility receiving waste that contains cadmium unless all requirements of paragraph (c)(1)(i) through (iii) of this Section or all requirements of paragraph (c)(2)(i) through (iv) of this Section are met.

(1)(i) The pH of the waste and soil mixture is 6.5 or greater at the time of each waste application, except for waste containing cadmium at concentrations of 2 mg/kg (dry weight) or less;

(ii) The annual application of cadmium from waste does not exceed 0.5 kilograms per hectare (kg/ha) on land used for production of tobacco, leafy vegetables, or root crops grown for human consumption. For other food chain crops, the annual cadmium application rate does not exceed:

Time period	Annual Cd application rate (kg/ha)
July 1, 1984 to Dec. 31, 1986	1.25
Beginning Jan. 1, 1987	0.5

(iii) The cumulative application of cadmium from waste does not exceed the levels in either paragraph (c)(1)(iii)(A) of this Section or paragraph (c)(1)(iii)(B) of this Section.

(A)

Soil cation exchange capacity (meq/100g)	Maximum cumulative application (kg/ha) Background soil pH less than 6.5	Background soil pH greater than 6.5
Less than 5	5	5
5-15	5	10
Greater than 15	5	20

(B) For soils with a background pH of less than 6.5, the cumulative cadmium application rate does not exceed the levels below: Provided, that the pH of the waste and soil mixture is adjusted to and maintained at 6.5 or greater whenever food chain crops are grown.

Soil cation exchange capacity (meq/100g)	Maximum cumulative application (kg/ha)
Less than 5	5
5-15	10
Greater than 15	20

(2)(i) The only food chain crop produced is animal feed.

(ii) The pH of the waste and soil mixture is 6.5 or greater at the time of waste application or at the time the crop is planted, whichever occurs later, and this pH level is maintained whenever food chain crops are grown.

(iii) There is a facility operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The facility operating plan describes the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain, which may result from alternative land uses.

(iv) Future property owners are notified by a stipulation in the land record or property deed which states that the property has received waste at high cadmium application rates and that food chain crops must not be grown except in compliance with paragraph (c)(2) of this Section.

[Note: As required by 320 IAC 4.1-19-4, if an owner or operator grows food chain crops on his land treatment facility, he must place the information developed in this section in the operating record of the facility.] *(Indiana Environmental Management Board; 320 IAC 4.1-27-4)*

320 IAC 4.1-27-5 Unsaturated zone (zone of aeration) monitoring

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. (a) The owner or operator must have in writing, and must implement, an unsaturated zone monitoring plan which is designed to:

(1) Detect the vertical migration of hazardous waste and hazardous waste constituents under the active portion of the land treatment facility; and

(2) Provide information on the background concentrations of the hazardous waste and hazardous waste constituents in similar but untreated soils nearby; this background monitoring must be conducted before or in conjunction with the monitoring required under paragraph (a)(1) of this Section.

(b) The unsaturated zone monitoring plan must include, at a minimum:

(1) soil monitoring using soil cores; and

(2) soil-pore water monitoring using devices such as lysimeters.

(c) To comply with paragraph (a)(1) of this section, the owner or operator must demonstrate in his unsaturated zone monitoring plan that:

(1) the depth at which soil and soil-pore water samples are to be taken is below the depth to which the waste is incorporated into the soil;

(2) the number of soil and soil-pore water samples to be taken is based on the variability of:

(i) the hazardous waste constituents (as identified in 320 IAC 4.1-27-3(a) and(b)) in the waste and in the soil; and

(ii) the soil type(s); and

(3) the frequency and timing of soil and soil-pore water sampling is based on the frequency, time, and rate of waste application, proximity to ground water, and soil permeability.

(d) The owner or operator must keep at the facility his unsaturated zone monitoring plan, and the rationale used in developing this plan.

(e) The owner or operator must analyze the soil and soil-pore water samples for the hazardous waste constituents that were found in the waste during the waste analysis under 320 IAC 4.1-27-3(a) and (b).

[Note: As required by 320 IAC 4.1-19-4, all data and information developed by the owner or operator under this Section must be placed in the operating record of the facility.] *(Indiana Environmental Management Board; 320 IAC 4.1-27-5)*

320 IAC 4.1-27-6 Recordkeeping

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. The owner or operator must include hazardous waste application dates and rates in the operating record required under 320 IAC 4.1-19-4. *(Indiana Environmental Management Board; 320 IAC 4.1-27-6)*

320 IAC 4.1-27-7 Closure and post-closure

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. (a) In the closure plan under 320 IAC 4.1-21-3 and the post-closure plan under 320 IAC 4.1-21-8, the owner or operator must address the following objectives and indicate how they will be achieved:

(1) control of the migration of hazardous waste and hazardous waste constituents from the treated area into the ground water;

(2) control of the release of contaminated run-off from the facility into surface water;

(3) control of the release of airborne particulate contaminants caused by wind erosion; and

(4) compliance with 320 IAC 4.1-27-4 concerning the growth of food-chain crops.

(b) The owner or operator must consider at least the following factors in addressing the closure and post-closure care objectives of paragraph (a) of this Section:

(1) type and amount of hazardous waste and hazardous waste constituents applied to the land treatment facility;

(2) the mobility and the expected rate of migration of the hazardous waste and hazardous waste constituents;

(3) site location, topography, and surrounding land use, with respect to the potential effects of pollutant migration (e.g., proximity to ground water, surface water, and drinking water sources);

(4) climate, including amount, frequency, and pH of precipitation;

(5) geological and soil profiles and surface and subsurface hydrology of the site, and soil characteristics, including cation exchange capacity, total organic carbon, and pH;

(6) unsaturated zone monitoring information obtained under 320 IAC 4.1-27-5; and

(7) type, concentration, and depth of migration of hazardous waste constituents in the soil as compared to their background concentrations.

(c) The owner or operator must consider at least

the following methods in addressing the closure and post-closure care objectives of paragraph (a) of this Section:

(1) removal of contaminated soils;

(2) Placement of a final cover, considering:

(i) functions of the cover (e.g., infiltration control, erosion and run-off control, and wind erosion control); and

(ii) characteristics of the cover, including material, final surface contours, thickness, porosity and permeability, slope, length of run of slope, and type of vegetation on the cover; and

(3) monitoring of groundwater.

(d) In addition to the requirements of 320 IAC 4.1-21, during the closure period the owner or operator of a land treatment facility must:

(1) continue unsaturated zone monitoring in a manner and frequency specified in the closure plan, except that soil pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone;

(2) maintain the run-on control system required under 320 IAC 4.1-27-2(b);

(3) maintain the run-off management system required under 320 IAC 4.1-27-2(c); and

(4) control wind dispersal of particulate matter which may be subject to wind dispersal.

(e) For the purpose of complying with 320 IAC 4.1-21-6, when closure is completed the owner or operator may submit to the Technical Secretary certification both by the owner or operator and by an independent qualified soil scientist, in lieu of an independent registered professional engineer, that the facility has been closed in accordance with the specifications in the approved closure plan.

(f) In addition to the requirements of 320 IAC 4.1-21-7, during the post-closure care period the owner or operator of a land treatment unit must:

(1) continue soil-core monitoring by collecting and analyzing samples in a manner and frequency specified in the post-closure plan;

(2) restrict access to the unit as appropriate for its post-closure use;

(3) assure that growth of food chain crops complies with 320 IAC 4.1-27-4; and

(4) control wind dispersal of hazardous waste.

(Indiana Environmental Management Board; 320 IAC 4.1-27-7)

320 IAC 4.1-27-8 Ignitable or reactive waste; special requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 8. Ignitable or reactive waste must not be land treated unless:

(a) The waste is immediately incorporated into the soil so that:

(1) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under 320 IAC 4.1-5-2 or 320 IAC 4.1-5-4; and

(2) 320 IAC 4.1-16-8(b) is complied with; or

(b) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react. *(Indiana Environmental Management Board; 320 IAC 4.1-27-8)*

320 IAC 4.1-27-9 Incompatible wastes; special requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 9. Incompatible wastes, or incompatible wastes and materials (see 320 IAC 4.1-32-5 for examples), must not be placed in the same land treatment area, unless 320 IAC 4.1-16-8(D) is complied with. *(Indiana Environmental Management Board; 320 IAC 4.1-27-9)*

Rule 28. Existing Hazardous Waste Facility Standards: Landfills

320 IAC 4.1-28-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 1. 320 IAC 4.1-28 applies to owners and operators of facilities that dispose of hazardous waste in landfills, except as 320 IAC 4.1-15-1 provides otherwise. A waste pile used as a disposal facility is a landfill and is governed by 320 IAC 4.1-28. *(Indiana Environmental Management Board; 320 IAC 4.1-28-1)*

320 IAC 4.1-28-2 General operating requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 2. (a) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 25-year storm.

(b) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(c) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(d) The owner or operator of a landfill containing hazardous waste which is subject to dispersal by wind must cover or otherwise manage the landfill so that wind dispersal of the hazardous waste is controlled.

[Note: As required by 320 IAC 4.1-16-4, the waste analysis plan must include analyses needed to comply with 320 IAC 4.1-28-5 and 320 IAC 4.1-28-6. As required by 320 IAC 4.1-19-4, the owner or operator must place the results of these analyses in the operating record of the facility.] *(Indiana Environmental Management Board; 320 IAC 4.1-28-2)*

320 IAC 4.1-28-3 Surveying and recordkeeping

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 3. The owner or operator of a landfill must maintain the following items in the operating record required in 320 IAC 4.1-19-4:

(a) on a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks; and

(b) the contents of each cell and the approximate location of each hazardous waste type within each cell.

(Indiana Environmental Management Board; 320 IAC 4.1-28-3)

320 IAC 4.1-28-4 Closure and post-closure

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 4. (a) The owner or operator must place a final cover over the landfill, and the closure plan under 320 IAC 4.1-21-3 must specify the function and design of the cover. In the post-closure plan under 320 IAC 4.1-21-8, the owner or operator must include the post-closure care requirements of paragraph (d) of this Section.

(b) In the closure and post-closure plans, the owner or operator must address the following objectives and indicate how they will be achieved:

(1) control of pollutant migration from the facility via ground water, surface water, and air;

(2) control of surface water infiltration, including prevention of pooling; and

(3) prevention of erosion.

(c) The owner or operator must consider at least the following factors in addressing the closure and post-closure care objectives of paragraph (b) of this Section:

(1) type and amount of hazardous waste and hazardous waste constituents in the landfill;

(2) the mobility and the expected rate of migration of the hazardous waste and hazardous waste constituents;

(3) site location, topography, and surrounding land use, with respect to the potential effects of pollutant migration (e.g.,proximity to ground water, surface water, and drinking water sources);

(4) climate, including amount, frequency, and pH of precipitation;

(5) characteristics of the cover including material, final surface contours, thickness, porosity and permeability, slope, length of run of slope, and type of vegetation on the cover; and

(6) geological and soil profiles and surface and subsurface hydrology of the site.

(d) In addition to the requirements of 320 IAC 4.1-21-7, during the post-closure care period, the owner or operator of a hazardous waste landfill must:

(1) maintain the function and integrity of the final cover as specified in the approved closure plan;

(2) maintain and monitor the leachate collection, removal, and treatment system (if there is one present in the landfill) to prevent excess accumulation of leachate in the system;

[Note: If the collected leachate is a hazardous waste under 320 IAC 4.1-3 through 320 IAC 4.1-6, it must be managed as a hazardous waste in accordance with all applicable requirements of 320 IAC 4.1-7 through 320 IAC 4.1-32. If the collected leachate is discharged through a point source to waters of the State, it is subject to the requirements of IC 13-1-3 and regulations promulgated thereunder.]

(3) maintain and monitor the gas collection and control system (if there is one present in the landfill) to control the vertical and horizontal escape of gases;

(4) protect and maintain surveyed benchmarks; and

(5) restrict access to the landfill as appropriate for its post-closure use.

(Indiana Environmental Management Board; 320 IAC 4.1-28-4)

320 IAC 4.1-28-5 Ignitable or reactive waste; special requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 5. (a) Except as provided in paragraph (b) of this section, and in 320 IAC 4.1-28-9, ignitable or

reactive waste must not be placed in a landfill, unless the waste is treated, rendered, or mixed before or immediately after placement in a landfill so that:

(1) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under 320 IAC 4.1-5-2 or 320 IAC 4.1-5-4; and

(2) 320 IAC 4.1-16-8(b) is complied with.

(b) Ignitable wastes in containers may be landfilled without meeting the requirements of paragraph (a) of this section provided that the wastes are disposed in such a way that they are protected from any material or conditions which may cause them to ignite. At a minimum, ignitable wastes must be disposed in non-leaking containers which are carefully handled and placed so as to avoid heat, sparks, rupture, or any other condition that might cause ignition of the wastes; must be covered daily with soil or other non-combustible material to minimize the potential for ignition of the wastes; and must not be disposed in cells that contain or will contain other wastes which may generate heat sufficient to cause ignition of the waste. *(Indiana Environmental Management Board; 320 IAC 4.1-28-5)*

320 IAC 4.1-28-6 Incompatible wastes; special requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. Incompatible wastes, or incompatible wastes and materials, (see 320 IAC 4.1-32-5 for examples) must not be placed in the same landfill cell, unless 320 IAC 4.1-16-8(b) is complied with. *(Indiana Environmental Management Board; 320 IAC 4.1-28-6)*

320 IAC 4.1-28-7 Special requirements for liquid waste

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. (a) Bulk or non-containerized liquid waste or waste containing free liquids must not be placed in a landfill unless:

(1) the landfill has a liner and leachate collection and removal system that meets the requirements of 320 IAC 4.1-53-2(a); or

(2) before disposal, the liquid waste or waste containing free liquids is treated or stabilized, chemically or physically (e.g., by mixing with an absorbent solid), so that free liquids are no longer present.

(b) Containers holding free liquids must not be placed in a landfill unless:

(1) all free-standing liquid (i) has been removed by decanting, or other methods, (ii) has been mixed with an absorbent or solidified so that free-standing liquid is no longer observed, or (iii) has been otherwise eliminated; or

(2) the container is very small, such as an ampule; or

(3) the container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or

(4) the container is a lab pack as defined in 320 IAC 4.1-28-9 and is disposed of in accordance with 320 IAC 4.1-28-9.

(Indiana Environmental Management Board; 320 IAC 4.1-28-7)

320 IAC 4.1-28-8 Containers; special requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 8. An empty container must be crushed flat, shredded, or similarly reduced in volume before it is buried beneath the surface of a landfill. *(Indiana Environmental Management Board; 320 IAC 4.1-28-8)*

320 IAC 4.1-28-9 Disposal of small containers of hazardous waste in overpacked drums (lab packs)

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 9. Small containers of hazardous waste in overpacked drums (lab packs) may be placed in a landfill if the following requirements are met:

(a) Hazardous waste must be packaged in non-leaking inside containers. The inside containers must be of a design and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the waste held therein. Inside containers must be tightly and securely sealed. The inside containers must be of the size and type specified in the Department of Transportation (DOT) hazardous materials regulations (49 CFR Parts 173, 178, as incorporated by IC 8-2-7-43.5 and 40 CFR 179 as adopted by reference (see 320 IAC 4.1-1-6 for incorporation)), if those regulations specify a particular inside container for the waste.

(b) The inside containers must be overpacked in an open head DOT specification metal shipping container (49 CFR Parts 178, as incorporated by IC 8-2-7-43.5 and 40 CFR 179 as adopted by reference (see 320 IAC 4.1-1-6 for incorporation)) of no more than 416-liter (110 gallon) capacity and surrounded by, at a minimum, a sufficient quantity of absorbent

material to completely absorb all of the liquid contents of the inside containers. The metal outer container must be full after packing with inside containers and absorbent material.

(c) The absorbent material used must not be capable of reacting dangerously with, being decomposed by, or being ignited by the contents of the inside containers, in accordance with 320 IAC 4.1-16-8(b).

(d) Incompatible wastes, as defined in 320 IAC 4.1-1-7, must not be placed in the same outside container.

(e) Reactive waste, other than cyanideor sulfide-bearing waste as defined in 320 IAC 4.1-5-4(a)(5), must be treated or rendered non-reactive prior to packaging in accordance with paragraphs (a) through (d) of this section. Cyanide- and sulfide-bearing reactive wastes may be packaged in accordance with paragraphs (a) through (d) of this Section without first being treated or rendered non-reactive.

(Indiana Environmental Management Board; 320 IAC 4.1-28-9)

Rule 29. Existing Hazardous Waste Facility Standards; Incinerators

320 IAC 4.1-29-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. (a) 320 IAC 4.1-29 applies to owners or operators of facilities that treat hazardous waste in incinerators, except as 320 IAC 4.1-15-1 and paragraph (b) of this Section provide otherwise.

(b) Owners and operators of incinerators burning hazardous waste are exempt from all of the requirements of 320 IAC 4.1-29, except 320 IAC 4.1-29-5 (Closure), provided that the owner or operator has documented, in writing, that the waste would not reasonably be expected to contain any of the hazardous constituents listed in 320 IAC 4.1-6-9 and such documentation is retained at the facility, if the waste to be burned is:

(1) listed as a hazardous waste in 320 IAC 4.1-6, solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both; or

(2) listed as a hazardous waste in 320 IAC 4.1-6, solely because it is reactive (Hazard Code R) for characteristics other than those listed in 320 IAC 4.1-5-4(a) (4) and (5), and will not be burned when other hazardous wastes are present in the combustion zone; or

(3) a hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the tests for characteristics of hazardous wastes under 320 IAC 4.1-5; or

(4) a hazardous waste solely because it possesses the reactivity characteristics described by 320 IAC 4.1-5-4(a)(1), (2), (3), (6), (7), or (8), and will not be burned when other hazardous wastes are present in the combustion zone.

(Indiana Environmental Management Board; 320 IAC 4.1-29-1)

320 IAC 4.1-29-2 Waste analysis

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. In addition to the waste analyses required by 320 IAC 4.1-16-4, the owner or operator must sufficiently analyze any waste which he has not previously burned in his incinerator to enable him to establish steady state (normal) operating conditions (including waste and auxiliary fuel feed and air flow) and to determine the type of pollutants which might be emitted. At a minimum, the analysis must determine:

(a) heating value of the waste;

(b) halogen content and sulfur content in the waste; and

(c) concentrations in the waste of lead and mercury, unless the owner or operator has written, documented data that show that the element is not present.

[Note: As required by 320 IAC 4.1-19-4, the owner or operator must place the results from each waste analysis, or the documented information, in the operating record of the facility.] *(Indiana Environmental Management Board; 320 IAC 4.1-29-2)*

320 IAC 4.1-29-3 General operating requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. During start-up and shut-down of an incinerator, the owner or operator must not feed hazardous waste unless the incinerator is at steady state (normal) conditions of operation, including steady state operating temperature and air flow. *(Indiana Environmental Management Board; 320 IAC 4.1-29-3)*

320 IAC 4.1-29-4 Monitoring and inspections

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. The owner or operator must conduct, as a minimum, the following monitoring and inspections when incinerating hazardous waste:

(a) Existing instruments which relate to combustion and emission control must be monitored at least every 15 minutes. Appropriate corrections to maintain steady state combustion conditions must be made immediately either automatically or by the operator. Instruments which relate to combustion and emission control would normally include those measuring waste feed, auxiliary fuel feed, air flow, incinerator temperature, scrubber flow, scrubber pH, and relevant level controls.

(b) The complete incinerator and associated equipment (pumps, valves, conveyors, pipes,etc.) must be inspected at least daily for leaks, spills, and fugitive emissions, and all emergency shutdown controls and system alarms must be checked to assure proper operation.

(Indiana Environmental Management Board; 320 IAC 4.1-29-4)

320 IAC 4.1-29-5 Closure

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 5. At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including but not limited to ash, scrubber waters, and scrubber sludges) from the incinerator.

[Note: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with 320 IAC 4.1-3-3(d), that the residue removed from his incinerator is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of 320 IAC 4.1-7 through 320 IAC 4.1-32.] *(Indiana Environmental Management Board; 320 IAC 4.1-29-5)*

Rule 30. Existing Hazardous Waste Facility Standards: Thermal Treatment

320 IAC 4.1-30-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 1. 320 IAC 4.1-30 applies to owners and operators of facilities that thermally treat hazardous waste in devices other than incinerators, except as 320 IAC 4.1-15-1 provides otherwise. Thermal treatment in incinerators is subject to the requirements of 320 IAC 4.1-29. *(Indiana Environmental Management Board; 320 IAC 4.1-30-1)*

320 IAC 4.1-30-2 General operating requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 2. Before adding hazardous waste, the owner or operator must bring his thermal treatment proce to steady state (normal) conditions of operation—including steady state operating temperature—using auxiliary fuel or other means, unless the process is a non-continuous (batch) thermal treatment process which requires a complete thermal cycle to treat a discrete quantity of hazardous waste. *(Indiana Environmental Management Board; 320 IAC 4.1-30-2)*

320 IAC 4.1-30-3 Waste analysis

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 3. In addition to the waste analyses required by 320 IAC 4.1-16-4, the owner or operator must sufficiently analyze any waste which he has not previously treated in his thermal process to enable him to establish steady state (normal) or other appropriate (for a non-continuous process) operating conditions (including waste and auxiliary fuel feed) and to determine the type of pollutants which might be emitted. At a minimum, the analysis must determine:

(a) heating value of the waste;

(b) halogen content and sulfur content in the waste; and

(c) concentrations in the waste of lead and mercury, unless the owner or operator has written, documented data that show that the element is not present.

[Note: As required by 320 IAC 4.1-19-4, the owner or operator must place the results from each waste analysis, or the documented information, in the operating record of the facility.] *(Indiana Environmental Management Board; 320 IAC 4.1-30-3)*

320 IAC 4.1-30-4 Monitoring and inspections

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 4. (a) The owner or operator must conduct, as a minimum, the following monitoring and inspections when thermally treating hazardous waste:

(1) Existing instruments which relate to temperature and emission control (if an emission control device is present) must be monitored at least every 15minutes. Appropriate corrections to maintain steady state or other appropriate thermal treatment conditions must be made immediately either automatically or by the operator. Instruments which relate to temperature and emission control would normally include those measuring waste feed, auxiliary fuel feed, treatment process

temperature, and relevant process flow and level controls.

(2) The stack plume (emissions), where present, must be observed visually at least hourly for normal appearance (color and opacity). The operator must immediately make any indicated operating corrections necessary to return any visible emissions to their normal appearance.

(3) The complete thermal treatment process and associated equipment (pumps, valves, conveyors, pipes,etc.) must be inspected at least daily for leaks, spills, and fugitive emissions, and all emergency shutdown controls and system alarms must be checked to assure proper operation.

Indiana Environmental Management Board; 320 IAC 4.1-30-4)

320 IAC 4.1-30-5 Closure

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash) from the thermal treatment process or equipment.

[Note: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with 320 IAC 4.1-3-3 (c) or (d), that any solid waste removed from his thermal treatment process or equipment is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of 320 IAC 4.1-7 through 320 IAC 4.1-32.] *(Indiana Environmental Management Board; 320 IAC 4.1-30-5)*

320 IAC 4.1-30-6 Open burning; waste explosives

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. Open burning of hazardous waste is prohibited except for the open burning and detonation of waste explosives. Waste explosives include waste which has the potential to detonate and bulk military propellants which cannot safely be disposed of through other modes of treatment. Detonation is an explosion in which chemical transformation passes through the material faster than the speed of sound (0.33 kilometers/second at sea level). Owners or operators using to open burn or detonate waste explosives must do so in accordance with the following table and in a manner that does not threaten human health or the environment.

Pounds of waste explosives or propellants	Minimum distance from open burning or detonation to the property of others
0 to 100	204 meters (670 feet)
101 to 1,000	380 meters (1,250 feet)
1,001 to 10,000.....	530 meters (1,730 feet)
10,001 to 30,000	690 meters (2,260 feet)

(Indiana Environmental Management Board; 320 IAC 4.1-30-6)

Rule 31. Existing Hazardous Waste Facility Standards: Chemical, Physical, and Biological Treatment

320 IAC 4.1-31-1 Applicability

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. 320 IAC 4.1-31 applies to owners and operators of facilities which treat hazardous wastes by chemical, physical, or biological methods in other than tanks, surface impoundments, and land treatment facilities, except as 320 IAC 4.1-15-1 provides otherwise. Chemical, physical, and biological treatment of hazardous waste in tanks, surface impoundments, and land treatment facilities must be conducted in accordance with 320 IAC 4.1-24, 320 IAC 4.1-25, and 320 IAC 4.1-27, respectively. *(Indiana Environmental Management Board; 320 IAC 4.1-31-1)*

320 IAC 4.1-31-2 General operating requirements

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. (a) Chemical, physical, or biological treatment of hazardous waste must comply with 320 IAC 4.1-16-8(b).

(b) Hazardous wastes or treatment reagents must not be placed in the treatment process or equipment if they could cause the treatment process or equipment to rupture, leak, corrode, or otherwise fail before the end of its intended life.

(c) Where hazardous waste is continuously fed into a treatment process or equipment, the process or equipment must be equipped with a means to stop this inflow (e.g., a waste feed cut-off system or by-pass system to a standby containment device).

[Note: These systems are intended to be used in the event of a malfunction in the treatment process or equipment.] *(Indiana Environmental Management Board; 320 IAC 4.1-31-2)*

320 IAC 4.1-31-3 Waste analysis and trial tests

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. (a) In addition to the waste analysis required by 320 IAC 4.1-16-4, whenever:

(1) a hazardous waste which is substantially different from waste previously treated in a treatment process or equipment at the facility is to be treated in that process or equipment; or

(2) a substantially different process than any previously used at the facility is to be used to chemically treat hazardous waste;

the owner or operator must, before treating the different waste or using the different process or equipment:

(i) conduct waste analyses and trial treatment tests (e.g., bench scale or pilot plant scale tests); or

(ii) obtain written, documented information on similar treatment of similar waste under similar operating conditions;

to show that this proposed treatment will meet all applicable requirements of 320 IAC 4.1-31-2 (a) and (b).

[Note: As required by 320 IAC 4.1-16-4, the waste analysis plan must include analyses needed to comply with 320 IAC 4.1-31-6 and 320 IAC 4.1-31-7. As required by 320 IAC 4.1-19-4, the owner or operator must place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility.] *(Indiana Environmental Management Board; 320 IAC 4.1-31-3)*

320 IAC 4.1-31-4 Inspections

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. (a) The owner or operator of a treatment facility must inspect, where present:

(1) Discharge control and safety equipment (e.g., waste feed cut-off systems, by-pass systems, drainage systems, and pressure relief systems) at least once each operating day, to ensure that it is in good working order;

(2) data gathered from monitoring equipment (e.g., pressure and temperature gauges), at least once each operating day, to ensure that the treatment process or equipment is being operated according to its design;

(3) the construction materials of the treatment process or equipment, at least weekly, to detect corrosion or leaking of fixtures or seams; and

(4) the construction materials of, and the area immediately surrounding, discharge confinement structures (e.g., dikes), at least weekly, to detect erosion or obvious signs of leakage (e.g., wet spots or dead vegetation).

[Note: As required by 320 IAC 4.1-16-6(c), the owner or operator must remedy any deterioration or malfunction he finds.] *(Indiana Environmental Management Board; 320 IAC 4.1-31-4)*

320 IAC 4.1-31-5 Closure

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. At closure, all hazardous waste and hazardous waste residues must be removed from treatment processes or equipment, discharge control equipment, and discharge confinement structures.

[Note: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with 320 IAC 4.1-3-3(c) or (d), that any solid waste removed from his treatment process or equipment is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of 320 IAC 4.1-7 through 320 IAC 4.1-32.] *(Indiana Environmental Management Board; 320 IAC 4.1-31-5)*

320 IAC 4.1-31-6 Ignitable or reactive waste; special requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. (a) Ignitable or reactive waste must not be placed in a treatment process or equipment unless:

(1) the waste is treated, rendered, or mixed before or immediately after placement in the treatment process or equipment so that (i) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under 320 IAC 4.1-5-2 or 320 IAC 4.1-5-4, and (ii) 320 IAC 4.1-16-8(b) is complied with; or

(2) the waste is treated in such a way that it is protected from any material or conditions which may cause the waste to ignite or react.

(Indiana Environmental Management Board; 320 IAC 4.1-31-6)

320 IAC 4.1-31-7 Incompatible wastes; special requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. (a) Incompatible wastes, or incompatible

wastes and materials, (see 320 IAC 4.1-32-5 for examples) must not be placed in the same treatment process or equipment, unless 320 IAC 4.1-16-8(b) is complied with.

(b) Hazardous waste must not be placed in unwashed treatment equipment which previously held an incompatible waste or material, unless 320 IAC 4.1-16-8(b) is complied with. *(Indiana Environmental Management Board; 320 IAC 4.1-31-7)*

Rule 32. Existing Hazardous Waste Facility Standards; Underground Injection and Appendices

320 IAC 4.1-32-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 1. Except as 320 IAC 4.1-15-1 provides otherwise: (a) The owner or operator of a facility which disposes of hazardous waste by underground injection is excluded from the requirements of 320 IAC 4.1-21 and 320 IAC 4.1-22.

(b) The requirements of 320 IAC 4.1-32 apply to owners and operators of wells used to dispose of hazardous waste which are classified as follows:

(1) Class I (i) Wells used by generators of hazardous waste or owners or operators of hazardous waste management facilities to inject hazardous waste beneath the lowermost formation containing, within one-quarter (1/4) mile of the well bore, an underground source of drinking water.
(ii) Other industrial and municipal disposal wells which inject fluids beneath the lowermost formation containing, within one-quarter (1/4) mile of the well bore, an underground source of drinking water; and

(2) Class IV (i) Wells used by generators of hazardous waste or of radioactive waste, by owners or operators of hazardous waste management facilities, or by owners or operators of radioactive waste disposal sites to dispose of hazardous waste or radioactive waste into a formation which within one-quarter (1/4) mile of the well contains an underground source of drinking water.
(ii) Wells used by generators of hazardous waste or of radioactive waste, by owners or operators of hazardous waste management facilities, or by owners or operators of radioactive waste disposal sites to dispose of hazardous waste or radioactive waste above a formation which within one-quarter (1/4) mile of the well contains an underground source of drinking water.
(iii) Wells used by generators of hazardous waste or owners or operators of hazardous waste management facilities to dispose of hazardous waste, which cannot be classified under (b)(1)(i) or (b)(2)(i) and (ii) of this section.

(Indiana Environmental Management Board; 320 IAC 4.1-32-1)

320 IAC 4.1-32-2 Appendix I; recordkeeping instructions (NOTE: Instructions applicable to both interim and final rules)

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 2. The recordkeeping provisions of 320 IAC 4.1-19-4 and 320 IAC 4.1-44-4 specify that an owner or operator must keep a written operating record at his facility. This section provides additional instructions for keeping portions of the operating record. See 320 IAC 4.1-19-4 and 320 IAC 4.1-44-4(b) for additional recordkeeping requirements.

The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility in the following manner:

Records of each hazardous waste received, treated, stored, or disposed of at the facility which include the following:

(1) A description by its common name and the EPA Hazardous Waste Number(s) from 320 IAC 4.1-3 through 320 IAC 4.1-6 which apply to the waste. The waste description also must include the waste's physical form, (i.e., liquid, sludge, solid, or contained gas). If the waste is not listed in 320 IAC 4.1-6, the description also must include the process that produced it (for example, solid filter cake from production of _____, EPA Hazardous Waste Number W051).

Each hazardous waste listed in 320 IAC 4.1-6 and each hazardous waste characteristic defined in 320 IAC 4.1-5, has a four-digit EPA Hazardous Waste Number assigned to it. This number must be used for recordkeeping and reporting purposes. Where a hazardous waste contains more than one listed hazardous waste, or where more than one hazardous waste characteristic applies to the waste, the waste description must include all applicable EPA Hazardous Waste Numbers.
(2) The estimated or manifest-reported weight, or volume and density, where applicable, in one of the units of measure specified in Table 1; and
(3) The method(s) (by handling code(s) as specified in Table 2) and date(s) of treatment, storage, or disposal.

TABLE 1.

Unit of measure	Symbol[1]	Density
Pounds	P	
Short tons (2000 lbs)	T	
Gallons (U.S.)	G	P/G
Cubic yards	Y	T/Y
Kilograms	K	
Tonnes (1000 kg)	M	
Liters	L	K/L
Cubic meters	C	M/C

[1]Single digit symbols are used here for data processing purposes.

TABLE 2.—HANDLING CODES FOR TREATMENT, STORAGE, AND DISPOSAL METHODS

Enter the handling code(s) listed below that most closely represents the technique(s) used at the facility to treat, store, or dispose of each quantity of hazardous waste received.

1. Storage

S01 Container (barrel, drum, etc.)
S02 Tank
S03 Waste pile
S04 Surface impoundment
S05 Other (specify)

2. Treatment

(a) Thermal Treatment

T06 Liquid injection incinerator
T07 Rotary kiln incinerator
T08 Fluidized bed incinerator
T09 Multiple hearth incinerator
T10 Infrared furnace incinerator
T11 Molten salt destructor
T12 Pyrolysis
T13 Wet air oxidation
T14 Calcination
T15 Microwave discharge
T16 Cement kiln
T17 Lime kiln
T18 Other (specify)

(b) Chemical Treatment

T19 Absorption mound
T20 Absorption field
T21 Chemical fixation
T22 Chemical oxidation
T23 Chemical precipitation
T24 Chemical reduction
T25 Chlorination
T26 Chlorinolysis
T27 Cyanide destruction
T28 Degradation
T29 Detoxification
T30 Ion exchange
T31 Neutralization
T32 Ozonation
T33 Photolysis
T34 Other (specify)

(c) Physical Treatment

(1) Separation of components

T35 Centrifugation
T36 Clarification
T37 Coagulation
T38 Decanting
T39 Encapsulation
T40 Filtration
T41 Flocculation
T42 Flotation
T43 Foaming
T44 Sedimentation
T45 Thickening
T46 Ultrafiltration
T47 Other (specify)

(2) Removal of Specific Components

T48 Absorption-molecular sieve
T49 Activated carbon
T50 Blending
T51 Catalysis
T52 Crystallization
T53 Dialysis
T54 Distillation
T55 Electrodialysis
T56 Electrolysis
T57 Evaporation
T58 High gradient magnetic separation
T59 Leaching
T60 Liquid ion exchange
T61 Liquid-liquid extraction
T62 Reverse osmosis
T63 Solvent recovery
T64 Stripping
T65 Sand filter
T66 Other (specify)

(d) Biological Treatment

T67 Activated sludge
T68 Aerobic lagoon
T69 Aerobic tank
T70 An aerobic lagoon
T71 Composting
T72 Septic tank
T73 Spray irrigation
T74 Thickening filter

T75 Tricking filter
T76 Waste stabilization pond
T77 Other (specify)

3. Disposal

D80 Underground injection
D81 Landfill
D82 Land treatment
D83 Ocean disposal
D84 Surface impoundment (to be closed as a landfill)
D85 Other (specify)

(Indiana Environmental Management Board; 320 IAC 4.1-32-2)

320 IAC 4.1-32-3 Appendix III; interim primary drinking water standards

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3.

Parameter	Maximum Level (mg/l)
Arsenic	0.05
Barium	1.0
Cadmium	0.01
Chromium	0.05
Fluoride	1.4- 2.4
Lead	0.05
Mercury	0.002
Nitrate (as N)	10
Selenium	0.01
Silver	0.05
Endrin	0.0002
Lindane	0.004
Methoxychlor	0.1
Toxaphene	0.005
2,4-D	0.1
2,4,5-TP Silver	0.01
Radium	5 pCi/l
Gross Alpha	15 pCi/l
Gross Beta	4 millirem/yr
Turbidity	1/TU
Coliform Bacteria	1/100 ml

[Note: Turbidity is applicable only to surface water supplies.] *(Indiana Environmental Management Board; 320 IAC 4.1-32-3)*

320 IAC 4.1-32-4 Appendix IV; Cochran's Approximation to the Behrans-Fisher Students' t-test (NOTE: applicable for final groundwater requirements)

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. Using all the available background data (n_b readings), calculate the background mean ($\bar{X}_b$) and background variance (S_b^2). For the single monitoring well under investigation (n_m readings), calculate the monitoring mean ($\bar{X}_m$) and monitoring variance (S_m^2).

For any set of data ($X_1, X_2 \ldots X_n$) the mean is calculated by:

$$\bar{X} = \frac{X_1 + X_2 \ldots + X_n}{n}$$

and the variance is calculated by

$$s^2 = \frac{(X_1 - \bar{X})^2 + (X_2 - \bar{X})^2 \ldots + (X_n - \bar{X})^2}{n-1}$$

where "n" denotes the number of observations in the set of data.

The t-test uses these data summary measures to calculate a t-statistic (t^*) and a comparison t-statistic (t_c). The t^* value is compared to the t_c value and a conclusion reached as to whether there has been a statistically significant change in any indicator parameter.

The t-statistic for all parameters except pH and similar monitoring parameters is:

$$t^* = \frac{\bar{X}_m - \bar{X}_b}{\sqrt{\frac{S_m^2}{n_m} + \frac{S_b^2}{n_b}}}$$

If the value of this t-statistic is negative then there is no significant difference between the monitoring data and background data. It should be noted that significantly small negative values may be indicative of a failure of the assumption made for test validity or errors have been made in collecting the background data.

The T-statistic (t_c), against which T^* will be compared, necessitates finding t_b and t_m from standard one-tailed) tables where,

t_b = t-tables with (n_b - 1) degrees of freedom at the 0.05 level of significance.

t_m = t-tables with (n_m - 1) degrees of freedom at the 0.05 level of significance.

Finally, the special weightings W_n and W_m are defined as:

$$W_n = \frac{S_n^2}{n_n} \quad \text{and} \quad W_m = \frac{S_m^2}{n_m}$$

and so the comparison t-statistic is:

$$t_c = \frac{W_n t_n + W_m t_m}{W_n + W_m}$$

The t-statistic (t^*) is now compared with the comparison t-statistic (t_c, using the following decision-rule:

If t^* is equal to or larger than t_c, then conclude that there most likely has been a significant increase in this specific parameter.

If t^* is less than t_c then conclude that most likely there has not been a change in this specific parameter.

The t-statistic for testing pH and similar monitoring parameters is constructed in the same manner as previously described except the negative sign (if any) is discarded and the caveat concerning the negative value is ignored. The standard (two-tailed) tables are used in the construction t_c for pH and similar monitoring parameters.

If t^* is equal to or larger than t_c, then conclude that there most likely has been a significant increase (if the initial t^* has been negative, this would imply a significant decrease). If t^* is less than t_c, then conclude that there most likely has been no change.

A further discussion of the test may be found in Statistical Methods (6th Edition, Section 4.14) by G.W. Snedecor and W.G. Cochran, or Principles and Procedures of Statistics (1st Edition, Section 5.8) by R.G.D. Steel and J.H. Torrie.

STANDARD T-TABLE 0.05 LEVEL OF SIGNIFICANCE

Degrees of freedom	t-values (one-tail)	t-values (two-tail)
1	6.314	12.706
2	2.920	4.303
3	2.353	3.182
4	2.132	2.776
5	2.015	2.571
6	1.943	2.447
7	1.895	2.365
8	1.860	2.306
9	1.833	2.262
10	1.812	2.228
11	1.796	2.201
12	1.782	2.179
13	1.771	2.160
14	1.761	2.145
15	1.753	2.131
16	1.746	2.120
17	1.740	2.110
18	1.734	2.101
19	1.729	2.093
20	1.725	2.086
21	1.721	2.080
22	1.717	2.074
23	1.714	2.069
24	1.711	2.064
25	1.708	2.060
30	1.697	2.042
40	1.684	2.021

Adopted from Table III of "Statistical Tables for Biological, Agricultural, and Medical Research" (1947, R.A. Fisher and F. Yates) *(Indiana Environmental Management Board; 320 IAC 4.1-32-5)*

320 IAC 4.1-32-5 Appendix V; examples of potentially incompatible waste (NOTE: applicable for both interim and final rules)

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 5. Many hazardous wastes, when mixed with other waste or materials at a hazardous waste facility, can produce effects which are harmful to human health and the environment, such as (1) heat or pressure, (2) fire or explosion, (3) violent reaction, (4) toxic dusts, mists, fumes, or gases, or (5) flammable fumes or gases.

Below are examples of potentially incompatible wastes, waste components, and materials, along with the harmful consequences which result from mixing materials in one group with materials in another group. The list is intended as a guide to owners or operators of treatment, storage, and disposal facilities, and to enforcement and permit granting officials, to indicate the need for special precautions when managing these potentially incompatible waste materials or components.

This list is not intended to be exhaustive. An owner or operator must, as the regulations require, adequately analyze his wastes so that he can avoid creating uncontrolled substances or reactions of the type listed below, whether they are listed below or not.

It is possible for potentially incompatible wastes to be mixed in a way that precludes a reaction (e.g.,

adding acid to water rather than water to acid) or that neutralizes them (e.g., a strong acid mixed with a strong base), or that controls substances produced (e.g., by generating flammable gases in a closed tank equipped so that ignition cannot occur, and burning the gases in an incinerator).

In the lists below, the mixing of a Group A material with a Group B material may have the potential consequence as noted.

Group 1-A
Acetylene sludge
Alkaline caustic liquids
Alkaline cleaner
Alkaline corrosive liquids
Alkaline corrosive battery fluid
Caustic wastewater
Lime sludge and other corrosive alkalies
Lime wastewater
Lime and water
Spent caustic

Group 1-B
Acid sludge
Acid and water
Battery acid
Chemical cleaners
Electrolyte, acid
Etching acid liquid or solvent
Pickling liquor and other corrosive acids
Spent acid
Spent mixed acid
Spent sulfuric acid
Potential consequences: Heat generation; violent reaction.

Group 2-A
Aluminum
Beryllium
Calcium
Lithium
Magnesium
Potassium
Sodium
Zinc powder
Other reactive metals and metal hydrides

Group 2-B
Any waste in Group 1-A or 1-B
Potential consequences: Fire or explosion: generation of flammable hydrogen gas.

Group 3-A
Alcohols
Water

Group 3-B
Any concentrated waste in Groups 1-A or 1-B
Calcium
Lithium
Metal hydrides
Potassium
SO_2Cl_2, $SOCl_2$ PCl_3, CH_3SiCl_3
Other water-reactive waste
Potential consequences: Fire, explosion, or heat generation; generation of flammable or toxic gases.

Group 4-A
Alcohols
Aldehydes
Halogenated hydrocarbons
Nitrated hydrocarbons
Unsaturated hydrocarbons
Other reactive organic compounds and solvents

Group 4-B
Concentrated Group 1-A or 1-B wastes
Group 2-A wastes
Potential consequences: Fire, explosion, or violent reaction

Group 5-A
Spent cyanide and sulfide solutions

Group 5-B
Group 1-B wastes
Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.

Group 6-A
Chlorates
Chlorine
Chlorites
Chromic acid
Hypochlorites
Nitrates
Nitric acid, fuming
Perchlorates
Permanganates
Peroxides
Other strong oxidizers

Group 6-B
Acetic acid and other organic acids
Concentrated mineral acids
Group 2-A wastes
Group 4-A wastes
Other flammable and combustible wastes
Potential consequences: Fire, explosion, or violent reaction.

Source: "Law, Regulations, and Guidelines for Handling of Hazardous Waste." California Depart-

ment of Health, February 1975. *(Indiana Environmental Management Board; 320 IAC 4.1-32-5)*

320 IAC 4.1-32-6 Appendix VI; political jurisdictions in which compliance with 320 IAC 4.1-41-9 must be demonstrated

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7;7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. None noted in Indiana. *(Indiana Environmental Management Board; 320 IAC 4.1-32-6)*

320 IAC 4.1-32-7 Appendix VII; test for significance (NOTE: applicable for interim groundwater rules)

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. As required in 320 IAC 4.1-20-4(b) the owner or operator must use the Student's t-test to determine statistically significant changes in the concentration or value of an indicator parameter in periodic ground-water samples when compared to the initial background concentration or value of that indicator parameter. The comparison must consider individually each of the wells in the monitoring system. For three of the indicator parameters (specific conductance, total organic carbon, and total organic halogen) a single-tailed Student's t-test must be used to test at the 0.01 level of significance for significant increases over background. The difference test for pH must be a two-tailed Student's t-test at the overall 0.01 level of significance.

The Student's t-test involves calculations of the value of a t-statistic for each comparison of the mean (average) concentration or value (based on a minimum of four replicate measurements) of an indicator parameter with its initial background concentrat or value. The calculated value of the t-statistic must then be compared to the value of the t-statistic found in a table for t-test of significance at the specified level of significance. A calculated value of t which exceeds the value of t found in the table indicates a statistically significant change in the concentration or value of the indicator parameter.

Formulae for calculation of the t-statistic and tables for t-test of significance can be found in most in introductory statistics texts. *(Indiana Environmental Management Board; 320 IAC 4.1-32-7)*

Rule 33. State Administered Permit Program; General Information

320 IAC 4.1-33-1 Purpose and scope of these regulations

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. (a) Coverage.
(1) 320 IAC 4.1-33 through 320 IAC 4.1-39 establish provisions for the State Hazardous Waste Permit Program pursuant to IC 13-7-10.
(2) The regulations in 320 IAC 4.1-33 through 320 IAC 4.1-39 cover basic State permitting requirements, such as application requirements, standard permit conditions, and monitoring and reporting requirements. These regulations are part of a regulatory scheme implementing RCRA as set forth in different Parts of the Code of Federal Regulations and are promulgated pursuant to IC 13-7. [The following chart outlines where the regulations implementing RCRA appear in 40 CFR and where they can be found in 320 IAC 4.1.]

Section of RCRA	Coverage	Federal Regulation	State Rule
Subtitle C	Overview and definitions.....	40 CFR Part 260	320 IAC 4.1-1 and 320 IAC 4.1-2
3001	Identification and listing ..... of hazardous waste	40 CFR Part 261	320 IAC 4.1-3 through 320 IAC 4.1-6
3002	Generators of hazardous ..... waste	40 CFR Part 262	320 IAC 4.1-7 through 320 IAC 4.1-11
3003	Transporters of hazardous ..... waste	40 CFR Part 263	320 IAC 4.1-12 through 320 IAC 4.1-14

Section of RCRA	Coverage	Federal Regulation	State Rule
3004	Standards for HWM facilities	40 CFR Parts 264, 265,	320 IAC 4.1-40 through 320 IAC 4.1-54 and 320 IAC 4.1-15 through 320 IAC 4.1-32
3005	Permit requirements for HWM facilities	40 CFR Parts 270 and 124	320 IAC 4.1-33 through 320 IAC 4.1-39

(b) Scope of the Final State Permit Requirement. The State requires a permit for the "recovery," "treatment," "storage," or "disposal" of any "hazardous waste" as identified or listed in 320 IAC 4.1-3 through 320 IAC 4.1-6. The terms "treatment," "storage," "disposal," and "hazardous waste" are defined in 320 IAC 4.1-33-2. Owners and operators of hazardous waste management units must have permits during the active life (including the closure period) of the unit, and, for any unit which closed after January 26, 1983, during any post-closure care period required under 320 IAC 4.1-46-7 and during any compliance period specified under 320 IAC 4.1-45-7, including any extension of the compliance period under 320 IAC 4.1-45-7(c).

(1) Specific inclusions. Owners and operators of certain facilities require State hazardous waste permits as well as permits under other programs for certain aspects of the facility operation. State hazardous waste permits are required for:

(i) Recovery, treatment, storage, or disposal of hazardous waste at facilities requiring an NPDES permit. However, the owner and operator of a publicly owned treatment works receiving hazardous waste will be deemed to have a State permit for that waste if they comply with the requirements of 320 IAC 4.1-37-1(c) (permit-by-rule for POTWs).

(ii) Barges or vessels that dispose of hazardous waste by ocean disposal and onshore hazardous waste treatment or storage facilities associated with an ocean disposal operation. However, the owner and operator will be deemed to have a State permit for ocean disposal from the barge or vessel itself if they comply with the requirements of 320 IAC 4.1-37-1(a) (permit-by-rule for ocean disposal barges and vessels).

(2) Specific exclusions. The following persons are among those who are not required to obtain a State permit:

(i) Generators who accumulate hazardous waste on site for less than 90 days as provided in 320 IAC 4.1-9-5.

(ii) Farmers who dispose of hazardous waste pesticides from their own use as provided in 320 IAC 4.1-11-2.

(iii) The owner or operator of a facility permitted, licensed, or registered by the board to manage municipal or industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation under 320 IAC 4.1-3-5.

(iv) Owners or operators of totally enclosed treatment facilities as defined in 320 IAC 4.1-1-7.

(v) Owners and operators of elementary neutralization units or wastewater treatment units as defined in 320 IAC 4.1-1-7.

(vi) Transporters storing manifested shipments of hazardous waste in containers meeting the requirements of 320 IAC 4.1-9-1 at a transfer facility for a period of ten days or less.

(vii) Persons adding absorbent material to waste in a container (as defined in 320 IAC 4.1-1-7) and persons adding waste to absorbent material in a container, provided that these actions occur at the time waste is first placed in the container; and 320 IAC 4.1-41-8(b), 320 IAC 4.1-48-2, and 320 IAC 4.1-48-3 are complied with.

(3) Further exclusions.

(i) A person is not required to obtain a State permit for treatment or containment activities taken during immediate response to any of the following situations:

(A) a discharge of a hazardous waste;

(B) an imminent and substantial threat of a discharge of hazardous waste;

(C) a discharge of a material which, when discharged, becomes a hazardous waste.

(ii) Any person who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of this Rule

of those activities.

(4) Permits for less than an entire facility. The State may issue or deny a permit for one or more ur its at a facility without simultaneously issuing or denying a permit to all of the units at the facility. The interim status of any unit for which a permit has not been issued or denied is not affected by the issuance or denial of a permit to any other unit at the facility.

(Indiana Environmental Management Board; 320 IAC 4.1-33-1)

320 IAC 4.1-33-2 Definitions

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 2. The following definitions apply to 320 IAC 4.1-33 through 320 IAC 4.1-39. Terms not defined in this section have the meaning given elsewhere in 320 IAC 4.1 and IC 13-7.

"Technical Secretary" means the technical secretary of the Environmental Management Board.

"Application" means the EPA standard national forms for applying for a permit, or forms approved by EPA for use in approved states. Application also includes the information required by the Technical Secretary under 320 IAC 4.1-34-5 through 320 IAC 4.1-34-12 (contents of Final (State) Permit application).

"Aquifer" means a geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.

"Closure" means the act of securing a Hazardous Waste Management facility pursuant to the applicable requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54.

"CWA" means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act amendments of 1972) P.L. 92-500, as amended by P.L. 92-217 and P.L. 95-576; 33 U.S.C. 1251 et seq.

"Disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any hazardous waste into or on any land or water so that such hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including groundwater.

"Disposal facility" means a facility or part of a facility at which hazardous waste is intentionally placed into or on the land or water, and at which hazardous waste will remain after closure.

"Draft permit" means a document prepared under 320 IAC 4.1-39-4 indicating the Technical Secretary's tentative decision to issue or deny, modify, revoke and reissue, terminate, or reissue a permit. A notice of intent to terminate a permit, and a notice of intent to deny a permit, as discussed in 320 IAC 4.1-39-3, are types of draft permits. A denial of a request for modification, revocation and reissuance, or termination, as discussed in 320 IAC 4.1-39-3 is not a "draft permit." (A proposed permit is not a draft permit.)

"Elementary neutralization unit" means a device which:

(a) is used for neutralizing wastes which are hazardous wastes only because they exhibit the corrosivity characteristic defined in 320 IAC 4.1-5-3, or are listed in 320 IAC 4.1-6 only for this reason and

(b) meets the definition of tank, container, transport vehicle, or vessel in 320 IAC 4.1-1-7.

"Emergency permit" means a State permit issued in accordance with 320 IAC 4.1-37-2.

"Environmental Protection Agency (EPA)" means the United States Environmental Protection Agency.

"EPA" means the United States Environmental Protection Agency.

"Existing hazardous waste management (HWM) facility" or "existing facility" means a facility which was in operation or for which construction commenced on or before November 19, 1980. A facility has commenced construction if:

(a) the owner or operator has obtained the federal, state and local approvals or permits necessary to begin physical construction; and either

(b)(1) a continuous on-site, physical construction program has begun; or

(2) the owner or operator has entered into contractual obligations which cannot be cancelled or modified without substantial loss for physical construction of the facility to be completed within a reasonable time.

"Facility" or "activity" means any HWM facility or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under IC 13-7 and 320 IAC 4.1.

"Federal, State and local approvals" or "permits necessary to begin physical construction" means permits and approvals required under Federal, State or local hazardous waste control statutes, regulations or ordinances.

"Final authorization" means approval by EPA of a State program which has met the requirements of section 3006(b) of RCRA and the applicable requirements of 40 CFR Part 271, Subpart A.

"Generator" means any person, by site, whose act or process produces "hazardous waste" identified or listed in 320 IAC 4.1-3 through 320 IAC 4.1-6 or whose act first causes a hazardous waste to become subject to regulation.

"Groundwater" means water below the land surface in a zone of saturation.

"Hazardous waste" means a hazardous waste as defined in 320 IAC 4.1-3-3.

"Hazardous Waste Management facility (HWM facility)" means all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, recovering, or disposing of hazardous waste. A facility may consist of several recovery, treatment, storage, or disposal operational units (for example, one or more landfills, surface impoundments, or combinations of them).

"HWM facility" means Hazardous Waste Management facility.

"Injection well" means a well into which fluids are being injected.

"In operation" means a facility which is recovering, treating, storing, or disposing of hazardous waste.

"Major facility" means any facility or activity classified as such by the Technical Secretary.

"Manifest" means the shipping document EPA Form 8700-2 and, if necessary, EPA Form 8700-22A, originated and signed by the generator which contains the information required by 320 IAC 4.1-8.

"National Pollutant Discharge Elimination System" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the Clean Water Act (33 USC 1342, 1317, 1328, and 1345). The term includes an approved program.

"NPDES" means National Pollutant Discharge Elimination System.

"New HWM facility" means a Hazardous Waste Management facility which began operation or for which construction commenced after November 19, 1980.

"Off-site" means any site which is not on-site.

"On-site" means on the same or geographically contiguous property which may be divided by public or private right(s)-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along, the right(s)-of-way. Non-contiguous properties owned by the same person but connected by a right-of-way which the person controls and to which the public does not have access, is also considered on-site property.

"Owner or operator" means the owner or operator of any facility or activity subject to regulation under IC 13-7 and 320 IAC 4.1.

"Permit" means an authorization, license, or equivalent control document issued by the State to implement the requirements of 320 IAC 4.1-33 through 320 IAC 4.1-38 and 320 IAC 4.1-39. Permit includes permit by rule (320 IAC 4.1-37-1), and emergency permit (320 IAC 4.1-37-2). Permit does not include the interim status (as defined in 320 IAC 4.1-1-7, and 320 IAC 4.1-38), or any permit which has not yet been the subject of Final State action, such as a draft permit or a proposed permit.

"Permit-by-rule" means a provision of these regulations stating that a facility or activity is deemed to have a state permit if it meets the requirements of the provision.

"Person" means the same as defined in IC 13-7-1-2(a)(3) including but not limited to: an individual, trust, firm, joint stock company, Federal Agency, corporation (including a government corporation), partnership, association, State, municipality, commission, political subdivisions of a State or any interstate body.

"Physical construction" means excavation, movement of earth, erection of forms or structures, or similar activity to prepare an HWM facility to accept hazardous waste.

"POTW" means publicly owned treatment works.

"Publicly owned treatment works (POTW)" means any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a State or municipality. This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

"RCRA" means the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 (P.L.94-580, as amended by P.L.95-609 and P.L.96-482, P.L.98-616, (42 U.S.C. 6901 et seq.)).

"Schedule of compliance" means a schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with IC 13-7 and 320 IAC 4.1.

"SDWA" means the Safe Drinking Water Act (P.L.95-523, as amended by P.L.95-1900; (42 U.S.C. 3001 et seq.)).

"Site" means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity.

"State/EPA Agreement" means an agreement between the Regional Administrator and the State which coordinates EPA and State activities, responsibilities and programs.

"Storage" means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed, or stored elsewhere.

"Transfer facility" means any transportation-related facility including loading docks, parking areas, storage areas and other similar areas where shipments of hazardous waste are held during the normal course of transportation.

"Transporter" means a person engaged in the off-site transportation of hazardous waste by air, rail, highway, or water.

"Treatment" means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such wastes, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.

"UIC" means the Underground Injection Control Program under Part C of the Safe Drinking Water Act (42 USC 300f et. seq), including an approved program.

"Underground injection" means the subsurface emplacement of fluids through a bored, drilled or driven well; or through a dug well where the depth of the dug well is greater than the largest surface dimension.

"Underground source of drinking water (USDW)" means an aquifer or its portion:

(a)(1) which supplies any public water system; or

(2) which contains a sufficient quantity of ground water to supply a public water system; and

(i) currently supplies drinking water for human consumption; or

(ii) contains fewer than 10,000 mg/l total dissolved solids; and

(b) which is not an exempted aquifer (see 40 CFR 144.7).

"USDW" means underground source of drinking water.

"Wastewater treatment unit" means a device which:

(a) is part of a wastewater treatment facility which is subject to regulation under either Section 402 or Section 307(b) of the Clean Water Act (33 USC 1342 or 1317); and

(b) receives and treats or stores an influent wastewater which is a hazardous waste as defined in 320 IAC 4.1-3-3, or generates and accumulates a wastewater treatment sludge which is a hazardous waste as defined in 320 IAC 4.1-3-3 or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in 320 IAC 4.1-3-3; and

(c) meets the definition of tank in 320 IAC 4.1-1-7. *(Indiana Environmental Management Board; 320 IAC 4.1-33-2)*

320 IAC 4.1-33-3 Effect of a permit

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 3. (a) Compliance with a Final (State) Permit during its term constitutes compliance, for purposes of enforcement, with IC 13-7-11. However, a permit may be modified, revoked and reissued, or terminated during its term for cause as set forth in 320 IAC 4.1-36-2 and 320 IAC 4.1-36-4.

(b) The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege.

(c) The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of Federal, State, or local law or regulations. *(Indiana Environmental Management Board; 320 IAC 4.1-33-3)*

320 IAC 4.1-33-4 Noncompliance and program reporting by the technical secretary

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 4. The Technical Secretary shall prepare quarterly and annual reports as detailed below. Additionally, the Technical Secretary shall submit any reports required under this section to the Regional Administrator of U.S. EPA. For purposes of this sec-

tion only, the term "permittees" shall include existing facilities, with Interim Status, when appropriate (see 320 IAC 4.1-38).

(a) Quarterly reports. The Technical Secretary shall submit quarterly narrative reports for major facilities as follows:

(1) Format. The report shall use the following format:

(i) information on noncompliance for each facility;

(ii) alphabetize by permittee name. When two or more permittees have the same name, the lowest permit number shall be entered first;

(iii) for each entry on the list, include the following information in the following order:

(A) Name, location, and permit number of the noncomplying permittee.

(B) A brief description and date of each instance of noncompliance for that permittee. Instances of noncompliance may include one or more of the kinds set forth in paragraph (a)(2) of this section. When a permittee has noncompliance of more than one kind, combine the information into a single entry for each such permittee.

(C) The date(s) and a brief description of the action(s) taken by the Technical Secretary to ensure compliance.

(D) Status of the instance(s) of noncompliance with the date of the review of the status or the date of resolution.

(E) Any details which tend to explain or mitigate the instance(s) of noncompliance.

(2) Instances of noncompliance to be reported. Any instances of noncompliance within the following categories shall be reported in successive reports until the noncompliance is reported as resolved. Once noncompliance is reported as resolved it need not appear in subsequent reports.

(i) Failure to complete construction elements. When the permittee has failed to complete, by the date specified in the permit, an element of a compliance schedule involving either planning for construction (for example, award of a contract, preliminary plans), or a construction step (for example, begin construction, attain operation level); and the permittee has not returned to compliance by accomplishing the required element of the schedule within 30 days from the date a compliance schedule report is due under the permit.

(ii) Modifications to schedules of compliance. When a schedule of compliance in the permit has been modified under 320 IAC 4.1-36-2 or 320 IAC 4.1-36-3 because of the permittee's noncompliance.

(iii) Failure to complete or provide compliance schedule or monitoring reports. When the permittee has failed to complete or provide a report required in a permit compliance schedule (for example, progress report or notice of noncompliance or compliance) or a monitoring report; and the permittee has not submitted the complete report within 30 days from the date it is due under the permit for compliance schedules, or from the date specified in the permit for monitoring reports.

(iv) Deficient reports. When the required reports provided by the permittee are so deficient as to cause misunderstanding by the Technical Secretary and thus impede the review of the status of compliance.

(v) Noncompliance with other permit requirements. Noncompliance shall be reported in the following circumstances:

(A) whenever the permittee has violated a permit requirement (other than reported under paragraph (a)(2)(i) or (ii) of this section), and has not returned to compliance within 45 days from the date reporting of noncompliance was due under the permit; or

(B) when the Technical Secretary determines that a pattern of noncompliance exists for a major facility permittee over the most recent four consecutive reporting periods. This pattern includes any violation of the same requirement in two consecutive reporting periods, and any violation of one or more requirements in each of four consecutive reporting periods; or

(C) when the Technical Secretary determines significant permit noncompliance or other significant event has occurred, such as a fire or explosion or migration of fluids into a USDW.

(vi) All other. Statistical information shall be reported quarterly on all other instances of noncompliance by major facilities with permit requirements not otherwise reported under paragraph (a) of this section.

(b) Annual reports.

(1) Annual noncompliance report. Statistical reports shall be submitted by the Technical Secretary on nonmajor State permittees indicating the total number reviewed, the number of noncomplying nonmajor permittees, the number of enforcement actions, and number of permit modifications extending compliance deadlines. The

statistical information shall be organized to follow the types of noncompliance listed in paragraph (a) of this section.

(2) In addition to the annual non-compliance report, the Technical Secretary shall prepare a "program report" which contains information (in a manner and form prescribed by the Administrator) on generators and transporters and the permit status of regulated facilities. The Technical Secretary shall also include, on a biennial basis, summary information on the quantities and types of hazardous wastes generated, transported, treated, stored and disposed during the preceding odd-numbered years. This summary information shall be reported in a manner and form prescribed by the Administrator and shall be reported according to EPA characteristics and lists of hazardous wastes as contained in Rules 320 IAC 4.1-3 through 320 IAC 4.1-6.

(c) Schedule.

(1) For all quarterly reports. On the last working day of May, August, November, and February, the Technical Secretary shall submit to the Regional Administrator information concerning noncompliance with state permit requirements by major facilities in the State in accordance with the following schedule. The Regional Administrator shall prepare and submit information for EPA-issued permits to EPA Headquarters in accordance with the same schedule.

QUARTERS COVERED BY REPORTS ON NONCOMPLIANCE BY MAJOR DISCHARGERS
[Date for completion of reports]

January, February, and March.....[1]May 31

April, May, and June .....[1]August 31

July, August, and September.....[1]November 30

October, November, and December..[1]February 28

[1] Reports must be available to the public for inspection and copying on this date. *(Indiana Environmental Management Board; 320 IAC 4.1-33-4)*

320 IAC 4.1-33-5 References

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. (a) When used in 320 IAC 4.1-33 through 320 IAC 4.1-38, the following publications are incorporated by reference:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (First Edition, 1980, as updated by Revisions A (August, 1980)), B (July, 1981) and C (February, 1982) or (Second Edition, 1982). The first edition of SW-846 is no longer in print. Revisions A and B are available from EPA, Office of Solid Waste, (WH-565-B), 401 M Street, S.W., Washington, D.C. 20460. Revision C is available from NTIS, 5285 Port Royal Road, Springfield, Virginia 22161. The second edition of SW-846 includes material from the first edition and Revisions A, B, and C in a reorganized format. It is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238, on a subscription basis, and future updates will automatically be mailed to the subscriber.

(Indiana Environmental Management Board; 320 IAC 4.1-33-5)

Rule 34. Permit Application

320 IAC 4.1-34-1 General application requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. (a) Permit application. Any person who is required to have a permit (including new applicants and permittees with expiring permits) shall complete, sign, and submit an application to the Technical Secretary as described in this section and 320 IAC 4.1-38-1 through 320 IAC 4.1-38-4. Persons currently authorized with interim status shall apply for permits when required by the Technical Secretary. Persons covered by permits by rule (320 IAC 4.1-37-1), need not apply. Procedures for applications, issuance and administration of emergency permits are found exclusively in 320 IAC 4.1-37-2.

(b) Who applies? When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit, except that the owner must also sign the permit application.

(c) Completeness. The Technical Secretary shall not issue a permit before receiving a complete application for a permit except for permits-by-rule, or emergency permits. An application for a permit is complete when the Technical Secretary receives an application form and any supplemental information which are completed to his or her satisfaction. The completeness of any application for a permit shall be judged independently of the status of any other permit application or permit for the same facility.

(d) Information requirements. All applicants for Final (State) Permits shall provide information set forth in 320 IAC 4.1-34-4 and applicable sections in 320

IAC 4.1-34-5 through 320 IAC 4.1-34-12 to the Technical Secretary, using the application form provided by the Technical Secretary.

(e) Existing HWM facilities.
(1) Owner and operators of existing hazardous waste management facilities must submit PartA permit applications as outlined in 320 IAC 4.1-34-4, no later than thirty (30) days after the effective date of 320 IAC 4.1 or revision of 320 IAC 4.1, which first requires them to comply with the standards set forth in 320 IAC 4.1-15 through 320 IAC 4.1-32. For the purposes of 320 IAC 4.1-34 those persons who were in compliance with 320 IAC 4-9 will be deemed to be in compliance with this paragraph ((e)(1)).
(2) The Technical Secretary may by compliance order issued under IC 13-7-11 extend the date by which the owner and operator of an existing hazardous waste management facility must submit their Part A Permit application.
(3) At any time after the effective date of 320 IAC 4.1, the owner and operator of an existing HWM facility may be required to submit their Final (State) Permit application. Any owner or operator of an existing HWM facility may voluntarily submit their Final (State) Permit application at any time.
(4) Any owner or operator shall be allowed at least six(6) months from the date of the requirement to submit the Final (State) Permit application.
(5) Failure to furnish a requested Final (State) Permit application on time, or to furnish in full the information required by the application, is grounds for termination of interim status under 320 IAC 4.1-39.

(f) New HWM facilities.
(1) No person shall begin physical construction of a new HWM facility without having complied with IC 13-7-8.6 if applicable and having received a finally effective Final (State) permit pursuant to 320 IAC 4.1-33 through 320 IAC 4.1-39.

(g) Updating permit applications.
(1) If any owner or operator of a HWM facility has filed a permit application pursuant to 320 IAC 4.1-34-1(e)(1) (Part A application) and has not yet filed their Final (State) Permit Application, the owner or operator shall file an amended Part A application:
(i) with the Technical Secretary, no later than 30 days from the effective date of regulatory provisions listing or designating wastes as hazardous in the State in addition to those already listed or designated by the State, if the facility is treating, storing, recovering, or disposing of any of those newly listed or designated wastes; or
(ii) as necessary to comply with provisions of 320 IAC 4.1-38-3 for changes during interim status. Revised permit applications necessary to comply with the provisions of 320 IAC 4.1-38-3 shall be filed with the Technical Secretary.
(2) The owner or operator of a facility who fails to comply with the updating requirements of paragraph (g)(1) of this section does not receive interim status as to the wastes not covered by duly filed PartA permit application.

(h) Reapplications. Any HWM facility with an effective permit shall submit a new application at least 180days before the expiration date of the effective permit, unless permission for a later date has been granted by the Technical Secretary. (The Technical Secretary shall not grant permission for applications to be submitted later than the expiration date of the existing permit).

(i) Recordkeeping. Applicants shall keep records of all data used to complete permit applications and any supplemental information submitted under 320 IAC 4.1-34-1(d), 320 IAC 4.1-34-4, and 320 IAC 4.1-34-5 through 320 IAC 4.1-34-12 for a period of at least 3 years from the date the application is signed. *(Indiana Environmental Management Board; 320 IAC 4.1-34-1)*

320 IAC 4.1-34-2 Signatories to permit applications and reports

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. (a) Applications. All permit applications shall be signed as follows:
(1) For a coporation [*sic.*]: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision making functions for the corporation, or (ii) the manager of one or more manufacturing, production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million, if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

[Note: The EMB does not require specific assignments or delegations of authority to responsible corporate officers identified in 320 IAC 4.1-34-2(a)(1)(i). The Board will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the

corporation has notified the Technical Secretary to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions under 320 IAC 4.1-34-2(a)(1)(ii) rather than to specific individuals.

(2) for a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(3) for a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (i) The chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

(b) Reports. All reports required by permits and other information requested by the Technical Secretary shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) the authorization is made in writing by a person described in paragraph (a) of this section;

(2) the authorization specifies either an individual or a position having responsibility for overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

(3) the written authorization is submitted to the Technical Secretary.

(c) Changes to authorization. If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Technical Secretary prior to or together with any reports, information, or applications to be signed by an authorized representative.

(d) Certification. Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(Indiana Environmental Management Board; 320 IAC 4.1-34-2)

320 IAC 4.1-34-3 Confidentiality of information

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 3. (a) Any information submitted to the State pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission. Claims of confidentiality must be made in compliance with the applicable portions of 320 IAC 6-1. If no claim is made at the time of submission, the State may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures contained in 320 IAC 6-1.

(b) Claims of confidentiality for the name and address of any permit applicant or permittee will be denied. *(Indiana Environmental Management Board; 320 IAC 4.1-34-3)*

320 IAC 4.1-34-4 Contents of state Part A permit application

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 4. The Part A permit application, as required by 320 IAC 4.1-34-1(e)(1), shall include the following information: (a) The activities conducted by the applicant which require it to obtain a permit under 320 IAC 4.1-34-1(e)(1).

(b) Name, mailing address, and location, including latitude and longitude of the facility for which the application is submitted.

(c) Up to four SIC codes which best reflect the principal products or services provided by the facility.

(d) The operator's name, address, telephone number, ownership status, and status as Federal, State, private, public, or other entity.

(e) The name, address, and phone number of the owner of the facility.

(f) Whether the facility is located on Indian lands.

(g) An indication of whether the facility is new or existing and whether it is a first or revised application.

(h) For existing facilities, (1) a scale drawing of the facility showing the location of all past, present, and future recovery, treatment, storage, and disposal areas; and (2) photographs of the facility clearly delineating all existing structures; existing recovery, treatment, storage, and disposal areas; and sites of future recovery, treatment, storage, and disposal areas.

(i) A description of the processes to be used for recovery, treating, storing, and disposing of hazardous waste, and the design capacity of these items.

(j) A specification of the hazardous wastes listed or designated under 320 IAC 4.1-3 through 320 IAC 4.1-6 to be recovered, treated, stored, or disposed of at the facility, an estimate of the quantity of such wastes to be recovered, treated, stored, or disposed annually, and a general description of the processes to be used for such wastes.

(k) A listing of all permits or construction approvals received or applied for under any of the following programs:

(1) Hazardous Waste Management program under RCRA or 320 IAC 4.1.
(2) UIC program under the SWDA.
(3) NPDES program under the CWA.
(4) Prevention of Significant Deterioration (PSD) under the Clean Air Act (42 USC 7401 et. seq.).
(5) Nonattainment program under the Clean Air Act (42 USC 7401 et. seq.).
(6) National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act.
(7) Ocean dumping permits under the Marine Protection Research and Sanctuaries Act.
(8) Dredge or fill permits under section 404 of the CWA.
(9) Other relevant environmental permits, including all State permits.

(l) A topographic map (or other map if a topographic map is unavailable) extending one mile beyond the property boundaries of the facility, depicting the facility and each of its intake and discharge structures; each of its hazardous waste treatment, storage, recovery, or disposal facilities; each well where fluids from the facility are injected underground; and those wells, springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant within 1/4 mile of the facility property boundary.

(m) A brief description of the nature of the business.

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program
(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F D

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill—in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold—faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	MARK 'X' NO	MARK 'X' FORM ATTACHED	SPECIFIC QUESTIONS	MARK 'X' YES	MARK 'X' NO	MARK 'X' FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)				B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)			
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)				D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)			
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)				F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)			
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)				H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)			
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)				J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)			

III. NAME OF FACILITY

1 SHIP

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)

B. PHONE (area code & no.)

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

B. CITY OR TOWN

C. STATE

D. ZIP CODE

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

B. COUNTY NAME

C. CITY OR TOWN

D. STATE

E. ZIP CODE

F. COUNTY CODE (if known)

EPA Form 3510-1 (6-80)

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
(specify)	7 (specify)
C. THIRD	**D. FOURTH**
(specify)	7 (specify)

VIII. OPERATOR INFORMATION

A. NAME

B. Is the name listed in Item VIII-A also the owner? ☐ YES ☐ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)

F = FEDERAL M = PUBLIC (other than federal or state)
S = STATE O = OTHER (specify)
P = PRIVATE

(specify)

D. PHONE (area code & no.) A

E. STREET OR P.O. BOX

F. CITY OR TOWN | **G. STATE** | **H. ZIP CODE**

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☐ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)
N	9 P
B. UIC (Underground Injection of Fluids)	**E. OTHER** (specify)
U	9 (specify)
C. RCRA (Hazardous Wastes)	**E. OTHER** (specify)
R	9 (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED

COMMENTS FOR OFFICIAL USE ONLY

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Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

☐ 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

☐ 2. NEW FACILITY *(Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

☐ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G		5				
X-2	T03	20	E		6				
1					7				
2					8				
3					9				
4					10				

EPA Form 3510-3 (8-80)

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Continued from the front.

III. PROCESSES (continued)

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER – Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY – For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE – For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER – Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV (shown in line numbers X-1, X-2, X-3, and X-4 below) – A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
W	W DUP 2 DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
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23					
24					
25					
26					

EPA Form 3510-3 (6-80)

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PAGE 3 ____ OF 5

(enter "A", "B", "C", etc. behind the "3" to identify photocopied pages)

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. (enter from page 1)

F

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail)*.

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground-level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail)*.

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)	LONGITUDE (degrees, minutes, & seconds)

VIII. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)
E	

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
F	G		

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED

Continued from page 4.

Form Approved OMB No. 158-S80004

V. FACILITY DRAWING *(see page 4)*

(Indiana Environmental Management Board; 320 IAC 4.1-34-4)

320 IAC 4.1-34-5 Contents of final (state) permit application: general requirements

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 5. (a) The Final Permit application consists of the general information requirements of this section, and the specific information requirements in 320 IAC 4.1-34-5 through 320 IAC 4.1-34-12 applicable to the facility. The Final Permit application information requirements presented in 320 IAC 4.1-34-5 through 320 IAC 4.1-34-12 reflect the standards promulgated in 320 IAC 4.1-40 through 320 IAC 4.1-54. These information requirements are necessary in order for the State to determine compliance with those standards contained in 320 IAC 4.1-40 through 320 IAC 4.1-54. If owners and operators of HWM facilities can demonstrate that the information prescribed in the Final Permit application information requirements cannot be provided to the extent required, the Technical Secretary may make allowance for submission of such information on a case-by-case basis. Information required in the Final Permit application information requirements shall be submitted to the Technical Secretary and signed in accordance with requirements in 320 IAC 4.1-34-2. Certain technical data, such as design drawings and specifications, and engineering studies shall be certified by a registered professional engineer.

(b) General information requirements. The following information is required for all HWM facilities, except as 320 IAC 4.1-40-1 provides otherwise:

(1) A general description of the facility.

(2) Chemical and physical analyses of the hazardous waste to be handled at the facility. At a minimum, these analyses shall contain all the information which must be known to treat, store, recover, or dispose of the wastes properly in accordance with applicable portions of 320 IAC 4.1-40 through 320 IAC 4.1-54.

(3) (IL1/0)A copy of the waste analysis plan required by 320 IAC 4.1-41-4(b) and, if applicable 320 IAC 4.1-41-4(c).

(4) A description of the security procedures and equipment required by 320 IAC 4.1-41-5, or a justification demonstrating the reasons for requesting a waiver of this requirement.

(5) A copy of the general inspection schedule required by 320 IAC 4.1-41-6(b); include where applicable, as part of the inspection schedule, specific requirements in 320 IAC 4.1-48-5, 320 IAC 4.1-49-4, 320 IAC 4.1-50-4, 320 IAC 4.1-51-5, 320 IAC 4.1-52-4, and 320 IAC 4.1-53-4.

(6) A justification of any request for a waiver(s) of the preparedness and prevention requirements of 320 IAC 4.1-42.

(7) A copy of the contingency plan required by 320 IAC 4.1-43.

[Note: Include, where applicable, as part of the contingency plan, specific requirements in 320 IAC 4.1-50-5.]

(8) A description of procedures, structures, or equipment used at the facility to:

(i) prevent hazards in unloading operations (for example, ramps, special forklifts);

(ii) prevent runoff from hazardous waste handling areas to other areas of the facility or environment, or to prevent flooding (for example berms, dikes, trenches);

(iii) prevent contamination of water supplies;

(iv) mitigate effects of equipment failure and power outages; and

(v) prevent undue exposure of personnel to hazardous waste (for example, protective clothing).

(9) A description of precautions to prevent accidental ignition or reaction of ignitable, reactive, or incompatible wastes as required to demonstrate compliance with 320 IAC 4.1-41-8 including documentation demonstrating compliance with 320 IAC 4.1-41-8(c).

(10) Traffic pattern, estimated volume (number, types of vehicles) and control (for example, show turns across traffic lanes, and stacking lanes (if appropriate); describe access road surfacing and load bearing capacity; show traffic control signals).

(11) Facility location information;

(i) In order to determine the applicability of the seismic standard [320 IAC 4.1-41-9(a)] the owner or operator of a new facility must identify the political jurisdiction (e.g., county, township, or election district) in which the facility is proposed to be located.

[Note: If the county or election district is not listed in 320 IAC 4.1-32-6, no further information is required to demonstrate compliance with 320 IAC 4.1-41-9(a).]

(ii) If a facility is proposed to be located in an area listed in 320 IAC 4.1-32-6, the owner or operator shall demonstrate compliance with the seismic standard. This demonstration may be made using either published geologic data or data obtained from field investigations carried out by the applicant. The information provided

must be of such quality to be acceptable to geologists experienced in identifying and evaluating seismic activity. The information submitted must show that either:

(A) No faults which have had displacement in Holocene time are present, or no lineations which suggest the presence of a fault (which have displacement in Holocene time) within 3,000 feet of a facility are present, based on data from:

(1) published geologic studies;

(2) aerial reconnaissance of the area within a five-mile radius from the facility;

(3) an analysis of aerial photographs covering a 3,000-foot radius of the facility; and

(4) if needed to clarify the above data, a reconnaissance based on walking portions of the area within 3,000 feet of the facility; or

(B) If faults (to include lineations) which have had displacement in Holocene time are present within 3,000 feet of a facility, no faults pass with 200 feet of the portions of the facility where treatment, recovery, storage, or disposal of hazardous waste will be conducted, based on data from a comprehensive geologic analysis of the site. Unless a site analysis is otherwise conclusive concerning the absence of faults within 200 feet of such portions of the facility, data shall be obtained from a subsurface exploration (trenching) of the area within a distance no less than 200 feet from portions of the facility where treatment, storage, recovery, or disposal of hazardous waste will be conducted. Such trenching shall be performed in a direction that is perpendicular to known faults (which have had displacement in Holocene time) passing within 3,000 feet of the portions of the facility where treatment, storage, or disposal of hazardous waste will be conducted. Such investigation shall document the location of faults found with supporting maps and other analyses.

[Note: The EPA Guidance Manual for the Location Standards provides greater detail on the content of each type of seismic investigation and the appropriate conditions under which each approach or a combination of approaches would be used.]

(iii) Owners and operators of all facilities shall provide an identification of whether the facility is located within a 100-year floodplain. This identification must indicate the source of data for such determination and include a copy of the relevant Federal Insurance Administration (FIA) flood map, if used, or the calculations and maps used where an FIA map is not available. Information shall also be provided identifying the 100-year flood level and any other special flooding factors (e.g., wave action) which must be considered in design ing, constructing, operating, or maintaining the facility to withstand washout from a 100-year flood.

[Note: Where maps for the National Flood Insurance Program produced by the Federal Insurance Administration (FIA) of the Federal Emergency Management Agency are available, they will normally be determinative of whether a facility is located within or outside of the 100-year floodplain. However, where the FIA map excludes an area (usually areas of the floodplain less than 200 feet in width), these areas must be considered and a determination made as to whether they are in the 100-year floodplain. Where FIA maps are not available for a proposed facility location, the owner or operator must use equivalent mapping techniques to determine whether the facility is within the 100-year floodplain, and if so located, what the 100-year flood elevation would be.]

(iv) Owners and operators of facilities located in the 100-year floodplain must provide the following information:

(A) Engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the site as consequence of a 100-year flood.

(B) Structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., floodwalls, dikes) at the facility and how these will prevent washout.

(C) If applicable, and in lieu of paragraphs (b)(11)(iv)(A) and (B) above, a detailed description of procedures to be followed to remove hazardous waste to safety before the facility is flooded, including:

(1) Timing of such movement relative to flood levels, including estimated time to move the waste, to show that such movement can be completed before floodwaters reach the facility.

(2) A description of the location(s) to which the waste will be moved and demonstration that those facilities will be eligible to receive hazardous waste in accordance with the regulations under 320 IAC 4.1-33 through 320 IAC 4.1-54.

(3) The planned procedures, equipment, and personnel to be used and the means to ensure

that such resources will be available in time for use.

(4) The potential for accidental discharges of the waste during movement.

(v) Existing facilities NOT in compliance with 320 IAC 4.1-41-9(b) shall provide a plan showing how the facility will be brought into compliance and a schedule for compliance.

(12) An outline of both the introductory and continuing training programs by owners or operators to prepare persons to operate or maintain the HWM facility in a safe manner as required to demonstrate compliance with 320 IAC 4.1-41-7. A brief description of how training will be designed to meet actual job tasks in accordance with requirements in 320 IAC 4.1-41-7(a)(3).

(13) A copy of the closure plan and where applicable, the post-closure plan required by 320 IAC 4.1-46-3 and 320 IAC 4.1-46-8. Include, where applicable, as part of the plans, specific requirements in 320 IAC 4.1-48-9, 320 IAC 4.1-49-5, 320 IAC 4.1-50-6, 320 IAC 4.1-51-8, 320 IAC 4.1-52-8, 320 IAC 4.1-53-6, and 320 IAC 4.1-54-8.

(14) For existing facilities, documentation that a notice has been placed in the deed or appropriate alternate instrument as required by 320 IAC 4.1-46-10.

(15) The most recent closure cost estimate for the facility prepared in accordance with 320 IAC 4.1-47-3 plus a copy of the financial assurance mechanism adopted in compliance with 320 IAC 4.1-47-4.

(16) Where applicable, the most recent post-closure cost estimate for the facility prepared in accordance with 320 IAC 4.1-47-5 plus a copy of the financial assurance mechanism adopted in compliance with 320 IAC 4.1-47-6.

(17) Where applicable, a copy of the insurance policy or other documentation which comprises compliance with the requirements of 320 IAC 4.1-47-8. For a new facility, documentation showing the amount of insurance meeting the specification of 320 IAC 4.1-47-8(a) and, if applicable, 320 IAC 4.1-47-8(b), that the owner or operator plans to have in effect before initial receipt of hazardous waste for treatment, storage, recovery, or disposal. A request for a variance in the amount of required coverage, for a new or existing facility, may be submitted as specified in 320 IAC 4.1-47-8(c).

(18) A topographic map showing a distance of 1,000 feet around the facility at a scale of 2.5 centimeters (1 inch) equal to not more than 61.0 meters (200 zeet). Contours must be shown on the map. The contour interval must be sufficient to clearly show the pattern of surface water flow in the vicinity of and from each operational unit of the facility. For example, contours with an interval of 1.5 meters (5 feet), if relief is greater than 6.1 meters (20 feet), or an interval of 0.6 meters (2 feet), if relief is less than 6.1 meters (20 feet). Owners and operators of HWM facilities located ~~in~~ mountainous areas should use large contour intervals to adequately show topographic profiles of facilities. The map shall clearly show the following:

(i) Map scale and date.

(ii) 100-year floodplain area.

(iii) Surface waters including intermittant streams.

(iv) Surrounding land uses (residential, commercial, agricultural, recreational).

(v) A wind rose (i.e., prevailing wind-speed and direction).

(vi) Orientation of the map (north arrow).

(vii) Legal boundaries of the HWM facility site.

(viii) Access control (fences, gates).

(ix) Injection and withdrawal wells both on-site and off-site.

(x) Buildings; treatment, storage, recovery, or disposal operations; or other structures (recreation areas, runoff control systems, access and internal roads, storm, sanitary, and process sewerage systems, loading and unloading areas, fire control facilities, etc.).

(xi) Barriers for drainage or flood control.

(xii) Location of operational units within the HWM facility site, where hazardous waste is (or will be) treated, stored, recovered, or disposed (include equipment cleanup areas).

[Note: For large HWM facilities the Board will allow the use of other scales on a case-by-case basis.]

(19) Applicants may be required to submit such information as may be necessary to enable the Technical Secretary to carry out the requirements of IC 3-7.

(c) Additional information requirements. The following additional information regarding protection of ground water is required from owners or operators of hazardous waste surface impoundments, piles, land treatment units, and landfills except as otherwise provided in 320 IAC 4.1-45-1(b):

(1) A summary of the groundwater monitoring data obtained during the interim status period under 320 IAC 4.1-20-1 through 320 IAC 4.1-20-5, where applicable.

(2) Identification of the uppermost aquifer and aquifers hydraulically interconnected beneath the facility property, including groundwater flow direction and rate, and the basis for such identifica-

tion (i.e., the information obtained from hydrogeologic investigations of the facility area).

(3) On the topographic map required under paragraph (b)(18) of this section, a delineation of the waste management area, the property boundary, the proposed "point of compliance" as defined under 320 IAC 4.1-45-6, the proposed location of groundwater monitoring wells as required under 320 IAC 4.1-45-8, and to the extent possible, the information required in paragraph (c)(2) of this section.

(4) A description of any plume of contamination that has entered the ground water from a regulated unit at the time that the application was submitted that:

(i) delineates the extent of the plume on the topographic map required under paragraph (b)(18) of this section;

(ii) identifies the concentration of each 320 IAC 4.1-6-9 constituent throughout the plume or identifies the maximum concentrations of 320 IAC 4.1-6-9 constituent in the plume.

(5) Detailed plans and an engineering report describing the proposed ground water monitoring program to be implemented to meet the requirements of 320 IAC 4.1-45-8.

(6) If the presence of hazardous constituents has not been detected in the ground water at the time of permit application, the owner or operator must submit sufficient information, supporting data, and analyses to establish a detection monitoring program which meets the requirements of 320 IAC 4.1-45-9. This submission must address the following items specified under 320 IAC 4.1-45-9:

(i) a proposed list of indicator parameters, waste constituents, or reaction products that can provide a reliable indication of the presence of hazardous constituents in the ground water;

(ii) a proposed groundwater monitoring system;

(iii) background values for each proposed monitoring parameter or constituent, or procedures to calculate such values; and

(iv) a description of proposed sampling, analysis and statistical comparison procedures to be utilized in evaluating groundwater monitoring data.

(7) If the presence of hazardous constituents has been detected in the ground water at the point of compliance at the time of permit application, the owner or operator must submit sufficient information, supporting data, and analyses to establish a compliance monitoring program which meets the requirements of 320 IAC 4.1-45-10. The owner or operator must also submit an engineering feasibility plan for a corrective action program necessary to meet the requirements of 320 IAC 4.1-45-11, except as provided in 320 IAC 4.1-45-9(h)(5). To demonstrate compliance with 320 IAC 4.1-45-10, the owner or operator must address the following items:

(i) a description of the wastes previously handled at the facility;

(ii) a characterization of the contaminated ground water, including concentrations of hazardous constituents;

(iii) a list of hazardous constituents for which compliance monitoring will be undertaken in accordance with 320 IAC 4.1-45-8 and 320 IAC 4.1-45-10;

(iv) proposed concentration limits for each hazardous constituent, based on the criteria set forth in 320 IAC 4.1-45-5(a), including a justification for establishing any alternate concentration limits;

(v) detailed plans and an engineering report describing the proposed groundwater monitoring system, in accordance with the requirements of 320 IAC 4.1-45-8; and

(vi) a description of proposed sampling, analysis and statistical comparison procedures to be utilized in evaluating groundwater monitoring data.

(8) If hazardous constituents have been measured in the ground water which exceed the concentration limits established under 320 IAC 4.1-45-5 Table 1, or if ground water monitoring conducted at the time of permit application under 320 IAC 4.1-45-1 through 320 IAC 4.1-45-5 at the waste boundary indicates the presence of hazardous constituents from the facility in ground water over background concentrations, the owner or operator must submit sufficient information, supporting data, and analyses to establish a corrective action program which meets the requirements of 320 IAC 4.1-45-11. However, an owner or operator is not required to submit information to establish a corrective action program if he demonstrates to the Technical Secretary that alternate concentration limits will protect human health and the environment after considering the criteria listed in 320 IAC 4.1-45-5(b). An owner or operator who is not required to establish a corrective action program for this reason must instead submit sufficient information to establish a compliance monitoring program which meets the requirements of 320 IAC 4.1-45-10 and paragraph (c)(6) of this section. To demonstrate compliance with 320 IAC 4.1-45-11, the owner or operator must address, at a minimum, the following items:

(i) a characterization of the contaminated ground water, including concentrations of

hazardous constituents;
(ii) the concentration limit for each hazardous constituent found in the ground water as set forth in 320 IAC 4.1-45-5;
(iii) detailed plans and an engineering report describing the corrective action to be taken; and
(iv) a description of how the groundwater monitoring program will demonstrate the adequacy of the corrective action.

(Indiana Environmental Management Board; 320 IAC 4.1-34-5)

320 IAC 4.1-34-6 Specific final (state) permit application information requirements for containers

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. Except as otherwise provided in 320 IAC 4.1-48-1, owners or operators of facilities that store containers of hazardous waste must provide the following additional information: (a) A description of the containment system to demonstrate compliance with 320 IAC 4.1-48-6. Show at least the following:
(1) Basic design parameters, dimensions, and materials of construction.
(2) How the design promotes drainage or how containers are kept from contact with standing liquids in the containment system.
(3) Capacity of the containment system relative to the number and volume of containers to be stored.
(4) Provisions for preventing or managing run-on.
(5) How accumulated liquids can be analyzed and removed to prevent overflow.

(b) For storage areas that store containers holding wastes that do not contain free liquids, a demonstration of compliance with 320 IAC 4.1-48-6(c), including:
(1) test procedures and results or other documentation or information to show that the wastes do not contain free liquids; and
(2) a description of how the storage area is designed or operated to drain and remove liquids or how containers are kept from contact with standing liquids.

(c) Sketches, drawings, or data demonstrating compliance with 320 IAC 4.1-48-7 (location of buffer zone and containers holding ignitable or reactive wastes) and 320 IAC 4.1-41-8(c) (location of incompatible wastes), where applicable.

(d) Where incompatible wastes are stored or otherwise managed in containers, a description of the procedures used to ensure compliance with 320 IAC 4.1-48-8(a) and (b), and 320 IAC 4.1-41-8(b) and (c).

(Indiana Environmental Management Board; 320 IAC 4.1-34-6)

320 IAC 4.1-34-7 Specific final (state) permit application information requirements for tanks

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. Except as otherwise provided in 320 IAC 4.1-49-1, owners and operators of facilities that use tanks to store or treat hazardous waste must provide a description of design and operation procedures which demonstrate compliance with the requirements of 320 IAC 4.1-49-2, 320 IAC 4.1-49-3, 320 IAC 4.1-49-6, and 320 IAC 4.1-49-7 including:
(a) References to design standards or other available information used (or to be used) in design and construction of the tank.
(b) A description of design specifications including identification of construction materials and lining materials (include pertinent characteristics such as corrosion or erosion resistance).
(c) Tank dimensions, capacity, and shell thickness.
(d) A diagram of piping, instrumentation, and process flow.
(e) Description of feed systems, safety cutoff, bypass systems, and pressure controls (e.g., vents).
(f) Description of procedures for handling incompatible, ignitable, or reactive wastes, including the use of buffer zones.

(Indiana Environmental Management Board; 320 IAC 4.1-34-7)

320 IAC 4.1-34-8 Specific final (state) permit application information requirements for surface impoundments

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 8. Except as otherwise provided in 320 IAC 4.1-40-1, owners and operators of facilities that store, treat or dispose of hazardous waste in surface impoundments must provide the following additional information:
(a) A list of the hazardous wastes placed or to be placed in each surface impoundment;
(b) Detailed plans and an engineering report describing how the surface impoundment is or will be designed, constructed, operated and maintained to meet the requirements of 320 IAC 4.1-50-2. This submission must address the following items as specified in 320 IAC 4.1-50-2:

(1) the liner system (except for an existing portion of a surface impoundment). If an exemption from the requirement for a liner is sought as provided by 320 IAC 4.1-50-2(b), submit detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the ground water or surface water at any future time;

(2) prevention of overtopping; and

(3) structural integrity of dikes;

(c) If any exemption from 320 IAC 4.1-45 is sought, as provided by 320 IAC 4.1-50-3, detailed plans and an engineering report explaining the location of the saturated zone in relation to the surface impoundment, and the design of a double-liner system that incorporates a leak detection system between the liners;

(d) A description of how each surface impoundment, including the liner and cover systems and appurtenances for control of overtopping, will be inspected in order to meet the requirements of 320 IAC 4.1-50-4(a) and (b). This information should be included in the inspection plan submitted under 320 IAC 4.1-34-5(b)(5);

(e) A certification by a qualified engineer which attests to the structural integrity of each dike, as required under 320 IAC 4.1-50-4(c). For new units, the owner or operator must submit a statement by a qualified engineer that he will provide such a certification upon completion of construction in accordance with the plans and specifications;

(f) A description of the procedure to be used for removing a surface impoundment from service, as required under 320 IAC 4.1-50-5(b) and (c). This information should be included in the contingency plan submitted under 320 IAC 4.1-34-5(b)(7);

(g) A description of how hazardous waste residues and contaminated materials will be removed from the unit at closure, as required under 320 IAC 4.1-50-6(a)(1). For any wastes not to be removed from the unit upon closure, the owner or operator must submit detailed plans and an engineering report describing how 320 IAC 4.1-50-6(a)(2) and (b) will be complied with. This information should be included in the closure plan and, where applicable, the post-closure plan submitted under 320 IAC 4.1-34-5(b)(13);

(h) If ignitable or reactive wastes are to be placed in a surface impoundment, an explanation of how 320 IAC 4.1-50-7 will be complied with;

(i) If incompatible waste, or incompatible waste and materials will be placed in a surface impoundment, an explanation of how 320 IAC 4.1-50-8 will be complied with.

(Indiana Environmental Management Board; 320 IAC 4.1-34-8)

320 IAC 4.1-34-9 Specific final (state) permit application information requirements for waste piles

Authority: IC 13-7-8-1; IC 13-7-8-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 9. Except as otherwise provided in 320 IAC 4.1-40-1, owners and operators of facilities that store or treat hazardous waste in waste piles must provide the following additional information:

(a) A list of hazardous wastes placed or to be placed in each waste pile;

(b) If an exemption is sought to 320 IAC 4.1-51-2, and 320 IAC 4.1-45 as provided by 320 IAC 4.1-51-1(c), an explanation of how the standards of 320 IAC 4.1-51-1(c) will be complied with;

(c) Detailed plans and an engineering report describing how the pile is or will be designed, constructed, operated and maintained to meet the requirements of 320 IAC 4.1-51-2. This submission must address the following items as specified in 320 IAC 4.1-51-2:

(1) the liner system (except for an existing portion of a pile). If an exemption from the requirement for a liner is sought, as provided by 320 IAC 4.1-51-3, the owner or operator must submit detailed plans and engineering and hydrogeologic reports, as applicable, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the ground water or surface water at any future time;

(2) control of run-on;

(3) control of run-off;

(4) management of collection and holding units associated with run-on and run-off control systems; and

(5) control of wind dispersal of particulate matter, where applicable;

(d) If an exemption from 320 IAC 4.1-45 is sought as provided by 320 IAC 4.1-51-3 or 320 IAC 4.1-51-4, submit detailed plans and an engineering report describing how the requirements of 320 IAC 4.1-51-3(a) or 320 IAC 4.1-51-4(a) will be complied with;

(e) A description of how each waste pile, including the liner and appurtenances for control of run-on and run-off, will be inspected in order to meet the requirements of 320 IAC 4.1-51-5(a) and (b). This information should be included in the inspection plan submitted under 320 IAC 4.1-34-5(b)(5). If an

exemption is sought to 320 IAC 4.1-45 pursuant to 320 IAC 4.1-51-4, describe in the inspection plan how the inspection requirements of 320 IAC 4.1-51-4(a)(3) will be complied with.

(f) If treatment is carried out on or in the pile, details of the process and equipment used, and the nature and quality of the residuals;

(g) If ignitable or reactive wastes are to be placed in a waste pile, an explanation of how the requirements of 320 IAC 4.1-51-6 will be complied with;

(h) If incompatible wastes, or incompatible wastes and materials will be placed in a waste pile, an explanation of how 320 IAC 4.1-51-7 will be complied with;

(i) A description of how hazardous waste residues and contaminated materials will be removed from the waste pile at closure, as required under 320 IAC 4.1-51-8(a). For any waste not to be removed from the waste pile upon closure, the owner or operator must submit detailed plans and an engineering report describing how 320 IAC 4.1-53-6(a) and (b) will be complied with. This information should be included in the closure plan and, where applicable, the post-closure plan submitted under 320 IAC 4.1-34-5(b)(13).

(Indiana Environmental Management Board; 320 IAC 4.1-34-9)

320 IAC 4.1-34-10 Specific final (state) permit application information requirements for incinerators

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 10. Except as 320 IAC 4.1-54-1 provides otherwise, owners and operators of facilities that incinerate hazardous waste must fulfill the requirements of (a), (b), or (c) of this section.

(a) When seeking an exemption under 320 IAC 4.1-54-1(b) or (c) (Ignitable, corrosive, or reactive wastes only):

(1) documentation that the waste is listed as a hazardous waste in 320 IAC 4.1-6, solely because it is ignitable (Hazard Code I) or corrosive (Hazard Code C) or both; or

(2) documentation that the waste is listed as a hazardous waste in 320 IAC 4.1-6, solely because it is reactive (Hazard Code R) for characteristics other than those listed in 320 IAC 4.1-5-4(a)(4) and (5), and will not be burned when other hazardous wastes are present in the combustion zone; or

(3) documentation that the waste is a hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the tests for characteristics of hazardous waste under 320 IAC 4.1-5; or

(4) documentation that the waste is a hazardous waste solely because it possesses the reactivity characteristics listed in 320 IAC 4.1-5-4(a)(1), (2), (3), (6), (7), or (8), and that it will not be burned when other hazardous wastes are present in the combustion zone; or

(b) Submit a trial burn plan or the results of a trial burn, including all required determinations, in accordance with 320 IAC 4.1-37-3; or

(c) In lieu of a trial burn, the applicant may submit the following information:

(1) An analysis of each waste or mixture of wastes to be burned including:

(i) Heat value of the waste in the form and composition in which it will be burned.

(ii) Viscosity (if applicable), or description of physical form of the waste.

(iii) An identification of any hazardous organic constituents listed in 320 IAC 4.1-6-9, which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in 320 IAC 4.1-6-9, which would reasonably not be expected to be found in the waste. The constituents excluded from analysis must be identified and the basis for their exclusion stated. The waste analysis must rely on analytical techniques specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see 320 IAC 4.1-33-5 and referenced in 320 IAC 4.1-6-7 or their equivalent.

(iv) An approximate quantification of the hazardous constituents identified in the waste, within the precision produced by the analytical methods specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see 320 IAC 4.1-33-5).

(v) A quantification of those hazardous constituents in the waste which may be designated as Principle Organic Hazardous Constituents (POHC) based on data submitted from other trial or operational burns which demonstrate compliance with the performance standards in 320 IAC 4.1-54-4.

(2) A detailed engineering description of the incinerator, including:

(i) Manufacturer's name and model number of incinerator.

(ii) Type of incinerator.

(iii) Linear dimension of incinerator unit

including cross sectional area of combustion chamber.

(iv) Decription of auxiliary fuel system (type/feed).

(v) Capacity of prime mover.

(vi) Description of automatic waste feed cutoff system(s).

(vii) Stack gas monitoring and pollution control monitoring system.

(viii) Nozzle and burner design.

(ix) Construction materials.

(x) Location and description of temperature, pressure, and flow indicating devices and control devices.

(3) A description and analysis of the waste to be burned compared with the waste for which data from operational or trial burns are provided to support the contention that a trial burn is not needed. The data should include those items listed in paragraph (c)(1) of this section. This analysis should specify the POHC's which the applicant has identified in the waste for which a permit is sought, and any differences from the POHC's in the waste for which burn data are provided.

(4) The design and operating conditions of the incinerator unit to be used, compared with that for which comparative burn data are available.

(5) A description of the results submitted from any previously conducted trial burn(s) including:

(i) Sampling and analysis techniques used to calculate performance standards in 320 IAC 4.1-54-4.

(ii) Methods and results of monitoring temperatures, waste feed rates, carbon monoxide, and an appropriate indicator of combustion gas velocity (including a statement concerning the precision and accuracy of this measurement).

(6) The expected incinerator operation information to demonstrate compliance with 320 IAC 4.1-54-4 and 320 IAC 4.1-54-6 including:

(i) Expected carbon monoxide (CO) level in the stack exhaust gas.

(ii) Waste feed rate.

(iii) Combustion zone temperature.

(iv) Indication of combustion gas velocity.

(v) Expected stack gas volume, flow rate, and temperature.

(vi) Computed residence time for waste in the combustion zone.

(vii) Expected hydrochloric acid removal efficiency.

(viii) Expected fugitive emissions and their control procedures.

(ix) Proposed waste feed cut-off limits based on the identified significant operating parameter

(7) Such supplemental information as the Technical Secretary finds necessary to achieve the purposes of this paragraph.

(8) Waste analysis data, including that submitted in paragraph (c)(1) of this section, sufficient to allow the Technical Secretary to specify as permit Principal Organic Hazardous Constituents (permit POHC's) those constituents for which destruction and removal efficiencies will be required.

(d) The Technical Secretary shall approve a permit application without a trial burn if he finds that:

(1) the wastes are sufficiently similar; and

(2) the incinerator units are sufficiently similar, and the data from other trial burns are adequate to specify (under 320 IAC 4.1-54-6) operating conditions that will ensure that the performance standards in 320 IAC 4.1-54-4 will be met by the incinerator.

(Indiana Environmental Management Board; 320 IAC 4.1-34-10)

320 IAC 4.1-34-11 Specific final (state) permit application information requirements for land treatment facilities

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 11. Except as otherwise provided in 320 IAC 4.1-40-1, owners and operators of facilities that use land treatment to dispose of hazardous waste must provide the following additional information:

(a) A description of plans to conduct a treatment demonstration as required under 320 IAC 4.1-52-3. The description must include the following information;

(1) the wastes for which the demonstration will be made and the potential hazardous constituents in the waste;

(2) the data sources to be used to make the demonstration (e.g., literature, laboratory data, field data, or operating data);

(3) any specific laboratory or field test that will be conducted, including:

(i) the type of test (e.g., column leaching, degradation);

(ii) materials and methods, including analytical procedures;

(iii) expected time for completion;

(iv) characteristics of the unit that will be simulated in the demonstration, including treatment zone characteristics, climatic conditions, and operating practices.

(b) A description of a land treatment program, as required under 320 IAC 4.1-52-2. This information must be submitted with the plans for the treatment demonstration, and updated following the treatment demonstration. The land treatment program must address the following items:

(1) the wastes to be land treated;

(2) design measures and operating practices necessary to maximize treatment in accordance with 320 IAC 4.1-52-4(a) including:

(i) waste application method and rate;

(ii) measures to control soil pH;

(iii) enhancement of microbial or chemical reactions;

(iv) control of moisture content;

(3) provisions for unsaturated zone monitoring, including:

(i) sampling equipment, procedures, and frequency;

(ii) procedures for selecting sampling locations;

(iii) analytical procedures;

(iv) chain of custody control;

(v) procedures for establishing background values;

(vi) statistical methods for interpreting results;

(vii) the justification for any hazardous constituents recommended for selection as principal hazardous constituents, in accordance with the criteria for such selection in 320 IAC 4.1-52-6(a);

(4) a list of hazardous constituents reasonably expected to be in, or derived from, the wastes to be land treated based on waste analysis performed pursuant to 320 IAC 4.1-41-4;

(5) the proposed dimensions of the treatment zone;

(c) A description of how the unit is or will be designed, constructed, operated, and maintained in order to meet the requirements of 320 IAC 4.1-52-4. This submission must address the following items:

(1) control of run-on;

(2) collection and control of run-off;

(3) minimization of run-off of hazardous constituents from the treatment zone;

(4) management of collection and holding facilities associated with run-on and run-off control systems;

(5) periodic inspection of the unit. This information should be included in the inspection plan submitted under 320 IAC 4.1-34-5(b)(5);

(6) control of wind dispersal of particulate matter, if applicable;

(d) If food-chain crops are to be grown in or on the treatment zone of the land treatment unit, a description of how the demonstration required under 320 IAC 4.1-52-5(a) will be conducted including:

(1) characteristics of the food-chain crop for which the demonstration will be made;

(2) characteristics of the waste, treatment zone, and waste application method and rate to be used in the demonstration;

(3) procedures for crop growth, sample collection, sample analysis, and data evaluation;

(4) characteristics of the comparison crop including the location and conditions under which it was or will be grown;

(e) If food-chain crops are to be grown, and cadmium is present in the land-treated waste, a description of how the requirements of 320 IAC 4.1-52-5(b) will be complied with;

(f) A description of the vegetative cover to be applied to closed portions of the facility, and a plan for maintaining such cover during the post-closure care period, as required under 320 IAC 4.1-52-8(a)(8) and 320 IAC 4.1-52-8(c)(2). This information should be included in the closure plan and, where applicable, the post-closure care plan submitted under 320 IAC 4.1-34-5(b)(13);

(g) If ignitable or reactive wastes will be placed in or on the treatment zone, an explanation of how the requirements of 320 IAC 4.1-52-9 will be complied with;

(h) If incompatible wastes, or incompatible wastes and materials, will be placed in or on the same treatment zone, an explanation of how 320 IAC 4.1-52-10 will be complied with.

(Indiana Environmental Management Board; 320 IAC 4.1-34-11)

320 IAC 4.1-34-12 Specific final (state) permit application information requirements for landfills

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 12. Except as otherwise provided in 320 IAC 4.1-40-1, owners and operators of facilities that dispose of hazardous waste in landfills must provide the following additional information:

(a) A list of the hazardous wastes placed or to be placed in each landfill or landfill cell;

(b) Detailed plans and an engineering report describing how the landfill is or will be designed, constructed, operated and maintained to comply with the requirements of 320 IAC 4.1-53-2. This submission must address the following items as specified in 320 IAC 4.1-53-2:

(1) the liner system and leachate collection and

removal system (except for an existing portion of a landfill). If an exemption from the requirements for a liner and a leachate collection and removal system is sought as provided by 320 IAC 4.1-53-2(b), submit detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituent into the ground water or surface water at any future time;

(2) control of run-on;

(3) control of run-off;

(4) management of collection and holding facilities associated with run-on and run-off control systems; and

(5) control of wind dispersal of particulate matter, where applicable;

(c) If an exemption from 320 IAC 4.1-45 is sought, as provided by 320 IAC 4.1-53-3(a), the owner or operator must submit detailed plans and an engineering report explaining the location of the saturated zone in relation to the landfill, the design of a double-liner system that incorporates a leak detection system between the liners and a leachate collection and removal system above the liners;

(d) A description of how each landfill, including the liner and cover systems, will be inspected in order to meet the requirements of 320 IAC 4.1-53-4(a) and (b). This information should be included in the inspection plan submitted under 320 IAC 4.1-34-5(b)(5).

(e) Detailed plans and an engineering report describing the final cover which will be applied to each landfill or landfill cell at closure in accordance with 320 IAC 4.1-53-6(a), and a description of how each landfill will be maintained and monitored after closure in accordance with 320 IAC 4.1-53-6(b). This information should be included in the closure and post-closure plans submitted under 320 IAC 4.1-34-5(b)(13).

(f) If ignitable or reactive wastes will be landfilled, an explanation of how the standards of 320 IAC 4.1-53-7 will be complied with;

(g) If incompatible wastes, or incompatible wastes and materials will be landfilled, an explanation of how 320 IAC 4.1-53-S will be complied with;

(h) If bulk or non-containerized liquid waste or wastes containing free liquids is to be landfilled, an explanation of how the requirements of 320 IAC 4.1-53-9 will be complied with;

(i) If containers of hazardous waste are to be landfilled, an explanation of how the requirements of 320 IAC 4.1-53-10 or 320 IAC 4.1-53-11, as applicable, will be complied with.

(Indiana Environmental Management Board; 320 IAC 4.1-34-12)

Rule 35. Final (State) Permit Conditions

320 IAC 4.1-35-1 Conditions applicable to all permits

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 1. The following conditions apply to all Final (State) Permits, and shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these regulations must be given in the permit.

(a) Duty to comply. The permittee must comply with all conditions of this permit, except that the permittee need not comply with the conditions of this permit to the extent and for the duration such noncompliance is authorized in an emergency permit. (See 320 IAC 4.1-37-2.) Any permit noncompliance, except under the terms of an emergency permit, constitutes a violation of IC 13-7 and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

(b) Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

(c) Need to halt or reduce activity not a defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(d) In the event of noncompliance with the permit, the permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

(e) Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar

systems only when necessary to achieve compliance with the conditions of the permit.

(f) Permit actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

(g) Property rights. The permit does not convey any property rights of any sort, or any exclusive privilege.

(h) Duty to provide information. The permittee shall furnish to the Technical Secretary, within a reasonable time, any relevant information which the Technical Secretary may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Technical Secretary, upon request, copies of records required to be kept by this permit.

(i) Inspection and entry. The permittee shall allow the Technical Secretary, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

(1) enter at reasonable times upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

(2) have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(3) inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

(4) sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by IC 13-7, any substances or parameters at any location.

(j) Monitoring and records.

(1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(2) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Technical Secretary at any time. The permittee shall maintain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and for disposal facilities, the post-closure care period as well.

(3) Records for monitoring information shall include:

(i) the date, exact place, and time of sampling or measurements;

(ii) the individual(s) who performed the sampling or measurements;

(iii) the date(s) analyses were performed;

(iv) the individual(s) who performed the analyses;

(v) the analytical techniques or methods used; and

(vi) the results of such analyses.

(k) Signatory requirements. All applications, reports, or information submitted to the Technical Secretary shall be signed and certified (see 320 IAC 4.1-34-2).

(l) Reporting requirements.

(1) Planned changes. The permittee shall give notice to the Technical Secretary as soon as possible of any planned physical alterations or additions to the permitted facility.

(2) Anticipated noncompliance. The permittee shall give advance notice to the Technical Secretary of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. For a new facility, the permittee may not treat, store, recover, or dispose of hazardous waste; and for a facility being modified, the permittee may not treat, store, recover, or dispose of hazardous waste in the modified portion of the facility, until:

(i) the permittee has submitted to the Technical Secretary by certified mail or hand delivery a letter signed by permittee and a registered professional engineer stating that the facility has been constructed or modified in compliance with the permit; and

(ii)(A) the Technical Secretary has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit; or

(B) within 15 days of the date of submission of the letter in paragraph (l)(2)(i) of this section, the permittee has not received notice from the Technical Secretary of his or her intent to inspect, prior inspection is waived and the permittee may

commence treatment, storage, disposal or recovery of hazardous waste.

(3) Transfers. This permit is not transferable to any person except after notice to the Technical Secretary. The Technical Secretary may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under 320 IAC 4.1. (See 320 IAC 4.1-36-1.)

(4) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(5) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(6) Twenty-four hour reporting.

(i) The permittee shall orally report to the Technical Secretary any noncompliance which may endanger health or the environment within 24 hours from the time the permittee becomes aware of the circumstances, including:

(A) Information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies.

(B) Any information of a release or discharge of hazardous waste or of a fire or explosion from the HWM facility, which could threaten the environment or human health outside the facility.

(ii) The description of the occurrence and its cause shall include:

(A) name, address, and telephone number of the owner or operator;

(B) name, address, and telephone number of the facility;

(C) date, time, and type of incident;

(D) name and quantity of material(s) involved;

(E) the extent of injuries, if any;

(F) an assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and

(G) estimated quantity and disposition of recovered material that resulted from the incident.

(iii) A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times, and if the noncompliance has not been corrected the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Technical Secretary may waive the five day written notice requirement in favor of a written report within fifteen days.

(7) Manifest discrepancy report: If a significant discrepancy in a manifest is discovered, the permittee must attempt to reconcile the discrepancy. If not resolved within fifteen days, the permittee must immediately submit a letter report, including a copy of the manifest, to the Technical Secretary. (See 320 IAC 4.1-44-3.)

(8) Unmanifested waste report: This report must be submitted to the Technical Secretary within 15 days of receipt of unmanifested waste. (See 320 IAC 4.1-44-7.)

(9) Biennial report: A biennial report must be submitted covering facility activities during odd-numbered calendar years. (See 320 IAC 4.1-44-6.)

(10) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (l)(4), (5), and (6) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (l)(6) of this section.

(11) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Technical Secretary, it shall promptly submit such facts or information.

(Indiana Environmental Management Board; 320 IAC 4.1-35-1)

320 IAC 4.1-35-2 Requirements for recording and reporting of monitoring results

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 2. All permits shall specify:

(a) Requirements concerning the proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);

(b) Required monitoring including type, intervals, and frequency sufficient to yield data which are representative of the monitored activity including, when appropriate, continuous monitoring;

(c) Applicable reporting requirements based upon the impact of the regulated activity and as specified in applicable portions of 320 IAC 4.1-40 through 320

IAC 4.1-54. Reporting shall be no less frequent than specified in the above regulations.
(Indiana Environmental Management Board; 320 IAC 4.1-35-2)

320 IAC 4.1-35-3 Establishing permit conditions
Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. (a) In addition to conditions required in all permits (320 IAC 4.1-35-1), the Technical Secretary shall establish conditions, as required on a case-by-case basis, in permits under 320 IAC 4.1-39-13 (duration of permits), 320 IAC 4.1-35-4(a) (schedules of compliance), and 320 IAC 4.1-35-2 (monitoring).

(b) Each Final (State) Permit shall include permit conditions necessary to achieve compliance with the EMA and regulations promulgated thereunder, including each of the applicable requirements specified in 320 IAC 4.1-40 through 320 IAC 4.1-54. In satisfying this provision, the Technical Secretary may incorporate applicable requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54 directly into the permit or establish other permit conditions that are based on 320 IAC 4.1.

(c) If new requirements become effective (including any interim final regulation) during the permitting process which is:
(1) prior to modification, or revocation and reissuance of a permit to the extent allowed in 320 IAC 4.1-36-2; and
(2) are of sufficient magnitude to make additional proceedings desirable, the Technical Secretary shall, at his or her discretion, reopen the comment period.

(d) New or reissued permits, and to the extent allowed under 320 IAC 4.1-36-2, modified or revoked and reissued permits, shall incorporate each of the applicable requirements referenced in this section and in 320 IAC 4.1-35-2.

(e) Incorporation. All permit conditions shall be incorporated either expressly or by reference. If incorporated by reference, a specific citation to the applicable regulations or requirements must be given in the permit. *(Indiana Environmental Management Board; 320 IAC 4.1-35-3)*

320 IAC 4.1-35-4 Schedules of compliance
Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. (a) The permit may, when appropriate, specify a schedule of compliance leading to compliance with the EMA and regulations.
(1) Time for compliance. Any schedules of compliance under this section shall require compliance as soon as possible.
(2) Interim dates. Except as provided in paragraph (b)(1)(ii) of this section, if a permit establishes a schedule of compliance which exceeds 1 year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.
(i) The time between interim dates shall not exceed 1 year.
(ii) If the time necessary for completion of any interim requirement is more than 1 year and is not readily divisible into stages for completion, the permit shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.
(3) Reporting. The permit shall be written to require that no later than 14 days following each interim date and the final date of compliance, the permittee shall notify the Technical Secretary in writing, of its compliance or noncompliance with the interim or final requirements, or submit progress reports if paragraph (a)(2)(ii) of this section is applicable.

(b) Alternative schedules of compliance. A final (State) permit applicant or permittee may cease conducting regulated activities (by receiving a terminal volume of hazardous waste and for treatment, storage or recovery HWM facilities, closing pursuant to applicable requirements; and for disposal HWM facilities, closing and conducting post-closure care pursuant to applicable requirements) rather than continue to operate and meet permit requirements as follows:
(1) If the permittee decides to cease conducting regulated activities at a given time within the term of a permit which has already been issued:
(i) the permit may be modified to contain a new or additional schedule leading to timely cessation of activities; or
(ii) the permittee shall cease conducting permitted activities before noncompliance with any interim or final compliance schedule requirement already specified in the permit.
(2) If the decision to cease conducting regulated activities is made before issuance of a permit whose term will include the termination date, the permit shall contain a schedule leading to termination which will ensure timely compliance with applicable requirements.

(3) If the permittee is undecided whether to cease conducting regulated activities, the Technical Secretary may issue or modify a permit to contain two schedules as follows:

(i) both schedules shall contain an identical interim deadline requiring a final decision on whether to cease conducting regulated activities no later than a date which ensures sufficient time to comply with applicable requirements in a timely manner if the decision is to continue conducting regulated activities;

(ii) one schedule shall lead to timely compliance with applicable requirements;

(iii) the second schedule shall lead to cessation of regulated activities by a date which will ensure timely compliance with applicable requirements;

(iv) each permit containing two schedules shall include a requirement that after the permittee has made a final decision under paragraph (b)(3)(i) of this section it shall follow the schedule leading to compliance if the decision is to continue conducting regulated activities, and follow the schedule leading to termination if the decision is to cease conducting regulated activities.

(4) The applicant's or permittee's decision to cease conducting regulated activities shall be evidenced by a firm public commitment satisfactory to the Technical Secretary, such as resolution of the board of directors of a corporation.

(Indiana Environmental Management Board; 320 IAC 4.1-35-4)

Rule 36. Changes to Final (State) Permit

320 IAC 4.1-36-1 Transfer of permits

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 1. Transfers by modification. A permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under 320 IAC 4.1-36-2(b)(2)), or a minor modification made (under 320 IAC 4.1-36-3(d)), to identify the new permittee and incorporate such other requirements as may be necessary under the IC 13-7. *(Indiana Environmental Management Board; 320 IAC 4.1-36-1)*

320 IAC 4.1-36-2 Major modification or revocation and reissuance of permits

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 2. When the Technical Secretary receives any information (for example, inspects the facility, receives information submitted by the permittee as required in the permit (see 320 IAC 4.1-35-1), receives a request for modification or revocation and reissuance under 320 IAC 4.1-39-3, or conducts a review of the permit file) he or she may determine whether or not one or more of the causes listed in paragraphs (a) and (b) of this section for modification, or revocation and reissuance or both exist. If cause exists, the Technical Secretary may modify or revoke and reissue the permit accordingly, subject to the limitations of paragraph (c) of this section, and may request an updated application if necessary. When a permit is modified, only the conditions subject to modification are reopened. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term. (See 320 IAC 4.1-39-3(b)(2).) If cause does not exist under this section or 320 IAC 4.1-36-3, the Technical Secretary shall not modify or revoke and reissue the permit. If a permit modification satisfies the criteria in 320 IAC 4.1-36-3 for a minor modification, the permit may be modified without a draft permit or public review. Otherwise, a draft permit must be prepared and other procedures in 320 IAC 4.1-39 followed.

(a) Causes for modification. The following are causes for modification, but not revocation and reissuance, of permits; the following may be causes for revocation and reissuance, as well as modification, when the permittee requests or agrees.

(1) Alterations. There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.

(2) Information. The Technical Secretary has received information. Permits may be modified during their terms for this cause only if the information was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and would have justified the application of different permit conditions at the time of issuance.

(3) New regulations. The standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued. Permits may be modified during their terms for this cause only as follows:

(i) For promulgation of amended standards or regulations, when:

(A) the permit condition requested to be modified was based on a regulation

promulgated in 320 IAC 4.1-1 through 320 IAC 4.1-57; and

(B) the State has revised, withdrawn, or modified that portion of the regulation on which the permit condition was based; and

(C) a permittee requests modification in accordance with 320 IAC 4.1-39-3 within ninety (90) days after Indiana Register notice of the action on which the request is based.

(ii) For judicial decisions, a court of competent jurisdiction has remanded and stayed State promulgated regulations if the remand and stay concern that portion of the regulations on which the permit condition was based and a request is filed by the permittee in accordance with 320 IAC 4.1-39-3 within ninety (90) days of judicial remand.

(4) Compliance schedules. The Technical Secretary determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy.

(5) The Technical Secretary may also modify a permit:

(i) When modification of a closure plan is required under 320 IAC 4.1-46-3(b) or 320 IAC 4.1-46-8(b).

(ii) After the Technical Secretary receives the notification of expected closure under 320 IAC 4.1-46-4, when the Technical Secretary determines that extension of the 90 to 180 day periods under 320 IAC 4.1-46-4, modification of the 30-year post-closure period under 320 IAC 4.1-46-7(a), continuation of security requirements under 320 IAC 4.1-46-7(b), or permission to disturb the integrity of the containment system under 320 IAC 4.1-46-7(c) are unwarranted.

(iii) When the permittee has filed a request under 320 IAC 4.1-47-8(c) for a variance to the level of financial responsibility or when the Technical Secretary demonstrates under 320 IAC 4.1-47-8(d) that an upward adjustment of the level of financial responsibility is required.

(iv) When the corrective action program specified in the permit under 320 IAC 4.1-45-11 has not brought the regulated unit into compliance with the groundwater protection standard within a reasonable period of time.

(v) To include a detection monitoring program meeting the requirements of 320 IAC 4.1-45-9, when the owner or operator has been conducting a compliance monitoring program under 320 IAC 4.1-45-10 or a corrective action program under 320 IAC 4.1-45-11 and compliance period ends before the end of the post-closure care period for the unit.

(vi) When a permit requires a compliance monitoring program under 320 IAC 4.1-45-10, but monitoring data collected prior to permit issuance indicate that the facility is exceeding the groundwater protection standard.

(vii) To include conditions applicable to units at a facility that were not previously included in the facility's permit.

(viii) When a land treatment unit is not achieving complete treatment of hazardous constituents under its current permit conditions.

(b) Causes for modification or revocation and reissuance. The following are causes to modify or, alternatively, revoke and reissue a permit:

(1) Cause exists for termination under 320 IAC 4.1-36-4, and the Technical Secretary determines that modification or revocation and reissuance is appropriate.

(2) The Technical Secretary has received notification (as required in the permit, see 320 IAC 4.1-35-1(l)(3)) of a proposed transfer of the permit.

(c) Facility siting. Suitability of the facility location will not be considered at the time of permit modification or revocation and reissuance unless new information or standards indicate that a threat to human health or the environment exists which was unknown at the time of permit issuance. *(Indiana Environmental Management Board; 320 IAC 4.1-36-2)*

320 IAC 4.1-36-3 Minor modifications of final (state) permits

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 3. Upon the consent of the permittee, the Technical Secretary may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of 320 IAC 4.1-39. Any permit modification not processed as a minor modification under this section must be made for cause and with 320 IAC 4.1-39 draft permit and public notice as required in 320 IAC 4.1-36-2. Minor modifications may only:

(a) correct typographical errors;

(b) require more frequent monitoring or reporting by the permittee;

(c) change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;

(d) allow for a change in ownership or operational control of a facility where the Technical Secretary determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees has been submitted to the Technical Secretary;
(e) change the lists of facility emergency coordinators or equipment in the permit's contingency plan;
(f) change estimates of maximum inventory under 320 IAC 4.1-46-3(a)(2);
(g) change estimates of expected year of closure or schedules for final closure under 320 IAC 4.1-46-3(a)(4);
(h) approve periods longer than 90 days or 180 days under 320 IAC 4.1-46-4(a) and (b);
(i) change the ranges of the operating requirements set in the permit to reflect the results of the trial burn, provided that the change is minor;
(j) change the operating requirements set in the permit for conducting a trial burn, provided that the change is minor;
(k) grant one extension of the time period for determining operational readiness following completion of construction, for up to 720 hours operating time for treatment of hazardous waste;
(l) change the treatment program requirements for land treatment units under 320 IAC 4.1-52-2 to improve treatment of hazardous constituents, provided that the change is minor;
(m) change any conditions specified in the permit for land treatment units to reflect the results of field tests or laboratory analyses used in making a treatment demonstration in accordance with 320 IAC 4.1-37-4, provided that the change is minor; and
(n) allow a second treatment demonstration for land treatment to be conducted when the results of the first demonstration have not shown the conditions under which the waste or wastes can be treated completely as required by 320 IAC 4.1-52-3(a), provided that the conditions for the second demonstration are substantially the same as the conditions for the first demonstration.

(Indiana Environmental Management Board; 320 IAC 4.1-36-3)

320 IAC 4.1-36-4 Termination of final (state) permits

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. (a) The following are causes for terminating a permit during its term, or for denying a permit renewal application:

(1) noncompliance by the permittee with any condition of the permit;
(2) the permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; or
(3) a determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.

(b) The Technical Secretary shall follow the applicable procedures in 320 IAC 4.1-39 in terminating any permit under this section. *(Indiana Environmental Management Board; 320 IAC 4.1-36-4)*

Rule 37. Special Forms of Permits

320 IAC 4.1-37-1 Permits-by-rule

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. Notwithstanding any other provision of 320 IAC 4.1-33 through 320 IAC 4.1-38 or 320 IAC 4.1-39, the following shall be deemed to have a permit if the conditions listed are met:

(a) Ocean disposal barges or vessels. The owner or operator of a barge or other vessel which accepts hazardous waste for ocean disposal, if the owner or operator:

(1) has a permit for ocean dumping issued by the U.S. EPA under 40 CFR Part 220 (Ocean Dumping, authorized by the Marine Protection, Research, and Sanctuaries Act, as amended, 33 U.S.C. 1420 et seq.);
(2) complies with the conditions of that permit; and
(3) complies with the following hazardous waste regulations:
(i) 320 IAC 4.1-41-2, Identification number;
(ii) 320 IAC 4.1-44-2, Use of manifest system;
(iii) 320 IAC 4.1-44-3, Manifest discrepancies;
(iv) 320 IAC 4.1-44-4(a) and (b)(1), Operating record;
(v) 320 IAC 4.1-44-6, Biennial report; and
(vi) 320 IAC 4.1-44-7, Unmanifested waste report.

(b) Injection wells. The owner or operator of an injection well disposing of hazardous waste, if the owner or operator:

(1) has a permit for underground injection issued by the U.S. EPA under 40 CFR Part 144; and
(2) complies with the conditions of that permit

and the Federal Underground Injection Control Program requirements which include 40 CFR 144.14 (requirements for wells managing hazardous waste). (see 40 CFR 144)

(c) Publicly owned treatment works. The owner or operator of a POTW which accepts for treatment hazardous waste, if the owner or operator:

(1) has an NPDES permit;

(2) complies with the conditions of that permit; and

(3) complies with the following regulations:

(i) 320 IAC 4.1-41-2, Identification number;

(ii) 320 IAC 4.1-44-2, Use of manifest system;

(iii) 320 IAC 4.1-44-3, Manifest discrepancies;

(iv) 320 IAC 4.1-44-4(a) and (b)(1), Operating record;

(v) 320 IAC 4.1-44-6, Biennial report; and

(vi) 320 IAC 4.1-44-7, Unmanifested waste report, and

(4) if the waste meets all Federal, State, and local pretreatment requirements which would be applicable to the waste if it were being discharged into the POTW through a sewer, pipe, or similar conveyance.

(Indiana Environmental Management Board; 320 IAC 4.1-37-1)

320 IAC 4.1-37-2 Emergency permits

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 2. (a) Notwithstanding any other provision of 320 IAC 4.1-33 through 320 IAC 4.1-38 or 320 IAC 4.1-39, in the event the Technical Secretary finds an imminent and substantial endangerment to human health or the environment the Technical Secretary may issue a temporary emergency permit for a facility to allow treatment, storage, or disposal of hazardous waste for a non-permitted facility or not covered by the permit for a facility with an effective permit.

(b) This emergency permit:

(1) may be oral or written. If oral, it shall be followed in five days by a written emergency permit;

(2) shall not exceed 90 days in duration;

(3) shall clearly specify the hazardous wastes to be received, and the manner and location of their treatment, storage, or disposal;

(4) may be terminated by the Technical Secretary at any time without process if he or she determines that termination is appropriate to protect human health and the environment;

(5) shall be accompanied by a public notice published under 320 IAC 4.1-39-6 including:

(i) name and address of the office granting the emergency authorizaton;

(ii) name and location of the permitted HWM facility;

(iii) a brief description of the wastes involved;

(iv) a brief description of the action authorized and reasons for authorizing it; and

(v) duration of the emergency permit; and

(6) shall incorporate, to the extent possible and not inconsistent with the emergency situation, all applicable requirements of 320 IAC 4.1-33 through 320 IAC 4.1-54.

(Indiana Environmental Management Board; 320 IAC 4.1-37-2)

320 IAC 4.1-37-3 Hazardous waste incinerator permits

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 3. (a) For the purposes of determining operational readiness following completion of physical construction, the Technical Secretary must establish permit conditions, including but not limited to allowable waste feeds and operating conditions, in the permit to a new hazardous waste incinerator. These permit conditions will be effective for the minimum time required to bring the incinerator to a point of operational readiness to conduct a trial burn, not to exceed 720 hours operating time for treatment of hazardous waste. The Technical Secretary may extend the duration of this operational period once, for up to 720 additonal hours, at the request of the applicant when good cause is shown. The permit may be modified to reflect the extension according to 320 IAC 4.1-36-3 (Minor modifications of permits).

(1) Applicants must submit a statement, with the Final (State) Permit application, which suggests the conditions necessary to operate in compliance with the performance standards of 320 IAC 4.1-54-4 during this period. This statement should include, at a minimum, restrictions on waste constituents, waste feed rates and the operating parameters identified in 320 IAC 4.1-54-6.

(2) The Technical Secretary will review this statement and any other relevant information submitted with the Final (State) Permit application and specify requirements for this period sufficient to meet the performance standards of 320 IAC 4.1-54-4 based on his engineering judgment.

(b) For the purposes of determining feasibility of compliance with the performance standards of 320 IAC 4.1-54-4 and of determining adequate operating conditions under 320 IAC 4.1-54-6, the Technical

Secretary must establish conditions in the permit for a new hazardous waste incinerator to be effective during the trial burn.

(1) Applicants must propose a trial burn plan, prepared under paragraph (b)(2) of this section with the Final (State) Permit application.

(2) The trial burn plan must include the following information:

(i) An analysis of each waste or mixture of wastes to be burned which includes:

(A) Heat value of the waste in the form and composition in which it will be burned.

(B) Viscosity (if applicable), or description of the physical form of the waste.

(C) An identification of any hazardous organic constituents listed in 320 IAC 4.1-6-9, which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in 320 IAC 4.1-6-9 which would reasonably not be expected to be found in the waste. The constituents excluded from analysis must be identified, and the basis for the exclusion stated. The waste analysis must rely on analytical techniques specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," (incorporated by reference, see 320 IAC 4.1-33-5), or other equivalent.

(D) An approximate quantification of the hazardous constituents identified in the waste, within the precision produced by the analytical methods specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," (incorporated by reference, see 320 IAC 4.1-33-5), or their equivalent.

(ii) A detailed engineering description of the incinerator for which the permit is sought, including:

(A) Manufacturer's name and model number of incinerator (if available).

(B) Type of incinerator.

(C) Linear dimensions of the incinerator unit including the cross sectional area of combustion chamber.

(D) Description of the auxiliary fuel system (type/feed).

(E) Capacity of prime mover.

(F) Description of automatic waste feed cut-off system(s).

(G) Stack gas monitoring and pollution control equipment.

(H) Nozzle and burner design.

(I) Construction materials.

(J) Location and description of temperature, pressure, and flow indicating and control devices.

(iii) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(iv) A detailed test schedule for each waste for which the trial burn is planned including date(s), duration, quantity of waste to be burned, and other factors relevant to the Technical Secretary's decision under paragraph (b)(5) of this section.

(v) A detailed test protocol, including, for each waste identified, the ranges of temperature, waste feed rate, combustion gas velocity, use of auxiliary fuel, and any other relevant parameters that will be varied to affect the destruction and removal efficiency of the incinerator.

(vi) A description of, and planned operating conditions for, any emission control equipment which will be used.

(vii) Procedures for rapidly stopping waste feed, shutting down the incinerator, and controlling emissions in the event of an equipment malfunction.

(viii) Such other information as the Technical Secretary reasonably finds necessary to determine whether to approve the trial burn plan in light of the purposes of this paragraph and the criteria in paragraph (b)(5) of this section.

(3) The Technical Secretary, in reviewing the trial burn plan, shall evaluate the sufficiency of the information provided and may require the applicant to supplement this information, if necessary, to achieve the purposes of 320 IAC 4.1-37-3(b).

(4) Based on the waste analysis data in the trial burn plan, the Technical Secretary will specify as trial Principal Organic Hazardous Constituents (POHCs), those constituents for which destruction and removal efficiencies must be calculated during the trial burn. These trial POHCs will be specified by the Technical Secretary based on his estimate of the difficulty of incineration of the constituents identified in the waste analysis, their concentration or mass in the waste feed, and, for wastes listed in 320 IAC 4.1-6,, the hazardous waste organic constituent or constituents identified in 320 IAC 4.1-6-8 as the basis for listing.

(5) The Technical Secretary shall approve a trial burn plan if he finds that:

(i) the trial burn is likely to determine whether the incinerator performance standard required

by 320 IAC 4.1-54-4 can be met;

(ii) the trial burn itself will not present an imminent hazard to human health or the environment;

(iii) the trial burn will help the Technical Secretary to determine operating requirements to be specified under 320 IAC 4.1-54-6; and

(iv) the information sought in paragraphs (b)(5)(i) and (ii) of this Section cannot reasonably be developed through other means.

(6) During each approved trial burn (or as soon after the burn as is practicable), the applicant must make the following determinations:

(i) A quantitative analysis of the trial POHCs in the waste feed to the incinerator.

(ii) A quantitative analysis of the exhaust gas for the concentration and mass emissions of the trial POHCs, oxygen (O_2) and hydrogen chloride(HCl).

(iii) A quantitative analysis of the scrubber water (if any), ash residues, and other residues, for the purpose of estimating the fate of the trial POHCs.

(iv) A computation of destruction and removal efficiency (DRE), in accordance with the DRE formula specified in 320 IAC 4.1-54-4(a).

(v) If the HCl emission rate exceeds 1.8 kilograms of HCl per hour (4 pounds per hour), a computation of HCl removal efficiency in accordance with 320 IAC 4.1-54-4(b).

(vi) A computation of particulate emissions, in accordance with 320 IAC 4.1-54-4(c).

(vii) An identification of sources of fugitive emissions and their means of control.

(viii) A measurement of average, maximum, and minimum temperatures and combustion gas velocity.

(ix) A continuous measurement of carbon monoxide(CO) in the exhaust gas.

(x) Such other information as the Technical Secretary may specify as necessary to ensure that the trial burn will determine compliance with the performance standards in 320 IAC 4.1-54-4 and to establish the operating conditions required by 320 IAC 4.1-54-6 as necessary to meet those performance standards.

(7) The applicant must submit to the Technical Secretary a certification that the trial burn has been carried out in accordance with the approved trial burn plan, and must submit the results of all the determinations required in paragraph (b)(6). This submission shall be made within 90 days of completion of the trial burn, or later if approved by the Technical Secretary.

(8) All data collected during any trial burn must be submitted to the Technical Secretary following completion of the trial burn.

(9) All submissions required by this paragraph must be certified on behalf of the applicant by the signature of a person authorized to sign a permit application or a report under 320 IAC 4.1-34-2.

(10) Based on the results of the trial burn, the Technical Secretary shall set the operating requirements in the final permit according to 320 IAC 4.1-54-6. The permit modification shall proceed as a minor modification according to 320 IAC 4.1-36-3.

(c) For the purposes of allowing operation of a new hazardous waste incinerator following completion of the trial burn and prior to final modification of the permit conditions to reflect the trial burn results, the Technical Secretary may establish permit conditions, including but not limited to allowable waste feeds and operating conditions sufficient to meet the requirements of 320 IAC 4.1-54-6, in the permit to a new hazardous waste incinerator. These permit conditions will be effective for the minimum time required to complete sample analysis, data computation and submission of the trial burn results by the applicant, and modification of the facility permit by the Technical Secretary.

(1) Applicants must submit a statement, with the Final (State) Permit application, which identifies the conditions necessary to operate in compliance with the performance standards of 320 IAC 4.1-54-4, during this period. This statement should include, at a minimum, restrictions on waste constituents, waste feed rates, and the operating parameters in 320 IAC 4.1-54-6.

(2) The Technical Secretary will review this statement and any other relevant information submitted with the Final (State) Permit application and specify those requirements for this period most likely to meet the performance standards of 320 IAC 4.1-54-4 based on his engineering judgment.

(d) For the purposes of determining feasibility of compliance with the performance standards of 320 IAC 4.1-54-4 and of determining adequate operating conditions under 320 IAC 4.1-54-6, the applicant for a permit to an existing hazardous waste incinerator may prepare and submit a trial burn plan and perform a trial burn in accordance with paragraphs (b)(2) through (b)(9) of this section. Applicants who submit trial burn plans and receive approval before submission of a permit application must complete the trial burn and submit the results, specified in paragraph (b)(6), with the Final (State) Permit application. If completion of this process conflicts with the date set for submission of the Final (State) Permit application, the

applicant must contact the Technical Secretary to establish a later date for submission of the Final (State) Permit application or the trial burn results. If the applicant submits a trial burn plan with the Final (State) Permit application, the trial burn must be conducted and the results submitted within a time period to be specified by the Technical Secretary. *(Indiana Environmental Management Board; 320 IAC 4.1-37-3)*

320 IAC 4.1-37-4 Permits for land treatment demonstrations using field test or laboratory analyses

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 4. (a) For the purpose of allowing an owner or operator to meet the treatment demonstration requirements of 320 IAC 4.1-52-3, the Technical Secretary may issue a treatment demonstration permit. The permit must contain only those requirements necessary to meet the standards in 320 IAC 4.1-52-3(c). The permit may be issued either as a treatment or disposal permit covering only the field test or laboratory analyses, or as a two-phase facility permit covering the field tests, or laboratory analyses, and design, construction, operation and maintenance of the land treatment unit.

(1) The Technical Secretary may issue a two-phase facility permit if he finds that, based on information submitted in the Final (State) Permit application, substantial, although incomplete or inconclusive, information already exists upon which to base the issuance of a facility permit.

(2) If the Technical Secretary finds that not enough information exists upon which he can establish permit conditions to attempt to provide for compliance with all of the requirements of 320 IAC 4.1-52, he must issue a treatment demonstration permit covering only the field test or laboratory analyses.

(b) If the Technical Secretary finds that a phased permit may be issued, he will establish, as requirements in the first phase of the facility permit, conditions for conducting the field tests or laboratory analyses. These permit conditions will include design and operating parameters (including the duration of the tests or analyses and, in the case of field tests, the horizontal and vertical dimensions of the treatment zone), monitoring procedures, post-demonstration clean-up activities, and any other conditions which the Technical Secretary finds may be necessary under 320 IAC 4.1-52-3(c). The Technical Secretary will include conditions in the second phase of the facility permit to attempt to meet all 320 IAC 4.1-52 requirements pertaining to unit design, construction, operation, and maintenance. The Technical Secretary will establish these conditions in the second phase of the permit based upon the substantial but incomplete or inconclusive information contained in the Final (State) Permit application.

(1) The first phase of the permit will be effective as provided in 320 IAC 4.1-39-10.

(2) The second phase of the permit will be effective as provided in paragraph (d) of this Section.

(c) When the owner or operator who has been issued a two-phase permit has completed the treatment demonstration, he must submit to the Technical Secretary a certification, signed by a person authorized to sign a permit application or report under 320 IAC 4.1-34-2, that the field tests or laboratory analyses have been carried out in accordance with the conditions specified in phase one of the permit for conducting such tests or analyses. The owner or operator must also submit all data collected during the field tests or laboratory analyses within 90 days of completion of those tests or analyses unless the Technical Secretary approves a later date.

(d) If the Technical Secretary determines that the results of the field tests or laboratory analyses meet the requirements of 320 IAC 4.1-52-3, he will modify the second phase of the permit to incorporate any requirements necessary for operation of the facility in compliance with 320 IAC 4.1-52, based upon the results of the field tests or laboratory analyses.

(1) This permit modification may proceed as a minor modification under 320 IAC 4.1-36-3, provided any such change is minor, or otherwise will proceed as a modification under 320 IAC 4.1-36-2(a)(2).

(2) If no modifications of the second phase of the permit are necessary, or if only minor modifications are necessary and have been made, the Technical Secretary will give notice of his final decision to the permit applicant and to each person who submitted written comments on the phased permit or who requested notice of the final decision on the second phase of the permit. The second phase of the permit then will become effective as specified in 320 IAC 4.1-39-10.

(3) If modifications under 320 IAC 4.1-36-2(a)(2) are necessary, the second phase of the permit will become effective only after those modificatons have been made.

(Indiana Environmental Management Board; 320 IAC 4.1-37-4)

320 IAC 4.1-37-5 Federal issuance of hazardous waste management permits

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. (a) All hazardous waste management permits issued by U.S. EPA pursuant to 40 CFR Part 270 shall be called in within one hundred and eighty(180) days after Final Authorization of the Indiana Hazardous Waste Management Program (pursuant to 40 CFR Part 271).

(b) These federally issued permits shall be reviewed and, if determination is made to issue, shall be reissued as Final (State) Permits pursuant to 320 IAC 4.1-33 through 320 IAC 4.1-39. *(Indiana Environmental Management Board; 320 IAC 4.1-37-5)*

Rule 38. Interim Status

320 IAC 4.1-38-1 Qualifying for interim status

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. (a) Any person who owns or operates an "existing HWM facility" shall have interim status and shall be treated as having been issued a permit to the extent he or she has:

(1) Complied with the requirements of 320 IAC 4.1-2 pertaining to notification of hazardous waste activity.

(2) Complied with the requirements of 320 IAC 4.1-34-1(e) and 320 IAC 4.1-34-4.

(b) Failure to qualify for interim status. If the Technical Secretary has reason to believe upon examination of a Part A application that it fails to meet the requirements of 320 IAC 4.1-34-4, he shall notify the owner or operator in writing of the apparent deficiency. Such notice shall specify the grounds for the Technical Secretary's belief that the application is deficient. The owner or operator shall have 30 days from receipt to respond to such a notification and to explain or cure the alleged deficiency in his Part A application. If, after such notification and opportunity for response, the Technical Secretary determines that the application is deficient he may take appropriate enforcement action. *(Indiana Environmental Management Board; 320 IAC 4.1-38-1)*

320 IAC 4.1-38-2 Operation during interim status

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. (a) During the interim status period the facility shall not:

(1) treat, store, recover, or dispose of hazardous waste not specified in the Part A permit application (see 320 IAC 4.1-34-4);

(2) employ processes not specified in the Part A permit application (see 320 IAC 4.1-34-4); or

(3) exceed the design capacities specified in the PartA permit application (see 320 IAC 4.1-34-4).

(b) Interim status standards. During interim status, owners or operators shall comply with the interim status standards as contained in 320 IAC 4.1-15 through 320 IAC 4.1-32. *(Indiana Environmental Management Board; 320 IAC 4.1-38-2)*

320 IAC 4.1-38-3 Changes during interim status

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. (a) New hazardous wastes not previously identified in the Part A permit application (320 IAC 4.1-34-4) may be treated, stored, recovered, or disposed of at a facility if the owner or operator submits a revised Part A permit application (320 IAC 4.1-34-4) prior to such a change;

(b) Increases in the design capacity of processes used at a facility may be made if the owner or operator submits a revised Part A permit application (320 IAC 4.1-34-4) prior to such a change (along with a justification explaining the need for the change) and the Technical Secretary approves the change because of a lack of available treatment, storage, recovery, or disposal capacity at other hazardous waste management facilities;

(c) Changes in the processes for the treatment, storage, recovery, or disposal of hazardous waste may be made at a facility or additional processes may be added if the owner or operator submits a revised Part A permit application (320 IAC 4.1-34-4) prior to such a change (along with a justification explaining the need for the change) and the Technical Secretary approves the change because:

(1) it is necessary to prevent a threat to human health or the environment because of an emergency situation; or

(2) it is necessary to comply with State regulations (including the interim status standards contained in 320 IAC 4.1-15 through 320 IAC 4.1-32) or other State or local laws.

(d) Changes in the ownership or operational control of a facility may be made if the new owner or operator submits a revised Part A permit application (320 IAC 4.1-34-4) no later than 90 days prior to the scheduled change. When a transfer of ownership or operational control of a facility occurs, the old owner or

operator shall comply with the requirements of 320 IAC 4.1-22 (financial requirements), until the new owner or operator has demonstrated to the Technical Secretary that it is complying with that Rule. All other interim status duties are transferred effective immediately upon the date of the change of ownership or operational control of the facility, whichever occurs first. Upon demonstration to the Technical Secretary by the new owner or operator of compliance with 320 IAC 4.1-22, the Technical Secretary shall notify the old owner or operator in writing that it no longer needs to comply with 320 IAC 4.1-15 through 320 IAC 4.1-32 as of the date of demonstration.

(e) In no event shall changes be made to an HWM facility during interim status which amount to reconstruction of the facility. Reconstruction occurs when the capital investment in the changes to the facility exceeds fifty percent of the capital cost of a comparable entirely new HWM facility. *(Indiana Environmental Management Board; 320 IAC 4.1-38-3)*

320 IAC 4.1-38-4 Termination of interim status

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. Interim status terminates when:
(a) Final adminstrative disposition of a Final (State) Permit application is made (pursuant to 320 IAC 4.1-39); or
(b) Interim status is terminated as provided in 320 IAC 4.1-34-1(e)(5).
(Indiana Environmental Management Board; 320 IAC 4.1-38-4)

Rule 39. The Hazardous Waste Final State Permit Program; State Procedures for Decisionmaking

320 IAC 4.1-39-1 Purpose and scope

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. 320 IAC 4.1-39 sets forth procedures for issuing, modifying, revoking and reissuing, and terminating all Final State permits other than "emergency permits" (see 320 IAC 4.1-37-2), "permits by rule" (see 320 IAC 4.1-37-1) and interim permits (see 320 IAC 4.1-15-1). *(Indiana Environmental Management Board; 320 IAC 4.1-39-1)*

320 IAC 4.1-39-2 Application for a permit

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. (a) Any person who requires a Final (State) Permit under 320 IAC 4.1-33 through 320 IAC 4.1-54 shall complete, sign, and submit to the Technical Secretary an application for each permit required under 320 IAC 4.1-33-1. Applications are not required for State permits-by-rule (320 IAC 4.1-37-1).

(b) The Technical Secretary shall *not* begin the processing of a permit until the applicant has fully complied with the application requirements for that permit. (See 320 IAC 4.1-34-1.)

(c) Permit applications must comply with the signature and certification requirements of 320 IAC 4.1-34-2. *(Indiana Environmental Management Board; 320 IAC 4.1-39-2)*

320 IAC 4.1-39-3 Modification, revocation and reissuance, or termination of permits

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. (a) Permits may be modified, revoked and reissued, or terminated either at the request of any interested person (including the permittee) or upon the Technical Secretary's initiative. However, permits may only be modified, revoked and reissued, or terminated for the reasons specified in 320 IAC 4.1-36-2 and 320 IAC 4.1-36-4 (Final State Permit). All requests shall be in writing and shall contain facts or reasons supporting the request.

(b)(1) If the Technical Secretary decides to modify or revoke and reissue a permit under 320 IAC 4.1-36-2 (Final State Permit), he or she shall prepare a draft permit under 320 IAC 4.1-39-4 incorporating the proposed changes. The Technical Secretary may request additional information and, in the case of a modified permit, may require the submission of an updated Final permit application. In the case of revoked and reissued permits, the Technical Secretary shall require the submission of a new application.

(2) In a permit modification under this section, only those conditions to be modified shall be reopened when a new draft permit is prepared. All other aspects of the existing permit shall remain in effect for the duration of the unmodified permit. When a permit is revoked and reissued under this section, the entire permit is reopened just as if the permit had expired and was being reissued. During any revocation and reissuance proceeding the permittee shall comply with all conditions of the existing permit until a new final permit is reissued.

(3) "Minor modifications" as defined in 320 IAC

4.1-36-3 are not subject to the requirements of this section.

(c) If the Technical Secretary decides to terminate a permit under 320 IAC 4.1-36-4, he or she shall issue a notice of intent to terminate. A notice of intent to terminate is a type of draft permit which follows the same procedures as any draft permit prepared under 320 IAC 4.1-39-4. *(Indiana Environmental Management Board; 320 IAC 4.1-39-3)*

320 IAC 4.1-39-4 Draft permits

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. (a) Once an application is complete, the Technical Secretary shall decide whether to prepare a draft permit or to deny the application.

(b) If the Technical Secretary decides to prepare a draft permit, he or she shall prepare a draft permit that contains the following information:

(1) all conditions under 320 IAC 4.1-35-1 and 320 IAC 4.1-35-3;

(2) all compliance schedules under 320 IAC 4.1-35-4;

(3) all monitoring requirements under 320 IAC 4.1-35-2; and

(4) standards for treatment, storage, recovery, and/or disposal and other permit conditions under 320 IAC 4.1-35-3.

(c) All draft permits prepared under this section shall be accompanied by a fact sheet (320 IAC 4.1-39-5), and shall be publicly noticed (320 IAC 4.1-39-6) and made available for public comment (320 IAC 4.1-39-7). The Technical Secretary shall give notice of opportunity for a public hearing (320 IAC 4.1-39-8), issue a final decision (320 IAC 4.1-39-10) and respond to comments (320 IAC 4.1-39-9). *(Indiana Environmental Management Board; 320 IAC 4.1-39-4)*

320 IAC 4.1-39-5 Fact sheet

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. (a) A fact sheet shall be prepared for every draft permit for a HWM facility. The fact sheet shall briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit. The Technical Secretary shall send this fact sheet to the applicant and, upon request, to any other person.

(b) The fact sheet shall include, when applicable:

(1) a brief description of the type of facility or activity which is the subject of the draft permit;

(2) the type and quantity of wastes, fluids, or pollutants which are proposed to be or are being treated, recovered, stored, disposed of, injected, emitted, or discharged.

(3) a brief summary of the basis for the draft permit conditions including references to applicable statutory or regulatory provisions.

(4) reasons why any requested variances or alternatives to required standards do or do not appear justified;

(5) a description of the procedures for reaching a final decision on the draft permit including:

(i) the beginning and ending dates of the comment period under 320 IAC 4.1-39-6 and the address where comments will be received;

(ii) procedures for requesting a hearing and the nature of that hearing; and

(iii) any other procedures by which the public may participate in the final decision.

(6) name and telephone number of a person to contact for additional information.

(Indiana Environmental Management Board; 320 IAC 4.1-39-5)

320 IAC 4.1-39-6 Public notice of permit actions and public comment period

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. (a) Scope: The Technical Secretary shall give public notice that the following actions have occurred:

(1) a draft permit has been prepared under 320 IAC 4.1-39-4;

(2) a hearing has been scheduled under 320 IAC 4.1-39-8;

(b) Timing:

(1) Public notice of the preparation of a draft permit (including a notice of intent to deny a permit application) required under paragraph (a) of this section shall allow at least 45 days for public comment.

(2) Public notice of a public hearing shall be given at least 30 days before the hearing. (Public notice of the hearing may be given at the same time as public notice of the draft permit and the two notices may be combined.)

(c) Methods: Public notice of activities described in paragraph (a) of this section shall be given by the following methods:

(1) by mailing a copy of a notice to the following persons (any person otherwise entitled to receive notice under this paragraph may waive his or her

rights to receive notice for any classes and categories of permits);

(i) the applicant;

(ii) any other agency which the Technical Secretary knows has issued or is required to issue a UIC, air pollution control, NPDES, or 404 permit (see 33 USC 1344) for the same facility or activity;

(iii) federal and State agencies with jurisdiction over fish, shellfish, and wildlife resources and over coastal zone management plans, the Advisory Council on Historic Preservation, State Historic Preservation Officers, and other appropriate government authorities, including any affected states;

(iv) persons on a mailing list developed by:

(A) including those who request in writing to be on the list;

(B) soliciting persons for "area lists" from participants in past permit proceedings in that area; and

(C) notifying the public of the opportunity to be put on the mailing list through periodic publication in the public press and in such publications as regional and state funded newsletters, environmental bulletins, or state law journals. (The Technical Secretary may update the mailing list from time to time by requesting written indication of continued interest from those listed. The Technical Secretary may delete from the list the name of any person who fails to respond to such a request.)

(v)(A) to any unit of local government having jurisdiction over the area where the facility is located or is proposed to be located; and

(B) to each State agency having any authority under State law with respect to the construction or operation of such facility.

(2) publication of a notice in a daily or weekly major newspaper of general circulation and broadcast over local radio stations; and

(3) any other method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it, including press releases or any other forum or medium to elicit public participation.

(d) Contents: (1) All public notices. All public notices issued shall contain the following minimum information:

(i) name and address of the office processing the permit action for which notice is being given;

(ii) name and address of the permittee or permit applicant and, if different, of the facility or activity regulated by the permit;

(iii) a brief description of the business conducted or proposed to conducted at the facility or activity described in the permit application;

(iv) name, address and telephone number of a person from whom interested persons may obtain further information, including copies of the draft permit, fact sheet, and the application; and

(v) a brief description of the comment procedures required by 320 IAC 4.1-39-7 and 320 IAC 4.1-39-8 and the time and place of any public hearing that will be held, including a statement of procedures to request a public hearing (unless a public hearing has already been scheduled) and other procedures by which the public may participate in the permit decision;

(vi) any additional information considered necessary or proper.

(2) Public notices for public hearings. In addition to the general public notice described in paragraph (d)(1) of this section, the public notice of a public hearing under 320 IAC 4.1-39-8 shall contain the following information:

(i) reference to the date of previous public notices relating to the permit;

(ii) date, time, and place of the public hearing;

(iii) a brief description of the nature and purpose of the public hearing, including the applicable rules and procedures;

(e) In addition to the general public notice described in paragraph (d)(1) of this section, all persons identified in paragraph (c)(1) of this section shall be mailed a copy of the fact sheet and the draft permit. *(Indiana Environmental Management Board; 320 IAC 4.1-39-6)*

320 IAC 4.1-39-7 Public comments and requests for public hearings

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 7. During the public comment period provided under 320 IAC 4.1-39-6, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the public hearing. All comments shall be considered in making the decision and shall be answered as provided in 320IAC4.1-39-9. *(Indiana Environmental Management Board; 320 IAC 4.1-39-7)*

320 IAC 4.1-39-8 Public hearings

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 8. (a)(1) The Technical Secretary shall hold a public hearing whenever required under IC 13-7-10-2 or whenever he or she finds, on the basis of requests, a significant degree of public interest in a draft permit(s);

(2) The Technical Secretary may also hold a public hearing at his or her discretion whenever, for instance, such a hearing might clarify one or more issues involved in the permit decision;

(3) The Technical Secretary shall hold a public hearing whenever he or she receives written notice of opposition to a draft permit and a request for a public hearing within 45 days of public notice under 320 IAC 4.1-39-6;

(4) Whenever possible, the Technical Secretary shall schedule a public hearing under this section at a location convenient to the nearest population center to the proposed facility;

(5) Public notice of the public hearing shall be given as specified in 320 IAC 4.1-39-6.

(b) Any person may submit oral or written statements and data concerning the draft permit. Reasonable limits may be set upon the time allowed for oral statements, and the submission of statements in writing may be required. The public comment period under 320 IAC 4.1-39-6 shall automatically be extended to the close of any public hearing under this section. The hearing officer may also extend the comment period by so stating at the hearing.

(c) A tape recording or written transcript of the public hearing shall be made available to the public. *(Indiana Environmental Management Board; 320 IAC 4.1-39-8)*

320 IAC 4.1-39-9 Response to comments

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 9. (a) At the time that a permit decision is issued under 320 IAC 4.1-39-10, the Technical Secretary shall issue a response to comments. This response shall:

(1) specify which provisions, if any, of the draft permit have been changed in the permit decision, and the reasons for the change;

(2) briefly describe and respond to all significant comments on the draft permit; and

(3) briefly explain the right to request an adjudicatory hearing on the permit.

(b) The response to comments shall be mailed to the persons identified in 320 IAC 4.1-39-6(c)(1) and made available to the public. *(Indiana Environmental Management Board; 320 IAC 4.1-39-9)*

320 IAC 4.1-39-10 Issuance and effective date of a permit

Authority: IC 13-7-7-5; IC 13-7-10
Affected: IC 13-7

Sec. 10. (a) After the close of the public comment period (including any public hearing) required by 320 IAC 4.1-39-6 on a draft permit, the Technical Secretary shall issue a permit decision and shall serve notice of that action upon the applicant and upon each person who has submitted written comments, requested notice of the permit decision, or has notified the Board that they are a person affected by the permit decision. This notice shall include reference to the procedures available to contest the permit decision by requesting an adjudicatory hearing. For the purposes of this section, a permit decision means a decision to issue, deny, modify, revoke and reissue, or terminate a permit.

(b) A permit decision shall become effective, thereby constituting final action of the Board, fifteen (15) days following receipt of the notice under subsection (a) of this section, unless:

(1) a later effective date is specified in the permit decision;

(2) it is a permit that will be phased in as specified in the permit decision;

(3) an adjudicatory hearing is requested on the final permit, in which case the effective date is determined under subsections (c) and (d) of this section.

(c)(1)(A) If an adjudicatory hearing is requested regarding the permit decision issued under subsection (a) of this section, the permit decision shall be stayed pending the Technical Secretary's decision on the request. If the request for adjudicatory hearing is granted, or if it is denied and a petition for review of the denial is timely filed with the Board, the force and effect of the contested provisions of the permit shall be stayed. The Technical Secretary shall serve notice on the permittee and all other affected persons, identifying the terms and conditions of the final permit which are not contested and therefore are effective and enforceable obligations of the permittee.

(B) A permit term or condition, otherwise uncontested, shall also be stayed if such term or

condition is unseverable from a contested term or condition.

(C) Uncontested terms and conditions shall become enforceable fifteen (15) days after the date of receipt of the notice. If a request for an adjudicatory hearing on a term or condition was denied and the denial is appealed, then such term or condition shall become effective and enforceable upon the date of receipt of the notice of the agency's decision on the appeal if the denial is affirmed, or shall be stayed, in accordance with this section, if the agency reverses the denial and grants the adjudicatory hearing on such permit term or condition.

(D) Uncontested terms and conditions of a permit shall include:

(i) permit requirements for which an adjudicatory hearing has not been requested;

(ii) permit conditions which will have to be met regardless of which party prevails at the adjudicatory hearing.

(2) Where an adjudicatory hearing is granted concerning a permit renewal, all provisions of the existing permit shall continue in full force and effect until final Board action is completed on the new permit.

(d) A decision by the Board on an adjudicatory hearing or on a petition for review of denial of a request for hearing shall constitute final agency action for purposes of judicial review:

(1) upon receipt of the notice of the decision, if such decision affirms the permit as originally issued by the Technical Secretary or affirms the hearing request denial; or

(2) if the decision revises the permit as originally issued by the Technical Secretary, upon receipt of the final permit issued by the Technical Secretary after its revision in accordance with the decision.

(e) When issuing a finally effective permit after final Board action on an adjudicatory hearing or a petition for review of denial of a request for hearing, the Technical Secretary shall extend any compliance schedule contained in the permit to the extent required by a stay under this section, provided that no such extension shall be granted which would:

(1) result in the violation of an applicable statutory deadline; or

(2) cause the permit to expire more than five years after issuance.

(Indiana Environmental Management Board; 320 IAC 4.1-39-10)

320 IAC 4.1-39-11 Duration of permits

Authority: IC 13-7-7-5; IC 13-7-10
Affected: IC 13-7

Sec. 11. (a) State permits shall be effective for a fixed term not to exceed five (5) years.

(b) Except as provided in 320 IAC 4.1-39-12(a), the term of a permit shall not be extended by modification beyond five (5) years.

(c) The Technical Secretary may issue any permit for a duration that is less than five (5) years. *(Indiana Environmental Management Board; 320 IAC 4.1-39-11)*

320 IAC 4.1-39-12 Continuation of expiring permits

Authority: IC 13-7-7-5; IC 13-7-10
Affected: IC 13-7

Sec. 12. (a) The conditions of an expired permit continue in force under IC13-7-10-2(f) until the effective date of a new permit if:

(1) the permittee has submitted a complete and timely application under 320 IAC 4.1-34-5 and the applicable sections in 320 IAC 4.1-34-6 through 320 IAC 4.1-34-12 which is a complete (under 320 IAC 4.1-34-1(c)) application for a new permit; and

(2) the Technical Secretary through no fault of the permittee, does not issue a new permit with an effective date under 320 IAC 4.1-39-10(a) on or before the expiration date of the previous permit.

(b) Effect. Permits continued under this section remain fully effective and enforceable.

(c) Enforcement. When the permittee is not in compliance with the conditions of the expiring or expired permit, the Technical Secretary may choose to do any or all of the following:

(1) initiate enforcement action based upon the permit which has been continued;

(2) issue a notice of intent to deny the new permit. If the permit is denied, the owner or operator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operating without a permit;

(3) issue a new permit under 320 IAC 4.1-39 with appropriate conditions; or

(4) take other actions authorized by these regulations.

(Indiana Environmental Management Board; 320 IAC 4.1-39-12)

320 IAC 4.1-39-13 Adjudicatory hearings

Authority: IC 13-7-7-5; IC 13-7-10-4
Affected: IC 13-1-3; IC 13-7

Sec. 13. The purpose of 320 IAC 4.1-39-13 through 320 IAC 4.1-39-21 is to establish procedures for the conduct of adjudicatory hearings regarding permits.

The procedures herein contained are intended to supplement and in no way abridge procedures prescribed under the Indiana Administrative Adjudication Act, IC 4-22-1. *(Indiana Environmental Management Board; 320 IAC 4.1-39-13)*

320 IAC 4.1-39-14 Definitions

Authority: IC 13-7-7-5; IC 13-7-10-4
Affected: IC 13-1-3; IC 13-7

Sec. 14. (a) "Party" shall mean the Board, and any person whose request for a hearing or request to be a party has been granted.

(b) "Hearing Officer" shall mean an individual duly appointed by the Board to preside over an administrative hearing.

(c) "Petitioner" shall mean any person, corporation, governmental body, or other entity that seeks or has been granted an adjudicatory hearing for the purpose of contesting permit issuance, denial, modification, or revocation.

(d) "Revocation" shall include, for the purposes of this rule, both "revocation and reissuance" and "termination" as those terms are used in 320 IAC 4.1. *(Indiana Environmental Management Board; 320 IAC 4.1-39-14)*

320 IAC 4.1-39-15 Request for adjudicatory hearings

Authority: IC 13-7-7-5; IC 13-7-10-4
Affected: IC 13-1-3; IC 13-7

Sec. 15. (a) Within fifteen (15) days following the receipt of an issued permit or permit modification, or notice that a permit has been issued, or notice of denial or revocation of permit, an aggrieved person may request a adjudicatory hearing concerning such action.

(b) A request for an adjudicatory hearing shall:
(1) state the name and address of the person making such request;
(2) identify the interest of the petitioner which is affected by the issuance, denial, modification, or revocation of the permit.
(3) identify any persons whom petitioner represents;
(4) state with particularity the reasons for the request;
(5) state with particularity the issues proposed to be considered at the hearing; and
(6) include proposed terms and conditions which, in the judgement of the petitioner, would be appropriate to carry out the requirements of the law governing such permits. *(Indiana Environmental Management Board; 320 IAC 4.1-39-15)*

320 IAC 4.1-39-16 Decision on a request for hearing

Authority: IC 13-7-7-5; IC 13-7-10-4
Affected: IC 4-22-1; IC 13-1-3; IC 13-7

Sec. 16. (a) Within fifteen (15) days following the expiration of the time allowed by 320 IAC 4.1-39-15(a) for submitting a request for an adjudicatory hearing, the Technical Secretary shall grant the request and shall promptly assign the matter for hearing if he determines that the submitted request:
(1) meets the requirements of 320 IAC 4.1-39-15, and
(2) establishes a jurisdictional basis for hearing.

The Technical Secretary shall issue public notice of such hearing in a manner to be determined by him and as required by IC 4-22-1.

(b) If the Technical Secretary determines that the request fails to meet the requirements of 320 IAC 4.1-39-15, he shall notify the petitioner by certified mail, return receipt requested. If petitioner fails to cure the specified deficiencies within fifteen (15) days after receipt of said notice or if petitioner's request fails to establish a jurisdictional basis for hearing, the Technial Secretary shall deny the request for hearing and notify the petitioner by certified mail, return receipt requested. *(Indiana Environmental Management Board; 320 IAC 4.1-39-16)*

320 IAC 4.1-39-17 Petition for review of denial of request

Authority: IC 13-7-7-5; IC 13-7-10-4
Affected: IC 4-22-1; IC 13-7-3, IC 13-7

Sec. 17. (a) If the Technical Secretary denies a request for an adjudicatory hearing, the person making the request may petition the Board to review the denial. The petitioner shall set forth in the petition his reasons for claiming the denial of the request for adjudicatory hearing to be unwarranted under 320 IAC 4.1-39.

(b) The Board shall promptly consider a petition submitted under 320 IAC 4.1-39-17(a). Affirmation by the Board of the Technical Secretary's denial of a request for adjudicatory hearing shall constitute final Board action on the permit upon receipt of notice by the petitioner.

(c) If the Board finds that the request for adjudicatory hearing should have been granted under 320 IAC 4.1-39-15, the Board shall direct that a hearing be held in accordance with the provisions 320

IAC 4.1-39 and IC 4-22-1. *(Indiana Environmental Management Board; 320 IAC 4.1-39-17)*

320 IAC 4.1-39-18 Additional parties and issues

Authority: IC 13-7-7-5; IC 13-7-10-4
Affected: IC 13-1-3; IC 13-7

Sec. 18. (a) Any interested person may submit a request to be admitted as a party within fifteen (15) days after the date of public notice of an adjudicatory hearing.

(b) The hearing officer shall grant any request which meets the requirements of 320 IAC 4.1-39-15(b). The request must set forth all material issues of fact and law the requestor seeks to be considered at the adjudicatory hearing. *(Indiana Environmental Management Board; 320 IAC 4.1-39-18)*

320 IAC 4.1-39-19 Representation

Authority: IC 13-7-7-5; IC 13-7-10-4
Affected: IC 13-1-3; IC 13-7; IC 4-22-1

Sec. 19. Parties may be represented by counsel or other duly authorized representatives. *(Indiana Environmental Management Board; 320 IAC 4.1-39-19)*

320 IAC 4.1-39-20 Prehearing conferences

Authority: IC 13-7-7-5; IC 13-7-10-4; IC 4-22-1
Affected: IC 13-1-3; IC 13-7; IC 4-22-1

Sec. 20. (a) The hearing officer may conduct prehearing conferences, either at his own initiative or at the request of any party, for the purposes of narrowing issues for adjudication, disposing of prehearing motions, resolving procedural questions concerning the conduct of the hearing, considering and ruling upon objections to the testimony of witnesses or documentary evidence proposed to be introduced at the adjudicatory hearing by any party, and similar matters.

(b) Upon the motion of any party, the hearing officer may direct that any or all parties are required to produce witness lists or other materials prior to or at the prehearing conference.

(c) At the discretion of the hearing officer and the parties, persons other than the parties may attend prehearing conferences.

(d) Without leave of the hearing officer, the parties may conduct settlement conferences for the purposes of simplification of issues, negotiation, and related matters which may expedite resolution of the controversy. *(Indiana Environmental Management Board; 320 IAC 4.1-39-20)*

320 IAC 4.1-39-21 Adjudicatory hearing procedures

Authority: IC 13-7-7-5; IC 13-7-10-4; IC 4-22-1
Affected: IC 13-1-3; IC 13-7; IC 4-22-1

Sec. 21. (a) The burden of proof and going forward with the evidence shall be upon the requestor.

(b) It shall be the duty of the hearing officer to conduct a fair and impartial hearing, to take action to avoid unnecessary delay in the disposition of proceedings, and to maintain order. He shall use the powers necessary to that end, including, but not limited to, the following:

(1) to administer oaths and affirmation;
(2) to rule upon offers of proof and receive relevant evidence;
(3) to regulate the course of the hearing and the conduct of the parties and their counsel therein;
(4) to consider and rule upon all procedural and other motions appropriate to the proceedings;
(5) to take any other action authorized by the Indiana Administrative Adjudication Act.

(c) The hearing officer shall admit all relevant and material evidence except that which is unduly repetitious.

(d) Parties shall have the right to cross-examine any witness who appears at any adjudicatory hearing to the extent that such cross-examination is necessary for a full and true disclosure of the facts.

(e) Rulings of the hearing officer on the admissibility of evidence, the propriety of cross-examination, and other procedural matters shall be final and will appear on the record. *(Indiana Environmental Management Board; 320 IAC 4.1-39-21)*

Rule 40. Final (State) Permitted Facility Standards: General Provisions

320 IAC 4.1-40-1 Purpose, scope, and applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. (a) The purpose of 320 IAC 4.1-40 through 320 IAC 4.1-54 is to establish minimum standards which define the acceptable management of hazardous waste at Final (state) Permitted facilities.

(b) The standards in 320 IAC 4.1-40 through 320 IAC 4.1-54 apply to owners and operators of all facilities which treat, recover, store, or dispose of hazardous waste, except as specifically provided otherwise in 320 IAC 4.1-40 through 320 IAC 4.1-54 or 320 IAC 4.1-3 through 320 IAC 4.1-6.

(c) The requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54 apply to a person disposing of hazardous waste by means of ocean disposal subject to a permit issued under the Marine Protection, Research, and Sanctuaries Act only to the extent they are included in a state hazardous waste permit-by-rule granted to such a person under 320 IAC 4.1-37-1.

[Note: 320 IAC 4.1-40 through 320 IAC 4.1-54 apply to the treatment recovery, or storage of hazardous waste before it is loaded onto an ocean vessel for incineration or disposal at sea.]

(d) The requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54 apply to a person disposing of hazardous waste by means of underground injection subject to a permit issued under an Underground Injection Control (UIC) program approved or promulgated under the Safe Drinking Water Act (42 USC 300f et. seq.) only to the extent they are required by 40 CFR 144.14.

[Note: 320 IAC 4.1-40 through 320 IAC 4.1-54 apply to the above-ground treatment or storage of hazardous waste before it is injected underground.]

(e) The requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54 apply to the owner or operator of a POTW which treats, stores, or disposes of hazardous waste only to the extent they are included in a State permit-by-rule granted to such a person under 320 IAC 4.1-37-1.

(f) The requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54 do not apply to:

(1) the owner or operator of a facility permitted, licensed, or registered by the State to manage municipal or industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation by 320 IAC 4.1-3-5;

(2) an owner or operator of a facility which is beneficially using or reusing or legitimately recycling or reclaiming hazardous waste which is generated by the owner or operator of the facility, except to the extent that 320 IAC 4.1-3-6(b) provides otherwise;

(3) a generator accumulating waste on-site in compliance with 320 IAC 4.1-9-5;

(4) a farmer disposing of waste pesticides from his own use in compliance with 320 IAC 4.1-11-2; or

(5) the owner or operator of a totally enclosed treatment facility, as defined in 320 IAC 4.1-1-7;

(6) the owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in 320 IAC 4.1-1-7;

(7)(i) Except as provided in paragraph (f)(7)(ii) of this section a person engaged in treatment or containment activities during immediate response to any of the following situations:

(A) a discharge of a hazardous waste;

(B) an imminent and substantial threat of a discharge of hazardous waste;

(C) a discharge of a material which, when discharged, becomes a hazardous waste.

(ii) An owner or operator of a facility otherwise regulated by 320 IAC 4.1-40 through 320 IAC 4.1-54 must comply with all applicable requirements of 320 IAC 4.1-42 and 320 IAC 4.1-43.

(iii) Any person who is covered by paragraph (f)(7)(i) of this section and who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54 and 320 IAC 4.1-39 for those activities.

(8) a transporter storing manifested shipments of hazardous waste in containers meeting the requirements of 320 IAC 4.1-9-1 at a transfer facility for a period of ten days or less;

(9) the addition of absorbent material to waste in a container (as defined in 320 IAC 4.1-1-7) or the addition of waste to absorbent material in a container, provided that these actions occur at the time waste is first placed in the container; and 320 IAC 4.1-41-8(b), 320 IAC 4.1-48-2, and 320 IAC 4.1-48-3 are complied with.

(Indiana Environmental Management Board; 320 IAC 4.1-40-1)

320 IAC 4.1-40-2 Relationship to interim status standards

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. A facility owner or operator who has fully complied with the requirements for interim status, as required by 320 IAC 4.1-38 and 320 IAC 4.1-34-4, must comply with 320 IAC 4.1-15 through 320 IAC 4.1-32 in lieu of 320 IAC 4.1-40 through 320 IAC 4.1-54, until final administrative disposition of his Final (State) Permit application is made. *(Indiana Environmental Management Board; 320 IAC 4.1-40-2)*

320 IAC 4.1-40-3 Imminent hazard action

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. Notwithstanding any other provisions of 320 IAC 4.1-40 through 320 IAC 4.1-54, enforcement actions may be brought pursuant to IC 13-7-11 and IC

13-7-12. *(Indiana Environmental Management Board; 320 IAC 4.1-40-3)*

Rule 41. Final (State) Permitted Facility Standards: General Facility Standards

320 IAC 4.1-41-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. (a) 320 IAC 4.1-41 applies to owners and operators of all hazardous waste facilities, except as provided in 320 IAC 4.1-40-1 and in 320 IAC 4.1-41-1(b).

(b) 320 IAC 4.1-41-9(b) is applicable only to facilities subject to regulation under 320 IAC 4.1-48, 320 IAC 4.1-49, 320 IAC 4.1-50, 320 IAC 4.1-51, 320 IAC 4.1-52, 320 IAC 4.1-53, and 320 IAC 4.1-54. *(Indiana Environmental Management Board; 320 IAC 4.1-41-1)*

320 IAC 4.1-41-2 Identification number

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. Every facility owner or operator must apply to EPA for an EPA identification number in accordance with the EPA notification procedures. *(Indiana Environmental Management Board; 320 IAC 4.1-41-2)*

320 IAC 4.1-41-3 Required notices

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. (a) The owner or operator of a facility that has arranged to receive hazardous waste from a foreign source must notify the Environmental Management Board in writing at least four weeks in advance of the date the waste is expected to arrive at the facility. Notice of subsequent shipments of the same waste from the same foreign source is not required.

(b) The owner or operator of a facility that receives hazardous waste from an off-site source (except where the owner or operator is also the generator) must inform the generator in writing that he has the appropriate permit(s) for, and will accept, the waste the generator is shipping. The owner or operator must keep a copy of this written notice as part of the operating record.

(c) Before transferring ownership or operation of a facility during its operating life and, in addition, of a disposal facility during the post-closure care period, the owner or operator must notify the new owner or operator in writing of the requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54 and 320 IAC 4.1-33 through 320 IAC 4.1-38.

[Note: An owner's or operator's failure to notify the new owner or operator of the requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54 in no way relieves the new owner or operator of his obligation to comply with all applicable requirements.] *(Indiana Environmental Management Board; 320 IAC 4.1-41-3)*

320 IAC 4.1-41-4 General waste analysis

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. (a)(1) Before an owner or operator treats, stores, recovers, or disposes of any hazardous waste, he must obtain a detailed chemical and physical analysis of a representative sample of the waste.

At a minimum, this analysis must contain all the information which must be known to treat, store, recover or dispose of the waste in accordance with the requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54 or with the conditions of a permit issued under 320 IAC 4.1-39.

(2) The analysis may include data developed under 320 IAC 4.1-3 through 320 IAC 4.1-6, and existing published or documented data on the hazardous waste or on hazardous waste generated from similar processes.

[Note: For example, the facility's records of analyses performed on the waste before the effective date of these regulations, or studies conducted on hazardous waste generated from processes similar to that which generated the waste to be managed at the facility, may be included in the data base required to comply with paragraph (a)(1) of this Section. The owner or operator of an off-site facility may arrange for the generator of the hazardous waste to supply part or all of the information required by paragraph (a)(1) of this Section. If the generator does not supply the information, and the owner or operator chooses to accept a hazardous waste, the owner or operator is responsible for obtaining the information required to comply with this Section.]

(3) The analysis must be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis must be repeated:

(i) when the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous waste has changed; and

(ii) for off-site facilities, when the results of the inspection required in paragraph (a)(4) of this Sec-

tion indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

(4) The owner or operator of an off-site facility must inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

(b) The owner or operator must develop and follow a written waste analysis plan which describes the procedures which he will carry out to comply with paragraph (a) of this Section. He must keep this plan at the facility. At a minimum, the plan must specify:

(1) the parameters for which each hazardous waste will be analyzed and the rationale for the selection of these parameters (i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with paragraph (a) of this Section);

(2) the test methods which will be used to test for these parameters;

(3) the sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:

(i) one of the sampling methods described in 320 IAC 4.1-6-5; or

(ii) an equivalent sampling method.

(4) the frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date; and

(5) for off-site facilities, the waste analyses that hazardous waste generators have agreed to supply.

(6) where applicable, the methods which will be used to meet the additional waste analysis requirements for specific waste management methods as specified in 320 IAC 4.1-41-8 and 320 IAC 4.1-54-2.

(c) For off-site facilities, the waste analysis plan required in paragraph (b) of this Section must also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan must describe:

(1) the procedures which will be used to determine the identity of each movement of waste managed at the facility; and

(2) the sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

[Note: 320 IAC 4.1-34 requires that the waste analysis plan be submitted with the Final (State) Permit application.] *(Indiana Environmental Management Board; 320 IAC 4.1-41-4)*

320 IAC 4.1-41-5 Security

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 5. (a) The owner or operator must prevent the unknowing entry, and minimize the possibility for the unauthorized entry of persons or livestock onto the active portion of his facility, unless he can demonstrate to the Technical Secretary that:

(1) physical contact with the waste, structures, or equipment within the active portion of the facility will not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility; and

(2) disturbance of the waste or equipment, by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility, will not cause a violation of the requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54.

[Note: 320 IAC 4.1-34 requires that an owner or operator who wishes to make the demonstration referred to above must do so with the Final (State) Permit application.]

(b) Unless the owner or operator has made a successful demonstration under paragraphs (a)(1) and (a)(2) of this Section, a facility must have:

(1) a 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the active portion of the facility; or

(2)(i) an artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff) which completely surrounds the active portion of the facility; and

(ii) a means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance, or controlled roadway access to the facility).

[Note: The requirements of paragraph (b) of this Section are satisfied if the facility or plant within which the active portion is located itself has a surveillance system, or a barrier and a means to control entry, which complies with the requirements of paragraph (b)(1) or (b)(2) of this Section.]

(c) Unless the owner or operator has made a successful demonstration under paragraphs (a)(1) and (a)(2) of this Section, a sign with the legend. "Danger—

Unauthorized Personnel Keep Out:" must be posted at each entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. The legend must written in English and in any other language predominant in the area surrounding the facility (e.g., facilities in counties bordering the Canadian province of Quebec must post signs in French; facilities in counties bordering Mexico must post signs in Spanish), and must be legible from a distance of at least 25 feet. Existing signs with a legend other than "Danger—Unauthorized Personnel Keep Out:" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.

[Note: See 320 IAC 4.1-46-7(b) for discussion of security requirements at disposal facilities during the post-closure care period.] *(Indiana Environmental Management Board; 320 IAC 4.1-41-5)*

320 IAC 4.1-41-6 General inspection requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. (a) The owner or operator must inspect his facility for malfunctions and deterioration, operator errors, and discharges which may be causing—or may lead to—(1) release of hazardous waste constituents to the environment or (2) a threat to human health. The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

(b)(1) The owner or operator must develop and follow a written schedule for inspecting monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

(2) He must keep this schedule at the facility.

(3) The schedule must identify the types of problems (e.g., malfunctions or deterioration) which are to be looked for during the inspection (e.g., inoperative sump pump, leaking fitting, eroding dike, etc.).

(4) The frequency of inspection may vary for the items on the schedule. However, it should be based on the rate of possible deterioration of the equipment and the probability of an environmental or human health incident if the deterioration or malfunction of any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use. At a minimum, the inspection schedule must include the terms and frequencies called for in 320 IAC 4.1-48-5, 320 IAC 4.1-49-4, 320 IAC 4.1-50-4, 320 IAC 4.1-51-4, 320 IAC 4.1-51-5, and 320 IAC 4.1-54-7, where applicable.

[Note: 320 IAC 4.1-34 requires the inspection schedule to be submitted with the Final (State) Permit application. The Technical Secretary will evaluate the schedule along with the rest of the application to ensure that it adequately protects human health and the environment. As part of this review, the Technical Secretary may modify or amend the schedule as may be necessary.]

(c) The owner or operator must remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

(d) The owner or operator must record inspections in an inspection log or summary. He must keep these records for at least three years from the date of inspection. At a minimum, these records must include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions. *(Indiana Environmental Management Board; 320 IAC 4.1-41-6)*

320 IAC 4.1-41-7 Personnel training

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. (a)(1) Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54. The owner or operator must ensure that this program includes all the elements described in the document required under paragraph (d)(3) of this Section.

(2) This program must be directed by a person trained in hazardous waste management procedures, and must include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

(3) At a minimum, the training program must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including where applicable:

(i) procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;
(ii) key parameters for automatic waste feed cut-off systems;
(iii) communications or alarm systems;
(iv) response to fires or explosions;
(v) response to groundwater contamination incidents; and
(vi) shutdown of operations.

(b) Facility personnel must successfully complete the program required in paragraph (a) of this Section within 6 months after date of employment. New employees or employees transferred into new positions must not work in an unsupervised capacity until they have completed the training requirements of paragraph (a) of this Section.

(c) Facility personnel must take part in an annual review of the initial training required in paragraph (a) of this Section.

(d) The owner or operator must maintain the following documents and records at the facility:
(1) a document which describes the job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job;
(2) a written job description for each position listed under paragraph (d)(1) of this Section. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education, or other qualifications, and duties of employees assigned to each position;
(3) a written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under paragraph (d)(1) of this Section;
(4) records that document that the training or job experience required under paragraphs (a), (b), and (c) of this Section has been given to, and completed by, facility personnel.

(e) Training records on current personnel must be kept until closure of the facility; training records on former employees must be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

[Note: 320 IAC 4.1-34 requires that owners and operators submit with the Final (State) Permit application, an outline of the training program used (or to be used) at the facility and a brief description of how the training program is designed to meet actual job tasks.] *(Indiana Environmental Management Board; 320 IAC 4.1-41-7)*

320 IAC 4.1-41-8 General requirements for ignitable, reactive, or incompatible wastes

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 8. (a) The owner or operator must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including but not limited to: open flames smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the owner or operator must confine smoking and open flame to specially designated locations. "No Smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(b) Where specifically required by 320 IAC 4.1-40 through 4.1-54, the owner or operator of a facility that treats, stores, recovers, or disposes of ignitable or reactive waste, or mixes incompatible waste or incompatible wastes and other materials, must take precautions to prevent reactions which:
(1) generate extreme heat or pressure, fire or explosions, or violent reactions;
(2) produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;
(3) produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;
(4) damage the structural integrity of the device or facility;
(5) through other like means, threaten human health or the environment.

(c) When required to comply with paragraphs (a) or (b) of this Section, the owner or operator must document that compliance. This documentation may be based on references to published scientific or engineering literature, data from trial tests (e.g.,

bench scale or pilot scale tests), waste analyses (as specified in 320 IAC 4.1-41-4), or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions. *(Indiana Environmental Management Board; 320 IAC 4.1-41-8)*

320 IAC 4.1-41-9 Location standards

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 9. (a) Seismic considerations:

(1) Portions of new facilities where treatment, storage, recovery, or disposal of hazardous waste will be conducted must not be located within 61 meters (200 feet) of a fault which has had displacement in Holocene time.

(2) As used in paragraph (a)(1) of this Section:

(i) "Fault" means a fracture along which rocks on one side have been displaced with respect to those on the other side.

(ii) "Displacement" means the relative movement of any two sides of a fault measured in any direction.

(iii) "Holocene" means the most recent epoch of the Quarternary period, extending from the end of the Pleistocene to the present.

[Note: Procedures for demonstrating compliance with this standard in the Final (State) Permit application are specified in 320 IAC 4.1-34-5. Facilities which are located in political jurisdictions other than those listed in 320 IAC 4.1-32-6, are assumed to be in compliance with this requirement.]

(b) Floodplains.

(1) A facility located in a 100-year floodplain must be designed, constructed, operated, and maintained to prevent washout of any hazardous waste by a 100-year flood, unless the owner or operator can demonstrate to the Technical Secretary's satisfaction that:

(i) procedures are in effect which will cause the waste to be removed safely, before flood waters can reach the facility, to a location where the wastes will not be vulnerable to flood waters; or

(ii) for existing surface impoundments, waste piles, land treatment units, and landfills, no adverse effects on human health or the environment will result if washout occurs, considering:

(A) the volume and physical and chemical characteristics of the waste in the facility;

(B) the concentration of hazardous constituents that would potentially affect surface waters as a result of washout;

(C) the impact of such concentrations on the current or potential uses of water quality standards established for the affected surface waters; and

(D) the impact of hazardous constituents on the sediments of affected surface waters or the soils of the 100-year floodplain that could result from washout.

[Note: The location where wastes are moved must be a facility which is either permitted by EPA under 40 CFR 270, or a facility permitted pursuant to 320 IAC 4.1-15 through 320 IAC 4.1-32 and 320 IAC 4.1-33 through 320 IAC 4.1-38 or in interim status under 40 CFR 270 and 271 or permitted by a state with a hazardous waste management program authorized under 40 CFR Part 271.]

(2) As used in paragraph (b)(1) of this Section:

(i) "100-year floodplain" means any land area which is subject to a one percent or greater chance of flooding in any given year from any source.

(ii) "Washout" means the movement of hazardous waste from the active portion of the facility as a result of flooding.

(iii) "100-year flood" means a flood that has a one percent chance of being equalled or exceeded in any given year.

(Indiana Environmental Management Board; 320 IAC 4.1-41-9)

Rule 42. Final (State) Permitted Facility Standards: Preparedness and Prevention

320 IAC 4.1-42-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. 320 IAC 4.1-42 applies to owners and operators of all hazardous waste facilities, except as 320 IAC 4.1-40-1 provides otherwise. *(Indiana Environmental Management Board; 320 IAC 4.1-42-1)*

320 IAC 4.1-42-2 Design and operation of facility

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. Facilities must be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment. *(Indiana Environmental Management Board; 320 IAC 4.1-42-2)*

320 IAC 4.1-42-3 Required equipment

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. All facilities must be equipped with the following, unless it can be demonstrated to the Technical Secretary that none of the hazards posed by waste handled at the facility could require a particular kind equipment specified below:

(a) an internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;

(b) a device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;

(c) portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and

(d) water at adequate volume and pressure to supply water hose streams, or foam producing equipment or automatic sprinklers or water spray systems.

[Note: 320 IAC 4.1-34 requires that an owner or operator who wishes to make the demonstration referred to above must do so with the Final (State) Permit application.] *(Indiana Environmental Management Board; 320 IAC 4.1-42-3)*

320 IAC 4.1-42-4 Testing and maintenance of equipment

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 4. All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency. *(Indiana Environmental Management Board; 320 IAC 4.1-42-4)*

320 IAC 4.1-42-5 Access to communications or alarm systems

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 5. (a) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless the Technical Secretary has ruled that such a device is not required under 320 IAC 4.1-42-3.

(b) If there is ever just one employee on the premises while the facility is operating, he must have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, unless the Technical Secretary has ruled that such a device is not required under 320 IAC 4.1-42-3. *(Indiana Environmental Management Board; 320 IAC 4.1-42-5)*

320 IAC 4.1-42-6 Required aisle space

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 6. The owner or operator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless it can be demonstrated to the Technical Secretary that aisle space is not needed for any of these purposes.

[Note: 320 IAC 4.1-34 requires that an owner or operator who wishes to make the demonstration referred to above must do so with the Final (State) Permit application.] *(Indiana Environmental Management Board; 320 IAC 4.1-42-6)*

320 IAC 4.1-42-7 Arrangements with local authorities

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 7. (a) The owner or operator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations:

(1) arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes;

(2) where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;

(3) agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and

(4) arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions or releases at the facility.

(b) Where State or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record. *(Indiana Environmental Management Board; 320 IAC 4.1-42-7)*

Rule 43. Final (State) Permitted Facility Standards: Contingency Plan and Emergency Procedures

320 IAC 4.1-43-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. 320 IAC 4.1-43 applies to owners and operators of all hazardous waste facilities, except as 320 IAC 4.1-40-1 provides otherwise. *(Indiana Environmental Management Board; 320 IAC 4.1-43-1)*

320 IAC 4.1-43-2 Purpose and implementation of contingency plan

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. (a) Each owner or operator must have a contingency plan for his facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any other unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.

(b) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment. *(Indiana Environmental Management Board; 320 IAC 4.1-43-2)*

320 IAC 4.1-43-3 Content of contingency plan

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. (a) The contingency plan must describe the actions facility personnel must take to comply with 320 IAC 4.1-43-2 and 320 IAC 4.1-43-7 in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.

(b) If the owner or operator has already prepared a Spill Prevention Control, and Countermeasures (SPCC) Plan in accordance with 40 CFR Part 112 or National Oil & Hazardous Substances Pollution Contingency Plan in accordance with 40 CFR Part 300, or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54.

(c) The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services, pursuant to 320 IAC 4.1-42-7.

(d) The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see 320 IAC 4.1-43-6), and this list must be kept up-to-date. Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates. For new facilities, this information must be supplied to the Technical Secretary at the time of certification (see 320 IAC 4.1-35-1(1)(2)(i)), rather than at the time of permit application.

(e) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal, and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(f) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires). *(Indiana Environmental Management Board; 320 IAC 4.1-43-3)*

320 IAC 4.1-43-4 Copies of contingency plan

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. A copy of the contingency plan and all revisions to the plan must be:

(a) maintained at the facility; and

(b) submitted to all local police departments, fire departments, hospitals, and State and local

emergency response teams that may be called upon to provide emergency services.

[Note: The contingency plan must be submitted to the Technical Secretary with the Final (State) Permit application under 320 IAC 4.1-34 and, after modification or approval, will become a condition of any permit issued.] *(Indiana Environmental Management Board; 320 IAC 4.1-43-4)*

320 IAC 4.1-43-5 Amendment of contingency plan

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. The contingency plan must be reviewed, and immediately amended, if necessary, whenever:

(a) the facility permit is revised;
(b) the plan fails in an emergency;
(c) the facility changes—in its design, construction, operation, maintenance, or other circumstances—in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;
(d) the list of emergency equipment changes; or
(e) the list of emergency coordinators changes.

[Note: A change in the lists of facility emergency coordinators or equipment in the contingency plan constitutes a minor modification of the facility permit to which the plan is a condition.] *(Indiana Environmental Management Board; 320 IAC 4.1-43-5)*

320 IAC 4.1-43-6 Emergency coordinator

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. At all times, there must be a least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility, within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

[Note: The emergency coordinator's responsibilities are more fully spelled out in 320 IAC 4.1-43-7. Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of waste(s) handled by the facility, and type and complexity of the facility.] *(Indiana Environmental Management Board; 320 IAC 4.1-43-6)*

320 IAC 4.1-43-7 Emergency procedures

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. (a) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:

(1) activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and
(2) notify appropriate State or local agencies with designated response roles if their help is needed.

(b) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and areal extent to any released materials. He may do this by observation or review of facility records or manifests, and, if necessary, by chemical analysis.

(c) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions).

(d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows:

(1) if his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and
(2) he must immediately notify either the government official designated as the on-scene coordinator for that geographical area, (in the applicable regional contingency plan under 40 CFR Part 300) or the National Response Center (using their 24-hour toll free number 800/424-8802) and the Indiana Environmental Management Board, Indiana State Board of Health 24-hour emergency number 317/633-0144. The report must include:
(i) name and telephone number of reporter;
(ii) name and address of facility;

(iii) time and type of incident (e.g., release, fire);
(iv) name and quantity of material(s) involved, to the extent known;
(v) the extent of injuries, if any; and
(vi) the possible hazards to human health, or the environment, outside the facility.

(e) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing release waste, and removing or isolating containers.

(f) If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(g) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

[Note: Unless the owner or operator can demonstrate, in accordance with 320 IAC 4.1-3-3(c) or (d), that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of 320 IAC 4.1-7 through 320 IAC 4.1-14 and 320 IAC 4.1-40 through 320 IAC 4.1-54.]

(h) The emergency coordinator must ensure that, in the affected area(s) of the facility:
(1) no waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and
(2) all emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(i) The owner or operator must notify the Technical Secretary, and appropriate local authorities, that the facility is in compliance with paragraph (h) of this Section before operations are resumed in the affected area(s) of the facility.

(j) The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he must submit a written report on the incident to the Technical Secretary. The report must include:
(1) name, address, and telephone number of the owner or operator;
(2) name, address, and telephone number of the facility;
(3) date, time, and type of incident (e.g., fire, explosion);
(4) name and quantity of material(s) involved;
(5) the extent of injuries, if any;
(6) an assessment of actual or potential hazards to human health or the environment, where this is applicable; and
(7) estimated quantity and disposition of recovered material that resulted from the incident.
(Indiana Environmental Management Board; 320 IAC 4.1-43-7)

Rule 44. Final (State) Permitted Facility Standards: Manifest System, Recordkeeping, and Reporting

320 IAC 4.1-44-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. 320 IAC 4.1-44 applies to owners and operators of both on-site and off-site facilities, except as 320 IAC 4.1-40-1 provides otherwise. 320 IAC 4.1-44-2, 320 IAC 4.1-44-3, and 320 IAC 4.1-44-7 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources. *(Indiana Environmental Management Board; 320 IAC 4.1-44-1)*

320 IAC 4.1-44-2 Use of manifest system

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. (a) If a facility receives hazardous waste accompanied by a manifest, the owner or operator, or his agent, must:
(1) sign and date each copy of the manifest to certify that the hazardous waste covered by the manifest was received;
(2) note any significant discrepancies in the manifest (as defined in 320 IAC 4.1-44-3(a)) on each copy of the manifest;

[Note: The board does not intend that the owner or operator of a facility whose procedures under 320 IAC 4.1-41-4(c) include waste analysis must perform that analysis before signing the manifest and giving it to the transporter. 320 IAC 4.1-44-3(b), however, requires reporting an unreconciled discrepancy discovered during later analysis.]

(3) immediately give the transporter at least one copy of the signed manifest;
(4) within 30 days after the delivery, send a copy of the manifest to the generator; and
(5) retain at the facility a copy of each manifest for at least three years from the date of delivery.

(b) If a facility receives, from a rail or water (bulk shipment) transporter, hazardous waste which is accompanied by a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator's certification, and signatures), the owner or operator, or his agent must:

(1) sign and date each copy of the manifest or shipping paper (if the manifest has not been received) to certify that the hazardous waste covered by the manifest or shipping paper was received;
(2) note any significant discrepancies (as defined in 320 IAC 4.1-44-3(a)) in the manifest or shipping paper (if the manifest has not been received) on each copy of the manifest or shipping paper.

[Note: The Board does not intend that the owner or operator of a facility whose procedures under 320 IAC 4.1-41-4(c) include waste analysis must perform that analysis before signing the shipping paper and giving it to the transporter. 320 IAC 4.1-44-3(b), however, requires reporting an unreconciled discrepancy discovered during later analysis.]
(3) immediately give the rail or water (bulk shipment) transporter at least one copy of the manifest or shipping paper (if the manifest has not been received);
(4) within 30 days after the delivery, send a copy of the signed and dated manifest to the generator; however, if the manifest has not been received within 30 days after delivery, the owner or operator, or his agent, must send a copy of the shipping paper signed and dated to the generator; and

[Note: 320 IAC 4.1-8-4(c) requires the generator to send three copies of the manifest to the facility when hazardous waste is sent by rail or water (bulk shipment).]
(5) retain at the facility a copy of the manifest and shipping paper (if signed in lieu of the manifest at the time of delivery) for at least three years from the date of delivery.

(c) Whenever a shipment of hazardous waste is initiated from a facility, the owner or operator of that facility must comply with the requirements of 320 IAC 4.1-7 through 320 IAC 4.1-11.

[Note: The provisions of 320 IAC 4.1-9-5 are applicable to the on-site accumulation of hazardous wastes by generators. Therefore, the provisions of 320 IAC 4.1-9-5 only apply to owners or operators who are shipping hazardous waste which they generated at that facility.] *(Indiana Environmental Management Board; 320 IAC 4.1-44-2)*

320 IAC 4.1-44-3 Manifest discrepancies

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. (a) Manifest discrepancies are differences between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity or type of hazardous waste a facility actually receives. Significant discrepancies in quantity are: (1) For bulk waste, variations greater than 10 percent in weight, and (2) for batch waste, any variation in piece count, such as a discrepancy of one drum in a truckload. Significant discrepancies in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid or toxic constituents not reported on the manifest or shipping paper.

(b) Upon discovering a significant discrepancy, the owner or operator must attempt to reconcile the discrepancy with the waste generator or transporter (e.g., with telephone conversations). If the discrepancy is not resolved within 15 days after receiving the waste, the owner or operator must immediately submit to the Technical Secretary a letter describing the discrepancy and attempt to reconcile it, and a copy of the manifest or shipping paper at issue. *(Indiana Environmental Management Board; 320 IAC 4.1-44-3)*

320 IAC 4.1-44-4 Operating record

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. (a) The owner or operator must keep a written operating record at his facility.

(b) The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility:
(1) a description and the quantity of each hazardous waste received, and the method(s) and date(s) of its treatment, storage, recovery, or disposal at the facility as required by 320 IAC 4.1-32-2;
(2) the location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of each hazardous waste must be recorded on a map or diagram of each cell or disposal area. For all

facilities, this information must include cross-references to specific manifest document numbers, if the waste was accompanied by a manifest;

[Note: See 320 IAC 4.1-46-9 for related requirements.]

(3) records and results of waste analyses performed as specified in 320 IAC 4.1-41-4, 320 IAC 4.1-41-8, and 320 IAC 4.1-54-2;

(4) summary reports and details of all incidents that require implementing the contingency plan as specified in 320 IAC 4.1-43-7(j);

(5) records and results of inspections as required by 320 IAC 4.1-41-6(d) (except these data need be kept only three years);

(6) monitoring, testing, or analytical data where required by 320 IAC 4.1-45, 320 IAC 4.1-50-4, 320 IAC 4.1-51-4, 320 IAC 4.1-51-5, 320 IAC 4.1-52-5, 320 IAC 4.1-52-6, 320 IAC 4.1-52-8, 320 IAC 4.1-53-4, 320 IAC 4.1-53-5, 320 IAC 4.1-54-7;

(7) for off-site facilities, notices to generators as specified in 320 IAC 4.1-41-3(b); and

(8) all closure cost estimates under 320 IAC 4.1-47-3 and, for disposal facilities, all post-closure cost estimates under 320 IAC 4.1-47-5.

(Indiana Environmental Management Board; 320 IAC 4.1-44-4)

320 IAC 4.1-44-5 Availability, retention, and disposition of records

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. (a) All records, including plans, required under 320 IAC 4.1-40 through 320 IAC 4.1-54 must be furnished upon request, and made available at all reasonable times for inspection, by any officer, employee, or representative of EMB who is duly designated by the Technical Secretary.

(b) The retention period for all records required under 320 IAC 4.1-40 through 320 IAC 4.1-54 is extended automatically during the course of any unresolved enforcement action regarding the facility or as requested by the Technical Secretary.

(c) A copy of records of waste disposal locations and quantities under 320 IAC 4.1-44-4(b)(2) must be submitted to the Board and the local land authority upon closure of the facility. *(Indiana Environmental Management Board; 320 IAC 4.1-44-5)*

320 IAC 4.1-44-6 Biennial report

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. The owner or operator must prepare and submit a single copy of a biennial report to the Technical Secretary by March 1 of each even numbered year. The report must be submitted on forms provided by the Board. The biennial report must cover facility activities during the previous calendar year and must include the following information:

(a) the EPA identification number, name, and address of facility;

(b) the calendar year covered by the report;

(c) for off-site facilities, the EPA identification number of each hazardous waste generator from which the facility received a hazardous waste during the year; for imported shipments, the report must give the name and address of the foreign generator;

(d) a description and the quantity of each hazardous waste the facility received during the year and the hazardous waste generated and managed on-site. For off-site facilities, this information must be listed by EPA identification number of each generator;

(e) the method of treatment, storage, recovery, or disposal for each hazardous waste;

(f) the most recent closure cost estimate under 320 IAC 4.1-47-3 and, for disposal facilities, the most recent post-closure cost estimate under 320 IAC 4.1-47-5; and

(g) the certification signed by the owner or operator of the facility or his authorized representative.

(Indiana Environmental Management Board; 320 IAC 4.1-44-6)

320 IAC 4.1-44-7 Unmanifested waste report

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. If a facility accepts for treatment, storage, recovery, or disposal any hazardous waste from an off-site source without an accompanying manifest, or without an accompanying shipping paper as described in 320 IAC 4.1-13-1(e)(2), and if the waste is not excluded from the manifest requirement by 320 IAC 4.1-3-5, then the owner or operator must prepare and submit a single copy of a report to the Technical Secretary within 15 days after receiving the waste. The report must include the following information:

(a) the EPA identification number, name, and address of the facility;

(b) the date the facility received the waste;

(c) the EPA identification number, name, and address of the generator and the transporter, if available;

(d) a description and the quantity of each

unmanifested hazardous waste and facility from which it was received;

(e) the method of treatment, storage, recovery, or disposal for each hazardous waste;

(f) the certification signed by the owner or operator of the facility or his authorized representative; and

(g) a brief explanation of why the waste was unmanifested, if known.

[Note: Small quantities of hazardous waste are excluded from regulation under 320 IAC 4.1-40 through 320 IAC 4.1-54 and do not require a manifest. Where a facility receives unmanifested hazardous wastes, the Board suggests that the owner or operator obtain from each generator a certification that the waste qualifies for exclusion. Otherwise, the Board suggests that the owner or operator file an unmanifested waste report for the hazardous waste movement.] *(Indiana Environmental Management Board; 320 IAC 4.1-44-7)*

320 IAC 4.1-44-8 Additional reports

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 8. In addition to submitting the biennial report and unmanifested waste reports described in 320 IAC 4.1-44-6 and 320 IAC 4.1-44-7, the owner or operator must also report to the Technical Secretary:

(a) releases, fires, and explosions as specified in 320 IAC 4.1-43-7(j);

(b) facility closure as specified in 320 IAC 4.1-46-6; and

(c) as otherwise required by 320 IAC 4.1-45 and 320 IAC 4.1-50, 320 IAC 4.1-51, 320 IAC 4.1-52, 320 IAC 4.1-53.

(Indiana Environmental Management Board; 320 IAC 4.1-44-8)

Rule 45. Final (State) Permitted Facility Standards: Groundwater Protection

320 IAC 4.1-45-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 1. (a) Except as provided in paragraph (b) of this section, 320 IAC 4.1-45 applies to owners and operators of facilities that treat, recover, store, or dispose of hazardous waste in surface impoundments, waste piles, land treatment units, or landfills. The owner or operator must satisfy the requirements 320 IAC 4.1-45 for all wastes (or constituents thereof) contained in any such waste management unit at the facility that receives hazardous waste after January 26, 1983, (hereinafter referred to as a "regulated unit"). Any waste or waste constituent migrating beyond the waste management area under 320 IAC 4.1-45-6(b) is presumed to originate from a regulated unit unless the Technical Secretary finds that such waste or waste constituent originated from another source.

(b) The owner or operator is not subject to regulation under 320 IAC 4.1-45 if:

(1) he is exempted under 320 IAC 4.1-40-1;

(2) he designs and operates a surface impoundment in compliance with 320 IAC 4.1-50-3, a pile in compliance with 320 IAC 4.1-51-1(c), 320 IAC 4.1-51-3, or 320 IAC 4.1-51-4 or a landfill in compliance with 320 IAC 4.1-53-3;

(3) the Technical Secretary finds, pursuant to 320 IAC 4.1-52-8(d), that the treatment zone of a land treatment unit does not contain levels of hazardous constituents that are above background levels of those constituents by an amount that is statistically significant, and if an unsaturated zone monitoring program meeting the requirements of 320 IAC 4.1-52-6 has not shown a statistically significant increase in hazardous constituents below the treatment zone during the operating life of the unit. An exemption under this paragraph can only relieve an owner or operator of responsibility to meet the requirements of 320 IAC 4.1-45 during the post-closure care period; or

(4) the Technical Secretary finds, based on a demonstration by the owner or operator, that there is no potential for migration of liquid from a regulated unit to the uppermost aquifer during the active life of the regulated unit (including the closure period) and the post-closure care period specified under 320 IAC 4.1-46-7. This demonstration must be certified by a qualified geologist or geotechnical engineer. In order to provide an adequate margin of safety in the prediction of potential migration of liquid, the owner or operator must base any predictions made under this paragraph on assumptions that maximize the rate of liquid migration.

(c) 320 IAC 4.1-45 applies during the active life of the regulated unit (including the closure period). After closure of the regulated unit, 320 IAC 4.1-45:

(1) does not apply if all waste, waste residues, contaminated containment system components, and contaminated subsoils are removed or decontaminated at closure;

(2) applies during the post-closure care period under 320 IAC 4.1-46-7 if the owner or operator is conducting a detection monitoring program under 320 IAC 4.1-45-9; or

(3) applies during the compliance period under 320 IAC 4.1-45-7 if the owner or operator is conducting a compliance monitoring program under 320 IAC 4.1-45-10 or a corrective action program under 320 IAC 4.1-45-11.

(Indiana Environmental Management Board; 320 IAC 4.1-45-1)

320 IAC 4.1-45-2 Required programs

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. (a) Owners and operators subject to 320 IAC 4.1-45 must conduct a monitoring and response program as follows:

(1) whenever hazardous constituents under 320 IAC 4.1-45-4 from a regulated unit are detected at the compliance point under 320 IAC 4.1-45-6, the owner or operator must institute a compliance monitoring program under 320 IAC 4.1-45-10;

(2) whenever the groundwater protection standard under 320 IAC 4.1-45-3 is exceeded, the owner or operator must institute a correction action program under 320 IAC 4.1-45-11;

(3) whenever hazardous constituents under 320 IAC 4.1-45-4 from a regulated unit exceed concentration limits under 320 IAC 4.1-45-5 in groundwater between the compliance point under 320 IAC 4.1-45-6 and the downgradient facility property boundary, the owner or operator must institute a corrective action program under 320 IAC 4.1-45-11; or

(4) in all other cases, the owner or operator must institute a detection monitoring program under 320 IAC 4.1-45-9.

(b) The Technical Secretary will specify in the facility permit the specific elements of the monitoring and response program. The Technical Secretary may include one or more of the programs identified in paragraph (a) of this section in the facility permit as may be necessary to protect human health and the environment and will specify the circumstances under which each of the programs will be required. In deciding whether to require the owner or operator to be prepared to institute a particular program, the Technical Secretary will consider the potential adverse effects on human health and the environment that might occur before final administrative action on a permit modification application to incorporate such a program could be taken. *(Indiana Environmental Management Board; 320 IAC 4.1-45-2)*

320 IAC 4.1-45-3 Groundwater protection standard

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. The owner or operator must comply with conditions specified in the facility permit that are designed to ensure that hazardous constituents under 320 IAC 4.1-45-4 entering the groundwater from a regulated unit do not exceed the concentration limits under 320 IAC 4.1-45-5 in the uppermost aquifer underlying the waste management area beyond the point of compliance under 320 IAC 4.1-45-6 during the compliance period under 320 IAC 4.1-45-7. The Technical Secretary will establish this groundwater protection standard in the facility permit when hazardous constituents have entered the groundwater from a regulated unit. *(Indiana Environmental Management Board; 320 IAC 4.1-45-3)*

320 IAC 4.1-45-4 Hazardous constituents

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. (a) The Technical Secretary will specify in the facility permit the hazardous constituents to which the groundwater protection standard of 320 IAC 4.1-45-3 applies. Hazardous constituents are constituents identified in 320 IAC 4.1-6-9 that have been detected in groundwater in the uppermost aquifer underlying a regulated unit and that are reasonably expected to be in or derived from waste contained in a regulated unit, unless the Technical Secretary has excluded them under paragraph (b) of this section.

(b) The Technical Secretary will exclude a 320 IAC 4.1-6-9 constituent from the list of hazardous constituents specified in the facility permit if he finds that the constituent is not capable of posing a substantial present or potential hazard to human health or the environment. In deciding whether to grant an exemption, the Technical Secretary will consider the following:

(1) Potential adverse effects on groundwater quality, considering:

(i) the physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;

(ii) the hydrogeological characteristics of the facility and surrounding land;

(iii) the quantity of groundwater and the direction of groundwater flow;

(iv) the proximity and withdrawal rates of groundwater users;

(v) the current and future uses of groundwater in the area;
(vi) the existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality;
(vii) the potential for health risks caused by human exposure to waste constituents;
(viii) the potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;
(ix) the persistence and permanence of the potential adverse effects; and

(2) Potential adverse effects on hydraulically-connected surface water quality, considering:
(i) the volume and physical and chemical characteristics of the waste in the regulated unit;
(ii) the hydrogeological characteristics of the facility and surrounding land;
(iii) the quantity and quality of groundwater, and the direction of groundwater flow;
(iv) the patterns of rainfall in the region;
(v) the proximity of the regulated unit to surface waters;
(vi) the current and future uses of surface waters in the area and any water quality standards established for those surface waters;
(vii) the existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality;
(viii) the potential for health risks caused by human exposure to waste constituents;
(ix) the potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and
(x) the persistence and permanence of the potential adverse effects.

(c) In making any determination under paragraph (b) of this section about the use of groundwater in the area around the facility, the Technical Secretary will consider any identification of underground sources of drinking water and exempted aquifers made under 40 CFR 144.7. *(Indiana Environmental Management Board; 320 IAC 4.1-45-4)*

320 IAC 4.1-45-5 Concentration limits

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. (a) The Technical Secretary will specify in the facility permit concentration limits in the groundwater for hazardous constituents established under 320 IAC 4.1-45-4. The concentration of a hazardous constituent:

(1) must not exceed the background level of that constituent in the groundwater at the time that limit is specified in the permit;
(2) for any of the constituents listed in Table 1, must not exceed the respective value given in that Table if the background level of the constituent is below the value given in Table 1; or
(3) must not exceed an alternate limit established by the Technical Secretary under paragraph (b) of this section.

Table 1—Maximum Concentration of Constituents for Groundwater Protection

Constituent	Maximum Concentration Milligrams per Liter
Arsenic	0.05
Barium	1.0
Cadmium	0.01
Chromium	0.05
Lead	0.05
Mercury	0.002
Selenium	0.01
Silver	0.05
Endrin (1,2,3,4,10,10-hexachloro-1,7-epoxy-1,4,4a,5,6,7,8,9a-octahydro-1, 4-endo, endo-5,8-dimethano naphthalene)	0.0002
Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer)	0.004
Methoxychlor (1,1,1-Trichloro-2,2-bis (p-methoxyphenylethane)	0.1
Toxaphene ($C_{10}H_{10}Cl_6$ Technical chlorinated camphene, 67-69 percent chlorine)	0.005
2,4-D (2,4-Dichlorophenoxyacetic acid)	0.1
2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid)	0.01

(b) The Technical Secretary will establish an alternate concentration limit for a hazardous constituent if he finds that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the alternate concentration limit is not exceeded. In establishing alternate concentration limits, the Technical Secretary will consider the following factors:

(1) Potential adverse effects on groundwater quality, considering:
(i) the physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;
(ii) the hydrogeological characteristics of the facility and surrounding land;
(iii) the quantity of groundwater and the direction of groundwater flow;
(iv) the proximity and withdrawal rates of groundwater users;
(v) the current and future uses of groundwater in the area;
(vi) the existing quality of groundwater,

including other sources of contamination and their cumulative impact on the groundwater quality;

(vii) the potential for health risks caused by human exposure to waste constituents;

(viii) the potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

(ix) the persistence and permanence of the potential adverse effects; and

(2) Potential adverse effects on hydraulically-connected surface-water quality, considering:

(i) the volume and physical and chemical characteristics of the waste in the regulated unit;

(ii) the hydrogeological characteristics of the facility and surrounding land;

(iii) the quantity and quality of groundwater, and the direction of groundwater flow;

(iv) the patterns of rainfall in the region;

(v) the proximity of the regulated unit to surface waters;

(vi) the current and future uses of surface waters in the area and any water quality standards established for those surface waters;

(vii) the existing quality of surface water, including other sources of contamination and the cumulative impact on surface-water quality;

(viii) the potential for health risks caused by human exposure to waste constituents;

(ix) the potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and

(x) the persistence and permanence of the potential adverse effects.

(c) In making any determination under paragraph (b) of this section about the use of groundwater in the area around the facility, the Technical Secretary will consider any identification of underground sources of drinking water and exempted aquifers made under 40 CFR 144.7. *(Indiana Environmental Management Board; 320 IAC 4.1-45-5)*

320 IAC 4.1-45-6 Point of compliance

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. (a) The Technical Secretary will specify in the facility permit the point of compliance at which the groundwater protection standard of 320 IAC 4.1-45-4 applies and at which monitoring must be conducted. The point of compliance is a vertical surface located at the hydraulically downgradient limit of the waste management area that extends down into the uppermost aquifer underlying the regulat units.

(b) The waste management area is the limit projected in the horizontal plane of the area on which waste will be placed during the active life of a regulated unit.

(1) The waste management area includes horizontal space taken up by any liner, dike, or other barrier designed to contain waste in a regulated unit.

(2) If the facility contains more than one regulated unit, the waste management area is described by an imaginary line circumscribing the several regulated units.

(Indiana Environmental Management Board; 320 IAC 4.1-45-6)

320 IAC 4.1-45-7 Compliance period

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. (a) The Technical Secretary will specify in the facility permit the compliance period during which the groundwater protection standard of 320 IAC 4.1-45-3 applies. The compliance period is the number of years equal to the active life of the waste management area (including any waste management activity prior to permitting, and the closure period).

(b) The compliance period begins when the owner or operator initiates a compliance monitoring program meeting the requirements of 320 IAC 4.1-45-10.

(c) If the owner or operator is engaged in a corrective action program at the end of the compliance period specified in paragraph (a) of this section, the compliance period is extended until the owner or operator can demonstrate that the groundwater protection standard of 320 IAC 4.1-45-3 has not been exceeded for a period of three consecutive years. *(Indiana Environmental Management Board; 320 IAC 4.1-45-7)*

320 IAC 4.1-45-8 General groundwater monitoring requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 8. The owner or operator must comply with the following requirements for any groundwater monitoring program developed to satisfy 320 IAC 4.1-45-9, 320 IAC 4.1-45-10, or 320 IAC 4.1-45-11:

(a) The groundwater monitoring system must consist of a sufficient number of wells, installed at

appropriate locations and depths to yield groundwater samples from the uppermost aquifer that:

(1) represent the quality of background water that has not been affected by leakage from a regulated unit; and

(2) represent the quality of groundwater passing the point of compliance.

(b) If a facility contains more than one regulated unit, separate groundwater monitoring systems are not required for each regulated unit provided that provisions for sampling the groundwater in the uppermost aquifer will enable detection and measurement at the compliance point of hazardous constituents from the regulated units that have entered the groundwater in the uppermost aquifer.

(c) All monitoring wells must be cased in a manner that maintains the integrity of the monitoring-well bore hole. This casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of groundwater samples. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed to prevent contamination of samples and the groundwater.

(d) The groundwater monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide a reliable indication of groundwater quality below the waste management area. At a minimum, the program must include procedures and techniques for:

(1) sample collection;

(2) sample preservation and shipment;

(3) analytical procedures; and

(4) chain of custody control.

(e) The groundwater monitoring program must include sampling and analytical methods that are appropriate for groundwater sampling and that accurately measure hazardous constituents in groundwater samples.

(f) The groundwater monitoring program must include a determination of the groundwater surface elevation each time groundwater is sampled.

(g) Where appropriate, the groundwater monitoring program must establish background groundwater quality for each of the hazardous constituents or monitoring parameters or constituents specified in the permit.

(1) In the detection monitoring program under 320 IAC 4.1-45-9, background groundwater quality for a monitoring parameter or constituent must be based on data from quarterly sampling of wells upgradient from the waste management area for one year.

(2) In the compliance monitoring program under 320 IAC 4.1-45-10, background groundwater quality for a hazardous constituent must be based on data from upgradient wells that:

(i) is available before the permit is issued;

(ii) accounts for measurement errors in sampling and analysis; and

(iii) accounts, to the extent feasible, for seasonal fluctuations in background groundwater quality if such fluctuations are expected to affect the concentration of the hazardous constituent.

(3) Background quality may be based on sampling of wells that are not upgradient from the waste management area where:

(i) hydrogeologic conditions do not allow the owner or operator to determine what wells are upgradient; or

(ii) sampling at other wells will provide an indication of background groundwater quality that is as representative or more representative than that provided by the upgradient wells.

(4) In developing the data base used to determine a background value for each parameter or constituent, the owner or operator must take a minimum of one sample from each well and a minimum of four samples from the entire system used to determine background groundwater quality, each time the system is sampled.

(h) The owner or operator must use the following statistical procedure in determining whether background values or concentration limits have been exceeded:

(1) If, in a detection monitoring program, the level of a constituent at the compliance point is to be compared to the constituent's background value and that background value has a sample coefficient of variation less than 1.00:

(i) the owner or operator must take at least four portions from a sample at each well at the compliance point and determine whether the difference between the mean of the constituent at each well (using all portions taken) and the background value for the constituent is significant at the 0.05 level using the Cochran's Approximation to the Behrens-Fisher Student's t-test as described in 320 IAC 4.1-32-4. If the test indicates that the difference is significant, the owner or operator must repeat the same procedure (with at least the same number of portions as used in the first test) with a fresh sample from the monitoring well. If this second round of analyses indicates that the difference is

significant, the owner or operator must conclude that a statistically significant change has occurred; or

(ii) the owner or operator may use an equivalent statistical procedure for determining whether a statistically significant change has occurred. The Technical Secretary will specify such a procedure in the facility permit if he finds that the alternative procedure reasonably balances the probability of falsely identifying a non-contaminating regulated unit and the probability of failing to identify a contaminating regulated unit in a manner that is comparable to that of the statistical procedure described in paragraph (h)(1)(i) of this section.

(2) In all other situations in a detection monitoring program and in a compliance monitoring program, the owner or operator must use a statistical procedure providing reasonable confidence that the migration of hazardous constituents from a regulated unit into and through the aquifer will be indicated. The Technical Secretary will specify a statistical procedure in the facility permit that he finds:

(i) is appropriate for the distribution of the data used to establish background values or concentration limits; and

(ii) provides a reasonable balance between the probability of falsely identifying a non-contaminating regulated unit and the probability of failing to identify a contaminating regulated unit.

(Indiana Environmental Management Board; 320 IAC 4.1-45-8)

320 IAC 4.1-45-9 Detection monitoring program

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 9. An owner or operator required to establish a detection monitoring program under 320 IAC 4.1-45 must, at a minimum, discharge the following responsibilities:

(a) The owner or operator must monitor for indicator parameters (e.g., specific conductance, total organic carbon, or total organic halogen), waste constituents, or reaction products that provide a reliable indication of the presence of hazardous constituents in groundwater. The Technical Secretary will specify the parameters or constituents to be monitored in the facility permit, after considering the following factors:

(1) the types, quantities, and concentrations of constituents in wastes managed at the regulated unit;

(2) the mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the waste management area;

(3) the detectability of indicator parameters, waste constituents, and reaction products in groundwater; and

(4) the concentrations or values and coefficients of variation of proposed monitoring parameters or constituents in the groundwater background.

(b) The owner or operator must install a groundwater monitoring system at the compliance point as specified under 320 IAC 4.1-45-6. The groundwater monitoring system must comply with 320 IAC 4.1-45-8(a)(2), (b), and (c).

(c) The owner or operator must establish a background value for each monitoring parameter or constituent specified in the permit pursuant to paragraph (a) of this section. The permit will specify the background values for each parameter or specify the procedures to be used to calculate the background values.

(1) The owner or operator must comply with 320 IAC 4.1-45-8(g) in developing the data base used to determine background values.

(2) The owner or operator must express background values in a form necessary for the determination of statistically significant increases under 320 IAC 4.1-45-8(h).

(3) In taking samples used in the determination of background values, the owner or operator must use a groundwater monitoring system that complies with 320 IAC 4.1-45-8(a)(1), (b), and (c).

(d) The owner or operator must determine groundwater quality at each monitoring well at the compliance point at least semi-annually during the active life of a regulated unit (including the closure period) and the post-closure care period. The owner or operator must express the groundwater quality at each monitoring well in a form necessary for the determination of statistically significant increases under 320 IAC 4.1-45-8(h).

(e) The owner or operator must determine the groundwater flow rate and direction in the uppermost aquifer at least annually.

(f) The owner or operator must use procedures and methods for sampling and analysis that meet the requirements of 320 IAC 4.1-45-8(d) and (e).

(g) The owner or operator must determine whether there is a statistically significant increase over

background values for any parameter or constituent specified in the permit pursuant to paragraph (a) of this section each time he determines groundwater quality at the compliance point under paragraph (d) of this section.

(1) In determining whether a statistically significant increase has occurred, the owner or operator must compare the groundwater quality at each monitoring well at the compliance point for each parameter or constituent to the background value for that parameter or constituent, according to the statistical procedure specified in the permit under 320 IAC 4.1-45-8(h).

(2) The owner or operator must determine whether there has been a statistically significant increase at each monitoring well at the compliance point within a reasonable time period after completion of sampling. The Technical Secretary will specify that time period in the facility permit, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of groundwater samples.

(h) If the owner or operator determines, pursuant to paragraph (g) of this section, that there is a statistically significant increase for any of the parameters or constituents specified pursuant to paragraph (a) of this section at any monitoring well at the compliance point, he must:

(1) Notify the Technical Secretary of this finding in writing within seven days. The notification must indicate what parameters or constituents have shown statistically significant increases;

(2) Immediately sample the groundwater in all monitoring wells and determine the concentration of all constituents identified in 320 IAC 4.1-6-9 that are present in groundwater;

(3) Establish a background value for each 320 IAC 4.1-6-9 constituent that has been found at the compliance point under paragraph (h)(2) of this section, as follows:

(i) the owner or operator must comply with 320 IAC 4.1-45-8(g) in developing the data base used to determine background values;

(ii) the owner or operator must express background values in a form necessary for the determination of statistically significant increases under 320 IAC 4.1-45-8(h); and

(iii) in taking samples used in the determination of background values, the owner or operator must use a groundwater monitoring system that complies with 320 IAC 4.1-45-8(a)(1), (b), and (c);

(4) Within 90 days, submit to the Technical Secretary an application for a permit modification to establish a compliance monitoring program meeting the requirements of 320 IAC 4.1-45-10. The application must include the following information:

(i) an identification of the concentration of any 320 IAC 4.1-6-9 constituents found in the groundwater at each monitoring well at the compliance point;

(ii) any proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements of 320 IAC 4.1-45-10;

(iii) any proposed changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical procedures used at the facility necessary to meet the requirements of 320 IAC 4.1-45-10;

(iv) for each hazardous constituent found at the compliance point, a proposed concentration limit under 320 IAC 4.1-45-5(a)(1) or (2), or a notice of intent to seek a variance under 320 IAC 4.1-45-5(b); and

(5) Within 180 days, submit to the Technical Secretary:

(i) all data necessary to justify any variance sought under 320 IAC 4.1-45-5(b); and

(ii) an engineering feasibility plan for a corrective action program necessary to meet the requirements of 320 IAC 4.1-45-11, unless:

(A) all hazardous constituents identified under paragraph (h)(2) of this section are listed in Table 1 of 320 IAC 4.1-45-5 and their concentrations do not exceed the respective values given in that Table; or

(B) the owner or operator has sought a variance under 320 IAC 4.1-45-5(b) for every hazardous constituent identified under paragraph (h)(2) of this section.

(i) If the owner or operator determines, pursuant to paragraph (g) of this section, that there is a statistically significant increase of any of the parameters or constituents specified pursuant to paragraph (a) of this section at any monitoring well at the compliance point, he may demonstrate that a source other than a regulated unit caused the increase or that the increase resulted from error in sampling, analysis, or evaluation. Although the owner or operator may make a demonstration under this paragraph in addition to, or in lieu of, submitting a permit modification application under paragraph (h)(4) of this section, he is not relieved of the requirement to submit a permit modification application within the time specified in paragraph (h)(4) of this section unless the demonstration made under this paragraph successfully shows that a source other than a regulated unit caused the increase or that the increase resulted from error in sampling, analysis, or evaluation. In making a

demonstration under this paragraph, the owner or operator must:

(1) notify the Technical Secretary in writing within seven days of determining a statistically significant increase at the compliance point that he intends to make a demonstration under this paragraph;

(2) within 90 days, submit a report to the Technical Secretary which demonstrates that a source other than a regulated unit caused the increase, or that the increase resulted from error in sampling, analysis, or evaluation;

(3) within 90 days, submit to the Technical Secretary an application for a permit modification to make any appropriate changes to the detection monitoring program at the facility; and

(4) continue to monitor in accordance with the detection monitoring program established under this section.

(j) If the owner or operator, or the Technical Secretary, determines that the detection monitoring program no longer satisfies the requirements of this section, the owner or operator must, within 90 days of the determination, submit an application for a permit modification to make any appropriate changes to the program.

(k) The owner or operator must assure that monitoring and corrective action measures necessary to achieve compliance with the groundwater protection standard under 320 IAC 4.1-45-3 are taken during the term of the permit. *(Indiana Environmental Management Board; 320 IAC 4.1-45-9)*

320 IAC 4.1-45-10 Compliance monitoring program

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 10. An owner or operator required to establish a compliance monitoring program under 320 IAC 4.1-45 must, at a minimum, discharge the following responsibilities:

(a) The owner or operator must monitor the groundwater to determine whether regulated units are in compliance with the groundwater protection standard under 320 IAC 4.1-45-3. The Technical Secretary will specify the groundwater protection standard in the facility permit, including:

(1) a list of the hazardous constituents identified under 320 IAC 4.1-45-4;

(2) concentration limits under 320 IAC 4.1-45-5 for each of those hazardous constituents;

(3) the compliance point under 320 IAC 4.1-45- and

(4) the compliance period under 320 IAC 4.1-45-7.

(b) The owner or operator must install a groundwater monitoring system at the compliance point as specified under 320 IAC 4.1-45-6. The groundwater monitoring system must comply with 320 IAC 4.1-45-8(a)(2), (b), and(c).

(c) Where a concentration limit established under paragraph (a)(2) of this section is based on background groundwater quality, the Technical Secretary will specify the concentration limit in the permit as follows:

(1) If there is a high temporal correlation between upgradient and compliance point concentrations of the hazardous constituents, the owner or operator may establish the concentration limit through sampling at upgradient wells each time groundwater is sampled at the compliance point. The Technical Secretary will specify the procedures used for determining the concentration limit in this manner in the permit. In all other cases, the concentration limit will be the mean of the pooled data on the concentration of the hazardous constituent.

(2) If a hazardous constituent is identified on Table 1 under 320 IAC 4.1-45-5 and the difference between the respective concentration limit in Table1 and the background value of that constituent under 320 IAC 4.1-45-8(g) is not statistically significant, the owner or operator must use the background value of the constituent as the concentration limit. In determining whether this difference is statistically significant, the owner or operator must use a statistical procedure providing reasonable confidence that a real difference will be indicated. The statistical procedure must:

(i) be appropriate for the distribution of the data used to establish background values; and

(ii) provide a reasonable balance between the probability of falsely identifying a significant difference and the probability of failing to identify a significant difference.

(3) The owner or operator must:

(i) comply with 320 IAC 4.1-45-8(g) in developing the data base used to determine background values;

(ii) express background values in a form necessary for the determination of statistically significant increases under 320 IAC 4.1-45-8(h); and

(iii) use a groundwater monitoring system that complies with 320 IAC 4.1-45-8(a)(1), (b), and (c).

(d) The owner or operator must determine the

concentration of hazardous constituents in groundwater at each monitoring well at the compliance point at least quarterly during the compliance period. The owner or operator must express the concentration at each monitoring well in a form necessary for the determination of statistically significant increases under 320 IAC 4.1-45-8(h).

(e) The owner or operator must determine the groundwater flow rate and direction in the uppermost aquifer at least annually.

(f) The owner or operator must analyze samples from all monitoring wells at the compliance point for all constituents contained in 320 IAC 4.1-6-9 at least annually to determine whether additional hazardous constituents are present in the uppermost aquifer. If the owner or operator finds 320 IAC 4.1-6-9 constituents in the groundwater that are not identified in the permit as hazardous constituents, the owner or operator must report the concentrations of these additional constituents to the Technical Secretary within seven days after completion of the analysis.

(g) The owner or operator must use procedures and methods for sampling and analysis that meet the requirements of 320 IAC 4.1-45-8(d) and (e).

(h) The owner or operator must determine whether there is a statistically significant increase over the concentration limits for any hazardous constituents specified in the permit pursuant to paragraph (a) of this section each time he determines the concentration of hazardous constituents in groundwater at the compliance point.

(1) In determining whether a statistically significant increase has occurred, the owner or operator must compare the groundwater quality at each monitoring well at the compliance point for each hazardous constituent to the concentration limit for that constituent according to the statistical procedures specified in the permit under 320 IAC 4.1-45-8(h).

(2) The owner or operator must determine whether there has been a statistically significant increase at each monitoring well at the compliance point, within a reasonable time period after completion of sampling. The Technical Secretary will specify that time period in the facility permit, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of groundwater samples.

(i) If the owner or operator determines, pursuant to paragraph (h) of this section, that the groundwater protection standard is being exceeded at any monitoring well at the point of compliance, he must:

(1) Notify the Technical Secretary of this finding in writing within seven days. The notification must indicate what concentration limits have been exceeded.

(2) Submit to the Technical Secretary an application for a permit modification to establish a corrective action program meeting the requirements of 320 IAC 4.1-45-11 within 180 days, or within 90 days if an engineering feasibility study has been previously submitted to the Technical Secretary under 320 IAC 4.1-45-9(h)(5). The application must, at a minimum, include the following information:

(i) a detailed description of corrective actions that will achieve compliance with the groundwater protection standard specified in the permit under paragraph (a) of this section; and

(ii) a plan for a groundwater monitoring program that will demonstrate the effectiveness of the corrective action. Such a groundwater monitoring program may be based on a compliance monitoring program developed to meet the requirements of this section.

(j) If the owner or operator determines, pursuant to paragraph (h) of this section, that the groundwater protection standard is being exceeded at any monitoring well at the point of compliance, he may demonstrate that a source other than a regulated unit caused the increase or that the increase resulted from error in sampling, analysis, or evaluation. Although the owner or operator may make a demonstration under this paragraph in addition to, or in lieu of, submitting a permit modification application under paragraph (i)(2) of this section, he is not relieved of the requirement to submit a permit modification application within the time specified in paragraph (i)(2) of this section unless the demonstration made under this paragraph successfully shows that a source other than a regulated unit caused the increase or that the increase resulted from error in sampling, analysis, or evaluation. In making a demonstration under this paragraph, the owner or operator must:

(1) notify the Technical Secretary in writing within seven days that he intends to make a demonstration under this paragraph;

(2) within 90 days, submit a report to the Technical Secretary which demonstrates that a source other than a regulated unit caused the standard to be exceeded or that the apparent noncompliance with the standards resulted from error in sampling, analysis, or evaluation;

(3) within 90 days, submit to the Technical Secretary an application for a permit modification

to make any appropriate changes to the compliance monitoring program at the facility; and

(4) continue to monitor in accord with the compliance monitoring program established under this section.

(k) If the owner or operator, or Technical Secretary, determines that the compliance monitoring program no longer satisfies the requirements of this section, the owner or operator must, within 90 days of the determination, submit an application for a permit modification to make any appropriate changes to the program.

(l) The owner or operator must assure that monitoring and corrective action measures necessary to achieve compliance with the groundwater protection standard under 320 IAC 4.1-45-3 are taken during the term of the permit. *(Indiana Environmental Management Board; 320 IAC 4.1-45-10)*

320 IAC 4.1-45-11 Corrective action program

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 11. An owner or operator required to establish a corrective action program under 320 IAC 4.1-45 must, at a minimum, discharge the following responsibilities:

(a) The owner or operator must take corrective action to ensure that regulated units are in compliance with the groundwater protection standard under 320 IAC 4.1-45-3. The Technical Secretary will specify the groundwater protection standard in the facility permit, including:

(1) a list of the hazardous constituents identified under 320 IAC 4.1-45-4;

(2) concentration limits under 320 IAC 4.1-45-5 for each of those hazardous constituents;

(3) the compliance point under 320 IAC 4.1-45-6; and

(4) the compliance period under 320 IAC 4.1-45-7.

(b) The owner or operator must implement a corrective action program that prevents hazardous constituents from exceeding their respective concentration limits at the compliance point by removing the hazardous waste constituents or treating them in place. The permit will specify the specific measures that will be taken.

(c) The owner or operator must begin corrective action within a reasonable time period after the groundwater protection standard is exceeded. The Technical Secretary will specify that time period in the facility permit. If a facility permit includes a corrective action program in addition to a compliance monitoring program, the permit will specify when the corrective action will begin and such a requirement will operate in lieu of 320 IAC 4.1-45-10(i)(2).

(d) In conjunction with a corrective action program, the owner or operator must establish and implement a groundwater monitoring program to demonstrate the effectiveness of the corrective action program. Such a monitoring program may be based on the requirements for a compliance monitoring program under 320 IAC 4.1-45-10 and must be as effective as that program in determining compliance with the groundwater protection standard under 320 IAC 4.1-45-3 and in determining the success of a corrective action program under paragraph (e) of this section, where appropriate.

(e) In addition to the other requirements of this section, the owner or operator must conduct a corrective action program to remove or treat in place any hazardous constituents under 320 IAC 4.1-45-4 that exceed concentration limits under 320 IAC 4.1-45-5 in groundwater between the compliance point under 320 IAC 4.1-45-6 and the downgradient facility property boundary. The permit will specify the measures to be taken.

(1) Corrective action measures under this paragraph must be initiated and completed within a reasonable period of time considering the extent of contamination.

(2) Corrective action measures under this paragraph may be terminated once the concentration of hazardous constituents under 320 IAC 4.1-45-4 is reduced to levels below their respective concentration limits under 320 IAC 4.1-45-5.

(f) The owner or operator must continue corrective action measures during the compliance period to the extent necessary to ensure that the groundwater protection standard is not exceeded. If the owner or operator is conducting corrective action at the end of the compliance period, he must continue that corrective action for as long as necessary to achieve compliance with the groundwater protection standard. The owner or operator may terminate corrective action measures taken beyond the period equal to the active life of the waste management area (including the closure period) if he can demonstrate, based on data from the groundwater monitoring program under paragraph (d) of this section, that the groundwater protection standard of 320 IAC 4.1-45-3 has not been exceeded for period of three consecutive years.

(g) The owner or operator must report in writing to the Technical Secretary on the effectiveness of the

corrective action program. The owner or operator must submit these reports semi-annually.

(h) If the owner or operator or Technical Secretary, determines that the corrective action program no longer satisfies the requirements of this section, the owner or operator must, within 90 days of the determination, submit an application for a permit modification to make any appropriate changes to the program. *(Indiana Environmental Management Board; 320 IAC 4.1-45-11)*

Rule 46. Final (State) Permitted Facility Standards: Closure and Post-Closure

320 IAC 4.1-46-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. Except as 320 IAC 4.1-40-1 provides otherwise:

(a) 320 IAC 4.1-46-2 through 320 IAC 4.1-46-6 (which concern closure) apply to the owners and operators of all hazardous waste management facilities; and

(b) 320 IAC 4.1-46-7 through 320 IAC 4.1-46-10 (which concern post-closure care) apply to the owners and operators of:

(1) all hazardous waste disposal facilities; and

(2) piles, and surface impoundments from which the owner or operator intends to remove the wastes at closure, to the extent that these sections are made applicable to such facilities in 320 IAC 4.1-50-6 and 320 IAC 4.1-51-8.

(Indiana Environmental Management Board; 320 IAC 4.1-46-1)

320 IAC 4.1-46-2 Closure performance standard

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. The owner or operator must close the facility in a manner that:

(a) minimizes the need for further maintenance; and

(b) controls, minimizes, or eliminates, to the extent necessary to prevent threats to human health and the environment, post-closure escape of hazardous waste, hazardous waste constituents, leachate, contaminated rainfall, or waste decomposition products to the ground or surface waters or to the atmosphere.

(Indiana Environmental Management Board; 320 IAC 4.1-46-2)

320 IAC 4.1-46-3 Closure plan; amendment of plan

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. (a) The owner or operator of a hazardous waste management facility must have a written closure plan. The plan must be submitted with the Final (State) Permit application, in accordance with 320 IAC 4.1-34-5(b)(13), and approved by the Technical Secretary as part of the permit issuance proceeding under 320 IAC 4.1-39. In accordance with 320 IAC 4.1-35-3, the approved closure plan will become a condition of any Final (State) Permit. The Technical Secretary's decision must assure that the approved closure plan is consistent with 320 IAC 4.1-46-2, 320 IAC 4.1-46-4, 320 IAC 4.1-46-5, 320 IAC 4.1-46-6, and the applicable requirements of 320 IAC 4.1-48-9, 320 IAC 4.1-49-5, 320 IAC 4.1-50-6, 320 IAC 4.1-51-8, 320 IAC 4.1-52-8, 320 IAC 4.1-53-6 and 320 IAC 4.1-54-8. A copy of the approved plan and all revisions to the plan must be kept at the facility until closure is completed and certified in accordance with 320 IAC 4.1-46-6. The plan must identify steps necessary to completely or partially close the facility at any point during its intended operating life and to completely close the facility at the end of its intended operating life. The closure plan must include, at least:

(1) a description of how and when the facility will be partially closed, if applicable, and finally closed. The description must identify the maximum extent of the operation which will be unclosed during the life of the facility, and how the requirements of 320 IAC 4.1-46-2, 320 IAC 4.1-46-4, 320 IAC 4.1-46-5, 320 IAC 4.1-46-6, and the applicable closure requirements of 320 IAC 4.1-48-9, 320 IAC 4.1-49-5, 320 IAC 4.1-50-6, 320 IAC 4.1-51-8, 320 IAC 4.1-52-8, 320 IAC 4.1-53-6, and 320 IAC 4.1-54-8 will be met;

(2) an estimate of the maximum inventory of wastes in storage and in treatment at any time during the life of the facility. (Any change in this estimate is a minor modification under 320 IAC 4.1-36-3);

(3) a description of the steps needed to decontaminate facility equipment during closure; and

(4) an estimate of the expected year of closure and a schedule for final closure. The schedule must include, at a minimum, the total time required to close the facility and the time required for intervening closure activities which will allow tracking of the progress of closure. (For example, in the case of a landfill, estimates of the time required

to treat and dispose of all waste inventory and the time required to place a final cover must be included.)

(b) The owner or operator may amend his closure plan at any time during the active life of the facility. (The active life of the facility is that period during which wastes are periodically received.) The owner or operator must amend the plan whenever changes in operating plans or facility design affect the closure plan, or whenever there is a change in the expected year of closure. When the owner or operator requests a permit modification to authorize a change in operating plans or facility design, he must request a modification of the closure plan at the same time (see 320 IAC 4.1-39-3(a)). If a permit modification is not needed to authorize the change in operating plans or facility design, the request for modification of the closure plan must be made within sixty (60) days after the change in plans or design occurs.

[Note: Changes in estimates of maximum inventory and of the estimated year of closure under 320 IAC 4.1-46-3(a)(2) and (4) may be made as minor permit modifications under 320 IAC 4.1-36-3.]

(c) The owner or operator must notify the Technical Secretary at least one hundred eighty (180) days prior to the date he expects to begin closure.

[Note: The date when he "expects to begin closure" should be within thirty (30) days after the date on which he expects to receive the final volume of wastes. If the facility's permit is terminated, or if the facility is otherwise ordered, by judicial decree or EMB order, to cease receiving wastes or to close, then the requirement of this paragraph does not apply. However, the owner or operator must close the facility in accordance with the deadlines established in 320 IAC 4.1-46-4.] *(Indiana Environmental Management Board; 320 IAC 4.1-46-3)*

320 IAC 4.1-46-4 Closure; time allowed for closure

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 4. (a) Within ninety (90) days after receiving the final volume of hazardous wastes, the owner or operator must treat, remove from the site, or dispose of on-site, all hazardous wastes in accordance with the approved closure plan. The Technical Secretary may approve a longer period if the owner or operator demonstrates that:

(1)(i) the activities required to comply with this paragraph will, of necessity, take longer than ninety (90) days to complete; or

(ii)(A) the facility has the capacity to receive additional wastes;

(B) there is a reasonable likelihood that a person other than the owner or operator will recommence operation of the site; and

(C) closure of the facility would be incompatible with continued operation of the site; and

(2) he has taken and will continue to take all steps to prevent threats to human health and the environment.

(b) The owner or operator must complete closure activities in accordance with the approved closure plan and within one hundred eighty (180) days after receiving the final volume of wastes. The Technical Secretary may approve a longer closure period if the owner or operator demonstrates that:

(1)(i) the closure activities will, of necessity, take longer than one hundred eighty (180) days to complete; or

(ii)(A) the facility has the capacity to receive additional wastes;

(B) there is reasonable likelihood that a person other than the owner or operator will recommence operation of the site; and

(C) closure of the facility would be incompatible with continued operation of the site; and

(2) he has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but inactive facility.

[Note: Any extension of the ninety (90) or one hundred eighty (180)-day period in this Section may be made as a minor modification under 320 IAC 4.1-36-3. Under paragraphs (a)(1)(ii) and (b)(1)(ii) of this Section, if operation of the site is recommenced, the Technical Secretary may defer completion of closure activities until the new operation is terminated.] *(Indiana Environmental Management Board; 320 IAC 4.1-46-4)*

320 IAC 4.1-46-5 Disposal or decontamination of equipment

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 5. When closure is completed, all facility equipment and structures must have been properly disposed of, or decontaminated by removing all hazardous waste and residues. *(Indiana Environmental Management Board; 320 IAC 4.1-46-5)*

320 IAC 4.1-46-6 Certification of closure

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 6. When closure is completed, the owner or operator must submit to the Technical Secretary certification both by the owner or operator and by an independent registered professional engineer that the facility has been closed in accordance with the specifications in the approved closure plan. *(Indiana Environmental Management Board; 320 IAC 4.1-46-6)*

320 IAC 4.1-46-7 Post-closure care and use of property

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. (a)(1) Post-closure care must continue for thirty (30) years after the date of completing closure and must consist of at least the following:

(i) Monitoring and reporting in accordance with 320 IAC 4.1-45, 320 IAC 4.1-50, 320 IAC 4.1-51, 320 IAC 4.1-52, and 320 IAC 4.1-53.

(ii) Maintenance of monitoring and waste containment systems in accordance with 320 IAC 4.1-45, 320 IAC 4.1-50, 320 IAC 4.1-51, 320 IAC 4.1-52, and 320 IAC 4.1-53.

(2)(i) During the one hundred eighty (180)-day period preceding closure (see 320 IAC 4.1-46-3(c)), or at any time thereafter, the Technical Secretary may reduce the post-closure care period to less than thirty (30) years if he finds that the reduced period is sufficient to protect human health and the environment (e.g., leachate or groundwater monitoring results, characteristics of the waste, application of advanced technology, or alternative disposal, treatment, or reuse techniques indicate that the facility is secure).

(ii) Prior to the time that the post-closure care period is due to expire, the Technical Secretary may extend the post-closure care period if he finds that the extended period is necessary to protect human health and the environment (e.g., leachate or groundwater monitoring results indicate a potential for migration of waste at levels which may be harmful to human health and the environment).

(b) The Technical Secretary may require, at closure, continuation of any of the security requirements of 320 IAC 4.1-41-5 during part or all of the post-closure period after the date of completing closure when:

(1) wastes may remain exposed after completion of closure; or

(2) access by the public or domestic livestock may pose a hazard to human health.

(c) Post-closure use of property on or in which hazardous wastes remain after closure must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of any containment system, or the function of the facility's monitoring systems, unless the Technical Secretary finds that the disturbance:

(1) is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

(2) is necessary to reduce a threat to human health or the environment.

(d) All post-closure care activities must be in accordance with the provisions of the approved post-closure plan as specified in 320 IAC 4.1-46-8. *(Indiana Environmental Management Board; 320 IAC 4.1-46-7)*

320 IAC 4.1-46-8 Post-closure plan; amendment of plan

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 8. (a) The owner or operator of a disposal facility must have a written post-closure plan. In addition, certain piles and certain surface impoundments from which the owner or operator intends to remove the wastes at closure are required by 320 IAC 4.1-50-6 and 320 IAC 4.1-51-8 to have post-closure plans. The plan must be submitted with the permit application, in accordance with 320 IAC 4.1-34-5(b)(13), and approved by the Technical Secretary as part of the permit issuance proceeding under 320 IAC 4.1-39. In accordance with 320 IAC 4.1-35-3, the approved post-closure plan will become a condition of any permit issued. A copy of the approved plan and all revisions to the plan must be kept at the facility until the post-closure care period begins. This plan must identify the activities which will be carried on after closure and the frequency of these activities, and include at least:

(1) a description of the planned monitoring activities and frequencies at which they will be performed to comply with 320 IAC 4.1-45, 320 IAC 4.1-50, 320 IAC 4.1-51, 320 IAC 4.1-52, and 320 IAC 4.1-53 during the post-closure period;

(2) a description of the planned maintenance activities, and frequencies at which they will be performed, to ensure:

(i) the integrity of the cap and final cover or other containment systems in accordance with 320 IAC 4.1-50, 320 IAC 4.1-51, 320 IAC 4.1-52, and 320 IAC 4.1-53; and

(ii) the function of the facility monitoring equipment in accordance with 320 IAC 4.1-45, 320 IAC 4.1-50, 320 IAC 4.1-51, 320 IAC 4.1-52, and 320 IAC 4.1-53.

(3) the name, address, and phone number of the

person or office to contact about the disposal facility during the post-closure period. This person or office must keep an up to date post-closure plan during the post-closure period.

(b) The owner or operator may amend his post-closure plan at any time during the active life of the disposal facility or during the post-closure care period. The owner or operator must amend his plan whenever changes in operating plans or facility design, or events which occur during the active life of the facility or during the post-closure period, affect his post-closure plan. He must also amend his plan whenever there is a change in the expected year of closure.

(c) When a permit modification is requested during the active life of the facility to authorize a change in operating plans or facility design, modification of the post-closure plan must be requested at the same time (see 320 IAC 4.1-39-3(a)). In all other cases, the request for modification of the post-closure plan must be made within sixty (60) days after the change in operating plans or facility design or the events which affect his post-closure plan occur. *(Indiana Environmental Management Board; 320 IAC 4.1-46-8)*

320 IAC 4.1-46-9 Notice to local land authority

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 9. Within ninety (90) days after closure is completed, the owner or operator of a disposal facility must submit to the local zoning authority or the authority with jurisdiction over local land use and to the Technical Secretary a survey plat indicating the location and dimensions of landfill cells or other disposal areas with respect to permanently surveyed benchmarks. This plat must be prepared and certified by a professional land surveyor. The plat filed with the local zoning authority or the authority with jurisdiction over local land use must contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the site as specified in 320 IAC 4.1-46-7(c). In addition, the owner or operator must submit to the local zoning authority or the authority with jurisdiction over local land use and to the Technical Secretary a record of the type, location, and quantity of hazardous wastes disposed of within each cell or area of the facility. For wastes disposed of before these regulations were promulgated, the owner or operator must identify the type, location, and quantity of the wastes to the best of his knowledge and in accordance with any records he has kept. Any changes in the type, location, or quantity of hazardous wastes disposed of within each cell or area of the facility that occur after the survey plat and record of wastes have been filed must be reported to the local zoning authority or the authority with jurisdiction over local land use and to the Technical Secretary. *(Indiana Environmental Management Board; 320 IAC 4.1-46-9)*

320 IAC 4.1-46-10 Notice in deed to property

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 10. (a) The owner of the property on which a disposal facility is located must record, in accordance with IC 13-7-8.5-5, a notation on the deed to the facility property—or on some other instrument which is normally examined during title search—that will in perpetuity notify any potential purchaser of the property that:

(1) the land has been used to manage hazardous wastes;

(2) its use is restricted under 320 IAC 4.1-46-7(c); and

(3) the survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or area of the facility required in 320 IAC 4.1-46-9 have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the Technical Secretary of the Environmental Management Board.

(b) If at any time the owner or operator or any subsequent owner of the land upon which a hazardous waste facility was located removes the waste and waste residues, the liner, if any, and all contaminated underlying and surrounding soil, he may remove the notation on the deed to the facility property or other instrument normally examined during title search, or he may add a notation to the deed or instrument indicating the removal of the waste.

[Note: On removing the waste and waste residues, the liner, if any, and the contaminated soil, the owner or operator, unless he can demonstrate in accordance with 320 IAC 4.1-3-3(d) that any solid waste removed is not a hazardous waste, becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of 320 IAC 4.1-7 through 320 IAC 4.1-32 and 320 IAC 4.1-40 through 320 IAC 4.1-54.] *(Indiana Environmental Management Board; 320 IAC 4.1-46-10)*

Rule 47. Final (State) Permitted Facility Standards: Financial Requirements

320 IAC 4.1-47-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 1. (a) 320 IAC 4.1-473, 320 IAC 4.1-47-4, and 320 IAC 4.1-47-8 through 320 IAC 4.1-47-10 apply to owners and operators of all hazardous waste facilities, except as provided otherwise in this section or in 320 IAC 4.1-40-1.

(b) 320 IAC 4.1-47-5 and 320 IAC 4.1-47-6 apply only to owners and operators of:

(1) disposal facilities; and

(2) piles, and surface impoundments from which the owner or operator intends to remove the wastes at closure, to the extent that these sections are made applicable to such facilities in 320 IAC 4.1-50-6 and 320 IAC 4.1-51-8.

(c) States and the Federal government are exempt from the requirements of 320 IAC 4.1-47. *(Indiana Environmental Management Board; 320 IAC 4.1-47-1)*

320 IAC 4.1-47-2 Definitions of items as used in this rule

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 2. (a) "Closure plan" means the plan for closure prepared in accordance with 320 IAC 4.1-46-3.

(b) "Current closure cost estimate" means the most recent of the estimates prepared in accordance with 320 IAC 4.1-47-3(a), (b), and (c).

(c) "Current post-closure cost estimate" means the most recent of the estimates prepared in accordance with 320 IAC 4.1-47-5(a), (b), and (c).

(d) "Parent corporation" means a corporation which directly owns at least 50 percent of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a "subsidiary" of the parent corporation.

(e) "Post-closure plan" means the plan for post-closure care prepared in accordance with 320 IAC 4.1-46-7 through 320 IAC 4.1-46-10.

(f) The following terms are used in the specifications for the financial tests for closure, post-closure care, and liability coverage. The definitions are intended to assist in the understanding of these regulations and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices.

"Assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity.

"Current assets" means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

"Current liabilities" means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

"Independently audited" refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

"Liabilities" means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

"Net working capital" means current assets minus current liabilities.

"Net worth" means total assets minus total liabilities and is equivalent to owner's equity.

"Tangible net worth" means the tangible assets that remain after deducting liabilities; such assets would not include intangibles such as goodwill and rights to patents or royalties.

(g) In the liability insurance requirements the terms "bodily injury" and "property damage" shall have the meanings given these terms by applicable State law. However, these terms do not include those liabilities which, consistent with standard industry practices, are excluded from coverage in liability policies for bodily injury and property damage. The Board intends the meanings of other terms used in the liability insurance requirements to be consistent with their common meanings within the insurance industry. The definitions given below of several of the terms are intended to assist in the understanding of these regulations and are not intended to limit their meanings in a way that conflicts with general insurance industry usage.

"Accidental occurrence" means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

"Legal defense costs" means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

"Nonsudden accidental occurrence" means an occurrence which takes place over time and involves continuous or repeated exposure.

"Sudden accidental occurrence" means an occurrence which is not continuous or repeated in nature. *(Indiana Environmental Management Board; 320 IAC 4.1-47-2)*

320 IAC 4.1-47-3 Cost estimate for closure

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 3. **(a)** The owner or operator must have a written estimate, in current dollars, of the cost of closing the facility in accordance with 320 IAC 4.1-46-2 through 320 IAC 4.1-46-6 and applicable closure requirements in 320 IAC 4.1-48-9, 320 IAC 4.1-49-5, 320 IAC 4.1-50-6, 320 IAC 4.1-51-8, 320 IAC 4.1-52-8, 320 IAC 4.1-53-6, and 320 IAC 4.1-54-8. The estimate must equal the cost of closure at the point in the facility's operating life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see 320 IAC 4.1-46-3(a)).

(b) The owner or operator must adjust the closure cost estimate for inflation within thirty (30) days after each anniversary of the date on which the first closure cost estimate was prepared. The adjustment must be made as specified in paragraphs (b)(i) and (b)(ii) of this section, using an inflation factor derived from the annual Implicit Price Deflator for Gross National Product as published by the U.S. Department of Commerce in its Survey of Current Business. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(i) The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.

(ii) Subsequent adjustments are made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.

(c) The owner or operator must revise the closure cost estimate whenever a change in the closure plan increases the cost of closure. The revised closure cost estimate must be adjusted for inflation as specified in 320 IAC 4.1-47-3(b).

(d) The owner or operator must keep the following at the facility during the operating life of the facility: The latest closure cost estimate prepared in accordance with 320 IAC 4.1-47-3(a) and (c) and, when this estimate has been adjusted in accordance with 320 IAC 4.1-47-3(b), the latest adjusted closure cost estimate. *(Indiana Environmental Management Board; 320 IAC 4.1-47-3)*

320 IAC 4.1-47-4 Financial assurance for closure

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 4. An owner or operator of each facility must establish financial assurance for closure of the facility. He must choose from the options as specified in paragraphs (a) through (f) of this section.

(a) Closure trust fund.

(1) An owner or operator may satisfy the requirements of 320 IAC 4.1-47-4 by establishing a closure trust fund which conforms to the requirements of 320 IAC 4.1-47-4(a) and submitting an originally signed duplicate of the trust agreement to the Technical Secretary. An owner or operator of a new facility must submit the originally signed duplicate of the trust agreement to the Technical Secretary at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage, recovery, or disposal. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(2) The wording of the trust agreement must be identical to the wording specified in 320 IAC 4.1-47-10(a), and the trust agreement must be accompanied by a formal certification of acknowledgment (see 320 IAC 4.1-47-10(a)). Schedule A of the trust agreement must be updated within sixty (60) days after a change in the amount of the current closure cost estimate covered by the agreement.

(3) Payments into the trust fund must be made annually by the owner or operator over the term of the initial Final (State) Permit or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in period." The payments into the closure trust fund must be made as follows:

(i) For a new facility, the first payment must be made before the initial receipt of hazardous waste for treatment, storage, recovery, or disposal. A receipt from the trustee for this payment must be submitted by the owner or operator to the Technical Secretary before this initial receipt of hazardous waste. The first payment must be at least equal to the current closure cost estimate, except as provided in 320 IAC 4.1-47-4(g), divided by the number of years in the pay-in period. Subsequent payments must be made no later than thirty (30) days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current closure cost estimate. CV

is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(ii) If an owner or operator establishes a trust fund as specified in 320 IAC 4.1-47-4(a), and the value of that trust fund is less than the current closure cost estimate when a permit is awarded for the facility, the amount of the current closure cost estimate still to be paid into the trust fund must be paid in over the pay-in period as defined in paragraph (a)(3) of this section. Payments must continue to be made no later than thirty (30) days after each anniversary date of the first payment made pursuant to 320 IAC 4.1-22. The amount of each payment must be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current closure cost estimate at the time the fund is established. However, he must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in paragraph (a)(3) of this section.

(5) If the owner or operator establishes a closure trust fund after having used one or more alternate mechanisms specified in this section or in 320 IAC 4.1-22, his first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to specifications of this paragraph and 320 IAC 4.1-22-5, as applicable.

(6) After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within sixty (60) days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) If the value of the trust fund is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the Technical Secretary for release of the amount in excess of the current closure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, he may submit a written request to the Technical Secretary for release of the amount in excess of the current closure cost estimate covered by the trust fund.

(9) Within sixty (60) days after receiving a request from the owner or operator for release of funds as specified in paragraphs (a)(7) or (8) of this section, the Technical Secretary will instruct the trustee to release to the owner or operator such funds as the Technical Secretary specifies in writing.

(10) After beginning final closure, an owner or operator or any other person authorized to perform closure may request reimbursement for closure expenditures by submitting itemized bills to the Technical Secretary. Within sixty (60) days after receiving bills for closure activities, the Technical Secretary will determine whether the closure expenditures are in accordance with the closure plan or otherwise justified, and if so, he will instruct the trustee to make reimbursement in such amounts as the Technical Secretary specifies in writing. If the Technical Secretary has reason to believe that the cost of closure will be significantly greater than the value of the trust fund, he may withhold reimbursement of such amounts as he deems prudent until he determines, in accordance with 320 IAC 4.1-47-4(i), that the owner or operator is no longer required to maintain financial assurance for closure.

(11) The Technical Secretary will agree to termination of the trust when:

(i) an owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) the Technical Secretary releases the owner or operator from the requirements of this section in accordance with 320 IAC 4.1-47-4(i).

(b) Surety bond guaranteeing payment into a closure trust fund.

(1) An owner or operator may satisfy the requirements of 320 IAC 4.1-47-4 by obtaining a surety bond which conforms to the requirements of 320 IAC 4.1-47-4(b) and submitting the bond to the Technical Secretary. An owner or operator of a new facility must submit the bond to the Technical Secretary at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage, recovery, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be authorized to do business in Indiana or be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S.

Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in 320 IAC 4.1-47-10(b).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Technical Secretary. This standby trust fund must meet the requirements specified in 320 IAC 4.1-47-4(a), except that:

(i) an originally signed duplicate of the trust agreement must be submitted to the Technical Secretary with the surety bond; and

(ii) until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) payments into the trust fund as specified in 320 IAC 4.1-47-4(a);

(B) updating of Schedule A of the trust agreement (see 320 IAC 4.1-47-10(a)) to show current closure cost estimates;

(C) annual valuations as required by the trust agreement; and

(D) notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(ii) fund the standby trust fund in an amount equal to the penal sum within 15 days after an order to begin closure is issued by the Technical Secretary or a U.S. district court or other court of competent jurisdiction; or

(iii) provide alternate financial assurance as specified in this section, and obtain the Technical Secretary's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Technical Secretary of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond must be in an amount at least equal to the current closure cost estimate, except as provided in 320 IAC 4.1-47-4(g).

(7) Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within sixty (60) days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Technical Secretary, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the Technical Secretary.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Technical Secretary. Cancellation may not occur, however, during the one hundred twenty (120) days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Technical Secretary, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Technical Secretary has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this section.

(c) Surety bond guaranteeing performance of closure.

(1) An owner or operator may satisfy the requirements of 320 IAC 4.1-47-4 by obtaining a surety bond which conforms to the requirements of 320 IAC 4.1-47-4(c) and submitting the bond to the Technical Secretary. An owner or operator of a new facility must submit the bond to the Technical Secretary at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage, recovery or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be authorized to do business in Indiana or be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in 320 IAC 4.1-47-10(c).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Technical Secretary. This standby trust must meet the requirements specified in 320 IAC 4.1-47-4(a), except that:

(i) an originally signed duplicate of the trust agreement must be submitted to the Technical Secretary with the surety bond; and

(ii) unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) payments into the trust fund as specified in 320 IAC 4.1-47-4(a);

(B) updating of Schedule A of the trust agreement (see 320 IAC 4.1-47-10(a)) to show current closure cost estimates;

(C) annual valuations as required by the trust agreement; and

(D) notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) perform final closure in accordance with the closure plan and other requirements of the permit for the facility whenever required to do so; or

(ii) provide alternate financial assurance as specified in this section and obtain the Technical Secretary's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Technical Secretary of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a determination pursuant to IC 13-7-11 that the owner or operator has failed to perform final closure in accordance with the closure plan and other permit requirements when required to do so, under the terms of the bond the surety will perform final closure as guaranteed by the bond or will deposit the amount of the penal sum into the standby trust fund.

(6) The penal sum of the bond must be in an amount at least equal to the current closure cost estimate.

(7) Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within sixty (60) days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Technical Secretary, or obtain other financial assurance as specified in this section. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the Technical Secretary.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Technical Secretary. Cancellation may not occur, however, during the one hundred twenty (120) days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Technical Secretary, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Technical Secretary has given prior written consent. The Technical Secretary will provide such written consent when:

(i) an owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) the Technical Secretary releases the owner or operator from the requirements of this section in accordance with 320IAC4.1-47-4(i).

(10) The surety will not be liable for deficiencies in the performance of closure by the owner or operator after the Technical Secretary releases the owner or operator from the requirements of this section in accordance with 320IAC4.1-47-4(i).

(d) Closure letter-of-credit.

(1) An owner or operator may satisfy the requirements of 320IAC4.1-47-4 by obtaining an irrevocable standby letter-of-credit which conforms to the requirements of 320IAC4.1-47-4(d) and submitting the letter to the Technical Secretary. An owner or operator of a new facility must submit the letter-of-credit to the Technical Secretary at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage, recovery, or disposal. The letter-of-credit must be effective before this initial receipt of hazardous waste. The issuing institution must be an entity which has the authority to issue letters-of-credit and whose letter-of-credit operations are regulated and examined by a federal or state agency.

(2) The wording of the letter-of-credit must be identical to the wording specified in 320 IAC 4.1-47-10(d).

(3) An owner or operator who uses a letter-of-credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the letter-of-credit, all amounts paid pursuant to a draft by the Technical Secretary will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Technical Secretary. This standby trust fund must meet the requirements of the trust fund specified in 320 IAC 4.1-47-4(a), except that:

(i) an originally signed duplicate of the trust

agreement must be submitted to the Technical Secretary with the letter-of-credit; and

(ii) unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) payments into the trust fund as specified in 320 IAC 4.1-47-4(a);

(B) updating of Schedule A of the trust agreement (see 320 IAC 4.1-47-10(a)) to show current closure cost estimates;

(C) annual valuations as required by the trust agreement; and

(D) notices of nonpayment as required by the trust agreement.

(4) The letter-of-credit must be accompanied by a letter from the owner or operator referring to the letter-of-credit by number, issuing institution, and date, and providing the following information: The EPA Identification Number, name, and address of the facility, and the amount of funds assured for closure of the facility by the letter-of-credit.

(5) The letter-of-credit must be irrevocable and issued for a period of at least one (1) year. The letter-of-credit must provide that the expiration date will be automatically extended for a period of at least one (1) year unless, at least one hundred twenty (120) days before the current expiration date, the issuing institution notifies both the owner or operator and the Technical Secretary by certified mail of a decision not to extend the expiration date. Under the terms of the letter-of-credit, the one hundred twenty (120) days will begin on the date when both the owner or operator and the Technical Secretary have received the notice, as evidenced by the return receipts.

(6) The letter-of-credit must be issued in an amount at least equal to the current closure cost estimate, except as provided in 320 IAC 4.1-47-4(g).

(7) Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within sixty (60) days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current closure cost estimate and submit evidence of such increase to the Technical Secretary, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the amount of the credit may be reduced to the amount of the current closure cost estimate following written approval by the Technical Secretary.

(8) Following a determination pursuant to IC 13-7-11 that the owner or operator has failed to perform final closure in accordance with the closure plan and other permit requirements when required to do so, the Technical Secretary may draw on the letter-of credit.

(9) The Technical Secretary will draw on the letter-of-credit if the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Technical Secretary within ninety (90) days after receipt by both the owner or operator and the Technical Secretary of a notice from the issuing institution that it has decided not to extend the letter-of-credit beyond the current expiration date. The Technical Secretary may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last thirty (30) days of any such extension the Technical Secretary will draw on the letter-of-credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the Technical Secretary.

(10) The Technical Secretary will return the letter-of-credit to the issuing institution for termination when:

(i) an owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) the Technical Secretary releases the owner or operator from the requirements of this section in accordance with 320 IAC 4.1-47-4(i).

(e) Closure insurance.

(1) An owner or operator may satisfy the requirements of 320 IAC 4.1-47-4 by obtaining closure insurance which conforms to the requirements of 320 IAC 4.1-47-4(e) and submitting a certificate of such insurance to the Technical Secretary. An owner or operator of a new facility must submit the certificate of insurance to the Technical Secretary at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage, recovery, or disposal. The insurance must be effective before this initial receipt of hazardous waste. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) The wording of the certificate of insurance must be identical to the wording specified in 320 IAC 4.1-47-10(e).

(3) The closure insurance policy must be issued for a face amount at least equal to the current closure cost estimate, except as provided in 320 IAC 4.1-47-4(g). The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not

change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The closure insurance policy must guarantee that funds will be available to close the facility whenever final closure occurs. The policy must also guarantee that once final closure begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Technical Secretary, to such party or parties as the Technical Secretary specifies.

(5) After beginning final closure, an owner or operator or any other person authorized to perform closure may request reimbursement for closure expenditures by submitting itemized bills to the Technical Secretary. Within sixty (60) days after receiving bills for closure activities, the Technical Secretary will determine whether the closure expenditures are in accordance with the closure plan or otherwise justified, and if so, he will instruct the insurer to make reimbursement in such amounts as the Technical Secretary specifies in writing. If the Technical Secretary has reason to believe that the cost of closure will be significantly greater than the face amount of the policy, he may withhold reimbursement of such amounts as he deems prudent until he determines, in accordance with 320 IAC 4.1-47-4(i), that the owner or operator is no longer required to maintain financial assurance for closure of the facility.

(6) The owner or operator must maintain the policy in full force and effect until the Technical Secretary consents to termination of the policy by the owner or operator as specified in paragraph (e)(10) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of these regulations, warranting such remedy as the Technical Secretary deems necessary. Such violation will be deemed to begin upon receipt by the Technical Secretary of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Technical Secretary. Cancellation, termination, or failure to renew may not occur, however, during the one hundred twenty (120) days beginning with the date of receipt of the notice by both the Technical Secretary and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(i) the Technical Secretary deems the facility abandoned; or

(ii) the permit is terminated or revoked or a new permit is denied; or

(iii) closure is ordered by the Technical Secretary or a U.S. district court or other court of competent jurisdiction; or

(iv) the owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(v) the premium due is paid.

(9) Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within sixty (60) days after the increase, must either cause the face amount to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Technical Secretary, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following written approval by the Technical Secretary.

(10) The Technical Secretary will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) an owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) the Technical Secretary releases the owner or operator from the requirements of this section in accordance with 320 IAC 4.1-47-4(i).

(f) Financial test and corporate guarantee for closure.

(1) An owner or operator may satisfy the requirements of 320 IAC 4.1-47-4 by demonstrating that he passes a financial test as specified in 320 IAC 4.1-47-4(f). To pass this test the owner or operator must

meet the criteria of either paragraph (f)(1)(i) or (f)(1)(ii) of this section:

(i) The owner or operator must have:

(A) two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates; and

(C) tangible net worth of at least $10million; and

(D) assets in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates.

(ii) The owner or operator must have:

(A) a current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) tangible net worth at least six times the sum of the current closure and post-closure cost estimates; and

(C) tangible net worth of at least $10 million; and

(D) assets located in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates.

(2) The phrase "current closure and post-closure cost estimates" as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (320 IAC 4.1-47-10(f)).

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Technical Secretary:

(i) a letter signed by the owner's or operator's chief financial officer and worded as specified in 320 IAC 4.1-47-10(f); and

(ii) a copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) a special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) he has compared the data which the letter from the chief financial officer specifies as having been derived from the independentl audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) in connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) An owner or operator of a new facility must submit the items specified in paragraph (f)(3) of this section to the Technical Secretary at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage, recovery, or disposal.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Technical Secretary within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must send notice to the Technical Secretary of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within ninety (90) days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within one hundred twenty (120) days after the end of such fiscal year.

(7) The Technical Secretary may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (f)(1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (f)(3) of this section. If the Technical Secretary finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within thirty (30) days after notification of such a finding.

(8) The Technical Secretary may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Technical Secretary will

evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within thirty (30) days after notification of the disallowance.

(9) The owner or operator is no longer required to submit the items specified in paragraph (f)(3) of this section when:

(i) an owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) the Technical Secretary releases the owner or operator from the requirements of this section in accordance with 320 IAC 4.1-47-4(i).

(10) An owner or operator may meet the requirements of this section by obtaining a written guarantee, hereafter referred to as "corporate guarantee." The guarantor must be the parent corporation of the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (f)(8) of this section and must comply with the terms of the corporate guarantee. The wording of the corporate guarantee must be identical to the wording specified in 320 IAC 4.1-47-10(h). The corporate guarantee must accompany the items sent to the Technical Secretary as specified in paragraph (f)(3) of this section. The terms of the corporate guarantee must provide that:

(i) If the owner or operator fails to perform final closure of a facility covered by the corporate guarantee in accordance with the closure plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in 320 IAC 4.1-47-4(a) in the name of the owner or operator.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Technical Secretary. Cancellation may not occur, however, during the one hundred twenty (120) days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Technical Secretary, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Technical Secretary within ninety (90) days after receipt by both the owner or operator and the Technical Secretary of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternative financial assurance in the name of the owner or operator.

(g) Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in paragraphs (a), (b), (d), and (e), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter-of-credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The Technical Secretary may use any or all of the mechanisms to provide for closure of the facility.

(h) Use of a financial mechanism for multiple facilities. An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the Technical Secretary must include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for closure assured by the mechanism. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for closure of any of the facilities covered by the mechanism, the Technical Secretary may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(i) Release of the owner or operator from the requirements of this section. Within sixty (60) days after receiving certifications from the owner or operator and an independent registered professional engineer that closure has been accomplished in accordance with the closure plan, the Technical Secretary will notify the owner or operator in writing that he is no longer required by this section to maintain financial assurance for closure of the particular facility, unless the Technical Secretary has reason to believe that closure has not been accomplished in accordance with the closure plan. *(Indiana Environmental Management Board; 320 IAC 4.1-47-4)*

320 IAC 4.1-47-5 Cost estimate for post-closure care

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. (a) The owner or operator of a facility subject to post-closure monitoring or maintenance requirements must have a written estimate, in current dollars, of the annual cost of post-closure monitoring and maintenance of the facility in accordance with the applicable post-closure regulations in 320 IAC 4.1-46-7 through 320 IAC 4.1-46-10, 320 IAC 4.1-50-6, 320 IAC 4.1-51-8, 320 IAC 4.1-52-8, and 320 IAC 4.1-53-6. The post-closure cost estimate is calculated by multiplying the annual post-closure cost estimate by the number of years of post-closure care required under 320 IAC 4.1-46.

(b) During the operating life of the facility, the owner or operator must adjust the post-closure cost estimate for inflation within thirty (30) days after each anniversary of the date on which the first post-closure cost estimate was prepared. The adjustment must be made as specified in paragraphs (b)(i) and (b)(ii) of this section, using an inflation factor derived from the annual Implicit Price Deflator for Gross National Product as published by the U.S. Department of Commerce in its Survey of Current Business. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(i) The first adjustment is made by multiplying the post-closure cost estimate by the inflation factor. The result is the adjusted post-closure cost estimate.

(ii) Subsequent adjustments are made by multiplying the latest adjusted post-closure cost estimate by the latest inflation factor.

(c) The owner or operator must revise the post-closure cost estimate during the operating life of the facility whenever a change in the post-closure plan increases the cost of post-closure care. The revised post-closure cost estimate must be adjusted for inflation as specified in 320 IAC 4.1-47-5(b).

(d) The owner or operator must keep the following at the facility during the operating life of the facility: The latest post-closure cost estimate prepared in accordance with 320 IAC 4.1-47-5(a) and (c) and, when this estimate has been adjusted in accordance with 320 IAC 4.1-47-5(b), the latest adjusted post-closure cost estimate. *(Indiana Environmental Management Board; 320 IAC 4.1-47-5)*

320 IAC 4.1-47-6 Financial assurance for post-closure care

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. The owner or operator of a facility subject to post-closure monitoring or maintenance requirements must establish financial assurance for post-closure care in accordance with the approved post-closure plan for the facility. He must choose from the following options:

(a) Post-closure trust fund.

(1) An owner or operator may satisfy the requirements of 320 IAC 4.1-47-6 by establishing a post-closure trust fund which conforms to the requirements of 320 IAC 4.I-47-6(a) and submitting an originally signed duplicate of the trust agreement to the Technical Secretary. An owner or operator of a new facility must submit the originally signed duplicate of the trust agreement to the Technical Secretary at least sixty (60) days before the date on which hazardous waste is first received for disposal. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(2) The wording of the trust agreement must be identical to the wording specified in 320 IAC 4.1-47-10(a), and the trust agreement must be accompanied by a formal certification of acknowledgment (see 320 IAC 4.1-22-26). Schedule A of the trust agreement must be updated within sixty (60) days after a change in the amount of the current post-closure cost estimate covered by the agreement.

(3) Payments into the trust fund must be made annually by the owner or operator over the term of the first final (state) permit or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in period." The payments into the post-closure trust fund must be made as follows:

(i) For a new facility, the first payment must be made before the initial receipt of hazardous waste for disposal. A receipt from the trustee for this payment must be submitted by the owner or operator to the Technical Secretary before this initial receipt of hazardous waste. The first payment must be at least equal to the current post-closure cost estimate, except as provided in 320 IAC 4.1-47-6(g), divided by the number of years in the pay-in period. Subsequent payments must be made no later than thirty (30) days after each

anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current post-closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(ii) If an owner or operator establishes a trust fund as specified in 320 IAC 4.1-47-6(a), and the value of that trust fund is less than the current post-closure cost estimate when a permit is awarded for the facility, the amount of the current post-closure cost estimate still to be paid into the trust fund must be paid in over the pay-in period as defined in paragraph (a)(3) of this section. Payments must continue to be made no later than thirty (30) days after each anniversary date of the first payment made pursuant to 320 IAC 4.1-22. The amount of each payment must be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current post-closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current post-closure cost estimate at the time the fund is established. However, he must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in paragraph (a)(3) of this section.

(5) If the owner or operator establishes a post-closure trust fund after having used one or more alternate mechanisms specified in this section or in 320 IAC 4.1-22-14 through 320 IAC 4.1-22-19, his first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to specifications of this paragraph and 320 IAC 4.1-22-15, as applicable.

(6) After the pay-in period is completed, whenever the current post-closure cost estimate changes during the operating life of the facility, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within sixty (60) days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current post-closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current post-closure cost estimate, the owner or operator may submit a written request to the Technical Secretary for release of the amount in excess of the current post-closure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, he may submit a written request to the Technical Secretary for release of the amount in excess of the current post-closure cost estimate covered by the trust fund.

(9) Within sixty (60) days after receiving a request from the owner or operator for release of funds as specified in paragraphs (a)(7) or (8) of this section, the Technical Secretary will instruct the trustee to release to the owner or operator such funds as the Technical Secretary specifies in writing.

(10) During the period of post-closure care, the Technical Secretary may approve a release of funds if the owner or operator demonstrates to the Technical Secretary that the value of the trust fund exceeds the remaining cost of post-closure care.

(11) An owner or operator or any other person authorized to perform post-closure care may request reimbursement for post-closure expenditures by submitting itemized bills to the Technical Secretary. Within sixty (60) days after receiving bills for post-closure activities, the Technical Secretary will determine whether the post-closure expenditures are in accordance with the post-closure plan or otherwise justified, and if so, he will instruct the trustee to make reimbursement in such amounts as the Technical Secretary specifies in writing.

(12) The Technical Secretary will agree to termination of the trust when:

(i) an owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) the Technical Secretary releases the owner or operator from the requirements of this section in accordance with 320 IAC 4.1-47-6(i).

(b) Surety bond guaranteeing payment into a post-closure trust fund.

(1) An owner or operator may satisfy the requirements of 320 IAC 4.1-47-6 by obtaining a surety bond which conforms to the requirements of 320 IAC 4.1-47-6(b) and submitting the bond to the

Technical Secretary. An owner or operator of a new facility must submit the bond to the Technical Secretary at least sixty (60) days before the date on which hazardous waste is first received for disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be authorized to do business in Indiana or be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in 320 IAC 4.1-47-10(b).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Technical Secretary. This standby trust fund must meet the requirements specified in 320 IAC 4.1-47-6(a), except that:

(i) an originally signed duplicate of the trust agreement must be submitted to the Technical Secretary with the surety bond; and

(ii) until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) payments into the trust fund as specified in 320 IAC 4.1-47-6(a);

(B) updating of Schedule A of the trust agreement (see 320 IAC 4.1-47-10(a)) to show current post-closure cost estimates;

(C) annual valuations as required by the trust agreement; and

(D) notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(ii) fund the standby trust fund in an amount equal to the penal sum within fifteen (15) days after an order to begin closure is issued by the Technical Secretary or a U.S. district court or other court of competent jurisdiction; or

(iii) provide alternate financial assurance as specified in this section, and obtain the Technical Secretary's written approval of the assurance provided, within ninety (90) days after receipt by both the owner or operator and the Technical Secretary of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond must be in an amount at least equal to the current post-closure cost estimate, except as provided in 320 IAC 4.1-47-6(g).

(7) Whenever the current post-closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within sixty (60) days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Technical Secretary, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases, the penal sum may be reduced to the amount of the current post-closure cost estimate following written approval by the Technical Secretary.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Technical Secretary. Cancellation may not occur, however, during the one hundred twenty (120) days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Technical Secretary, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Technical Secretary has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this section.

(c) Surety bond guaranteeing performance of post-closure care.

(1) An owner or operator may satisfy the requirements of 320 IAC 4.1-47-6 by obtaining a surety bond which conforms to the requirements of 320 IAC 4.1-47-6(c) and submitting the bond to the Technical Secretary. An owner or operator of a new facility must submit the bond to the Technical Secretary at least sixty (60) days before the date on which hazardous waste is first received for disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be authorized to do business in Indiana or be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in 320 IAC 4.1-47-10(c).

(3) The owner or operator who uses a surety bond

to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Technical Secretary. This standby trust must meet the requirements specified in 320 IAC 4.1-47-6(a), except that:

(i) an originally signed duplicate of the trust agreement must be submitted to the Technical Secretary with the surety bond; and

(ii) unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) payments into the trust fund as specified in 320 IAC 4.1-47-6(a);

(B) updating of Schedule A of the trust agreement (see 320 IAC 4.1-47-10(a)) to show current post-closure cost estimates;

(C) annual valuations as required by the trust agreement; and

(D) notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) perform post-closure care in accordance with the post-closure plan and other requirements of the permit for the facility; or

(ii) provide alternate financial assurance as specified in this section, and obtain the Technical Secretary's written approval of the assurance provided, within ninety (90) days after receipt by both the owner or operator and the Technical Secretary of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a determination pursuant to IC 13-7-11 that the owner or operator has failed to perform post-closure care in accordance with the post-closure plan and other permit requirements, under the terms of the bond the surety will perform post-closure care in accordance with the post-closure plan and other permit requirements or will deposit the amount of the penal sum into the standby trust fund.

(6) The penal sum of the bond must be in an amount at least equal to the current post-closure cost estimate.

(7) Whenever the current post-closure cost estimate increases to an amount greater than the penal sum during the operating life of the facility, the owner or operator, within sixty (60) days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Technical Secretary, or obtain other financial assurance as specified in this section. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the penal sum may be reduced to the amount of the current post-closure cost estimate following written approval by the Technical Secretary.

(8) During the period of post-closure care, the Technical Secretary may approve a decrease in the penal sum if the owner or operator demonstrates to the Technical Secretary that the amount exceeds the remaining cost of post-closure care.

(9) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Technical Secretary. Cancellation may not occur, however, during the one hundred twenty (120) days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Technical Secretary, as evidenced by the return receipts.

(10) The owner or operator may cancel the bond if the Technical Secretary has given prior written consent. The Technical Secretary will provide such written consent when:

(i) an owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) the Technical Secretary releases the owner or operator from the requirements of this section in accordance with 320 IAC 4.1-47-6(i).

(11) The surety will not be liable for deficiencies in the performance of post-closure care by the owner or operator after the Technical Secretary releases the owner or operator from the requirements of this section in accordance with 320 IAC 4.1-47-6(i).

(d) Post-closure letter-of-credit.

(1) An owner or operator may satisfy the requirements of 320 IAC 4.1-47-6 by obtaining an irrevocable standby letter-of-credit which conforms to the requirements of 320 IAC 4.1-47-6(d) and submitting the letter to the Technical Secretary. An owner or operator of a new facility must submit the letter-of-credit to the Technical Secretary at least sixty (60) days before the date on which hazardous waste is first received for disposal. The letter-of-credit must be effective before this initial receipt of hazardous waste. This issuing institution must be an entity which has the authority to issue letters-of-credit and whose letter-of-credit operations are regulated and examined by a Federal or state agency.

(2) The wording of the letter-of-credit must be

identical to the wording specified in 320 IAC 4.1-47-10(d).

(3) The owner or operator who uses a letter-of-credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the letter-of-credit, all amounts paid pursuant to a draft by the Technical Secretary will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Technical Secretary. This standby trust fund must meet the requirements of the trust fund specified in 320 IAC 4.1-47-6(a), except that:

(i) an originally signed duplicate of the trust agreement must be submitted to the Technical Secretary with the letter-of-credit; and

(ii) unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) payments into the trust fund as specified in 320 IAC 4.1-47-6(a);

(B) updating of ScheduleA of the trust agreement (see 320 IAC 4.1-47-10(a)) to show current post-closure cost estimates,

(C) annual valuations as required by the trust agreement; and

(D) notices of nonpayment as required by the trust agreement.

(4) The letter-of-credit must be accompanied by a letter from the owner or operator referring to the letter-of-credit by number, issuing institution, and date, and providing the following information: the EPA Identification Number, name, and address of the facility, and the amount of funds assured for post-closure care of the facility by the letter-of-credit.

(5) The letter-of-credit must be irrevocable and issued for a period of at least one (1) year. The letter-of-credit must provide that the expiration date will be automatically extended for a period of at least one (1) year unless, at least one hundred twenty (120) days before the current expiration date, the issuing institution notifies both the owner or operator and the Technical Secretary by certified mail of a decision not to extend the expiration date. Under the terms of the letter-of-credit, the one hundred twenty (120) days will begin on the date when both the owner or operator and the Technical Secretary have received the notice, as evidenced by the return receipts.

(6) The letter-of-credit must be issued in an amount at least equal to the current post-closure cost estimate, except as provided in 320 IAC 4.1-47-6(g).

(7) Whenever the current post-closure cost estimate increases to an amount greater than the amount of the credit during the operating life of the facility, the owner or operator, within sixty (60) days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current post-closure cost estimate and submit evidence of such increase to the Technical Secretary, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the amount of the credit may be reduced to the amount of the current post-closure cost estimate following written approval by the Technical Secretary.

(8) During the period of post-closure care, the Technical Secretary may approve a decrease in the amount of the letter-of-credit if the owner or operator demonstrates to the Technical Secretary that the amount exceeds the remaining cost of post-closure care.

(9) Following a determination pursuant to IC 13-7-11 that the owner or operator has failed to perform post-closure care in accordance with the post-closure plan and other permit requirements, the Technical Secretary may draw on the letter-of-credit.

(10) The Technical Secretary will draw on the letter-of-credit if the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Technical Secretary within ninety (90) days after receipt by both the owner or operator and the Technical Secretary of a notice from the issuing institution that it has decided not to extend the letter-of-credit beyond the current expiration date. The Technical Secretary may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last thirty (30) days of any such extension, the Technical Secretary will draw on the letter-of-credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the Technical Secretary.

(11) The Technical Secretary will return the letter-of-credit to the issuing institution for termination when:

(i) an owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) the Technical Secretary releases the owner or operator from the requirements of this section in accordance with 320 IAC 4.1-47-6(i).

(e) Post-closure insurance.

(1) An owner or operator may satisfy the require-

ments of 320 IAC 4.1-47-6 by obtaining post-closure insurance which conforms to the requirements of 320 IAC 4.1-47-6(e) and submitting a certificate of such insurance to the Technical Secretary. An owner or operator of a new facility must submit the certificate of insurance to the Technical Secretary at least sixty (60) days before the date on which hazardous waste is first received for disposal. The insurance must be effective before this initial receipt of hazardous waste. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) The wording of the certificate of insurance must be identical to the wording specified in 320 IAC 4.1-47-10(e).

(3) The post-closure insurance policy must be issued for a face amount at least equal to the current post-closure cost estimate, except as provided in 320 IAC 4.1-47-6(g). The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lower by the amount of the payments.

(4) The post-closure insurance policy must guarantee that funds will be available to provide post-closure care of the facility whenever the post-closure period begins. The policy must also guarantee that once post-closure care begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Technical Secretary, to such party or parties as the Technical Secretary specifies.

(5) An owner or operator or any other person authorized to perform post-closure care may request reimbursement for post-closure expenditures by submitting itemized bills to the Technical Secretary. Within sixty (60) days after receiving bills for post-closure activities, the Technical Secretary will determine whether the post-closure expenditures are in accordance with the post-closure plan or otherwise justified, and if so, he will instruct the insurer to make reimbursement in such amounts as the Technical Secretary specifies in writing.

(6) The owner or operator must maintain the policy in full force and effect until the Technical Secretary consents to termination of the policy by the owner or operator as specified in paragraph (e)(11) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of these regulations, warranting such remedy as the Technical Secretary deems necessary. Such violation will be deemed to begin upon receipt by the Technical Secretary of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Technical Secretary. Cancellation, termination, or failure to renew may not occur, however, during the one hundred twenty (120) days beginning with the date of receipt of the notice by both the Technical Secretary and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(i) the Technical Secretary deems the facility abandoned; or

(ii) the permit is terminated or revoked or a new permit is denied; or

(iii) closure is ordered by the Technical Secretary or a U.S. district court or other court of competent jurisdiction; or

(iv) the owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(v) the premium due is paid.

(9) Whenever the current post-closure cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within sixty (60) days after the increase, must either cause the face amount to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Technical Secretary, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the face amount may be reduced to the amount of the

current post-closure cost estimate following written approval by the Technical Secretary.

(10) Commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26-week Treasury securities.

(11) The Technical Secretary will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) an owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) the Technical Secretary releases the owner or operator from the requirements of this section in accordance with 320 IAC 4.1-47-6(i).

(f) Financial test and corporate guarantee for post-closure care.

(1) An owner or operator may satisfy the requirements of 320 IAC 4.1-47-6 by demonstrating that he passes a financial test as specified in 320 IAC 4.1-47-6(f). To pass this test the owner or operator must meet the criteria of either paragraph (f)(1)(i) or (f)(1)(ii) of this section:

(i) The owner or operator must have:

(A) two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates; and

(C) tangible net worth of at least $10 million; and

(D) assets in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates.

(ii) The owner or operator must have:

(A) a current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's; and

(B) tangible net worth at least six times the sum of the current closure and post-closure cost estimates; and

(C) tangible net worth of at least $10 million; and

(D) assets located in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates.

(2) The phrase "current closure and post-closure cost estimates" as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (320 IAC 4.1-47-10(f)).

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Technical Secretary:

(i) a letter signed by the owner's or operator's chief financial officer and worded as specified in 320 IAC 4.1-47-10(f); and

(ii) a copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) a special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) he has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) in connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) An owner or operator of a new facility must submit the items specified in paragraph (f)(3) of this section to the Technical Secretary at least sixty (60) days before the date on which hazardous waste is first received for disposal.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Technical Secretary within ninety (90) days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must send notice to the Technical Secretary of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within ninety (90) days after the end of the fiscal year for which the year-end financial

data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within one hundred twenty (120) days after the end of such fiscal year.

(7) The Technical Secretary may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (f)(1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specific in paragraph (f)(3) of this section. If the Technical Secretary finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within thirty (30) days after notification of such a finding.

(8) The Technical Secretary may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Technical Secretary will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within thirty (30) days after notification of the disallowance.

(9) During the period of post-closure care, the Technical Secretary may approve a decrease in the current post-closure cost estimate for which this test demonstrates financial assurance if the owner or operator demonstrates to the Technical Secretary that the amount of the cost estimate exceeds the remaining cost of post-closure care.

(10) The owner or operator is no longer required to submit the items specified in paragraph (f)(3) of this section when:

(i) an owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) the Technical Secretary releases the owner or operator from the requirements of this section in accordance with 320 IAC 4.1-47-6(i).

(11) An owner or operator may meet the requirements of this section by obtaining a written guarantee, hereafter referred to as "corporate guarantee." The guarantor must be the parent corporation of the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (f)(9) of this section and must comply with the terms of the corporate guarantee. The wording of the corporate guarantee must be identical to the wording specified in 320 IAC 4.1-47-10(h). The corporate guarantee must accompany the items sent to the Technical Secretary as specified in paragraph (f)(3) of this section. The terms of the corporate guarantee must provide that:

(i) If the owner or operator fails to perform post-closure care of a facility covered by the corporate guarantee in accordance with the post-closure plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in 320 IAC 4.1-47-6(a) in the name of the owner or operator.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Technical Secretary. Cancellation may not occur, however, during the one hundred twenty (120) days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Technical Secretary, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Technical Secretary within ninety (90) days after receipt by both the owner or operator and the Technical Secretary of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator.

(g) Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of 320 IAC 4.1-47-6 by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in paragraphs (a), (b), (d), and (e), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current post-closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter-of-credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The Technical Secretary may use any or all of the mechanisms to provide for post-closure care of the facility.

(h) Use of a financial mechanism for multiple facilities. An owner or operator may use a financial assurance mechanism specified in 320 IAC 4.1-47-6 to

meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the Technical Secretary must include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for post-closure care assured by the mechanism. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for post-closure care of any of the facilities covered by the mechanism, the Technical Secretary may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(i) Release of the owner or operator from the requirements of this section. When an owner or operator has completed, to the satisfaction of the Technical Secretary, all post-closure care requirements in accordance with the post-closure plan, the Technical Secretary will, at the request of the owner or operator, notify him in writing that he is no longer required by this section to maintain financial assurance for post-closure care of the particular facility. *(Indiana Environmental Management Board; 320 IAC 4.1-47-6)*

320 IAC 4.1-47-7 Use of a mechanism for financial assurance of both closure and post-closure care

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. An owner or operator may satisfy the requirements for financial assurance for both closure and post-closure care for one or more facilities by using a trust fund, surety bond, letter-of-credit, insurance, financial test, or corporate guarantee that meets the specifications for the mechanism in both 320 IAC 4.1-47-4 and 320 IAC 4.1-47-6. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for financial assurance of closure and of post-closure care. *(Indiana Environmental Management Board; 320 IAC 4.1-47-7)*

320 IAC 4.1-47-8 Liability requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 8. (a) Coverage for sudden accidental occurrences. An owner or operator of a hazardous waste treatment, storage, recovery, or disposal facility, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for sudden accidental occurrences in the amount of at least $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs. This liability coverage may be demonstrated in one of three ways, as specified in paragraphs (a)(1), (a)(2), and (a)(3) of this section:

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph.

(i) Each insurance policy must be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in 320 IAC 4.1-47-10(i). The wording of the certificate of insurance must be identical to the wording specified in 320 IAC 4.1-47-10(j). The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Technical Secretary. If requested by the Technical Secretary, the owner or operator must provide a signed duplicate original of the insurance policy. An owner or operator of a new facility must submit the signed duplicate original of the Hazardous Waste Facility Liability Endorsement or the Certificate of Liability Insurance to the Technical Secretary at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage, recovery, or disposal. The insurance must be effective before this initial receipt of hazardous waste.

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) An owner or operator may meet the requirements of this section by passing a financial test for liability coverage as specified in paragraph (f) of this section.

(3) An owner or operator may demonstrate the required liability coverage through use of both the financial test and insurance as these mechanisms are specified in this section. The amounts of coverage demonstrated must total at least the minimum amounts required by this paragraph.

(b) Coverage for nonsudden accidental occurrences. An owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least $3 million per occurrence with an annual aggregate of at least $6 million, exclusive of legal defense costs. This liability coverage may be demonstrated in one of three ways, as specified in paragraphs (b)(1), (b)(2), and (b)(3) of this section:

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph.

(i) Each insurance policy must be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in 320 IAC 4.1-47-10(i). The wording of the certificate of insurance must be identical to the wording specified in 320 IAC 4.1-47-10(j). The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Technical Secretary. If requested by the Technical Secretary, the owner or operator must provide a signed duplicate original of the insurance policy. An owner or operator of a new facility must submit the signed duplicate original of the Hazardous Waste Facility Liability Endorsement or the Certificate of Liability Insurance to the Technical Secretary at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage, recovery, or disposal. The insurance must be effective before this initial receipt of hazardous waste.

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) An owner or operator may meet the requirements of this section by passing a financial test for liability coverage as specified in paragraph (f) of this section.

(3) An owner or operator may demonstrate the required liability coverage through use of both the financial test and insurance as these mechanisms are specified in this section. The amounts of coverage must total at least the minimum amounts required by this paragraph.

(4) For existing facilities, the required liability coverage for nonsudden accidental occurrences must be demonstrated by the dates listed below. The total sales or revenues of the owner or operator in all lines of business, in the fiscal year preceding July 15, 1982, will determine which of the dates applies. If the owner and operator of a facility are two different parties, or if there is more than one owner or operator, the sales or revenues of the party with the largest sales or revenues will determine the date by which the coverage must be demonstrated. The dates are as follows:

(i) For an owner or operator with sales or revenues totalling $10 million or more, January 16, 1984.

(ii) For an owner or operator with sales or revenues greater than $5 million but less than $10 million, January 16, 1984.

(iii) All other owners or operators, January 16, 1985.

(c) Request for variance. If an owner or operator can demonstrate to the satisfaction of the Technical Secretary that the levels of financial responsibility required by paragraphs (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, recovery, or disposal at the facility or group of facilities, the owner or operator may obtain a variance from the Technical Secretary. The request for a variance must be submitted to the Technical Secretary as part of the application under 320 IAC 4.1-34-5 for a facility that does not have a permit, or pursuant to the procedures for permit modification under 320 IAC 4.1-39-3 for a facility that has a permit. If granted, the variance will take the form of an adjusted level of required liability coverage, such level to be based on the Technical Secretary's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The Technical Secretary may require an owner or operator who requests a variance to provide such technical and engineering information as is deemed necessary by the Technical Secretary to determine a level of financial responsibility other than that required by paragraph (a) or (b) of this section. Any request for a variance for a permitted facility will be treated as a request for a permit modification under 320 IAC 4.1-36-2 and 320 IAC 4.1-39-3.

(d) Adjustments by the Technical Secretary. If the Technical Secretary determines that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and

duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the Technical Secretary may adjust the level of financial responsibility required under paragraph (a) or (b) of this section as may be necessary to protect human health and the environment. This adjusted level will be based on the Technical Secretary's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the Technical Secretary determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of a facility that is not a surface impoundment, landfill, or land treatment facility, he may require that an owner or operator of the facility comply with paragraph (b) of this section. An owner or operator must furnish to the Technical Secretary, within a reasonable time, any information which the Technical Secretary requests to determine whether cause exists for such adjustments of level or type of coverage. Any adjustment of the level or type of coverage for a facility that has a permit will be treated as a permit modification under 320 IAC 4.1-36-2 and 320 IAC 4.1-39-3.

(e) Period of coverage. An owner or operator must continuously provide liability coverage for a facility as required by this section until certifications of closure of the facility, as specified in 320 IAC 4.1-46-6, are received by the Technical Secretary.

(f) Financial test for liability coverage.

(1) An owner or operator may satisfy the requirements of 320 IAC 4.1-47-8 by demonstrating that he passes a financial test as specified in 320 IAC 4.1-47-8(f). To pass this test the owner or operator must meet the criteria of paragraph (f)(1)(i) or (f)(1)(ii):

(i) The owner or operator must have:

(A) net working capital and tangible net worth each at least six times the amount of liability coverage to be demonstrated by this test; and

(B) tangible net worth of at least $10 million; and

(C) assets in the United States amounting to either: (1) at least 90 percent of his total assets; or (2) at least six times the amount of liability coverage to be demonstrated by this test.

(ii) The owner or operator must have:

(A) a current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's, or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) tangible net worth of at least $10 million; and

(C) tangible net worth at least six times the amount of liability coverage to be demonstrated by this test; and

(D) assets in the United States amounting to either: (1) at least 90 percent of his total assets; or (2) at least six times the amount of liability coverage to be demonstrated by this test.

(2) The phrase "amount of liability coverage" as used in paragraph (f)(1) of this section refers to the annual aggregate amounts for which coverage is required under paragraphs (a) and (b) of this section.

(3) To demonstrate that he meets this test, the owner or operator must submit the following three items to the Technical Secretary:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in 320 IAC 4.1-47-10(g). If an owner or operator is using the financial test to demonstrate both assurance for closure or post-closure care, as specified by 320 IAC 4.1-47-4(f), 320 IAC 4.1-47-6(f), 320 IAC 4.1-47-4(e), and 320 IAC 4.1-47-6(e), and liability coverage, he must submit the letter specified in 320 IAC 4.1-47-10(g) to cover both forms of financial responsibility; a separate letter as specified in 320 IAC 4.1-47-10(f) is not required.

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year.

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) he has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) in connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) An owner or operator of a new facility must submit the items specified in paragraph (f)(3) of this section to the Technical Secretary at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage, recovery, or disposal.

(5) Afte r the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Technical Secretary within ninety (90) days after the close of each succeeding fiscal year. This information must consist of all three items specified

in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must obtain insurance for the entire amount of required liability coverage as specified in this section. Evidence of insurance must be submitted to the Technical Secretary within ninety (90) days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements.

(7) The Technical Secretary may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Technical Secretary will evaluate other qualifications on an individual basis. The owner or operator must provide evidence of insurance for the entire amount of required liability coverage as specified in this section within thirty (30) days after notification of disallowance.

(Indiana Environmental Management Board; 320 IAC 4.1-47-8)

320 IAC 4.1-47-9 Incapacity of owners or operators, guarantors, or financial institutions

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 9. (a) An owner or operator must notify the Technical Secretary by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within ten (10) days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in 320 IAC 4.1-47-4(f) and 320 IAC 4.1-47-6(f) must make such a notification if he is named as debtor, as required under the terms of the corporate guarantee (320 IAC 4.1-47-10(h)).

(b) An owner or operator who fulfills the requirements of 320 IAC 4.1-47-4, 320 IAC 4.1-47-6, or 320 IAC 4.1-47-8 by obtaining a trust fund, surety bond, letter-of-credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter-of-credit, or insurance policy to issue such instruments. The owner or operator must establish other financial assurance or liability coverage within sixty (60) days after such an event. *(Indiana Environmental Management Board; 320 IAC 4.1-47-9)*

320 IAC 4.1-47-10 Wording of the instruments

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 10. (a) A trust agreement for a trust fund, as specified in 320 IAC 4.1-47-4(a) or 320 IAC 4.1-47-6(a) or 320 IAC 4.1-22-5 or 320 IAC 4.1-22-15, must be worded identically to 320 IAC 4.1-22-26, except that instructions in brackets are to be replaced with relevant information and the brackets deleted.

(b) A surety bond guaranteeing payment into a trust fund, as specified in 320 IAC 4.1-47-4(b) or 320 IAC 4.1-47-6(b) or 320 IAC 4.1-22-6 or 320 IAC 4.1-22-16, must be worded identically to 320 IAC 4.1-22-27 except that instructions in brackets are to be replaced with relevant information and the brackets deleted.

(c) A surety bond guaranteeing performance of closure and/or post-closure care, as specified in 320 IAC 4.1-47-4(c) or 320 IAC 4.1-47-6(c), must be worded identically to 320 IAC 4.1-22-28 except that instructions in brackets are to be replaced with relevant information and the brackets deleted.

(d) A letter-of-credit, as specified in 320 IAC 4.1-47-4(d) or 320 IAC 4.1-47-6(d) or 320 IAC 4.1-22-7 or 320 IAC 4.1-22-17 must be worded identically to 320 IAC 4.1-22-29 except that instructions in brackets are to be replaced with relevant information and the brackets deleted.

(e) A certificate of insurance, as specified in 320 IAC 4.1-47-4(e) or 320 IAC 4.1-47-6(e) or 320 IAC 4.1-22-8 or 320 IAC 4.1-22-18 must be worded identically to 320 IAC 4.1-22-30 except that instructions in brackets are to be replaced with relevant information and the brackets deleted.

(f) A letter from the chief financial officer, as specified in 320 IAC 4.1-47-4(f) or 320 IAC 4.1-47-6(f) or 320 IAC 4.1-22-9 or 320 IAC 4.1-22-19 must be worded identically to 320 IAC 4.1-22-31 except that instructions in brackets are to be replaced with relevant information and the brackets deleted.

(g) A letter from the chief financial officer, as specified in 320 IAC 4.1-47-8(f) or 320 IAC 4.1-22-21(f) must be worded identically to 320 IAC 4.1-22-32 except that instructions in brackets are to be replaced with relevant information and the brackets deleted.

(h) A corporate guarantee, as specified in 320 IAC 4.1-47-4(f) or 320 IAC 4.1-47-6(f) or 320 IAC 4.1-22-20(f)

320 IAC 4.1-22-19 must be worded identically to 320 IAC 4.1-22-33 except that instructions in brackets are to be replaced with relevant information and the brackets deleted.

(i) A hazardous waste facility liability endorsement, as required in 320 IAC 4.1-47-8 or 320 IAC 4.1-22-24 must be worded identically to 320 IAC 4.1-22-34 except that instructions in brackets are to be replaced with relevant information and the brackets deleted.

(j) A certificate of liability insurance, as required in 320 IAC 4.1-47-8 or 320 IAC 4.1-22-24 must be worded identically to 320 IAC 4.1-22-35 except that instructions in brackets are to be replaced with relevant information and the brackets deleted. *(Indiana Environmental Management Board; 320 IAC 4.1-47-10)*

Rule 48. Final (State) Permitted Facility Standards: Use and Management of Containers

320 IAC 4.1-48-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. 320 IAC 4.1-48 applies to owners and operators of all hazardous waste facilities that store containers of hazardous waste, except as 320 IAC 4.1-40-1 provides otherwise.

[Note: Under 320 IAC 4.1-3-7 and 320 IAC 4.1-6-4(c), if a hazardous waste is emptied from a container, the residue remaining in the container is not considered a hazardous waste if the container is "empty" as defined in 320 IAC 4.1-3-7. In that event, management of the container is exempt from 320 IAC 4.1-48.] *(Indiana Environmental Management Board; 320 IAC 4.1-48-1)*

320 IAC 4.1-48-2 Condition of containers

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition or manage the waste in some other way that complies with the requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54. *(Indiana Environmental Management Board; 320 IAC 4.1-48-2)*

320 IAC 4.1-48-3 Compatibility of waste with containers

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. The owner or operator must use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired. *(Indiana Environmental Management Board; 320 IAC 4.1-48-3)*

320 IAC 4.1-48-4 Management of containers

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. (a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

(b) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

(c) Containers of thirty (30) gallons or more must be stored so that they can be inspected for leaks and for deterioration caused by corrosion or other factors, without having to move the containers during the inspection and must have adequate aisle space between rows (approximately two and one-half feet) to facilitate inspection.

[Note: Reuse of containers in transportation is governed by U.S. Department of Transportation regulations including those set forth in 49 CFR 173.28.] *(Indiana Environmental Management Board; 320 IAC 4.1-48-4)*

320 IAC 4.1-48-5 Inspections

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. At least weekly, the owner or operator must inspect areas where containers are stored, looking for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors.

[Note: See 320 IAC 4.1-41-6(c) and 320 IAC 4.1-48-2 for remedial action required if deterioration or leaks are detected.] *(Indiana Environmental Management Board; 320 IAC 4.1-48-5)*

320 IAC 4.1-48-6 Containment

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-1-3; IC 13-7-8.5

Sec. 6. (a) Container storage areas must have a containment system that is designed and operated in accordance with paragraph (b) of this section, except as otherwise provided by paragraph (c) of this section.

(b) A containment system must be designed and operated as follows:

(1) a base must underlie the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed;

(2) the base must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids;

(3) the containment system must have sufficient capacity to contain ten percent (10%) of the volume of containers or the volume of the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination;

(4) run-on into the containment system must be prevented unless the collection system has sufficient excess capacity in addition to that required in paragraph (b)(3) of this section to contain any run-on which might enter the system; and

(5) spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system.

(c) Storage areas that store containers holding only wastes that do not contain free liquids need not have a containment system defined by paragraph (b) of this section, provided that:

(1) the storage area is sloped or is otherwise designed and operated to drain and remove liquid resulting from precipitation, or

(2) the containers are elevated or are otherwise protected from contact with accumulated liquid.

[Note: If the collected material is a hazardous waste under 320 IAC 4.1-3 through 320 IAC 4.1-6, it must be managed as a hazardous waste in accordance with all applicable requirements of 320 IAC 4.1-7 through 320 IAC 4.1-32 and 320 IAC 4.1-40 through 320 IAC 4.1-54. If the collected material is discharged through a point source to waters of the State, it is subject to the requirements of IC 13-1-3 and regulations promulgated thereunder.] *(Indiana Environmental Management Board; 320 IAC 4.1-48-6)*

320 IAC 4.1-48-7 Special requirements for ignitable or reactive waste

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. Containers holding ignitable or reactive waste must be located at least 15meters (50 feet) from the facility's property line.

[Note: See 320 IAC 4.1-41-8(a) for additional requirements.] *(Indiana Environmental Management Board; 320 IAC 4.1-48-7)*

320 IAC 4.1-48-8 Special requirements for incompatible waste

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 8. (a) Incompatible wastes, or incompatible wastes and materials (see 320 IAC 4.1-32-5), must not be placed in the same container, unless 320 IAC 4.1-41-8(b) is complied with.

(b) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material.

[Note: As required by 320 IAC 4.1-41-4, the waste analysis plan must include analyses needed to comply with 320 IAC 4.1-48-8. Also, 320 IAC 4.1-41-8(c) requires wastes analyses, trial tests or other documentation to assure compliance with 320 IAC 4.1-41-8(b). As required by 320 IAC 4.1-44-4, the owner or operator must place the results of each waste analysis and trial test, and any documented information, in the operating record of the facility.]

(c) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

[Note: The purpose of this Section is to prevent fires, explosions, gaseous emission, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials if containers break or leak.] *(Indiana Environmental Management Board; 320 IAC 4.1-48-8)*

320 IAC 4.1-48-9 Closure

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 9. At closure, all hazardous waste and hazardous waste residues must be removed from the containment system. Remaining containers, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues must be decontaminated or removed.

[Note: At closure, as throughout the operating period, unless the owner or operator can demonstrate in accordance with 320 IAC 4.1-3-3(d) that the solid waste removed from the containment system is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of 320 IAC 4.1-7 through 320 IAC 4.1-32 and 320 IAC 4.1-40 through 320 IAC 4.1-54.] *(Indiana Environmental Management Board; 320 IAC 4.1-48-9)*

Rule 49. Final (State) Permitted Facility Standards: Tanks

320 IAC 4.1-49-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. (a) 320 IAC 4.1-49 applies to owners and operators of facilities that use tanks to treat, recover, or store hazardous waste, except as 320 IAC 4.1-40-1 and paragraph (b) of this Section provide otherwise.

(b) 320 IAC 4.1-49 does not apply to facilities that treat, recover, or store hazardous waste in covered underground tanks that cannot be entered for inspection. *(Indiana Environmental Management Board; 320 IAC 4.1-49-1)*

320 IAC 4.1-49-2 Design of tanks

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. (a) Tanks must have sufficient shell strength and, for closed tanks, pressure controls (e.g., vents) to assure that they do not collapse or rupture. The Technical Secretary will review the design of the tanks, including the foundation, structural support, seams and pressure controls. The Technical Secretary shall require that a minimum shell thickness be maintained at all times to ensure sufficient shell strength. Factors to be considered in establishing minimum thickness include the width, height, and materials of construction of the tank, and the specific gravity of the waste which will be placed in the tank. In reviewing the design of the tank and establishing minimum thickness, the Technical Secretary shall rely upon appropriate industrial design standards and other available information.

[Note: Design standards for certain types of tanks are published by the American Petroleum Institute, Underwriter's Laboratories, the American Concrete Institute, and several other organizations.] *(Indiana Environmental Management Board; 320 IAC 4.1-49-2)*

320 IAC 4.1-49-3 General operating requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. (a) Wastes and other materials (e.g., treatment reagents) which are incompatible with the material of construction of the tank must not be placed in the tank unless the tank is protected from accelerated corrosion, erosion or abrasion through the use of:

(1) an inner liner or coating which is compatible with the waste or material and which is free of leaks, cracks, holes or other deterioration; or

(2) alternative means of protection (e.g., cathodic protection or corrosion innibitors).

(b) The owner or operator must use appropriate controls and practices to prevent overfilling. These must include:

(1) controls to prevent overfilling (e.g., waste feed cut-off system or by-pass system to a standby tank); and

(2) for uncovered tanks, maintenance of sufficent freeboard to prevent overtopping by wave or wind action or by precipitation.

(Indiana Environmental Management Board; 320 IAC 4.1-49-3)

320 IAC 4.1-49-4 Inspections

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. (a) The owner or operator must inspect:

(1) overfilling control equipment (e.g., waste feed cut-off systems and by-pass systems) at least once each operating day to ensure that it is in good working order;

(2) data gathered from monitoring equipment (e.g., pressure and temperature gauges) where present, at least once each operating day to ensure that the tank is being operated according to its design;

(3) for uncovered tanks, the level of waste in the tank, at least once each operating day, to ensure compliance with 320 IAC 4.1-49-3(b)(2);

(4) the construction materials of the above-ground portions of the tank, at least weekly to detect corrosion or erosion and leaking of fixtures and seams; and

(5) the area immediately surrounding the tank, at least weekly, to detect obvious signs of leakage (e.g., wet spots or dead vegetation).

(b) As part of the inspection schedule required in 320 IAC 4.1-41-6(b) and in addition to the specific requirements of paragraph (a) of this Section, the owner or operator must develop a schedule and procedure for assessing the condition of the tank. The schedule and procedure must be adequate to detect cracks, leaks, corrosion or erosion which may lead to cracks or leaks, or wall thinning to less than the thickness required under 320 IAC 4.1-49-2. Procedures for emptying a tank to allow entry an inspection of the interior must be established when necessary to detect corrosion or erosion of the tank sides and bottom. The frequency of these assessments must be based on the material of construction of the tank, type of corrosion or erosion protection used, rate of corrosion or erosion observed during previous inspections, and the characteristics of the waste being treated or stored.

(c) As part of the contingency plan required under 320 IAC 4.1-43, the owner or operator must specify the procedures he intends to use to respond to tank spills or leakage, including procedures and timing for expeditious removal of leaked or spilled waste and repair of the tank.

[Note: As required by 320 IAC 4.1-41-6(c), the owner or operator must remedy any leak, crack, or wall thinning in violation of 320 IAC 4.1-49-2, or equipment or process malfunction in violation of 320 IAC 4.1-49-3, which he discovers during inspection. See 29 CFR Section 1910.94(d)(11) for Occupational Safety and Health Administration requirements relating to entry of tanks for inspsection [*sic.*].] *(Indiana Environmental Management Board; 320 IAC 4.1-49-4)*

320 IAC 4.1-49-5 Closure

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 5. At closure, all hazardous waste and hazardous waste residues must be removed from tanks, discharge control equipment, and discharge confinement structures.

[Note: At closure, as throughout the operating period, unless the owner or operator can demonstrate in accordance with 320 IAC 4.1-3-3(d) that the solid waste removed from his tank is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of 320 IAC 4.1-7 through 320 IAC 4.1-32 and 320 IAC 4.1-40 through 320 IAC 4.1-54.] *(Indiana Environmental Management Board; 320 IAC 4.1-49-5)*

320 IAC 4.1-49-6 Special requirements for ignitable or reactive wastes

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 6. (a) Ignitable or reactive waste must not be placed in a tank unless:

(1) the waste is treated, rendered, or mixed before or immediately after placement in the tank so that (i) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under 320 IAC 4.1-5-2 or 320 IAC 4.1-5-4, and (ii) 320 IAC 4.1-41-8(b) is complied with; or

(2) the waste is stored or treated in such a way that is protected from any material or conditions which may cause the waste to ignite or react; or

(3) the tank is used solely for emergencies.

(b) The owner or operator of a facility which treats, recovers, or stores ignitable or reactive waste in covered tanks must comply with the National Fire Protection Association's (NEPA's) buffer zone requirements for tanks, contained in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code" (1977 or 1981) (incorporated by reference, see 320 IAC 4.1-1-6). *(Indiana Environmental Management Board; 320 IAC 4.1-49-6)*

320 IAC 4.1-49-7 Special requirements for incompatible wastes

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 7. (a) Incompatible wastes, or incompatible wastes and materials must not be placed in the same tank, unless 320 IAC 4.1-41-8(b) is complied with.

(b) Hazardous waste must not be placed in an unwashed tank which previously held an incompatible waste or material, unless 320 IAC 4.1-41-8(b) is complied with.

[Note: As required by 320 IAC 4.1-41-4, the waste analysis plan must include analyses needed to comply with 320 IAC 4.1-49-7. Also, 320 IAC 4.1-41-8(c) requires waste analyses, trial tests, or other documentation to ensure compliance with 320 IAC 4.1-41-

8(b). As required by 320 IAC 4.1-44-4, the owner or operator must place the result of each waste analysis and trial test, and any documented information, in the operating record of the facility.] *(Indiana Environmental Management Board; 320 IAC 4.1-49-7)*

Rule 50. Final (State) Permitted Facility Standards: Surface Impoundments

320 IAC 4.1-50-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. 320 IAC 4.1-50 applies to owners and operators of facilities that use surface impoundments to treat, store, or dispose of hazardous waste except as 320 IAC 4.1-40-1 provides otherwise. *(Indiana Environmental Management Board; 320 IAC 4.1-50-1)*

320 IAC 4.1-50-2 Design and operating requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. (a) A surface impoundment (except for an existing portion of a surface impoundment) must have a liner that is designed, constructed, and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the impoundment. The liner may be constructed of materials that may allow wastes to migrate into the liner (but not into the adjacent subsurface soil or groundwater or surface water) during the active life of the facility, provided that the impoundment is closed in accordance with 320 IAC 4.1-50-6(a)(1). For impoundments that will be closed in accordance with 320 IAC 4.1-50-6(a)(2), the liner must be constructed of materials that can prevent wastes from migrating into the liner during the active life of the facility. The liner must be:

(1) constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(2) placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(3) installed to cover all surrounding earth likely to be in contact with the waste or leachate.

(b) The owner or operator will be exempted from the requirements of paragraph (a) of this section if the Technical Secretary finds, based on a demonstration by the owner or operator, that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see 320 IAC 4.1-45-4) into the groundwater or surface water at any future time. In deciding whether to grant an exemption, the Technical Secretary will consider:

(1) the nature and quantity of the wastes;

(2) the proposed alternate design and operation;

(3) the hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the impoundment and groundwater or surface water; and

(4) all other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to groundwater or surface water.

(c) A surface impoundment must be designed, constructed, maintained, and operated to prevent overtopping resulting from normal or abnormal operations; overfilling; wind and wave action; rainfall; run-on; malfunctions of level controllers, alarms, and other equipment; and human error.

(d) A surface impoundment must have dikes that are designed, constructed, and maintained with sufficient structural integrity to prevent massive failure of the dikes. In ensuring structural integrity, it must not be presumed that the liner system will function without leakage during the active life of the unit.

(e) The Technical Secretary will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied. *(Indiana Environmental Management Board; 320 IAC 4.1-50-2)*

320 IAC 4.1-50-3 Double-lined surface impoundments: exemption from 320 IAC 4.1-45 groundwater protection requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. (a) The owner or operator of a double-lined surface impoundment is not subject to regulation under 320 IAC 4.1-45 if the following conditions are met:

(1) The impoundment (including its underlying

liners) must be located entirely above the seasonal high water table.

(2) The impoundment must be underlain by two liners which are designed and constructed in a manner that prevents the migration of liquids into or out of the space between the liners. Both liners must meet all the specifications of 320 IAC 4.1-50-2(a).

(3) A leak detection system must be designed, constructed, maintained, and operated between the liners to detect any migration of liquids into the space between the liners.

(b) If liquid leaks into the leak detection system the owner or operator must:

(1) notify the Technical Secretary of the leak in writing within seven days after detecting the leak; and

(2)(i) within a period of time specified in the permit, remove accumulated liquid, repair or replace the liner which is leaking to prevent the migration of liquids through the liner, and obtain a certification from a qualified engineer that, to the best of his knowledge and opinion, the leak has been stopped; or

(ii) if a detection monitoring program pursuant to 320 IAC 4.1-45-9 has already been established in the permit (to be complied with only if a leak occurs), begin to comply with that program and any other applicable requirements of 320 IAC 4.1-45 within a period of time specified in the permit.

(c) The Technical Secretary will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied. *(Indiana Environmental Management Board; 320 IAC 4.1-50-3)*

320 IAC 4.1-50-4 Monitoring and inspection

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. (a) During construction and installation, liners (except in the case of existing portions of surface impoundments exempt from 320 IAC 4.1-50-2(a)) and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(1) synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(2) soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(b) While a surface impoundment is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) deterioration, malfunctions, or improper operation of overtopping control systems;

(2) sudden drops in the level of the impoundment's contents;

(3) the presence of liquids in leak detection systems, where installed to comply with 320 IAC 4.1-50-3; and

(4) severe erosion or other signs of deterioration in dikes or other containment devices.

(c) Prior to the issuance of a permit, and after any extended period of time (at least six (6) months) during which the impoundment was not in service, the owner or operator must obtain a certification from a qualified engineer that the impoundment's dike, including that portion of any dike which provides freeboard, has structural integrity. The certification must establish, in particular, that the dike:

(1) will withstand the stress of the pressure exerted by the types and amounts of wastes to be placed in the impoundment; and

(2) will not fail due to scouring or piping, without dependence on any liner system included in the surface impoundment construction.

(Indiana Environmental Management Board; 320 IAC 4.1-50-4)

320 IAC 4.1-50-5 Emergency repairs; contingency plans

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. (a) A surface impoundment must be removed from service in accordance with paragraph (b) of this section when:

(1) the level of liquids in the impoundment suddenly drops and the drop is not known to be caused by changes in the flows into or out of the impoundment; or

(2) the dike leaks.

(b) When a surface impoundment must be removed from service as required by paragraph (a) of this section, the owner or operator must:

(1) immediately shut off the flow or stop the addition of wastes into the impoundment;

(2) immediately contain any surface leakage which has occurred or is occurring;

(3) immediately stop the leak;

(4) take any other necessary steps to stop or prevent catastrophic failure;
(5) if a leak cannot be stopped by any other means, empty the impoundment; and
(6) notify the Technical Secretary of the problem in writing within seven (7) days after detecting the problem.

(c) As part of the contingency plan required in 320 IAC 4.1-43, the owner or operator must specify a procedure for complying with the requirements of paragraph (b) of this section.

(d) No surface impoundment that has been removed from service in accordance with the requirements of this section may be restored to service unless the portion of the impoundment which was failing is repaired and the following steps are taken:
(1) If the impoundment was removed from service as the result of actual or imminent dike failure, the dike's structural integrity must be recertified in accordance with 320 IAC 4.1-50-4(c).
(2) If the impoundment was removed from service as the result of a sudden drop in the liquid level, then:
(i) For any existing portion of the impoundment, a liner must be installed in compliance with 320 IAC 4.1-50-2(a), or 320 IAC 4.1-50-3; and
(ii) for any other portion of the impoundment, the repaired liner system must be certified by a qualified engineer as meeting the design specifications approved in the permit.

(e) A surface impoundment that has been removed from service in accordance with the requirements of this section and that is not repaired within a reasonable period of time must be closed in accordance with the provisions of 320 IAC 4.1-50-6. *(Indiana Environmental Management Board; 320 IAC 4.1-50-5)*

320 IAC 4.1-50-6 Closure and post-closure care

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. (a) At closure, the owner or operator must:
(1) remove or decontaminate all waste residues, contaminated containment system components (liners,etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless 320 IAC 4.1-3-3(d); or
(2)(i) eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues;
(ii) stabilize remaining wastes to a bearing capacity sufficient to support final cover; and
(iii) cover the surface impoundment with a final cover designed and constructed to:
(A) provide long-term minimization of the migration of liquids through the closed impoundment;
(B) function with minimum maintenance;
(C) promote drainage and minimize erosion or abrasion of the final cover;
(D) accommodate settling and subsidence so that the cover's integrity is maintained; and
(E) have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) If some waste residues or contaminated materials are left in place at final closure, the owner or operator must comply with all post-closure requirements contained in 320 IAC 4.1-46-7 through 320 IAC 4.1-46-10, including maintenance and monitoring throughout the post-closure care period (specified in the permit under 320 IAC 4.1-46-7). The owner or operator must:
(1) maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;
(2) maintain and monitor the leak detection system in accordance with 320 IAC 4.1-50-3 where such a system is present between double liner systems;
(3) maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of 320 IAC 4.1-45; and
(4) prevent run-on and run-off from eroding or otherwise damaging the final cover.

(c)(1) If an owner or operator plans to close a surface impoundment in accordance with paragraph (a)(1) of this section, and the impoundment does not comply with the liner requirements of 320 IAC 4.1-50-2(a) and is not exempt from them in accordance with 320 IAC 4.1-50-2(d), then:
(i) the closure plan for the impoundment under 320 IAC 4.1-46-3 must include both a plan for complying with paragraph (a)(1) of this section and a contingent plan for complying with paragraph (a)(2) of this section in case not all contaminated subsoils can be practicably removed at closure; and
(ii) the owner or operator must prepare a contingent post-closure plan under 320 IAC 4.1-46-8 for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure.

(2) The cost estimates calculated under 320 IAC 4.1-47-3 and 320 IAC 4.1-47-5 for closure and post-closure care of an impoundment subject to this paragraph must include the cost of complying with the contingent closure plan and the contingent post-closure plan, but are not required to include the cost of expected closure under paragraph (a)(1) of this section.

(d) During the post-closure care period, if liquids leak into a leak detection system installed under 320 IAC 4.1-50-3, the owner or operator must notify the Technical Secretary of the leak in writing within seven (7) days after detecting the leak. The Technical Secretary will modify the permit to require compliance with the requirements of 320 IAC 4.1-45. *(Indiana Environmental Management Board; 320 IAC 4.1-50-6)*

320 IAC 4.1-50-7 Special requirements for ignitable or reactive waste

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. Ignitable or reactive waste must not be placed in a surface impoundment, unless: (a) The waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that:

(1) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under 320 IAC 4.1-5-2 or 320 IAC 4.1-5-4; and

(2) 320 IAC 4.1-41-8(b) is complied with; or

(b) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react; or

(c) The surface impoundment is used solely for emergencies. *(Indiana Environmental Management Board; 320 IAC 4.1-50-7)*

320 IAC 4.1-50-8 Special requirements for incompatible wastes

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 8. Incompatible wastes, or incompatible wastes and materials (see 320 IAC 4.1-32-5) must not be placed in the same surface impoundment, unless 320 IAC 4.1-41-8(b) is complied with. *(Indiana Environmental Management Board; 320 IAC 4.1-50-8)*

Rule 51. Final (State) Permitted Facility Standards: Waste Piles

320 IAC 4.1-51-1 Applicability

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. (a) 320 IAC 4.1-51 applies to owners and operators of facilities that store or treat hazardous waste in piles, except as 320 IAC 4.1-40-1 provides otherwise.

(b) 320 IAC 4.1-51 does not apply to owners or operators of waste piles that are closed with wastes left in place. Such waste piles are subject to regulation under 320 IAC 4.1-53 (Landfills).

(c) The owner or operator of any waste pile that is inside or under a structure that provides protection from precipitation so that neither run-off nor leachate is generated is not subject to regulation under 320 IAC 4.1-51-2 or under 320 IAC 4.1-45, provided that:

(1) liquids or materials containing free liquids are not placed in the pile;

(2) the pile is protected from surface water run-on by the structure or in some other manner;

(3) the pile is designed and operated to control dispersal of the waste by wind, where necessary, by means other than wetting; and

(4) the pile will not generate leachate through decomposition or other reactions.

(Indiana Environmental Management Board; 320 IAC 4.1-51-1)

320 IAC 4.1-51-2 Design and operating requirements

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. (a) A waste pile (except for an existing portion of a waste pile) must have:

(1) A liner that is designed, constructed, and installed to prevent any migration of wastes out of the pile into the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the waste pile. The liner may be constructed of materials that may allow waste to migrate into the liner itself (but not into the adjacent subsurface soil or groundwater or surface water) during the active life of the facility. The liner must be:

(i) constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of

installation, and the stress of daily operation;
(ii) placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and
(iii) installed to cover all surrounding earth likely to be in contact with the waste or leachate; and

(2) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the pile. The Technical Secretary will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm. (one foot). The leachate collection and removal system must be:
(i) constructed of materials that are:
(A) chemically resistant to the waste managed in the pile and the leachate expected to be generated; and
(B) of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying wastes, waste cover materials, and by any equipment used at the pile; and
(ii) designed and operated to function without clogging through the scheduled closure of the waste pile.

(b) The owner or operator will be exempted from the requirements of paragraph (a) of this section if the Technical Secretary finds, based on a demonstration by the owner or operator, that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see 320 IAC 4.1-45-4) into the groundwater or surface water at any future time. In deciding whether to grant an exemption, the Technical Secretary will consider:
(1) the nature and quantity of the wastes;
(2) the proposed alternate design and operation;
(3) the hydrogeologic setting of the facility, including attenuative capacity and thickness of the liners and soils present between the pile and groundwater or surface water; and
(4) all other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to groundwater or surface water.

(c) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 25-year storm.

(d) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(e) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms so as not to exceed the design capacity of the system.

(f) If the pile contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the pile to control wind dispersal.

(g) The Technical Secretary will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied. *(Indiana Environmental Management Board; 320 IAC 4.1-51-2)*

320 IAC 4.1-51-3 Double-lined piles: exemption from 320 IAC 4.1-45 groundwater protection requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. (a) The owner or operator of a double-lined waste pile is not subject to 320 IAC 4.1-45 if the following conditions are met:
(1) The pile (including its underlying liners) must be located entirely above the seasonal high water table.
(2) The pile must be underlain by two liners which are designed and constructed in a manner that prevents the migration of liquids into or out of the space between the liners. Both liners must meet all the specifications of 320 IAC 4.1-51-2(a)(1).
(3) A leak detection system must be designed, constructed, maintained, and operated between the liners to detect any migration of liquids into the space between the liners.
(4) The pile must have a leachate collection and removal system above the top liner that is designed, constructed, maintained, and operated in accordance with 320 IAC 4.1-51-2(a)(2).

(b) If liquid leaks into the leak detection system, the owner or operator must:
(1) Notify the Technical Secretary of the leak in writing within seven days after detecting the leak; and
(2)(i) within a period of time specified in the permit, remove accumulated liquid, repair or replace the liner which is leaking to prevent the migration of liquids through the liner, and obtain a

certification from a qualified engineer that, to the best of his knowledge and opinion, the leak has been stopped; or

(ii) if a detection monitoring program pursuant to 320 IAC 4.1-45-9 has already been established in the permit (to be complied with only if a leak occurs), begin to comply with that program and any other applicable requirements of 320 IAC 4.1-45 within a period of time specified in the permit.

(c) The Technical Secretary will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied. *(Indiana Environmental Management Board; 320 IAC 4.1-51-3)*

320 IAC 4.1-51-4 Inspection of liners: exemption from 320 IAC 4.1-45 groundwater protection requirements

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. (a) The owner or operator of a pile is not subject to 320 IAC 4.1-45 if the following conditions are met:

(1) The pile (including its underlying liner) must be located entirely above the seasonal high water table.

(2) The pile must be underlain by a liner (base) that meets all the specifications of 320 IAC 4.1-51-2(a)(1).

(3) The wastes in the pile must be removed periodically, and the liner must be inspected for deterioration, cracks, or other conditions that may result in leaks. The frequency of inspection will be specified in the inspection plan required in 320 IAC 4.1-41-6 and must be based on the potential for the liner (base) to crack or otherwise deteriorate under the conditions of operation (e.g., waste type, rainfall, loading rates, and subsurface stability).

(4) The liner must be of sufficient strength and thickness to prevent failure due to puncture, cracking, tearing, or other physical damage from equipment used to place waste in or on the pile or to clean and expose the liner surface for inspection.

(5) The pile must have a leachate collection and removal system above the liner that is designed, constructed, maintained, and operated in accordance with 320 IAC 4.1-51-2(a)(2).

(b) If deterioration, a crack, or other condition is identified that is causing or could cause a leak, the owner or operator must:

(1) notify the Technical Secretary of the condition in writing within seven days after detecting the condition; and

(2)(i) repair or replace the liner (base) and obtain a certification from a qualified engineer that, to the best of his knowledge and opinion, the liner (base) has been repaired and leakage will not occur; or

(ii) if a detection monitoring program pursuant to 320 IAC 4.1-45-9 has already been established in the permit (to be complied with only if a leak occurs), begin to comply with that program and any other applicable requirements of 320 IAC 4.1-45 within a period of time specified in the permit.

(c) The Technical Secretary will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied. *(Indiana Environmental Management Board; 320 IAC 4.1-51-4)*

320 IAC 4.1-51-5 Monitoring and inspection

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. (a) During construction or installation, liners (except in the case of existing portions of piles exempt from 320 IAC 4.1-51-2(a)) and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(1) synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(2) soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural nonuniformities that may cause an increase in the permeability of the liner or cover.

(b) While a waste pile is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) deterioration, malfunctions, or improper operation of run-on and run-off control systems;

(2) the presence of liquids in leak detection systems, where installed to comply with 320 IAC 4.1-51-3.

(3) proper functioning of wind dispersal control systems, where present; and

(4) the presence of leachate in and proper functioning of leachate collection and removal systems, where present.

(Indiana Environmental Management Board; 320 IAC 4.1-51-5)

320 IAC 4.1-51-6 Special requirements for ignitable or reactive waste

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. Ignitable or reactive waste must not be placed in a waste pile unless: (a) The waste is treated, rendered, or mixed before or immediately after placement in the pile so that:

(1) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under 320 IAC 4.1-5-2 or 320 IAC 4.1-5-4; and

(2) 320 IAC 4.1-41-8(b) is complied with; or

(b) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react. *(Indiana Environmental Management Board; 320 IAC 4.1-51-6)*

320 IAC 4.1-51-7 Special requirements for incompatible wastes

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. (a) Incompatible wastes, or incompatible wastes and materials (see 320 IAC 4.1-32-5), must not be placed in the same pile, unless 320 IAC 4.1-41-8(b) is complied with.

(b) A pile of hazardous waste that is incompatible with any waste or other material stored nearby in containers, other piles, open tanks, or surface impoundments must be separated from the other materials, or protected from them by means of a dike, berm, wall, or other device.

(c) Hazardous waste must not be piled on the same base where incompatible wastes or materials were previously piled, unless the base has been decontaminated sufficiently to ensure compliance with 320 IAC 4.1-41-8(b). *(Indiana Environmental Management Board; 320 IAC 4.1-51-7)*

320 IAC 4.1-51-8 Closure and post-closure care

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 8. (a) At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners,etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless 320 IAC 4.1-3-3(d) applies.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills (320 IAC 4.1-53-6).

(c)(1) The owner or operator of a waste pile that does not comply with the liner requirements of 320 IAC 4.1-51-2(a)(1) and is not exempt from them in accordance with 320 IAC 4.1-51-1(c) or 320 IAC 4.1-51-2(b), must:

(i) include in the closure plan for the pile under 320 IAC 4.1-46-3 both a plan for complying with paragraph (a) of this section and a contingent plan for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure; and

(ii) prepare a contingent post-closure plan under 320 IAC 4.1-46-8 for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure.

(2) The cost estimates calculated under 320 IAC 4.1-47-3 and 320 IAC 4.1-47-5 for closure and post-closure care of a pile subject to this paragraph must include the cost of complying with the contingent closure plan and the contingent post-closure plan, but are not required to include the cost of expected closure under paragraph (a) of this section. *(Indiana Environmental Management Board; 320 IAC 4.1-51-8)*

Rule 52. Final (State) Permitted Facility Standards: Land Treatment

320 IAC 4.1-52-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. 320 IAC 4.1-52 applies to owners and operators of facilities that treat or dispose of hazardous waste in land treatment units, except as 320 IAC 4.1-40-1 provides otherwise. *(Indiana Environmental Management Board; 320 IAC 4.1-52-1)*

320 IAC 4.1-52-2 Treatment program

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 2. (a) An owner or operator subject to 320 IAC 4.1-52 must establish a land treatment program

that is designed to ensure that hazardous constituents placed in or on the treatment zone are degraded, transformed, or immobilized within the treatment zone. The Technical Secretary will specify in the facility permit the elements of the treatment program, including:

(1) the wastes that are capable of being treated at the unit based on a demonstration under 320 IAC 4.1-52-3;

(2) design measures and operating practices necessary to maximize the success of degradation, transformation, and immobilization processes in the treatment zone in accordance with 320 IAC 4.1-52-4(a);

(3) unsaturated zone monitoring provisions meeting the requirements of 320 IAC 4.1-52-6; and

(b) The Technical Secretary will specify in the facility permit the hazardous constituents that must be degraded, transformed, or immobilized under 320 IAC 4.1-52. Hazardous constituents are constituents identified in 320 IAC 4.1-6-9 that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone.

(c) The Technical Secretary will specify the vertical and horizontal dimensions of the treatment zone in the facility permit. The treatment zone is the portion of the unsaturated zone below and including the land surface in which the owner or operator intends to maintain the conditions necessary for effective degradation, transformation, or immobilization of hazardous constituents. The maximum depth of the treatment zone must be:

(1) no more than 1.5 meters (5 feet) from the initial soil surface; and

(2) more than 1 meter (3 feet) above the seasonal high water table.

(Indiana Environmental Management Board; 320 IAC 4.1-52-2)

320 IAC 4.1-52-3 Treatment demonstration

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 3. (a) For each waste that will be applied to the treatment zone, the owner or operator must demonstrate, prior to application of the waste, that hazardous constituents in the waste can be completely degraded, transformed, or immobilized in the treatment zone.

(b) In making this demonstration, the owner or operator may use field tests, laboratory analyses, available data, or, in the case of existing units, operating data. If the owner or operator intends to conduct field tests or laboratory analyses in order to make the demonstration required under paragraph (a) of this section, he must obtain a treatment or disposal permit under 320 IAC 4.1-37-4. The Technical Secretary will specify in this permit the testing, analytical, design, and operating requirements (including the duration of the tests and analyses, and, in the case of field tests, the horizontal and vertical dimensions of the treatment zone, monitoring procedures, closure and clean-up activities) necessary to meet the requirements in paragraph (c) of this section.

(c) Any field test or laboratory analysis conducted in order to make a demonstration under paragraph (a) of this section must:

(1) accurately simulate the characteristics and operating conditions for the proposed land treatment unit including:

(i) the characteristics of the waste, including the presence of constituents listed in 320 IAC 4.1-6-9;

(ii) the climate in the area;

(iii) the topography of the surrounding area;

(iv) the characteristics of the soil in the treatment zone (including depth); and

(v) the operating practices to be used at the unit.

(2) be likely to show that hazardous constituents in the waste to be tested will be completely degraded, transformed, or immobilized in the treatment zone of the proposed land treatment unit; and

(3) be conducted in a manner that protects human health and the environment considering:

(i) the characteristics of the waste to be tested;

(ii) the operating and monitoring measures taken during the course of the test;

(iii) the duration of the test;

(iv) the volume of waste used in the test;

(v) in the case of field tests, the potential for migration of hazardous constituents to groundwater or surface water.

(Indiana Environmental Management Board; 320 IAC 4.1-52-3)

320 IAC 4.1-52-4 Design and operating requirements

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 4. The Technical Secretary will specify in the facility permit how the owner or operator will design, construct, operate, and maintain the land treatment unit in compliance with this section.

(a) The owner or operator must design, construct, operate, and maintain the unit to maximize the

degradation, transformation, and immobilization of hazardous constituents in the treatment zone. The owner or operator must design, construct, operate, and maintain the unit in accord with all design and operating conditions that were used in the treatment demonstration under 320 IAC 4.1-52-3. At a minimum, the Technical Secretary will specify the following in the facility permit:

(1) the rate and method of waste application to the treatment zone;

(2) measures to control soil pH;

(3) measures to enhance microbial or chemical reactions (e.g., fertilization, tilling); and

(4) measures to control the moisture content of the treatment zone.

(b) The owner or operator must design, construct, operate, and maintain the treatment zone to minimize run-off of hazardous constituents during the active life of the land treatment unit.

(c) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the treatment zone during peak discharge from at least a 25-year storm.

(d) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(e) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms so as not to exceed the design capacity of the system.

(f) If the treatment zone contains particulate matter which may be subject to wind dispersal, the owner or operator must manage the unit to control wind dispersal.

(g) The owner or operator must inspect the unit weekly and after storms to detect evidence of:

(1) deterioration, malfunctions, or improper operation of run-on and run-off control systems; and

(2) improper functioning of wind dispersal control measures.

(Indiana Environmental Management Board; 320 IAC 4.1-52-4)

320 IAC 4.1-52-5 Food-chain crops

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 5. The Technical Secretary may allow the growth of food-chain crops in or on the treatment zone only if the owner or operator satisfies the conditions of this section. The Technical Secretary will specify in the facility permit the specific food-chain crops which may be grown.

(a)(1) The owner or operator must demonstrate that there is no substantial risk to human health caused by the growth of such crops in or on the treatment zone by demonstrating, prior to the planting of such crops, that hazardous constituents other than cadmium:

(i) will not be transferred to the food or feed portions of the crop by plant uptake or direct contact, and will not otherwise be ingested by food-chain animals (e.g., by grazing); *or*

(ii) will not occur in greater concentrations in or on the food or feed portions of crops grown on the treatment zone than in or on identical portions of the same crops grown on untreated soils under similar conditions in the same region.

(2) The owner or operator must make the demonstration required under 320 IAC 4.1-52-5(a) prior to the planting of crops at the facility for all constituents identified in 320 IAC 4.1-6-9 that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone.

(3) In making a demonstration under 320 IAC 4.1-52-5(a), the owner or operator may use field tests, greenhouse studies, available data, or, in the case of existing units, operating data, and must:

(i) base the demonstration on conditions similar to those present in the treatment zone, including soil characteristics (e.g., pH, cation exchange capacity), specific wastes, application rates, application methods, and crops to be grown; and

(ii) describe the procedures used in conducting any tests, including the sample selection criteria, sample size, analytical methods, and statistical procedures.

(4) If the owner or operator intends to conduct field tests or greenhouse studies in order to make the demonstration required under 320 IAC 4.1-52-5(a), he must obtain a permit for conducting such activities.

(b) The owner or operator must comply with the following conditions if cadmium is contained in wastes applied to the treatment zone:

(1)(i) The pH of the waste and soil mixture must be 6.5 or greater at the time of each waste application, except for waste containing cadmium at concentrations of 2 mg/kg (dry weight) or less;

(ii) The annual application of cadmium from waste must not exceed 0.5 kilograms per hectare (kg/ha) on land used for production of tobacco, leafy vegetables, or root crops grown for human

consumption. For other food-chain crops, the annual cadmium application rate must not exceed:

Time Period	Annual Cd Application Rate (kilograms per hectare)
July 1, 1984 to December 31, 1986	1.25
Beginning January 1, 1987	0.5

(iii) The cumulative application of cadmium from waste must not exceed 5 kg/ha if the waste and soil mixture has a pH of less than 6.5; and

(iv) If the waste and soil mixture has a pH of 6.5 or greater or is maintained at a pH of 6.5 or greater during crop growth, the cumulative application of cadmium from waste must not exceed: 5 kg/ha if soil cation exchange capacity (CEC) is less than 5 meq/100 g; 10 kg/ha if soil CEC is 5-15 meq/100 g; and 20 kg/ha if soil CEC is greater than 15 meq/100 g; or

(2)(i) Animal feed must be the only food-chain crop produced;

(ii) The pH of the waste and soil mixture must be 6.5 or greater at the time of waste application or at the time the crop is planted, whichever occurs later, and this pH level must be maintained whenever food-chain crops are grown;

(iii) There must be an operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The operating plan must describe the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain, which may result from alternative land uses; and

(iv) Future property owners must be notified by a stipulation in the land record or property deed which states that the property has received waste at high cadmium application rates and that food-chain crops must not be grown except in compliance with paragraph (b)(2) of this section.

(Indiana Environmental Management Board; 320 IAC 4.1-52-5)

320 IAC 4.1-52-6 Unsaturated zone monitoring

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 6. An owner or operator subject to 320 IAC 4.1-52 must establish an unsaturated zone monitoring program to discharge the following responsibilities:

(a) The owner or operator must monitor the soil and soil-pore liquid to determine whether hazardous constituents migrate out of the treatment zone.

(1) The Technical Secretary will specify the hazardous constituents to be monitored in the facility permit. The hazardous constituents to be monitored are those specified under 320 IAC 4.1-52-2(b).

(2) The Technical Secretary may require monitoring for principal hazardous constituents (PHCs) in lieu of the constituents specified under 320 IAC 4.1-52-2(b). PHCs are hazardous constituents contained in the wastes to be applied at the unit that are the most difficult to treat, considering the combined effects of degradation, transformation, and immobilization. The Technical Secretary will establish PHCs if he finds, based on waste analyses, treatment demonstrations, or other data, that effective degradation, transformation, or immobilization of the PHCs will assure treatment at least at equivalent levels for the other hazardous constituents in the wastes.

(b) The owner or operator must install an unsaturated zone monitoring system that includes soil monitoring using soil cores and soil-pore liquid monitoring using devices such as lysimeters. The unsaturated zone monitoring system must consist of a sufficient number of sampling points at appropriate locations and depths to yield samples that:

(1) represent the quality of background soil-pore liquid quality and the chemical make-up of soil that has not been affected by leakage from the treatment zone; and

(2) indicate the quality of soil-pore liquid and the chemical make-up of the soil below the treatment zone.

(c) The owner or operator must establish a background value for each hazardous constituent to be monitored under paragraph (a) of this section. The permit will specify the background values for each constituent or specify the procedures to be used to calculate the background values.

(1) Background soil values may be based on a one-time sampling at a background plot having characteristics similar to those of the treatment zone.

(2) Background soil-pore liquid values must be based on at least quarterly sampling for one year at a background plot having characteristics similar to those of the treatment zone.

(3) The owner or operator must express all background values in a form necessary for the determination of statistically significant increases under paragraph (f) of this section.

(4) In taking samples used in the determination of all background values, the owner or operator must use an unsaturated zone monitoring system that complies with paragraph (b)(1) of this section.

(d) The owner or operator must conduct soil monitoring and soil-pore liquid monitoring immediately below the treatment zone. The Technical Secretary will specify the frequency and timing of soil and soil-pore liquid monitoring in the facility permit after considering the frequency, timing, and rate of waste application, and the soil permeability. The owner or operator must express the results of soil and soil-pore liquid monitoring in a form necessary for the determination of statistically significant increases under paragraph (f) of this section.

(e) The owner or operator must use consistent sampling and analysis procedures that are designed to ensure sampling results that provide a reliable indication of soil-pore liquid quality and the chemical make-up of the soil below the treatment zone. At a minimum, the owner or operator must implement procedures and techniques for:

(1) sample collection;
(2) sample preservation and shipment;
(3) analytical procedures; and
(4) chain of custody control.

(f) The owner or operator must determine whether there is a statistically significant change over background values for any hazardous constituent to be monitored under paragraph (a) of this section below the treatment zone each time he conducts soil monitoring and soil-pore liquid monitoring under paragraph (d) of this section.

(1) In determining whether a statistically significant increase has occurred, the owner or operator must compare the value of each constituent, as determined under paragraph (d) of this section, to the background value for that constituent according to the statistical procedure specified in the facility permit under this paragraph.

(2) The owner or operator must determine whether there has been a statistically significant increase below the treatment zone within a reasonable time period after completion of sampling. The Technical Secretary will specify that time period in the facility permit after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of soil and soil-pore liquid samples.

(3) The owner or operator must determine whether there is a statistically significant increase below the treatment zone using a statistical procedure that provides reasonable confidence that migration from the treatment zone will be identified. The Technical Secretary will specify a statistical procedure in the facility permit that he finds:

(i) is appropriate for the distribution of the data used to establish background values; and
(ii) provides a reasonable balance between the probability of falsely identifying migration from the treatment zone and the probability of failing to identify real migration from the treatment zone.

(g) If the owner or operator determines, pursuant to paragraph (f) of this section, that there is a statistically significant increase of hazardous constituents below the treatment zone, he must:

(1) Notify the Technical Secretary of this finding in writing within seven (7) days. The notification must indicate what constituents have shown statistically significant increases.
(2) Within ninety (90) days, submit to the Technical Secretary an application for a permit modification to modify the operating practices at the facility in order to maximize the success of degradation, transformation, or immobilization processes in the treatment zone.

(h) If the owner or operator determines, pursuant to paragraph (f) of this section, that there is a statistically significant increase of hazardous constituents below the treatment zone, he may demonstrate that a source other than regulated units caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. Although the owner or operator may make a demonstration under this paragraph in addition to, or in lieu of, submitting a permit modification application under paragraph (g)(2) of this section, he is not relieved of the requirement to submit a permit modification application within the time specified in paragraph (g)(2) of this section unless the demonstration made under this paragraph successfully shows that a source other than regulated units caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. In making a demonstration under this paragraph, the owner or operator must:

(1) notify the Technical Secretary in writing within seven (7) days of determining a statistically significant increase below the treatment zone that he intends to make a determination under 320 IAC 4.1-52-6(h);
(2) within ninety (90) days, submit a report to the Technical Secretary demonstrating that a source other than the regulated units caused the increase or that the increase resulted from error in sampling, analysis, or evaluation;
(3) within ninety (90) days, submit to the Technical Secretary an application for a permit modification to make any appropriate changes to the unsaturated zone monitoring program at the facility; and

(4) continue to monitor in accordance with the unsaturated zone monitoring program established under this section.

(Indiana Environmental Management Board; 320 IAC 4.1-52-6)

320 IAC 4.1-52-7 Recordkeeping

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 7. The owner or operator must include hazardous waste application dates and rates in the operating record required under 320 IAC 4.1-44-4.

(Indiana Environmental Management Board; 320 IAC 4.1-52-7)

320 IAC 4.1-52-8 Closure and post-closure care

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 8. (a) During the closure period, the owner or operator must:

(1) continue all operations (including pH control) necessary to maximize degradation, transformation, or immobilization of hazardous constituents within the treatment zone as required under 320 IAC 4.1-52-4(a), except to the extent such measures are inconsistent with paragraph (a)(8) of this section;

(2) continue all operations in the treatment zone to minimize run-off of hazardous constituents as required under 320 IAC 4.1-52-4(b);

(3) maintain the run-on control system required under 320 IAC 4.1-52-4(c);

(4) maintain the run-off management system required under 320 IAC 4.1-52-4(d);

(5) control wind dispersal of hazardous waste if required under 320 IAC 4.1-52-4(f);

(6) continue to comply with any prohibitions or conditions concerning growth of food-chain crops under 320 IAC 4.1-52-5;

(7) continue unsaturated zone monitoring in compliance with 320 IAC 4.1-52-6, except that soil-pore liquid monitoring may be terminated ninety (90) days after the last application of waste to the treatment zone; and

(8) establish a vegetative cover on the portion of the facility being closed at such time that the cover will not substantially impede degradation, transformation, or immobilization of hazardous constituents in the treatment zone. The vegetative cover must be capable of maintaining growth without extensive maintenance.

(b) For the purpose of complying with 320 IAC 4.1-46-6, when closure is completed, the owner or operator may submit to the Technical Secretary certification by an independent qualified soil scientist, in lieu of an independent registered professional engineer, that the facility has been closed in accordance with the specifications in the approved closure plan.

(c) During the post-closure care period the owner or operator must:

(1) continue all operations (including pH control) necessary to enhance degradation and transformation and sustain immobilization of hazardous constituents in the treatment zone to the extent that such measures are consistent with other post-closure care activities;

(2) maintain a vegetative cover over closed portions of the facility;

(3) maintain the run-on control system required under 320 IAC 4.1-52-4(c);

(4) maintain the run-off management system required under 320 IAC 4.1-52-4(d);

(5) control wind dispersal of hazardous waste if required under 320 IAC 4.1-52-4(f);

(6) continue to comply with any prohibitions or conditions concerning growth of food-chain crops under 320 IAC 4.1-52-5; and

(7) continue unsaturated zone monitoring in compliance with 320 IAC 4.1-52-6, except that soil-pore liquid monitoring may be terminated ninety (90) days after the last application of waste to the treatment zone.

(d) The owner or operator is not subject to regulation under paragraphs (a)(8), and (c) of this section if the Technical Secretary finds, based on a demonstration by the owner or operator, that the level of hazardous constituents in the treatment zone soil does not exceed the background value of those constituents by an amount that is statistically significant when using the test specified in paragraph (d)(3) of this section. The owner or operator may submit such a demonstration to the Technical Secretary at any time during the closure or post-closure care periods. For the purposes of this paragraph:

(1) The owner or operator must establish background soil values and determine whether there is a statistically significant increase over those values for all hazardous constituents specified in the facility permit under 320 IAC 4.1-52-2(b).

(i) Background soil values may be based on a one-time sampling of a background plot having characteristics similar to those of the treatment zone.

(ii) The owner or operator must express background values and values for hazardous constituents in the treatment zone in a form

necessary for the determination of statistically significant increases under paragraph (d)(3) of this section.

(2) In taking samples used in the determination of background and treatment zone values, the owner or operator must take samples at a sufficient number of sampling points and at appropriate locations and depths to yield samples that represent the chemical make-up of soil that has not been affected by leakage from the treatment zone and the soil within the treatment zone, respectively.

(3) In determining whether a statistically significant increase has occurred, the owner or operator must compare the value of each constituent in the treatment zone to the background value for that constituent using a statistical procedure that provides reasonable confidence that constituent presence in the treatment zone will be identified. The owner or operator must use a statistical procedure that:

(i) is appropriate for the distribution of the data used to establish background values; and

(ii) provides a reasonable balance between the probability of falsely identifying hazardous constituent presence in the treatment zone and the probability of failing to identify real presence in the treatment zone.

(e) The owner or operator is not subject to 320 IAC 4.1-45 if the Technical Secretary finds that the owner or operator satisfies paragraph (d) of this section and if unsaturated zone monitoring under 320 IAC 4.1-52-6 indicates that hazardous constituents have not migrated beyond the treatment zone during the active life of the land treatment unit. *(Indiana Environmental Management Board; 320 IAC 4.1-52-8)*

320 IAC 4.1-52-9 Special requirements for ignitable or reactive waste

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 9. The owner or operator must not apply ignitable or reactive waste to the treatment zone unless:

(a) The waste is immediately incorporated into the soil so that:

(1) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under 320 IAC 4.1-5-2 or 320 IAC 4.1-5-4; and

(2) 320 IAC 4.1-41-8(b) is complied with; or

(b) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react. *(Indiana Environmental Management Board; 320 IAC 4.1-52-9)*

320 IAC 4.1-52-10 Special requirements for incompatible wastes

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 10. The owner or operator must not place incompatible wastes, or incompatible wastes and materials (see 320 IAC 4.1-32-5), in or on the same treatment zone, unless 320 IAC 4.1-41-8(b) is complied with. *(Indiana Environmental Management Board; 320 IAC 4.1-52-10)*

Rule 53. Final (State) Permitted Facility Standards: Landfills

320 IAC 4.1-53-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 1. 320 IAC 4.1-53 applies to owners and operators of facilities that dispose of hazardous waste in landfills, except as 320 IAC 4.1-40-1 provides otherwise. *(Indiana Environmental Management Board; 320 IAC 4.1-53-1)*

320 IAC 4.1-53-2 Design and operating requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 2. (a) A landfill (except for an existing portion of a landfill) must have:

(1) A liner that is designed, constructed, and installed to prevent any migration of wastes out of the landfill to the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the landfill. The liner must be constructed of materials that prevent wastes from passing into the liner during the active life of the facility. The liner must be:

(i) constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(ii) placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to

prevent failure of the liner due to settlement, compression, or uplift; and

(iii) installed to cover all surrounding earth likely to be in contact with the waste or leachate; and

(2) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the landfill. The Technical Secretary will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30cm (one foot). The leachate collection and removal system must be:

(i) Constructed of materials that are:

(A) chemically resistant to the waste managed in the landfill and the leachate expected to be generated; and

(B) of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and by any equipment used at the landfill; and

(ii) Designed and operated to function without clogging through the scheduled closure of the landfill.

(b) The owner or operator will be exempted from the requirements of paragraph (a) of this section if the Technical Secretary finds, based on a demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see 320 IAC 4.1-45-4) into the groundwater or surface water at any future time. In deciding whether to grant an exemption, the Technical Secretary will consider:

(1) the nature and quantity of the wastes;

(2) the proposed alternate design and operation;

(3) the hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the landfill and groundwater or surface water; and

(4) all other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to groundwater or surface water.

(c) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 25-year storm.

(d) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(e) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms so as not to exceed the design capacity of the system.

(f) If the landfill contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the landfill to control wind dispersal.

(g) The Technical Secretary will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied. *(Indiana Environmental Management Board; 320 IAC 4.1-53-2)*

320 IAC 4.1-53-3 Double-lined landfills: exemption from 320 IAC 4.1-45 groundwater protection requirements

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 3. (a) The owner or operator of a double-lined landfill is not subject to 320 IAC 4.1-45 if the following conditions are met:

(1) The landfill(including its underlying liners) must be located entirely above the seasonal high water table.

(2) The landfill must be underlain by two liners which are designed and constructed in a manner to prevent the migration of liquids into or out of the space between the liners. Both liners must meet all the specifications of 320 IAC 4.1-53-2(a)(1).

(3) A leak detection system must be designed, constructed, maintained, and operated between the liners to detect any migration of liquid into the space between the liners.

(4) The landfill must have a leachate collection and removal system above the top liner that is designed, constructed, maintained, and operated in accordance with 320 IAC 4.1-53-2(a)(2).

(b) If liquid leaks into the leak detection system the owner or operator must:

(1) notify the Technical Secretary of the leak in writing within seven days after detecting the leak; and

(2)(i) within a period of time specified in the permit, remove accumulated liquid, repair or replace the liner which is leaking to prevent the migration of liquids through the liner, and obtain a certification from a qualified engineer that, to the best of his knowledge and opinion, the leak has been stopped; or

(ii) if a detection monitoring program pursuant to 320 IAC 4.1-45-9 has already been established in the permit (to be compiled with only if a leak occurs), begin to comply with that program and any other applicable requirements of 320 IAC 4.1-45 within a period of time specified in the permit.

(c) The Technical Secretary will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied. *(Indiana Environmental Management Board; 320 IAC 4.1-53-3)*

320 IAC 4.1-53-4 Monitoring and inspection

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. (a) During construction or installation, liners (except in the case of existing portions of landfills exempt from 320 IAC 4.1-53-2(a)) and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(1) synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(2) soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural nonuniformities that may cause an increase in the permeability of the liner or cover.

(b) While a landfill is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) deterioration, malfunctions, or improper operation of run-on and run-off control systems;

(2) the presence of liquids in leak detection systems, where installed to comply with 320 IAC 4.1-53-3;

(3) proper functioning of wind dispersal control systems, where present; and

(4) the presence of leachate in and proper functioning of leachate collection and removal systems, where present.

(Indiana Environmental Management Board; 320 IAC 4.1-53-4)

320 IAC 4.1-53-5 Surveying and recordkeeping

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. The owner or operator of a landfill must maintain the following items in the operating record required under 320 IAC 4.1-44-4:

(a) On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks; and

(b) The contents of each cell and the approximate location of each hazardous waste type within each cell.

(Indiana Environmental Management Board; 320 IAC 4.1-53-5)

320 IAC 4.1-53-6 Closure and post-closure care

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. (a) At final closure of the landfill or upon closure of any cell, the owner or operator must cover the landfill or cell with a final cover designed and constructed to:

(1) provide long-term minimization of migration of liquids through the closed landfill;

(2) function with minimum maintenance;

(3) promote drainage and minimize erosion or abrasion of the cover;

(4) accommodate settling and subsidence so that the cover's integrity is maintained; and

(5) have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) After final closure, the owner or operator must comply with all post-closure requirements contained in 320 IAC 4.1-46-7 through 320 IAC 4.1-46-10, including maintenance and monitoring throughout the post-closure care period (specified in the permit under 320 IAC 4.1-46-7). The owner or operator must:

(1) maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;

(2) maintain and monitor the leak detection system in accordance with 320 IAC 4.1-53-3, where such a system is present between double liner systems;

(3) continue to operate the leachate collection and removal system until leachate is no longer detected;

(4) maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of 320 IAC 4.1-45;

(5) prevent run-on and run-off from eroding or otherwise damaging the final cover; and

(6) protect and maintain surveyed benchmarks used in complying with 320 IAC 4.1-53-5.

(c) During the post-closure care period, if liquid leaks into the leak detection system installed under 320 IAC 4.1-53-3, the owner or operator must notify the Technical Secretary of the leak in writing within seven

(7) days after detecting the leak. The Technical Secretary will modify the permit to require compliance with the requirements of 320 IAC 4.1-45. *(Indiana Environmental Management Board; 320 IAC 4.1-53-6)*

320 IAC 4.1-53-7 Special requirements for ignitable or reactive waste

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. (a) Except as provided in paragraph (b) of this section, and in 320 IAC 4.1-53-11, ignitable or reactive waste must not be placed in a landfill, unless the waste is treated, rendered, or mixed before or immediately after placement in a landfill so that:

(1) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under 320 IAC 4.1-5-2 or 320 IAC 4.1-5-4; and

(2) 320 IAC 4.1-41-8(b) is complied with.

(b) Ignitable wastes in containers may be landfilled without meeting the requirements of paragraph (a) of this section, provided that the wastes are disposed of in such a way that they are protected from any material or conditions which may cause them to ignite or react. At a minimum, ignitable wastes must be disposed of in non-leaking containers which are carefully handled and placed so as to avoid heat, sparks, rupture, or any other condition that might cause ignition of the wastes; must be covered daily with soil or other non-combustible material to minimize the potential for ignition of the wastes; and must not be disposed of in cells that contain or will contain other wastes which may generate heat sufficient to cause ignition of the waste. *(Indiana Environmental Management Board; 320 IAC 4.1-53-7)*

320 IAC 4.1-53-8 Special requirements for incompatible wastes

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 8. Incompatible wastes, or incompatible wastes and materials (see 320 IAC 4.1-32-5) must not be placed in the same landfill cell, unless 320 IAC 4.1-41-8(b) is complied with. *(Indiana Environmental Management Board; 320 IAC 4.1-53-8)*

320 IAC 4.1-53-9 Special requirements for liquid waste

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 9. (a) Bulk or non-containerized liquid waste or waste containing free liquids must not be placed in a landfill unless:

(1) the landfill has a liner and leachate collection and removal system that meet the requirements of 320 IAC 4.1-53-2(a); or

(2) before disposal, the liquid waste or waste containing free liquids is treated or stabilized, chemically or physically (e.g., by mixing with an absorbent solid), so that free liquids are no longer present.

(b) Containers holding free liquids must not be placed in a landfill unless:

(1) all free-standing liquid:

(i) has been removed by decanting, or other methods;

(ii) has been mixed with absorbent or solidified so that free-standing liquid is no longer observed; or

(iii) has been otherwise eliminated; or

(2) the container is very small, such as an ampule; or

(3) the container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or

(4) the container is a lab pack as defined in 320 IAC 4.1-53-11 and is disposed of in accordance with 320 IAC 4.1-53-11.

(Indiana Environmental Management Board; 320 IAC 4.1-53-9)

320 IAC 4.1-53-10 Special requirements for containers

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 10. Unless they are very small, such as an ampule, containers must be either:

(a) at least ninety percent (90%) full when placed in the landfill; or

(b) Crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill.

(Indiana Environmental Management Board; 320 IAC 4.1-53-10)

320 IAC 4.1-53-11 Disposal of small containers of hazardous waste in overpacked drums (lab packs)

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 11. Small containers of hazardous waste in overpacked drums (lab packs) may be placed in a landfill if the following requirements are met:

(a) Hazardous waste must be packaged in non-leaking inside containers. The inside containers must be of a design and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the contained waste. Inside containers must be tightly and securely sealed. The inside containers must be of the size and type specified in the Department of Transportation (DOT) hazardous materials regulations (49 CFR Parts 173, 178 as incorporated in IC 8-2-7-43.5 and 49 CFR 179 (see 320 IAC 4.1-1-6 for incorporation)), if those regulations specify a particular inside container for the waste.

(b) The inside containers must be overpacked in an open head DOT-specification metal shipping container (49 CFR Parts 178 as incorporated in IC 8-2-7-43.5 and 49 CFR 179 (see 320 IAC 4.1-1-6 for incorporation)) of no more than 416-liter (110 gallon) capacity and surrounded by, at a minimum, a sufficient quantity of absorbent material to completely absorb all of the liquid contents of the inside containers. The metal outer container must be full after packing with inside containers and absorbent material.

(c) The absorbent material used must not be capable of reacting dangerously with, being decomposed by, or being ignited by the contents of the inside containers in accordance with 320 IAC 4.1-41-8(b).

(d) Incompatible wastes, as defined in 320 IAC 4.1-1-7, must not be placed in the same outside container.

(e) Reactive wastes, other than cyanide- or sulfide-bearing waste as defined in 320 IAC 4.1-5-4(a)(5), must be treated or rendered non-reactive prior to packaging in accordance with paragraphs (a) through (d) of this section. Cyanide- and sulfide-bearing reactive waste may be packed in accordance with paragraphs (a) through (d) of this section without first being treated or rendered non-reactive. *(Indiana Environmental Management Board; 320 IAC 4.1-53-11)*

Rule 54. Final (State) Permitted Facility Standards: Incinerators

320 IAC 4.1-54-1 Applicability

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 1. (a) 320 IAC 4.1-54 applies to owners and operators of facilities that incinerate hazardous waste, except as 320 IAC 4.1-40-1 provides otherwise.

(b) After consideration of the waste analysis included with the Final (State) Permit application, the Technical Secretary, in establishing the permit conditions, must exempt the applicant from all requirements of 320 IAC 4.1-54 except 320 IAC 4.1-54 (Waste analysis) and 320 IAC 4.1-54-8 (Closure),

(1) If the Technical Secretary finds that the waste to be burned is:

(i) listed as a hazardous waste in 320 IAC 4.1-6, solely because it is ignitable (Hazard CodeI), or corrosive (Hazard CodeC), or both; or

(ii) listed as a hazardous waste in 320 IAC 4.1-6, solely because it is reactive (Hazard CodeR) for characteristics other than those listed in 320 IAC 4.1-5-4(a)(4) and (5), and will not be burned when other hazardous wastes are present in the combustion zone; or

(iii) a hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the test for characteristics of hazardous wastes under 320 IAC 4.1-5; or

(iv) a hazardous waste solely because it possesses any of the reactivity characteristics described by 320 IAC 4.1-5-4(a)(1), (2), (3), (6), (7), and(8), and will not be burned when other hazardous wastes are present in the combustion zone; and

(2) If the waste analysis shows that the waste contains none of the hazardous constituents listed in 320 IAC 4.1-6-9 which would reasonably be expected to be in the waste.

(c) If the waste to be burned is one which is described by paragraphs (b)(1)(i), (b)(1)(ii), (b)(1)(iii), or (b)(1)(iv) of this section and contains insignificant concentrations of the hazardous constituents listed in 320 IAC 4.1-6-9, then the Technical Secretary may, in establishing permit conditions, exempt the applicant from all requirements of 320 IAC 4.1-54, except 320 IAC 4.1-54-2 (Waste analysis) and 320 IAC 4.1-54-8 (Closure), after consideration of the waste analysis included with the permit application, unless the Technical Secretary finds that the waste will pose a threat to human health and the environment when burned in an incinerator.

(d) The owner or operator of an incinerator may conduct trial burns subject only to the requirements of 320 IAC 4.1-37-3 (Short term and incinerator permits). *(Indiana Environmental Management Board; 320 IAC 4.1-54-1)*

320 IAC 4.1-54-2 Waste analysis

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 2. (a) As a portion of a trial burn plan required by 320 IAC 4.1-37-3 or with the Final (State) Permit application, the owner or operator must have

included an analysis of the waste feed sufficient to provide all information required by 320 IAC 4.1-37-3(b) or 320 IAC 4.1-34-10. Owners or operators of new hazardous waste incinerators must provide the information required by 320 IAC 4.1-37-3(c) or 320 IAC 4.1-34-10 to the greatest extent possible.

(b) Throughout normal operation, the owner or operator must conduct sufficient waste analysis to verify that waste feed to the incinerator is within the physical and chemical composition limits specified in his permit (under 320 IAC 4.1-54-6(b)). *(Indiana Environmental Management Board; 320 IAC 4.1-54-2)*

320 IAC 4.1-54-3 Principal organic hazardous constituents (POHCs)

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 3. (a) Principal Organic Hazardous Constituents (POHCs) in the waste feed must be treated to the extent required by the performance standard of 320 IAC 4.1-54-4.

(b)(1) One or more POHCs will be specified in the facility's permit, from among those constituents listed in 320 IAC 4.1-6-9, for each waste feed to be burned. This specification will be based on the degree of difficulty of incineration of the organic constituents in the waste and on their concentration or mass in the waste feed, considering the results of waste analyses and trial burns or alternative data submitted with the facility's permit application. Organic constituents which represent the greatest degree of difficulty of incineration will be those most likely to be designated as POHCs. Constituents are more likely to be designated as POHCs if they are present in large quantitites or concentrations in the waste.

(2) Trial POHCs will be designated for performance of trial burns in accordance with the procedure specified in 320 IAC 4.1-37-3 for obtaining trial burn permits. *(Indiana Environmental Management Board; 320 IAC 4.1-54-3)*

320 IAC 4.1-54-4 Performance standards

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 4. An incinerator burning hazardous waste must be designed, constructed, and maintained so that, when operated in accordance with operating requirements specified under 320 IAC 4.1-54-6, it will meet the following performance standards:

(a) An incinerator burning hazardous waste must achieve a destruction and removal efficiency (DRE) of 99.99% for each principal organic hazardous constituent (POHC) designated (under 320 IAC 4.1-54-3) in its permit for each waste feed. DRE is determined for each POHC from the following equation:

$$DRE = \frac{(Win - Wout)}{Win} \times 100\%$$

Where:

Win = Mass feed rate of one principal organic hazardous constituent (POHC) in the waste stream feeding the incinerator, and

Wout = Mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(b) An incinerator burning hazardous waste and producing stack emissions of more than 1.8 kilograms per hour (4 pounds per hour) of hydrogen chloride (HCl) must control HCl emissions such that the rate of emission is no greater than the larger of either 1.8 kilograms per hour or one percent (1%) of the HCl in the stack gas prior to entering any pollution control equipment.

(c) An incinerator burning hazardous waste must not emit particulate matter in excess of 180 milligrams per dry standard cubic meter (0.08 grains per dry standard cubic foot) when corrected for the amount of oxygen in the stack gas according to the formula:

$$P_c = P_m \times \frac{14}{21-Y}$$

Where P_c is the corrected concentration of particulate matter, P_m is the measured concentration of particulate matter, and Y is the measured concentration of oxygen in the stack gas, using the Orsat method for oxygen analysis of dry flue gas, presented in 40 CFR Part 60, Appendix A (Method 3). This correction procedure is to be used by all hazardous waste incinerators except those operating under conditions of oxygen enrichment. For these facilities, the Technical Secretary will select an appropriate correction procedure, to be specified in the facility permit.

(d) For purposes of permit enforcement, compliance with the operating requirements specified in the permit (under 320 IAC 4.1-54-6) will be regarded as compliance with this Section. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the performance requirements of this Section may be "information" justifying modification, revocation, or reissuance of a permit under 320 IAC 4.1-36-2. *(Indiana Environmental Management Board; 320 IAC 4.1-54-4)*

320 IAC 4.1-54-5 Hazardous waste incinerator permits

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 5. (a) The owner or operator of a hazardous waste incinerator may burn only wastes specified in his permit and only under operating conditions specified for those wastes under 320 IAC 4.1-54-6, except:

(1) in approved trial burns under 320 IAC 4.1-37-3; or

(2) under exemptions created by 320 IAC 4.1-54-1.

(b) Other hazardous wastes may be burned only after operating conditions have been specified in a new permit or a permit modification as applicable. Operating requirements for new wastes may be based on either trial burn results or alternative data included with the Final State permit application under 320 IAC 4.1-34-10.

(c) The permit for a new hazardous waste incinerator must establish appropriate conditions for each of the applicable requirements of 320 IAC 4.1-54, including but not limited to allowable waste feeds and operating conditions necessary to meet the requirements of 320 IAC 4.1-54-6, sufficient to comply with the following standards:

(1) for the period beginning with initial introduction of hazardous waste to the incinerator and ending with initiation of the trial burn, and only for the minimum time required to establish operating conditions required in paragraph (c)(2) of this section, not to exceed a duration of 720 hours operating time for treatment of hazardous waste, the operating requirements must be those most likely to ensure compliance with the performance standards of 320 IAC 4.1-54-4, based on the Technical Secretary's engineering judgment. The Technical Secretary may extend the duration of this period once for up to 720 additional hours when good cause for the extension is demonstrated by the applicant;

(2) for the duration of the trial burn, the operating requirements must be sufficient to demonstrate compliance with the performance standards of 320 IAC 4.1-54-4 and must be in accordance with the approved trial burn plan;

(3) for the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, and submission of the trial burn results by the applicant, and review of the trial burn results and modification of the facility permit by the Technical Secretary, the operating requirements must be those most likely to ensure compliance with the performance standards of 320 IAC 4.1-54-4, based on the Technical Secretary's engineering judgment;

(4) for the remaining duration of the permit, the operating requirements must be those demonstrated, in a trial burn or by alternative data specified in 320 IAC 4.1-34-10(c) as sufficient to ensure compliance with the performance standards of 320 IAC 4.1-54-4.

(Indiana Environmental Management Board; 320 IAC 4.1-54-5)

320 IAC 4.1-54-6 Operating requirements

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 6. (a) An incinerator must be operated in accordance with operating requirements specified in the permit. These requirements will be specified on a case-by-case basis as those which have been demonstrated (in a trial burn or in alternative data as specified in 320 IAC 4.1-54-5(b) and included with the Final (State) Permit application) to be sufficient to comply with the performance standards of 320 IAC 4.1-54-4.

(b) Each set of operating requirements will specify the composition of the waste feed (including acceptable variations in the physical or chemical properties of the waste feed which will not affect compliance with the performance requirements of 320 IAC 4.1-54-4) to which the operating requirements apply. For each such waste feed, the permit will specify acceptable operating limits including the following conditions:

(1) carbon monoxide (CO) level in the stack exhaust gas;

(2) waste feed rate;

(3) combustion temperature;

(4) an appropriate indicator of combustion gas velocity;

(5) allowable variations in incinerator system design or operating procedures; and

(6) such other operating requirements as are necessary to ensure that the performance standards of 320 IAC 4.1-54-4 are met.

(c) During start-up and shut-down of an incinerator, hazardous waste (except wastes exempted in accordance with 320 IAC 4.1-54-1) must not be fed into the incinerator unless the incinerator is operating within the conditions of operation (temperature, air feed rate, etc.) specified in the permit.

(d) Fugitive emissions from the combustion zone must be controlled by:

(1) keeping the combustion zone totally sealed against fugitive emissions; or
(2) maintaining a combustion zone pressure lower than atmospheric pressure; or
(3) an alternate means of control demonstrated (with the Final (State) Permit application) to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure.

(e) An incinerator must be operated with a functioning system to automatically cut-off waste feed to the incinerator when operating conditions deviate from limits established under paragraph (a) of this Section.

(f) An incinerator must cease operation when changes in waste feed, incinerator design, or operating conditions exceed limits designated in its permit. *(Indiana Environmental Management Board; 320 IAC 4.1-54-6)*

320 IAC 4.1-54-7 Monitoring and inspections

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 7. (a) The owner or operator must conduct, at a minimum, the following monitoring while incinerating hazardous waste:
(1) Combustion temperature, waste feed rate, and the indicator of combustion gas velocity specified in the facility permit must be monitored on a continuous basis.
(2) CO must be monitored on a continuous basis at a point in the incinerator downstream of the combustion zone and prior to release to the atmosphere.
(3) Upon request by the Technical Secretary, sampling and analysis of the waste and exhaust emissions must be conducted to verify that the operating requirements established in the permit achieve the performance standards of 320 IAC 4.1-54-4.

(b) The incinerator and associated equipment (pumps, valves, conveyors, pipes, etc.) must be subjected to thorough visual inspection, at least daily, for leaks, spills, fugitive emissions, and signs of tampering.

(c) The emergency waste feed cut-off system and associated alarms must be tested at least weekly to verify operability, unless the applicant demonstrates to the Technical Secretary that weekly inspections will unduly restrict or upset operations and that less frequent inspections will be adequate. At a minimum, operational testing must be conducted at least monthly.

(d) This monitoring and inspection data must be recorded and the records must be placed in the operating log required by 320 IAC 4.1-44-4. *(Indiana Environmental Management Board; 320 IAC 4.1-54-7)*

320 IAC 4.1-54-8 Closure

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 8. At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) from the incinerator site.

[Note: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with 320 IAC 4.1-3-3(d) that the residue removed from the incinerator is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with applicable requirements of 320 IAC 4.1-7 through 320 IAC 4.1-32 and 320 IAC 4.1-40 through 320 IAC 4.1-54.] *(Indiana Environmental Management Board; 320 IAC 4.1-54-8)*

Rule 55. Hazardous Waste Management: Inspection and Investigation

320 IAC 4.1-55-1 Right of entry

Authority: IC 13-7-8-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4
Affected: IC 13-7-8.5

Sec. 1. The Board or its authorized representative, upon presentation of credentials, or by directive of the Board, shall have a right to enter upon, to or through premises, public or private, subject to 320 IAC 4.1, to investigate, take samples, copy all records related to hazardous waste, and inspect for compliance with the requirements imposed under IC 13-7, or 320 IAC 4.1, or to determine whether a violation or threatened violation exists, in accordance with the following purposes:
(a) for the purpose of determining whether any person is subject to the requirements of IC 13-7, or whether any person subject to the requirements of IC 13-7 is in compliance with 320 IAC 4.1; or
(b) for the purpose of investigating conditions relating to hazardous waste management or hazardous waste management practices where the Technical Secretary has a reasonable belief that a violation of IC 13-7, or 320 IAC 4.1 is occurring or is about to occur; or

(c) for the purpose of determining whether there has been a violation of any of the provisions of IC 13-7, or 320 IAC 4.1, or any permit or order issued pursuant to IC 13-7, or 320 IAC 4.1.

(Indiana Environmental Management Board; 320 IAC 4.1-55-1)

320 IAC 4.1-55-2 Conduct of inspection and sampling

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 2. Each investigation or inspection shall be completed with reasonable promptness. If the Board or its authorized representative obtains any sample prior to leaving the premises, he shall give to the owner, operator, or agent in charge a receipt identifying the sample obtained and, if requested and, if feasible, a portion of the sample equal in volume or weight to the portion retained. If any analysis is made of such sample, a copy of the results of such analysis shall be furnished promptly to the owner, operator, or agent in charge. *(Indiana Environmental Management Board; 320 IAC 4.1-55-2)*

Rule 56. Hazardous Waste Management: Enforcement, Penalties, Confidentiality

320 IAC 4.1-56-1 Enforcement

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 4-22-1; IC 13-7-8.5

Sec. 1. The administration and enforcement of these rules shall be in accordance with IC 13-7 and the Indiana Administrative Adjudication Act, IC 4-22-1. *(Indiana Environmental Management Board; 320 IAC 4.1-56-1)*

320 IAC 4.1-56-2 Penalties

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 2. Penalties for violations of 320 IAC 4.1 are as outlined in IC 13-7. *(Indiana Environmental Management Board; 320 IAC 4.1-56-2)*

320 IAC 4.1-56-3 Confidentiality

Authority: IC 13-7-3-1; IC 13-7-5-1; IC 13-7-7; IC 13-7-8.5-4

Affected: IC 13-7-8.5

Sec. 3. (a) All records, reports, monitoring or sampling data, or other information submitted to the Board pursuant to 320 IAC 4.1, shall be open to reasonable public inspection, except for information which is confidential pursuant to 320 IAC 6 (copies of all public information are available for $.15 per page)

(b) All claims of confidentiality shall be handled as outlined in 320 IAC 6. *(Indiana Environmental Management Board; 320 IAC 4.1-56-3)*

SECTION 2. The following article is repealed:

ARTICLE 4. HAZARDOUS WASTE MANAGEMENT PERMIT PROGRAM AND RELATED HAZARDOUS WASTE MANAGEMENT REQUIREMENTS—REPEALED

(Repealed by Indiana Environmental Management Board)

LSA Document #84-58(F)
Proposed Rule Published: August 1, 1984; 7 IR 1945
Hearing Held: September 27, 1984
Approved by Attorney General: July 25, 1985
Approved by Governor: July 29, 1985
Filed with Secretary of State: July 30, 1985, 9:01 am
Incorporated Documents filed with Secretary of State, Revisor of Rules, and Attorney General: A complete set of federal regulations and materials adopted by reference may be found with the original document filed with the Secretary of State. Copies are also on file at Indiana Environmental Management Board and Legislative Services Agency, 110 State House.

TITLE 330 STREAM POLLUTION CONTROL BOARD OF THE STATE OF INDIANA

LSA Document #84-113(F)

DIGEST

Amends 330 IAC 1-1-13 by adding seventeen (17) stream segments to the list of Limited Use streams and adding three (3) stream segments to the list of Exceptional Use streams. Effective 30 days after adoption approval and filing are complete.

330 IAC 1-1-13

SECTION 1. 330 IAC 1-1-13 is amended to read as follows:

330 IAC 1-1-13 Limited and exceptional use; designated waters

Authority: IC 13-1-3-7; IC 13-7-5-1

Affected: IC 13-7-7-5

TITLE 320 INDIANA ENVIRONMENTAL MANAGEMENT BOARD

LSA Document #86-111(F)

DIGEST

Amends numerous sections in 320 IAC 4.1 (the State's hazardous waste management rules), regarding the incorporation of final Resource Conservation and Recovery Act (RCRA) regulations published by the U.S. Environmental Protection Agency (U.S. EPA) in the Federal Register from July 1, 1984, through March 31, 1986. (Certain amendments within this period have already become final and appear at 9 IR 2659.) Also, a change was added from the May 28, 1986, Federal Register regarding spent pickle liquor. The amendments include regulations reflecting the Hazardous and Solid Waste Amendments of 1984 (HSWA), regulations redefining solid waste and addressing recycling activities, and regulations listing as hazardous certain wastes containing particular chlorinated dioxins, -dibenzofurans, and -phenols, listing as hazardous three wastes generated during the production of ethylene dibromide (EDB), listing as hazardous four spent solvents and still bottoms from the recovery of these solvents, redefining the universe of solvents considered listed hazardous wastes, and listing as hazardous six wastes generated during the production of dinitrotoluene (DNT), toluenediamine (TDA), and toluene diisocyanate (TDI), as well as adding other compounds and toxicants. In addition, the package contains regulations amending interim status regulations for hazardous waste surface impoundments, land treatment units, and landfills, a technical amendment to interim status standards for hazardous waste facilities, and a requirement for use of a paint filter test to determine the absence or presence of free liquids in either a containerized or bulk waste, applicable to hazardous waste landfills. Also included are standards regarding management of hazardous waste and used oil burned for energy recovery, and new comprehensive standards applicable to small quantity generators of between 100 and 1,000 kilograms of hazardous waste in a calendar month. Repeals 320 IAC 4.1-50-3, 320 IAC 4.1-51-3, 320 IAC 4.1-51-4, and 320 IAC 4.1-53-3, concerning double-lined landfills. Revises the incorporated reference in 320 IAC 4.1-1-6, TEST METHODS FOR EVALUATING SOLID WASTE, by adding Method 9095, Paint Filter Liquids Test. Effective 30 days after adoption approval and filing are complete. *NOTE: The following sections were edited by changing the end punctuation so that the section conforms to the style of the Indiana Administrative Code: 320 IAC 4.1-1-7; 320 IAC 4.1-3-1(c)(1) and (2); 320 IAC 4.1-3-2(a)(2); 320 IAC 4.1-32.5-15(a), (b), and (d); 320 IAC 4.1-34-8(c) through (g); 320 IAC 4.1-34-9(a), (e), (f), and (g); 320 IAC 4.1-34-11(a), (e), (f), and (g); 320 IAC 4.1-34-12(a), (c), (f), (g), and (h); 320 IAC 4.1-37-1(b)(2); 320 IAC 4.1-37-1(c)(3)(vi); 320 IAC 4.1-37-6(a)(1) and (2); 320 IAC 4.1-38-4(b); 320 IAC 4.1-45-1(b)(2)(i)—(vii); and 320 IAC 4.1-54-1(b). 320 IAC 4.1-1-8, 320 IAC 4.1-1-10, and 320 IAC 4.1-1-11 were edited by changing lower case letters to arabic numbers.*

320 IAC 4.1-1-4	320 IAC 4.1-16-4	320 IAC 4.1-37-6
320 IAC 4.1-1-6	320 IAC 4.1-16-9	320 IAC 4.1-38-1
320 IAC 4.1-1-7	320 IAC 4.1-19-4	320 IAC 4.1-38-4
320 IAC 4.1-1-8	320 IAC 4.1-25-1.5	320 IAC 4.1-40-1
320 IAC 4.1-1-9	320 IAC 4.1-25-2	320 IAC 4.1-41-4
320 IAC 4.1-1-10	320 IAC 4.1-25-7	320 IAC 4.1-41-9
320 IAC 4.1-1-11	320 IAC 4.1-26-4.5	320 IAC 4.1-44-4
320 IAC 4.1-1-12	320 IAC 4.1-27-2	320 IAC 4.1-45-1
320 IAC 4.1-1-13	320 IAC 4.1-28-1.5	320 IAC 4.1-45-12
320 IAC 4.1-3-1	320 IAC 4.1-28-2	320 IAC 4.1-48-6
320 IAC 4.1-3-2	320 IAC 4.1-28-4	320 IAC 4.1-49-4
320 IAC 4.1-3-3	320 IAC 4.1-28-7	320 IAC 4.1-49-8
320 IAC 4.1-3-4	320 IAC 4.1-28-8	320 IAC 4.1-50-2
320 IAC 4.1-3-5	320 IAC 4.1-29-1	320 IAC 4.1-50-3
320 IAC 4.1-3-6	320 IAC 4.1-29-6	320 IAC 4.1-50-4
320 IAC 4.1-3-7	320 IAC 4.1-30-1	320 IAC 4.1-50-5
320 IAC 4.1-6-1	320 IAC 4.1-30-7	320 IAC 4.1-50-6
320 IAC 4.1-6-2	320 IAC 4.1-32.5	320 IAC 4.1-50-9
320 IAC 4.1-6-3	320 IAC 4.1-33-1	320 IAC 4.1-51-3
320 IAC 4.1-6-4	320 IAC 4.1-33-5	320 IAC 4.1-51-4
320 IAC 4.1-6-7	320 IAC 4.1-34-1	320 IAC 4.1-51-5
320 IAC 4.1-6-8	320 IAC 4.1-34-5	320 IAC 4.1-51-9
320 IAC 4.1-6-9	320 IAC 4.1-34-7	320 IAC 4.1-52-11
320 IAC 4.1-6-9.1	320 IAC 4.1-34-8	320 IAC 4.1-53-2
320 IAC 4.1-7-3	320 IAC 4.1-34-9	320 IAC 4.1-53-3
320 IAC 4.1-8-1	320 IAC 4.1-34-11	320 IAC 4.1-53-4
320 IAC 4.1-9-5	320 IAC 4.1-34-12	320 IAC 4.1-53-6
320 IAC 4.1-10-2	320 LAC 4.1-35-1	320 IAC 4.1-53-9
320 IAC 4.1-10-5	320 IAC 4.1-35-3	320 IAC 4.1-53-12
320 IAC 4.1-13-1	320 IAC 4.1-36-2	320 IAC 4.1-54-1
320 IAC 4.1-15-1	320 IAC 4.1-37-1	320 IAC 4.1-54-4
320 IAC 4.1-15-2		

SECTION 1. 320 IAC 4.1-1-4 is amended to read as follows:

320 IAC 4.1-1-4 Waste produced at a particular facility; petition to exclude

Authority: IC 13-7-7; IC 13-7-8.5

Affected: IC 13-1-12-6; IC 13-7-1-2; IC 13-7-8.5

Sec. 4. A person who obtains temporary or final approval of a petition under Federal Rule 40 CFR 260.20 and 40 CFR 260.22, as amended at Federal Register Vol. 50, No. 135, p. 28742, July 15, 1985, to exclude from hazardous waste regulation a particular waste produced at a particular facility shall apply for and may be granted that exclusion pursuant to IC 13-7-8.5-3(d). A waste which is so excluded may still, however, be a hazardous waste by operation of 320 IAC 4.1-5. *(Indiana Environmental Management Board; 320 IAC 4.1-1-4; filed Jul 30, 1985, 9:01 am: 8 IR 1722; filed Mar 16, 1987, 10:45 am)*

SECTION 2. 320 IAC 4.1-1-6 is amended to read as follows:

320 IAC 4.1-1-6 Incorporation by reference

Authority: IC 13-7-7; IC 13-7-8.5

Affected: IC 13-1-12-6; IC 13-7-1-2; IC 13-7-8.5

Sec. 6. (a) When used in 320 IAC 4.1-1 through 320 IAC 4.1-56 the following publications are incorporated by reference:

"ASTM Standard Test Methods for Flash Point of Liquids by Setaflash Closed Tester," ASTM Standard D-3278-78, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

"ASTM Standard Test Methods for Flash Point by Pensky-Martens Closed Tester," ASTM Standard D-93-79 or D-93-80. D-93-80 is available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

"Flammable and Combustible Liquids Code" ~~(1977 or 1981)~~ (NFPA 30-1984), available from the National Fire Protection Association, ~~470 Atlantic Avenue, Boston, Massachusetts 02210~~ Batterymarch Park, Quincy, Massachusetts 02269. (See 675 IAC 22-1-3)

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (First Edition, 1980, as updated by Revisions A (August 1980), B (July 1981), and C (February 1982)) or (Second Edition, 1982). The first edition of SW-846 is no longer in print. Revisions A and B are available from EPA, Office of Solid Waste, (WH-565B), 401 M Street, S.W., Washington, D.C. 20460. Revision C is available from NTIS, 5285 Port Royal Road, Springfield, Virginia 22161. The second edition of SW-846 includes material from the first edition and Revisions A, B, and C in a reorganized format. Including paint filter liquids test, Method 9095. It is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238, on a subscription basis.

49 CFR Parts 174, 175, 176 and 179 (1984)

40 CFR Part 264 Subpart H (1984), 40 CFR Part 265 Subpart H (1984)

33 CFR Part 153.203 (1984)

40 CFR Part 60, Appendix A (Method 3) (1984)

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Management Board; 320 IAC 4.1-1-6; filed Jul 30, 1985, 9:01 am; 8 IR 1722; filed Mar 16, 1987, 10:45 am)

SECTION 3. 320 IAC 4.1-1-7 is amended to read as follows:

320 IAC 4.1-1-7 Definitions

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-1-2; IC 13-1-12-6; IC 13-7-2; IC 13-7-8.5

Sec. 7. In addition to the definitions contained in IC 13-7, the following definitions shall apply to 320 IAC 4.1:

"Active portion" means that portion of a facility where treatment, storage, or disposal operations are being or have been conducted after November 19, 1980, and which is not a closed portion. (See also "closed portion" and "inactive portion.")

"Administrator" means the Administrator of the U.S. Environmental Protection Agency or his designee.

"Aquifer" means a geologic formation, group of formations or part of a formation capable of yielding a significant amount of groundwater to wells or springs.

"Authorized representative" means the person responsible for the overall operation of a facility or an operational unit (i.e., part of a facility), e.g., the plant manager, superintendent, or person of equivalent responsibility.

"Board" as used herein shall mean the Indiana ~~Environmental~~ Solid Waste Management Board as created by ~~IC 13-7-2~~ IC 13-1-12-6.

"Boiler" means an enclosed device using controlled flame combustion and having the following characteristics:

(1)(i) The unit must have physical provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases; and

(ii) The unit's combustion chamber and primary energy recovery section(s) must be of integral design. To be of integral design, the combustion chamber and the primary energy recovery section(s) (such as waterwalls and superheaters) must be physically formed into one manufactured or assembled unit. A unit in which the combustion chamber and the primary energy recovery section(s) are joined only by ducts or connections carrying flue gas is not integrally designed; however, secondary energy recovery equipment (such as economizers or air preheaters) need not be physically formed into the same unit as the combustion chamber and the primary energy recovery section. The following units are not precluded from being boilers solely because they are not of integral design: process heaters (units that transfer energy directly to a process steam), and fluidized bed combustion units; and

(iii) While in operation, the unit must maintain a thermal energy recovery efficiency of at least 60 percent, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

(iv) The unit must export and utilize at least 75 percent of the recovered energy, calculated on an annual basis. In this calculation, no credit shall be given for recovered heat used internally in the same unit. (Examples of internal use are the preheating of fuel or combustion air, and the driving of induced or forced draft fans or feedwater pumps); or

(2) The unit is one which the Commissioner has determined, on a case-by-case basis, to be a boiler, after considering the standards in 320 IAC 4.1-1-10.

"Certification" means a statement of professional opinion based upon knowledge and belief.

"CFR" means the U.S. Code of Federal Regulations.

"Closed portion" means that portion of a facility which an owner or operator has closed in accordance with the approved facility closure plan and all applicable closure requirements. (See also "active portion" and "inactive portion.")

"Confined aquifer" means an aquifer bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself; an aquifer containing confined groundwater.

"Container" means any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.

"Contingency plan" means a document setting out an organized, planned, and coordinated course of action to be followed in case of a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

"Designated facility" means a hazardous waste treatment, storage, recovery, or disposal facility which has received an EPA permit or a State permit (or a facility with interim status) in accordance with the requirements of 40 CFR 270 and 124 or 320 IAC 4.1-34 and 320 IAC 4.1-38, or a permit from a state authorized in accordance with 40 CFR 271, or that is regulated under 320 IAC 4.1-3-6(c)(2) or 320 IAC 4.1-32.5-12,

and that has been designated on the manifest or manifest form by the generator pursuant to 320 IAC 4.1-8.

"Dike" means an embankment or ridge of either natural or man-made materials used to prevent the movement of liquids, sludges, solids, or other materials.

"Discharge" or "hazardous waste discharge" means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous waste into or on any land or water.

"Disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including groundwaters.

"Disposal facility" means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water and at which waste will remain after closure.

"Elementary neutralization unit" means a device which:

(i) Is used for neutralizing wastes which are hazardous wastes only because they exhibit the corrosivity characteristic defined in 320 IAC 4.1-5-3, or are listed in 320 IAC 4.1-6 only for this reason; and

(ii) Meets the definition of tank, container, transport vehicle, or vessel in 320 IAC 4.1-1-7.

"EMA" means the Environmental Management Act, IC 13-7, as amended.

"EPA" means the U.S. Environmental Protection Agency.

"EPA hazardous waste number" means the number assigned by U.S. EPA to each hazardous waste listed in 320 IAC 4.1-6 (see 40 CFR Part 261, Subpart D), and to each characteristic identified in 320 IAC 4.1-5 (see 40 CFR Part 261, Subpart C).

"U.S. EPA identification number" means the number assigned by EPA to each generator, transporter, and treatment, storage, or disposal facility.

"EPA region" means the states and territories found in any one of the following ten regions:

Region I—Maine, Vermont, New Hampshire, Massachusetts, Connecticut, and Rhode Island

Region II—New York, New Jersey, Commonwealth of Puerto Rico, and the U.S. Virgin Islands

Region III—Pennsylvania, Delaware, Maryland, West Virginia, Virginia, and the District of Columbia

Region IV—Kentucky, Tennessee, North Carolina, Mississippi, Alabama, Georgia, South Carolina, and Florida

Region V—Minnesota, Wisconsin, Illinois, Michigan, Indiana, and Ohio

Region VI—New Mexico, Oklahoma, Arkansas, Louisiana, and Texas

Region VII—Nebraska, Kansas, Missouri, and Iowa

Region VIII—Montana, Wyoming, North Dakota, South Dakota, Utah, and Colorado

Region IX—California, Nevada, Arizona, Hawaii, Guam, American Samoa, Commonwealth of the Northern Mariana Islands

Region X—Washington, Oregon, Idaho, and Alaska

"Equivalent method" means any testing or analytical method approved by the Board under 320 IAC 4.1-1-5.

"Existing hazardous waste management (HWM) facility" or "existing facility" means a facility which was in operation or for which construction commenced on or before November 19, 1980. A facility has commenced construction if:

(i) The owner or operator has obtained the Federal, State, and local approvals or permits necessary to begin physical construction; and either:

(A) a continuous on-site physical construction program has begun; or

(B) the owner or operator has entered into contractual obligations—which cannot be cancelled or modified without substantial loss—for physical construction of the facility to be completed within a reasonable time.

"Existing portion" means that land surface area of an existing waste management unit, included in the original Part A permit application on which wastes have been placed prior to the issuance of a permit.

"Facility" means all contiguous land and structures, other appurtenances, and improvements on the land used for treating, recovering, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combinations of them).

"Federal agency" means any department, agency, or other instrumentality of the Federal Government, any independent agency, or establishment of the Federal Government including any Government corporation and the Government Printing Office.

"Federal, state, and local approvals or permits necessary to begin physical construction" means permits and approvals required under Federal, State, or local hazardous waste control statutes, regulations, or ordinances.

"Final (state) permit application" or "final permit application" means the permit application required by 320 IAC 4.1-33 through 320 IAC 4.1-34. The application is equivalent to the Part B Permit application as specified in 40 CFR 270.

"Final (state) permit" or "final permit" means the permit issued pursuant to 320 IAC 4.1-39. The permit is equivalent to the Part B Permit as specified in 40 CFR 270.

"Food-chain crops" means tobacco, crops grown for human consumption, and crops grown for feed for animals whose products are consumed by humans.

"Freeboard" means the vertical distance between the top of a tank or surface impoundment dike and the surface of the waste contained therein.

"Free liquids" means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

"Generator" means any person, by site, whose act or process produces hazardous waste identified or listed in 320 IAC 4.1-3 through 320 IAC 4.1-6 or whose act first causes a hazardous waste to become subject to regulation.

"Groundwater" means water below the land surface in a zone of saturation.

"Hazardous waste" means a hazardous waste as defined in 320 IAC 4.1-3-3.

"Hazardous waste constituent" means a constituent that caused the Board to list the hazardous waste in 320 IAC 4.1-6, or a constituent listed in Table 1 of 320 IAC 4.1-5-5.

"Hazardous waste facility" means a plant or site where hazardous waste is subjected to treatment, storage, disposal, or recovery.

"Inactive portion" means that portion of a facility which is not operated after November 19, 1980. [See also "Active portion" and "Closed portion".]

~~"Incinerator" means an enclosed device using controlled flame combustion, the primary purpose of which is to thermally break down hazardous waste. Examples of incinerators are rotary kiln, fluidized bed, and liquid injection incinerators.~~

"Incinerator" means any enclosed device using controlled flame combustion that neither meets the criteria for classification as a boiler nor is listed as an industrial furnace.

"Incompatible waste" means a hazardous waste which is unsuitable for:

(i) Placement in a particular device or facility because it may cause corrosion or decay of containment materials (e.g., container inner liners or tank walls); or

(ii) Commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes or gases, or flammable fumes or gases. (See 320 IAC 4.1-32-5 for examples of potentially incompatible waste.)

"Individual generation site" means the contiguous site at or on which one or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous.

"Industrial furnace" means any of the following enclosed devices that are integral components of manufacturing processes and that use controlled flame devices to accomplish recovery of materials or energy:

(1) cement kilns;
(2) lime kilns;
(3) aggregate kilns;
(4) phosphate kilns;
(5) coke ovens;
(6) blast furnaces;
(7) smelting, melting and refining furnaces (including pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machines, roasters, and foundry furnaces);
(8) titanium dioxide chloride process oxidation reactors;
(9) methane reforming furnaces;
(10) pulping liquor recovery furnaces;
(11) combustion devices used in the recovery of sulfur values from spent sulfuric acid;
(12) such other devices as the Commissioner may, after notice and comment, add to this list on the basis of one or more of the following factors:

(i) the design and use of the device primarily to accomplish recovery of material products;
(ii) the use of the device to burn or reduce raw materials to make a material product;
(iii) the use of the device to burn or reduce secondary materials as effective substitutes for raw materials, in processes using raw materials as principal feedstocks;
(iv) the use of the device to burn or reduce secondary materials as ingredients in an industrial process to make a material product;
(v) the use of the device in common industrial practice to produce a material product; and
(vi) other factors, as appropriate.

"Injection well" means a well into which fluids are injected. (See also "underground injection.")

"In operation" refers to a facility which is treating, storing, recovering, or disposing of hazardous waste.

"Inner liner" means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained waste or reagents used to treat the waste.

"Interim status standards," for the purposes of 320 IAC 4.1 means, for ~~existing~~ **exisiting** [*sic.*] facilities, those requirements outlined in 320 IAC 4.1-15 through 320 IAC 4.1-32.

"Interim status," for the purposes of 320 IAC 4.1, interim status means that interim period during which an existing hazardous waste management facility shall be treated as having been issued a permit. Interim status begins when an existing facility first becomes subject to 320 IAC 4.1 or 40 CFR 265 and complies with 320 IAC 4.1-38 or 40 CFR 270.70. Interim status terminates upon the final administrative disposition of its final (state) permit pursuant to 320 IAC 4.1-39 or closure pursuant to 320 IAC 4.1-21.

"International shipment" means the transportation of hazardous waste into or out of the jurisdiction of the United States.

"Landfill" means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a land treatment facility, a surface impoundment, or an injection well.

"Landfill cell" means a discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes. Examples of landfill cells are trenches and pits.

"Land treatment facility" means a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface; such facilities are disposal facilities if the waste will remain after closure.

"Leachate" means any liquid, including any suspended components in the liquid, that has percolated through or drained from hazardous waste.

"Liner" means a continuous layer of natural or man-made materials, beneath or on the sides of a surface impoundment, landfill, or landfill cell, which restricts the downward or lateral escape of hazardous waste, hazardous waste constituents, or leachate.

"Management" or "hazardous waste management" means the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous waste.

"Manifest" or "manifest form" means the shipping document adopted by the Board (EPA Form 8700-22 and, if necessary, EPA Form 8700-22A), originated and signed by the generator in accordance with the instructions outlined in 320 IAC 4.1-14-3.

"Manifest document number" means the U.S. EPA twelve digit identification number assigned to the generator plus a unique five digit document number assigned to the Manifest by the generator for recording and reporting purposes.

"Mining overburden returned to the mine site" means any material overlying an economically valuable mineral deposit which is removed to gain access to that deposit and is then used for reclamation of a surface mine.

"Movement" means that hazardous waste which is transported to a facility in an individual vehicle.

"New hazardous waste management facility" or "new facility" means a facility which began operation or for which construction commenced after November 19, 1980. (See also "Existing hazardous waste management facility.")

"On-site" means the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a crossroads intersection and access is by crossing as opposed to going along the right-of-way. Non-contiguous properties owned by the same person but connected by a right-of-way which he controls and to which the public does not have access is also considered on-site property.

"Open burning" means the combustion of any material without the following characteristics:
(i) Control of combustion air to maintain adequate

temperature for efficient combustion,
(ii) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and
(iii) Control of emission of the gaseous combustion products.

(See also "incineration" and "thermal treatment.")

"Operator" means the person responsible for the overall operation of a facility.

"Owner" means the person who owns a facility or part of a facility.

"Part A," "Part A permit," or "Part A permit application" means the EPA forms 3510-1 and 3510-3 which are submitted pursuant to 320 IAC 4.1-34-1(e). (These forms available from the Indiana ~~Environmental~~ Solid Waste Management Board)

"Partial closure" means the closure of a discrete part of a facility in accordance with the applicable closure requirements of 320 IAC 4.1-15 through 320 IAC 4.1-32 or 320 IAC 4.1-40 through 320 IAC 4.1-54. For example, partial closure may include the closure of a trench, a unit operation, a landfill cell, or a pit, while other parts of the same facility continue in operation or will be placed in operation in the future.

"Person" means the same as defined in IC 13-7-1-2(a)(3) including but not limited to: an individual, trust, firm, joint stock company, Federal Agency, corporation (including a government corporation), partnership, association, State, municipality, commission, political subdivision of a State, or any interstate body.

"Personnel" or "facility personnel" means all persons who work at or oversee the operations of a hazardous waste facility and whose actions or failure to act may result in noncompliance with the requirements of applicable portions of 320 IAC 4.1-15 through 320 IAC 4.1-32 and 320 IAC 4.1-40 through 320 IAC 4.1-54.

"Pile" means any non-containerized accumulation of solid, non-flowing hazardous waste that is used for treatment or storage.

"Point source" means any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

"Publicly owned treatment works" or "POTW" means any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a "State" or "municipality" (as defined by Section 502(4) of the Clean Water Act 33 USC 1251 et. seq.). This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

"RCRA" means the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended, 42 U.S.C. Section 6901, et seq.

"Regional administrator" means the Regional Administrator for the U.S. EPA Region in which the facility is located or his designee.

"Representative sample" means a sample of a universe or whole (e.g., waste pile, lagoon, groundwater) which can be expected to exhibit the average properties of the universe or whole.

"Run-off" means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

"Run-on" means any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

"Saturated zone" or "zone of saturation" means that part of the earth's crust in which all voids are filled with water.

"Sludge" means any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

"Small quantity generator" means a generator who generates less than 1000 kilograms of hazardous waste in a calendar month.

"Solid waste" means a solid waste as defined in 320 IAC 4.1-3-2.

"State" means any of the several states, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

"Storage" means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere.

"Surface impoundment" or "impoundment" means a facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials) which is designed to hold an accumulation of liquid

wastes or wastes containing free liquids and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

"Tank" means a stationary device, designed to contain an accumulation of hazardous waste which is constructed primarily of non-earthern materials (e.g., wood, concrete, steel, plastic) which provide structural support.

"Thermal treatment" means the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge. (See also "incinerator" and "open burning.")

"Totally enclosed treatment facility" means a facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment. An example is a pipe in which waste acid is neutralized.

"Transfer facility" means any transportation related facility including loading docks, parking areas, storage areas, and other similar areas where shipments of hazardous waste are held during the normal course of transportation.

"Transport vehicle" means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (trailer, railroad freight car, etc.) is a separate transport vehicle.

"Transportation" means the movement of hazardous waste by air, rail, highway, or water.

"Transporter" means a person engaged in the off-site transportation of hazardous waste by air, rail, highway, or water.

"Treatment" means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.

"Treatment zone" means a soil area of the unsaturated zone of a land treatment unit within which hazardous constituents are degraded, transformed, or immobilized.

"Underground injection" means the subsurface emplacement of fluids through a bored, drilled, or driven well; or through a dug well where the depth of the dug well is greater than the largest surface dimension. (See also "injection well.")

"Underground source of drinking water (USDW)" means an aquifer or its portion:

(a)(1) which supplies any public water system; or

(2) which contains a sufficient quantity of ground water to supply a public water system; and

(i) currently supplies drinking water for human consumption; or

(ii) contains fewer than 10,000 mg/l total dissolved solids; and

(b) which is not an exempted aquifer.

"USDW" means "underground source of drinking water."

"Unsaturated zone" or "zone of aeration" means the zone between the land surface and the water table.

"United States" means the 50 states, the District of Columbia, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

"Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

"Vessel" includes every description of watercraft, used or capable of being used as a means of transportation on the water.

"Wastewater treatment unit" means a device which:

(i) is part of a wastewater treatment facility which is subject to regulation under either Section 402 or Section 307(b) of the Clean Water Act (33 USC 1342 or 33 USC 1317); and

(ii) receives and treats or stores an influent wastewater which is a hazardous waste as defined in 320 IAC 4.1-3-3, or generates and accumulates a wastewater treatment sludge which is a hazardous waste as defined in 320 IAC 4.1-3-3, or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in 320 IAC 4.1-3-3; and

(iii) meets the definition of tank in 320 IAC 4.1-1-7.

"Water (bulk shipment)" means the bulk transporta-

tion of hazardous waste which is loaded or carried on board a vessel without containers or labels.

"Well" means any shaft or pit dug or bored into the earth, generally of a cylindrical form, and often walled with bricks or tubing to prevent the earth from caving in.

"Well injection" (see "underground injection").

(Indiana Environmental Management Board; 320 IAC 4.1-1-7; filed Jul 30, 1985, 9:01 am: 8 IR 1723; filed May 30, 1986, 2:16 pm: 9 IR 2660; filed Mar 16, 1987, 10:45 am)

SECTION 4. 320 IAC 4.1-1-8 is added to read as follows:

320 IAC 4.1-1-8 Exemptions from classification as a solid waste

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 8. In accordance with the standards and criteria in 320 IAC 4.1-1-9 and the procedures in 320 IAC 4.1-1-11, the Commissioner may determine on a case-by-case basis that the following recycled materials are not solid wastes:

(1) materials that are accumulated speculatively without sufficient amounts being recycled (as defined in 320 IAC 4.1-3-1(c)(8);

(2) materials that are reclaimed and then reused within the original primary production process in which they were generated;

(3) materials that have been reclaimed but must be reclaimed further before the materials are completely recovered.

(Indiana Environmental Management Board; 320 IAC 4.1-1-8; filed Mar 16, 1987, 10:45 am)

SECTION 5. 320 IAC 4.1-1-9 is added to read as follows:

320 IAC 4.1-1-9 Standards and criteria for exemptions from classification as a solid waste

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 9. (a) The Commissioner may grant requests for an exemption from classifying as a solid waste those materials that are accumulated speculatively without sufficient amounts being recycled if the applicant demonstrates that sufficient amounts of the material will be recycled or transferred for recycling in the following year. If an exemption is granted, it is valid only for the following year, but can be renewed, on an annual basis, by filing a new application. The Commissioner's decision will be based on the following standards and criteria:

(1) the manner in which the material is expected to be recycled, when the material is expected to be recycled, and whether this expected disposition is likely to occur (for example, because of past practice, market factors, the nature of the material, or contractual arrangements for recycling);

(2) the reason that the applicant has accumulated the material for one or more years without recycling 75 percent of the volume accumulated at the beginning of the year;

(3) the quantity of material already accumulated and the quantity expected to be generated and accumulated before the material is recycled;

(4) the extent to which the material is handled to minimize loss;

(5) other relevant factors.

(b) The Commissioner may grant requests for an exemption from classifying as a solid waste those materials that are reclaimed and then reused as feedstock within the original primary production process in which the materials were generated if the reclamation operation is an essential part of the production process. This determination will be based on the following criteria:

(1) how economically viable the production process would be if it were to use virgin materials, rather than reclaimed materials;

(2) the prevalence of the practice on an industry-wide basis;

(3) the extent to which the material is handled before reclamation to minimize loss;

(4) the time periods between generating the material and its reclamation, and between reclamation and return to the original primary production process;

(5) the location of the reclamation operation in relation to the production process;

(6) whether the reclaimed material is used for the purpose for which it was originally produced when it is returned to the original process, and whether it is returned to the process in substantially its original form;

(7) whether the person who generates the material also reclaims it;

(8) other relevant factors.

(c) The Commissioner may grant requests for an exemption from classifying as a solid waste those materials that have been reclaimed but must be reclaimed further before recovery is completed if, after initial reclamation, the resulting material is commodity-like (even though it is not yet a commercial product and has to be reclaimed further). This

determination will be based on the following factors:

(1) the degree of processing the material has undergone and the degree of further processing that is required;

(2) the value of the material after it has been reclaimed;

(3) the degree to which the reclaimed material is like an analogous raw material;

(4) the extent to which an end market for the reclaimed material is guaranteed;

(5) the extent to which the reclaimed material is handled to minimize loss;

(6) other relevant factors.

(Indiana Environmental Management Board; 320 IAC 4.1-1-9; filed Mar 16, 1987, 10:45 am)

SECTION 6. 320 IAC 4.1-1-10 is added to read as follows:

320 IAC 4.1-1-10 Exemption to be classified as a boiler

Authority: IC 13-7-7; IC 13-7-8.5

Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 10. In accordance with the standards and criteria in 320 IAC 4.1-1-7 (definition of "boiler"), and the procedures in 320 IAC 4.1-1-11, the Commissioner may determine on a case-by-case basis that certain enclosed devices using controlled flame combustion are boilers, even though they do not otherwise meet the definition of boiler contained in 320 IAC 4.1-1-7, after considering the following criteria:

(1) the extent to which the unit has provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases; and

(2) the extent to which the combustion chamber and energy recovery equipment are of integral design; and

(3) the efficiency of energy recovery, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

(4) the extent to which exported energy is utilized; and

(5) the extent to which the device is in common and customary use as a "boiler" functioning primarily to produce steam, heated fluids, or heated gases; and

(6) other factors, as appropriate.

(Indiana Environmental Management Board; 320 IAC 4.1-1-10; filed Mar 16, 1987, 10:45 am)

SECTION 7. 320 IAC 4.1-1-11 is added to read as follows:

320 IAC 4.1-1-11 Procedures for exemptions from classification as a solid waste or to be classified as a boiler

Authority: IC 13-7-7; IC 13-7-8.5

Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 11. The Commissioner will use the following procedures in evaluating applications for exemptions from classification as a solid waste or applications to classify particular enclosed flame combustion devices as boilers:

(1) The applicant must apply to the Commissioner. The application must address the relevant criteria contained in 320 IAC 4.1-1-9 or 320 IAC 4.1-1-10.

(2) The Commissioner will evaluate the application and issue a draft notice tentatively granting or denying the application. Notification of this tentative decision will be provided by newspaper advertisement and radio broadcast in the locality where the recycler is located. The Commissioner will accept comment on the tentative decision for 30 days, and may also hold a public hearing upon request or at his descretion [*sic.*]. The Commissioner will issue a decision after receipt of comments.

(Indiana Environmental Management Board; 320 IAC 4.1-1-11; filed Mar 16, 1987, 10:45 am)

SECTION 8. 320 IAC 4.1-1-12 is added to read as follows:

320 IAC 4.1-1-12 Additional regulation of certain hazardous waste recycling activities on a case-by-case basis

Authority: IC 13-7-7; IC 13-7-8.5

Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 12. (a) The Commissioner may decide on a case-by-case basis that persons accumulating or storing the recyclable materials described in 320 IAC 4.1-3-6(a)(2)(iv) should be regulated under 320 IAC 4.1-3-6(b) and (c). The basis for this decision is that the materials are being accumulated or stored in a manner that does not protect human health and the environment because the materials or their toxic constituents have not been adequately contained, or because the materials being accumulated or stored together are incompatible. In making this decision, the Commissioner will consider the following factors:

(1) the types of materials accumulated or stored and the amounts accumulated or stored;

(2) the method of accumulation or storage;

(3) the length of time the materials have been accumulated or stored before being reclaimed;

(4) whether any contaminants are being released into the environment, or are likely to be so released; and

(5) other relevant factors.

The procedures for this decision are set forth in 320 IAC 4.1-1-13. *(Indiana Environmental Management Board; 320 IAC 4.1-1-12; filed Mar 16, 1987, 10:45 am)*

SECTION 9. 320 IAC 4.1-1-13 is added to read as follows:

320 IAC 4.1-1-13 Procedures for case-by-case regulation of hazardous waste recycling activities

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 13. The Commissioner will use the following procedures when determining whether to regulate hazardous waste recycling activities described in 320 IAC 4.1-3-6(a)(2)(iv) under the provisions of 320 IAC 4.1-3-6(b) and (c), rather than under the provisions of 320 IAC 4.1-32.5-12.

(a) If a generator is accumulating the waste, the Commissioner will issue a notice setting forth the factual basis for the decision made pursuant to 320 IAC 4.1-1-12(a) and stating that the person must comply with the applicable requirements of 320 IAC 4.1-7 and 320 IAC 4.1-9 through 320 IAC 4.1-11. The notice will become final within thirty (30) days, unless the person served requests a public hearing to challenge the decision. Upon receiving such a request, the Commissioner will hold a public hearing. The Commissioner will provide notice of the hearing to the public and allow public participation at the hearing. The Commissioner will issue an order after the hearing stating whether or not compliance with 320 IAC 4.1-7 through 320 IAC 4.1-11 is required. The order becomes effective thirty (30) days after service of the decision unless the Commissioner specifies a later date, or unless review by the Board is requested. The order may be appealed to the Board by any person who participated in the public hearing. Final Agency action occurs when an order is issued and Board review procedures are exhausted.

(b) If the person is accumulating the recyclable material as a storage facility, the notice will state that the person must obtain a permit in accordance with all applicable provisions of 320 IAC 4.1-33 through 320 IAC 4.1-39. The owner or operator of the facility must apply for a permit within no less than sixty (60) days and no more than six months of notice, as specified in the notice. If the owner or operator of the facility wishes to challenge the Commissioner's decision, he may do so in his permit application, in a public hearing held on the draft permit, or in comments filed on the draft permit, or on the notice of intent to deny the permit. The fact sheet accompanying the permit will specify the reasons for the Commissioner's determination. The question of whether the Commissioner's decision was proper will remain open for consideration during the public comment period discussed under 320 IAC 4.1-39-6. *(Indiana Environmental Management Board; 320 IAC 4.1-1-13; filed Mar 16, 1987, 10:45 am)*

SECTION 10. 320 IAC 4.1-3-1 is amended to read as follows:

320 IAC 4.1-3-1 Purpose and scope

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-1-12; IC 13-7-8.5; IC 13-7-12-1

Sec. 1. (a) 320 IAC 4.1-3 through 320 IAC 4.1-6 identify those solid wastes which are subject to regulation as hazardous wastes under 320 IAC 4.1-7 through 320 IAC 4.1-54 and which are subject to the notification requirements of 320 IAC 4.1-2. In 320 IAC 4.1-3 through 320 IAC 4.1-6:

(1) 320 IAC 4.1-3 defines the terms "solid waste" and "hazardous waste," identifies those ~~solid~~ wastes which are excluded from regulation under 320 IAC 4.1-7 through 320 IAC 4.1-54, and establishes special management requirements for hazardous waste produced by conditionally exempt small quantity generators and hazardous waste which is ~~used~~, ~~re-used~~, recycled; ~~or reclaimed~~.

(2) 320 IAC 4.1-4 sets forth the criteria used by the Board to identify characteristics of hazardous waste and to list particular hazardous wastes.

(3) 320 IAC 4.1-5 identifies characteristics of hazardous waste.

(4) 320 IAC 4.1-6 lists particular hazardous wastes.

~~(b) These Rules identify only some of the materials which are hazardous wastes as defined by IC 13-7-1-2(17), including IC 13-7-8.5-3(b). A material which is not a hazardous waste identified by these Rules is still a hazardous waste for purposes of those sections if:~~

~~(1) In the case of 320 IAC 4.1-55-1, the Board has reason to believe that the material may be a hazardous waste within the meaning of IC 13-7-1-2(17).~~

~~(2) In the case of IC 13-7-12-1, the statutory elements are established.~~

(b)(1) The definition of solid waste contained in 320 IAC 4.1-3 through 320 IAC 4.1-6 applies only to wastes that also are hazardous for purposes of the regulations implementing IC 13-7-8.5. For example, it does not apply to materials (such as non-hazardous scrap, paper, textiles, or rubber) that are not otherwise hazardous wastes and that are recycled.

(2) 320 IAC 4.1-3 through 320 IAC 4.1-6 identifies only some of the materials which are solid wastes as defined by IC 13-7-1-22 and hazardous wastes as defined by IC 13-7-1-12,

including IC 13-7-8.5-3(b). A material which is not defined as a solid waste in 320 IAC 4.1-3 through 320 IAC 4.1-6, or is not a hazardous waste identified or listed in 320 IAC 4.1-3 through 320 IAC 4.1-6, is still a solid waste and a hazardous waste for purposes of those sections if:

(i) in the case of 320 IAC 4.1-55-1, the Board has reason to believe that the material may be a solid waste within the meaning of IC 13-7-1-22 and a hazardous waste within the meaning of IC 13-7-1-12; or

(ii) in the case of IC 13-7-12-1, the statutory elements are established.

(c) For the purposes of 320 IAC 4.1-3-2 and 320 IAC 4.1-3-6:

(1) A "spent material" is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing.

(2) "Sludge" has the same meaning used in 320 IAC 4.1-1-7.

(3) A "by-product" is a material that is not one of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slags or distillation column bottoms. The term does not include a co-product that is produced for the general public's use and is ordinarily used in the form it is produced by the process.

(4) A material is "reclaimed" if it is processed to recover a usable product, or if it is regenerated. Examples are recovery of lead values from spent batteries and regeneration of spent solvents.

(5) A material is "used or reused" if it is either:

(i) Employed as an ingredient (including use as an intermediate) in an industrial process to make a product (for example, distillation bottoms from one process used as feedstock in another process). However, a material will not satisfy this condition if distinct components of the material are recovered as separate end products (as when metals are recovered from metal-containing secondary materials); or

(ii) Employed in a particular function or application as an effective substitute for a commercial product (for example, spent pickle liquor used as phosphorous precipitant and sludge conditioner in wastewater treatment).

(6) "Scrap metal" is bits and pieces of metal parts (e.g.), bars, turnings, rods, sheets, wire) or metal pieces that may be combined together with bolts or soldering (e.g., radiators, scrap automobiles, railroad box cars), which when worn or superfluous can be recycled.

(7) A material is "recycled" if it is used, reused, or reclaimed.

(8) A material is "accumulated speculatively" if it is accumulated before being recycled. A material is not accumulated speculatively, however, if the person accumulating it can show that the material is potentially recyclable and has a feasible means of being recycled; and that—during the calendar year (commencing on January 1)—the amount of material that is recycled, or transferred to a different site for recycling, equals at least 75 percent by weight or volume of the amount of that material accumulated at the beginning of the period. In calculating the percentage of turnover, the 75 percent requirement is to be applied to each material of the same type (e.g., slags from a single smelting process) that is recycled in the same way (i.e., from which the same material is recovered or that is used in the same way). Materials accumulating in units that would be exempt from regulation under 320 IAC 4.1-3-4(c) are not to be included in making the calculation. (Materials that are already defined as solid wastes also are not to be included in making the calculation.) Materials are no longer in this category once they are removed from accumulation for recycling, however.

(Indiana Environmental Management Board; 320 IAC 4.1-3-1; filed Jul 30, 1985, 9:01 am: 8 IR 1728; filed Mar 16, 1987, 10:45 am; errata, 10 IR 1704)

SECTION 11. 320 IAC 4.1-3-2 is amended to read as follows:

320 IAC 4.1-3-2 Definition of solid waste

Authority: IC 13-7-7; IC 13-7-8.5

Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 2. ~~(a) A solid waste is any garbage, refuse, sludge, or any other waste material which is not excluded under 320 IAC 4.1-3-4.~~

~~(b) An "other waste material" is any solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, or agricultural operations, or from community activities which:~~

~~(1) is discarded or is being accumulated, stored, or physically, chemically, or biologically treated prior to being discarded; or~~

~~(2) has served its original intended use and sometimes is discarded; or~~

~~(3) is a manufacturing or mining by-product and sometimes is discarded.~~

~~(c) A material is "discarded" if it is abandoned and not used, re-used, reclaimed, or recycled) by being:~~

~~(1) disposed of; or~~

~~(2) burned or incinerated except where the material is being burned as a fuel for the purpose of recovering usable energy; or~~

~~(3) physically, chemically, or biologically treated (other than burned or incinerated) in lieu of or prior to being disposed of.~~

~~(d) A material is "disposed of" if it is discharged, injected, spilled, leaked, or placed into or on any land or water so that such material or any constituent thereof may enter the environment or be emitted into the air or discharged into ground or surface waters.~~

~~(e) A "manufacturing or mining by-product" is a material that is not one of the primary products of a particular manufacturing or mining operation, is a secondary and incidental product of the particular operation, and would not be solely and separately manufactured or mined by the particular manufacturing or mining operation. The term does not include an intermediate manufacturing or mining product which results from one of the steps in a manufacturing or mining process and which is typically processed through the next step of the process within a short time.~~

(a)(1) A solid waste is any discarded material that is not excluded by 320 IAC 4.1-3-4(a) or that is not excluded by exemption granted under 320 IAC 4.1-1-8 and 320 IAC 4.1-1-9.

(2) A discarded material is any material which is:

(i) abandoned, as explained in paragraph (b) of this section; or

(ii) recycled, as explained in paragraph (c) of this section; or

(iii) considered inherently waste-like, as explained in paragraph (d) of this section.

(b) Materials are solid waste if they are abandoned by being:

(1) disposed of; or

(2) burned or incinerated; or

(3) accumulated, stored, or treated (but not recycled) before or in lieu of being abandoned by being disposed of, burned, or incinerated.

(c) Materials are solid wastes if they are recycled—or accumulated, stored, or treated before recycling—as specified in paragraphs (c)(1) through (c)(4) of this section.

(1) Used in a manner constituting disposal.

(i) Materials noted with a "*" in Column 1 of Table 1 are solid wastes when they are:

(A) applied to or placed on the land in a manner that constitutes disposal; or

(B) used to produce products that are applied to or placed on the land or are otherwise contained in products that are applied to or placed on the land (in which cases the product itself remains a solid waste).

(ii) However, commercial chemical products listed in 320 IAC 4.1-6-4 are not solid wastes if they are applied to the land and that is their ordinary manner of use.

(2) Burning for energy recovery.

(i) Materials noted with a "*" in Column 2 of Table 1 are solid wastes when they are:

(A) burned to recover energy;

(B) used to produce a fuel or are otherwise contained in fuels (in which cases the fuel itself remains a solid waste).

(ii) However, commercial chemical products listed in 320 IAC 4.1-6-4 are not solid wastes if they are themselves fuels.

(3) Reclaimed. Materials noted with a "*" in Column 3 of Table 1 are solid wastes when reclaimed.

(4) Accumulated speculatively. Materials noted with a "*" in Column 4 of Table 1 are solid wastes when accumulated speculatively.

(d) Inherently waste-like materials. The following materials are solid wastes when they are recycled in any manner:

(1) Hazardous Waste Nos. F020, F021 (unless used as an ingredient to make a product at the site of generation), F022, F023, F026, and F028.

(2) The Board will use the following criteria to add wastes to that list:

(i)(A) the materials are ordinarily disposed of, burned, or incinerated; or

(B) the materials contain toxic constituents listed in 320 IAC 4.1-6-9 and these constituents are not ordinarily found in raw materials or products for which the materials substitute (or are found in raw materials or products in smaller concentrations) and are not used or reused during the recycling process; and

(ii) the material may pose a substantial hazard to human health and the environment when recycled.

(e) Materials that are not solid waste when recycled.

(1) Materials are not solid wastes when they can be shown to be recycled by being:

(i) used or reused as ingredients in an industrial process to make a product provided the materials are not being reclaimed; or

(ii) used or reused as effective substitutes for commercial products; or

(iii) returned to the original process from which they are generated, without first being reclaimed. The material must be returned as a substitute for raw material feedstock, and the process must use raw materials as principal feedstocks.

(2) The following materials are solid wastes, even if the recycling involves use, reuse, or return to the original process (described in paragraphs (e)(1)(i)—(iii) of this section):

(i) materials used in a manner constituting disposal, or used to produce products that are applied to the land; or

(ii) materials burned for energy recovery, used to produce a fuel, or contained in fuels; or

(iii) materials accumulated speculatively; or

(iv) materials listed in paragraph (d)(1) of this section.

(f) Documentation of claims that materials are not solid wastes or are conditionally exempt from regulation.

Respondents in actions to enforce regulations implementing Title 13 of the Indiana Code who raise a claim that a certain material is not a solid waste, or is conditionally exempt from regulation, must demonstrate that there is a known market or disposition for the material and that they meet the terms of the exclusion or exemption. In doing so, they must provide appropriate documentation (such as contracts showing that a second person uses the material as an ingredient in a production process) to demonstrate that the material is not a waste, or is exempt from regulation. In addition, owners or operators of facilities claiming that they actually are recycling materials must show that they have the necessary equipment to do so.

TABLE 1

	Use Constituting Disposal 320 IAC 4.1-3-2(c)(1) (1)	Energy Recovery/ Fuel 320 IAC 4.1-3-2(c)(2) (2)	Reclamation 320 IAC 4.1-3-2(c)(3) (3)	Speculative Accumulation 320 IAC 4.1-3-2(c)(4) (4)
Spent Materials	•	•	•	•
Sludges (listed in 320 IAC 4.1-6-2 or 6-3)	•	•	•	•
Sludges exhibiting a characteristic of hazardous waste	•	•		•
By-products (listed in 320 IAC 4.1-6-2 or 6-3)	•	•	•	•
By-products exhibiting a characteristic of hazardous waste	•	•		•
Commercial Chemical products listed in 320 IAC 4.1-6-4	•	•		
Scrap Metal	•	•	•	•

Note: The terms "spent materials", "sludges", "by-products", and "scrap metal" are defined in 320 IAC 4.1-3-1.

(Indiana Environmental Management Board; 320 IAC 4.1-3-2; filed Jul 30, 1985, 9:01 am: 8 IR 1729; filed Jan 16, 1987, 10:45 am; errata 10 IR 1704)

SECTION 12. 320 IAC 4.1-3-3 is amended to read as follows:

320 IAC 4.1-3-3 Definition of hazardous waste

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1.2; IC 13-7-8.5

Sec. 3. (a) A solid waste, as defined in 320 IAC 4.1-3-2, is a hazardous waste if:

(1) it is not excluded from regulation as a hazardous waste under 320 IAC 4.1-3-4(b); and

(2) it meets any of the following criteria:

(i) It exhibits any of the characteristics of hazardous waste identified in 320 IAC 4.1-5.

(ii) It is listed in 320 IAC 4.1-6 and has not been excluded from the lists in 320 IAC 4.1-6 under 320 IAC 4.1-1-4.

(iii) It is a mixture of a solid waste and a hazardous waste that is listed in 320 IAC 4.1-6 solely because it exhibits one or more of the characteristics of hazardous waste identified in 320 IAC 4.1-5, unless the resultant mixture no longer exhibits any characteristic of hazardous waste identified in 320 IAC 4.1-5.

(iv) It is a mixture of solid waste and one or more hazardous wastes listed in ~~320 IAC 4.1-1-6~~ 320 IAC 4.1-6 and has not been excluded from this paragraph under ~~320 IAC 4.1-1-4~~ 320 IAC 4.1-1-4; however, the following mixtures of solid wastes and hazardous wastes listed in 320 IAC 4.1-1-6 are not hazardous wastes (except by application of paragraph (a)(2)(i) or (ii) of this section) if the generator can demonstrate that the mixture consists of wastewater, the discharge of which is subject to regulation under either Section 402 or Section 307(b) of the Clean Water Act (33 USC 1342 or 33 USC 1317) (including wastewater at facilities which have eliminated the discharge of wastewater), and:

(A) One or more of the following spent solvents listed in 320 IAC 4.1-6-2—carbon tetrachloride, tetrachloroethylene, trichloroethylene—provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed one part per million; or

(B) One or more of the following spent solvents listed in 320 IAC 4.1-6-2—methylene chloride, 1,1,1-trichloroethane, chlorobenzene, o-dichlorobenzene, cresols, cresylic acid, nitrobenzene, toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, spent chlorofluorocarbon solvents—provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 25 parts per million; or

(C) One of the following wastes listed in 320 IAC 4.1-6-3—heat exchanger bundle cleaning sludge from the petroleum refining industry (EPA Hazardous Waste No. K050); or

(D) A discarded commercial chemical product, or chemical intermediate listed in 320 IAC 4.1-6-4, arising from de minimis losses of these materials from manufacturing operations in which these materials are used as raw materials or are produced in the manufacturing process. For purposes of this subparagraph, "de minimis" losses include those from normal material handling operations (e.g., spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves, or other devices used to transfer materials); minor leaks of process equipment, storage tanks, or containers; leaks from well maintained pump packings and seals; sample purgings; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing; or

(E) Wastewater resulting from laboratory operations containing toxic (T) wastes listed in 320 IAC 4.1-6, provided that the annualized average flow of laboratory wastewater does not exceed one percent of total wastewater flow into the headworks of the facility's wastewater treatment or pretreatment system, or provided the wastes' combined annualized average concentration does not exceed one part per million in the headworks of the facility's wastewater treatment or pretreatment facility. Toxic (T) wastes used in laboratories that are demonstrated not to be discharged to wastewater are not to be included in this calculation.

(b) A solid waste which is not excluded from regulation under paragraph (a)(1) of this section becomes a hazardous waste when any of the following events occur:

(1) In the case of a waste listed in 320 IAC 4.1-6, when the waste first meets the listing description set forth in 320 IAC 4.1-6.

(2) In the case of a mixture of solid waste and one or more listed hazardous wastes, when a hazardous waste listed in 320 IAC 4.1-6 is first added to the solid waste.

(3) In the case of any other waste (including a waste mixture), when the waste exhibits any of the characteristics identified in 320 IAC 4.1-5.

(c) Unless and until it meets the criteria of paragraph (d):

(1) A hazardous waste will remain a hazardous waste.

(2)(i) Except as otherwise provided in paragraph (c)(2)(ii) of this section, any solid waste generated from the treatment, storage, or disposal of a hazardous waste, including any sludge, spill residue, ash, emission control dust or leachate (but not including precipitation run-off) is a hazardous waste. **(However, materials that are reclaimed from solid wastes and that are used beneficially are not solid wastes and hence are not hazardous wastes under 320 IAC 4.1-3 through 320 IAC 4.1-6 unless the reclaimed material is burned for energy recovery or used in a manner constituting disposal.)**

(ii) The following solid wastes are not hazardous even though they are generated from the treatment, storage, or disposal of a hazardous waste, unless they exhibit one or more of the characteristics of hazardous waste: (A) Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor from the iron and steel industry (SIC codes 331 and 332); (B) Wastes from burning any of the materials exempted from regulation by 320 IAC 4.1-3-6(a)(3)(iv), (vi), (vii), or (viii).

(d) Any solid waste described in paragraph (c) of this section is not a hazardous waste if it meets the following criteria:

(1) In the case of any solid waste, it does not exhibit any of the characteristics of hazardous waste identified in 320 IAC 4.1-5.

(2) In the case of a waste which is a listed waste in 320 IAC 4.1-6, contains a waste listed in 320 IAC 4.1-6, or is derived from a waste listed in 320 IAC 4.1-6, it also has been excluded from paragraph (c) pursuant to 320 IAC 4.1-1.

(Indiana Environmental Management Board; 320 IAC 4.1-3-3; filed Jul 30, 1985, 9:01 am: 8 IR 1729; filed Mar 16, 1987, 10:45 am)

SECTION 13. 320 IAC 4.1-3-4 is amended to read as follows:

320 IAC 4.1-3-4 Exclusions

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 4. (a) Materials which are not The following materials are not solid w purpose of 320 IAC 4.1-3 to 320 IAC 4.1-

(1)(i) Domestic sewage; and

(ii) Any mixture of domestic sewag wastes that ~~passed~~ passes through a s to a publicly-owned treatment works treatment. "Domestic sewage" mean sanitary wastes that pass through a s

(2) Industrial wastewater discharg point source discharges subject to regu Section 402 of the Clean Water Act (3 as amended.

[Note: This exclusion applies only to th source discharge. It does not exclud wastewaters while they are being collect treated before discharge, nor does it exc that are generated by industrial waste ment.]

(3) Irrigation return flows.

(4) Source, special nuclear, or by-pro as defined by the Atomic Energy A amended, 42 U.S.C. 2011, et seq.

(5) Materials subjected to in-s techniques which are not removed fro as part of the extraction process.

(6) Pulping liquors (i.e., black liq reclaimed in a pulping liquor reco and then reused in the pulping pro is accumulated speculatively as d IAC 4.1-3-1(c).

(7) Spent sulfuric acid used to pr sulfuric acid, unless it is a speculatively as defined in 320 IA

(b) Solid wastes which are not haz The following solid wastes are not haz

(1) Household waste, including ho that has been collected, transported, s disposed, recovered (e.g., refuse-de reused. "Household waste" mean material (including garbage, trash wastes in septic tanks) derived fr (including single and multiple resi and motels, **bunkhouses, ranger s quarters, campgrounds, picnic day-use recreation areas). A reso facility managing municipal soli not be deemed to be treating, stor of, or otherwise managing hazard the purposes of regulation under**

...h facility:
(i) receives and burns only:
(A) household waste (from single and multiple dwellings, hotels, motels, and other residential sources); and
(B) solid waste from commercial or industrial sources that does not contain hazardous waste; and
(ii) such facility does not accept hazardous wastes and the owner or operator of such facility has established contractual requirements or other appropriate notification or inspection procedures to assure that hazardous wastes are not received at or burned in such facility.
(2) Solid wastes generated by any of the following and which are returned to the soils as fertilizers:
(i) The growing and harvesting of agricultural crops.
(ii) The raising of animals, including animal manure.
(3) Mining overburden returned to the mine site.
(4) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels.
(5) Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas, or geothermal energy.
(6)(i) Wastes which fail the test for the characteristic of EP toxicity because chromium is present or are listed in 320 IAC 4.1-6 due to the presence of chromium which do not fail the test for the characteristic of EP toxicity for any other constituent or are not listed due to the presence of any other constituent, and which do not fail the test for any other characteristic, if it is shown by a waste generator or by waste generators that:
(A) the chromium in the waste is exclusively (or nearly exclusively) trivalent chromium; and
(B) the waste is generated from an industrial process which uses trivalent chromium exclusively (or nearly exclusively) and the process does not generate hexavalent chromium; and
(C) the waste is typically and frequently managed in non-oxidizing environments.
(ii) Specific wastes which meet the standard in (b)(6)(i)(A), (B), and (C) (so long as they do not fail the test for the characteristic of EP toxicity, and do not fail the test for any other characteristic) are:
(A) Chrome (blue) trimmings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.
(B) Chrome (blue) shavings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.
(C) Buffing dust generated by the following subcategories of the leather tanning and finishing industry; [*sic.* :] hair pulp/chrome tan/retan/wet finish: [*sic.* ;] hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue.
(D) Sewer screenings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.
(E) Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish: [*sic.* ;] hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.
(F) Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; and through-the-blue.
(G) Waste scrap leather from the leather tanning industry, the shoe manufacturing industry, and other leather product manufacturing industries.
(H) Wastewater treatment sludges from the production of TiO2 pigment using chromium-bearing ores by the chloride process.
(7) Solid waste from the extraction, beneficiation, and processing of ores and minerals (including coal), including phosphate rock and overburden from the mining of uranium ore.
(8) Cement kiln dust waste.
(9) Solid waste which consists of discarded wood or wood products which fails the test for the characteristic of EP toxicity and which is not a hazardous waste for any other reason if the waste is generated by persons who utilize the arsenical-treated wood and wood products for these materials' intended end use.

(c) Hazardous wastes which are exempted from certain regulations. A hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated non-waste-treatment-manufacturing unit, is not subject to regulation under 320 IAC 4.1-7 through 320 IAC 4.1-54 until it exits the unit in which it was generated, unless the unit is a surface impoundment, or unless the hazardous waste remains in the unit more than 90 days after the unit ceases to be operated for manufacturing or for storage or transportation of product or raw materials.

(d) Samples.

(1) Except as provided in paragraph (d)(2) of this section, a sample of solid waste or a sample of water, soil, or air, which is collected for the sole purpose of testing to determine its characteristics or composition, is not subject to any requirements of 320 IAC 4.1-7 through 320 IAC 4.1-54 when:

(i) the sample is being transported to a laboratory for the purpose of testing; or

(ii) the sample is being transported back to the sample collector after testing; or

(iii) the sample is being stored by the sample collector before transport to a laboratory for testing; or

(iv) the sample is being stored in a laboratory before testing; or

(v) the sample is being stored in a laboratory after testing but before it is returned to the sample collector; or

(vi) the sample is being stored temporarily in the laboratory after testing for a specific purpose (for example, until conclusion of a court case or enforcement action where further testing of the sample may be necessary).

(2) In order to qualify for the exemption in paragraph (d)(1)(i) and (ii) of this section, a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector must:

(i) comply with U.S. Department of Transportation (DOT), U.S. Postal Service (USPS), or any other applicable shipping requirements; or

(ii) comply with the following requirements if the sample collector determines that DOT, USPS, or other shipping requirements do not apply to the shipment of the sample:

(A) Assure that the following information accompanies the sample:

(1) the sample collector's name, mailing address, and telephone number;

(2) the laboratory's name, mailing address, and telephone number;

(3) the quantity of the sample;

(4) the date of shipment; and

(5) a description of the sample.

(B) Package the sample so that it does not leak, spill, or vaporize from its packaging.

(3) This exemption does not apply if the laboratory determines that the waste is hazardous but the laboratory is no longer meeting any of the conditions stated in paragraph (d)(1) of this section.

(Indiana Environmental Management Board; 320 IAC 4.1-3-4; filed Jul 30, 1985, 9:01 am: 8 IR 1731; filed [illegible] 16, 1987, 10:45 am)

SECTION 14. 320 IAC 4.1-3-5 is amended to read as follows:

320 IAC 4.1-3-5 Special requirements for hazardous waste generated by small quantity generators

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 5. (a) A generator is a conditionally exempt small quantity generator in a calendar month if he generates ~~less~~ no more than ~~1,000~~ 100 kilograms of hazardous waste in that month.

(b) Except for those wastes identified in paragraphs (e), (f), (g), and ~~(h)~~ (j) of this section, conditionally exempt small quantity generator hazardous wastes are not subject to regulation under 320 IAC 4.1-7 through 320 IAC 4.1-54 and the notification requirements of 320 IAC 4.1-2, provided the generator complies with the requirements of paragraphs (f), (g) and ~~(h)~~ (j) of this section.

~~(c) Hazardous waste that is beneficially used, re-used or legitimately recycled or reclaimed and is excluded from regulation under 320 IAC 4.1-3 is not included in the quantity determinations of this section and is not subject to any requirements of this section. Hazardous waste that is subject to requirements of 320 IAC 4.1-3-6(b) is included in quantity determination of this section and is subject to the requirements of this section.~~

(c) Hazardous waste that is not subject to regulation or that is subject only to 320 IAC 4.1-1, 320 IAC 4.1-7-3, 320 IAC 4.1-10-1(c), and 320 IAC 4.1-10-2 is not included in the quantity determination of 320 IAC 4.1-7 through 320 IAC 4.1-54 and is not subject to any of the requirement [*sic.*] of 320 IAC 4.1-7 through 320 IAC 4.1-54. Hazardous waste that is subject to the requirements of

IAC 4.1-3-6(b) and (c) and 320 IAC 4.1-32.5-1 through 320 IAC 4.1-32.5-10 and 320 IAC 4.1-32.5-16 is included in the quantity determination of 320 IAC 4.1-3 through 320 IAC 4.1-6 and is subject to the requirements of 320 IAC 4.1-7 through 320 IAC 4.1-54.

(d) In determining the quantity of hazardous waste ~~he generates~~ generated, a generator need not include:

(1) ~~His~~ hazardous waste when it is removed from on-site storage; or

(2) hazardous waste produced by on-site treatment (including reclamation) of his hazardous waste, so long as the hazardous waste that is treated was counted once; or

(3) spent materials that are generated, reclaimed, and subsequently reused on-site, so long as such spent materials have been counted once.

(e) If a ~~small quantity~~ generator generates ~~acutely~~ acute hazardous waste in a calendar month in quantities greater than set forth below, all quantities of that ~~acutely~~ acute hazardous waste are subject to full regulation under 320 IAC 4.1-7 through 320 IAC 4.1-54, and the notification requirements of 320 IAC 4.1-2:

(1) A total of one kilogram of acute hazardous wastes listed in (320 IAC 4.1-6-2, 320 IAC 4.1-6-3, or 320 IAC 4.1-6-4(e)).

(2) A total of 100 kilograms of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of any acute hazardous wastes listed in 320 IAC 4.1-6-2, 320 IAC 4.1-6-3, or 320 IAC 4.1-6-4(e).

(f) In order for acute hazardous wastes generated by a ~~small quantity~~ generator of ~~acutely~~ acute hazardous wastes in quantities equal to or less than those set forth in paragraph (e)(1) or (e)(2) of this section to be excluded from full regulation under this section, the generator must comply with the following requirements:

(1) 320 IAC 4.1-7-2.

(2) The ~~small quantity~~ generator may accumulate ~~acutely~~ acute hazardous waste on-site. If he accumulates at any time ~~acutely~~ acute hazardous wastes in quantities greater than those set forth in paragraph (e)(1) or (e)(2) of this section, all of those accumulated wastes ~~for which the accumulation limit was exceeded~~ are subject to regulation under 320 IAC 4.1-7 through 320 IAC 4.1-54, and the applicable notification requirements of 320 IAC 4.1-2. The time period of 320 IAC 4.1-9-5(d) for accumulation of wastes on-site begins when the accumulated wastes exceed the applicable exclusion limit.

(3) A conditionally exempt small quantity generator may either treat or dispose of his acute hazardous ~~wastes~~ waste in an on-site facility, or ensure delivery to an off-site storage, treatment, or disposal facility, either of which is:

(i) permitted under 320 IAC 4.1-33 through 320 IAC ~~4.1-38~~ 4.1-39;

(ii) in interim status under 320 IAC 4.1-33 through 320 IAC ~~4.1-38~~ 4.1-39 and 320 IAC 4.1-15 through 320 IAC 4.1-32;

(iii) authorized to manage hazardous waste by a State with a hazardous waste management program approved under 40 CFR 271;

(iv) permitted, licensed, or registered by a State to manage municipal or industrial solid waste; or

(v) a facility which:

(A) beneficially uses or reuses, or legitimately recycles or reclaims its waste; or

(B) treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation.

(g) In order for hazardous waste generated by a conditionally exempt small quantity generator in quantities of 100 kilograms or less of hazardous waste during a calendar month to be excluded from full regulation under this section, the generator must comply with the following requirements:

(1) 320 IAC 4.1-7-2.

(2) The conditionally exempt small quantity generator may accumulate hazardous waste on-site. If he accumulates at any time a total of 1000 kilograms or more of this hazardous waste, all of those accumulated wastes ~~for which the accumulation limit was exceeded~~ are subject to regulation under the special provisions of 320 IAC 4.1-7 through 320 IAC ~~4.1-54~~ 4.1-11 applicable to generators of between 100 kg and 1,000 kg of hazardous waste in a calendar month as well as the requirements of 320 IAC 4.1-12 through 320 IAC 4.1-54, and the applicable notification requirements of 320 IAC 4.1-2. The time period of 320 IAC 4.1-9-5(d) for accumulation of wastes on-site begins for a conditionally exempt small quantity generator when ~~he/she accumulates~~ the accumulated wastes equal 1000 kilograms ~~of waste~~ or more.

(3) A conditionally exempt small quantity generator may either treat or dispose of his hazardous waste in an on-site facility, or ensure delivery to an off-site storage, treatment, or disposal facility, either of which is:

(i) permitted under 320 IAC 4.1-33 through 320 IAC ~~4.1-38~~ 4.1-39;

(ii) in interim status under 320 IAC 4.1-33 through 320 IAC ~~4.1-38~~ 4.1-39 and 320 IAC 4.1-15 through 320 IAC 4.1-32;
(iii) authorized to manage hazardous waste by a State with a hazardous waste management program approved under 40 CFR Part 271;
(iv) permitted, licensed, or registered by a State to manage municipal or industrial solid waste; or
(v) a facility which:
(A) beneficially uses or reuses, or legitimately recycles or reclaims its waste; or
(B) treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation.

~~(h) In order for hazardous waste generated by a small quantity generator in a quantity greater than 100 kilograms but less than 1000 kilograms during a calendar month to be excluded from full regulation under this section, the generator must comply with the following requirements:~~
~~(1) 320 IAC 4.1-7-2.~~
~~(2) A small quantity generator may accumulate hazardous waste on site. If he accumulates at any time a total of 1000 kilograms or more of his hazardous waste, all those accumulated wastes for which the accumulation limit was exceeded are subject to regulation under 320 IAC 4.1-7 through 320 IAC 4.1-54, and the notification requirements of 320 IAC 4.1-2. The time period of 320 IAC 4.1-9-5 for accumulation of hazardous waste on site begins for a small quantity generator when he/she accumulates 1000 kilograms of waste.~~
~~(3) For any hazardous waste shipped off site, the generator must ensure that such waste is accompanied by a copy of the manifest form adopted by the Board, signed by him and containing the following information:~~
~~(i) The name and address of the generator of the waste;~~
~~(ii) The United States Department of Transportation description of the waste including the proper shipping name, hazard class, and identification number (UN/NA);~~
(iii) The number and type of containers; [*sic.*]
~~(iv) The quantity of waste being transported; and~~
~~(v) The name and address of the facility designated to receive the waste.~~
~~(4) A small quantity generator may either treat or dispose of his hazardous waste in an on site facility, or ensure delivery to an off site storage, treatment or disposal facility, either of which is:~~
~~(i) Permitted under 320 IAC 4.1-33 through 320 IAC 4.1-38;~~
~~(ii) In interim status under 320 IAC 4.1-33 through 320 IAC 4.1-38 and 320 IAC 4.1-15 through 320 IAC 4.1-32;~~
~~(iii) Authorized to manage hazardous waste by a State with a hazardous waste management program approved under 40 CFR Part 271;~~
~~(iv) Permitted, licensed, or registered by a State to manage municipal or industrial solid waste; or~~
~~(v) A facility which:~~
~~(A) Beneficially uses or reuses, or legitimately recycles or reclaims its waste; or~~
~~(B) Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation.~~

~~(i)~~(h) Hazardous waste subject to the requirements of this section may be mixed with hazardous waste and remain subject to these requirements even though the resultant mixture exceeds the quantity limitations identified in this section, unless the mixture meets any of the characteristics of hazardous wastes identified in IAC 4.1-5.

~~(j)~~(i) If a ~~small quantity generator~~ any person mixes a solid waste with a hazardous waste that exceeds a quantity exclusion level of this section, the mixture is subject to full regulation.

(j) If a conditionally exempt small quantity generator's wastes are mixed with used oil, the mixture is subject to 320 IAC 4.1-32.5-11 through 320 IAC 4.1-32.5-15 if it is destined to be burned for energy recovery. Any material produced from such a mixture by processing, blending, or other treatment is also so regulated if it is destined to be burned for energy recovery. *(Indiana Environmental Management Board; 320 IAC 4.1-3-5; filed Apr 30, 1985, 9:01 am: 8 IR 1732; filed May 30, 1986, 1:00 pm: 9 IR 2665; errata, 9 IR 3093; filed Mar 16, 1987, 10:45 am)*

SECTION 15. 320 IAC 4.1-3-6 is amended to read as follows:

320 IAC 4.1-3-6 Requirements for recyclable materials

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 6. ~~(a) Except as otherwise provided in subsection (b) of this section, a hazardous waste which meets any of the following criteria is subject to regulation under 320 IAC 4.1-7 through IAC 4.1-56 and is not subject to the notification requirements of 320 IAC 4.1-2:~~
~~(1) It is one of the following materials being reused, recycled, or reclaimed in the specified manner:~~

~~(i) A spent pickle liquor which is reused in wastewater treatment at a facility holding a National Pollutant Discharge Elimination System (NPDES) permit, or is being accumulated, stored, or physically, chemically, or biologically treated before such reuse; or~~

~~(2) A waste which is determined to be hazardous only because it exhibits one or more of the characteristics identified in 320 IAC 4.1-5 and which meets any of the following criteria:~~

~~(i) It is being transported for use, reuse, recycling, or reclamation at a facility which has interim status pursuant to 320 IAC 4.1-34 and 320 IAC 4.1-38, has a Final (State) permit issued pursuant to 320 IAC 4.1-34 through 320 IAC 4.1-37 and 320 IAC 4.1-39, has a final (Part B) permit issued by the EPA, has a hazardous waste management permit issued by another state if that state is authorized by the EPA under 40 CFR Part 271 to issue that permit, or has been designated as having interim status by the EPA in states which do not have a hazardous waste program authorized by the EPA under 40 CFR Part 271;~~

~~(ii) It is beneficially and legitimately recycled, recovered, or reused at the same site by the generator under IC13-7-8.5-5(e); or~~

~~(iii) It is stored or treated on-site by the generator prior to transport off-site to a facility pursuant to paragraph (a)(2)(i) or prior to recycling, recovery, or reuse on-site pursuant to paragraph (a)(2)(ii).~~

~~(b) Except for those wastes listed in paragraph (a)(1) of this section, a hazardous waste which is a sludge, or which is listed in 320 IAC 4.1-6-2 or 320 IAC 4.1-6-3, or which contains one or more hazardous waste(s) listed in 320 IAC 4.1-6-2 or 320 IAC 4.1-6-3, and that is transported or stored prior to being used, reused, recycled, or reclaimed is subject to the following requirements with respect to such storage or transportation:~~

~~(1) Notification requirements under 320 IAC 4.1-2;~~

~~(2) 320 IAC 4.1-7 through 320 IAC 4.1-11;~~

~~(3) 320 IAC 4.1-12 through 320 IAC 4.1-14;~~

~~(4) applicable provisions of 320 IAC 4.1-40 through 320 IAC 4.1-51;~~

~~(5) applicable provisions of 320 IAC 4.1-15 through 320 IAC 4.1-26;~~

~~(6) 320 IAC 4.1-33 through 320 IAC 4.1-39 with respect to storage facilities.~~

(a)(1) Hazardous wastes that are recycled are subject to the requirements for generators, transporters, and storage facilities of paragraphs (b) and (c) of this section, except for the materials listed in paragraphs (a)(2) and (a)(3) of this section. Hazardous wastes that are recycled will be known as "recyclable materials."

(2) The following recyclable materials are not subject to the requirements of this section but are regulated under 320 IAC 4.1-32.5-1 through 320 IAC 4.1-32.5-17 and all applicable provisions in 320 IAC 4.1-33 through 320 IAC 4.1-39.

(i) recyclable materials used in a manner constituting disposal (320 IAC 4.1-32.5-1 through 320 IAC 4.1-32.5-4);

(ii) hazardous wastes burned for energy recovery in boilers and industrial furnaces that are not regulated under 320 IAC 4.1-54 or 320 IAC 4.1-29 (320 IAC 4.1-32.5-5 through 320 IAC 4.1-32.5-10);

(iii) used oil that exhibits one or more of the characteristics of hazardous waste and is burned for energy recovery in boilers and industrial furnaces that are not regulated under 320 IAC 4.1-54 or 320 IAC 4.1-29 (320 IAC 4.1-32.5-11 through 320 IAC 4.1-32.5-15);

(iv) recyclable materials from which precious metals are reclaimed (320 IAC 4.1-32.5-16);

(v) spent lead-acid batteries that are being reclaimed (320 IAC 4.1-32.5-17).

(3) The following recyclable materials are not subject to regulation under 320 IAC 4.1-7 through 320 IAC 4.1-54, and are not subject to the notification requirements of 320 IAC 4.1-2:

(i) industrial ethyl alcohol that is reclaimed;

(ii) used batteries (or used battery cells) returned to a battery manufacturer for regeneration;

(iii) used oil that exhibits one or more of the characteristics of hazardous waste but is recycled in some other manner than being burned for energy recovery;

(iv) scrap metal;

(v) fuels produced from the refining of oil-bearing hazardous wastes along with normal process streams at a petroleum refining facility if such wastes result from normal petroleum refining, production, and transportation practices;

(vi) oil reclaimed from hazardous waste resulting from normal petroleum refining, production, and transportation practices, which oil is to be refined along with normal process streams at a petroleum refining facility;

(vii) coke and coal tar from the iron and steel industry that contains hazardous waste from the iron and steel production process;

(viii)(A) hazardous waste fuel produced from oil-bearing hazardous wastes from petroleum refining, production, or transportation practices, or produced from oil reclaimed from such hazardous wastes, where such hazardous wastes are reintroduced into a process that does not use distillation or does not produce products from crude oil so long as the resulting fuel meets the used oil specification under 320 IAC 4.1-32.5-11(e) and so long as no other hazardous wastes are used to produce the hazardous waste fuel;
(B) hazardous waste fuel produced from oil-bearing hazardous waste from petroleum refining production, and transportation practices, where such hazardous wastes are reintroduced into a refining process after a point at which contaminants are removed, so long as the fuel meets the used oil fuel specification under 320 IAC 4.1-32.5-11(e); and
(C) oil reclaimed from oil-bearing hazardous wastes from petroleum refining, production, and transportation practices, which reclaimed oil is burned as a fuel without reintroduction to a refining process, so long as the reclaimed oil meets the used oil fuel specification under 320 IAC 4.1-32.5-11(e); and
(ix) petroleum coke produced from petroleum refinery hazardous wastes containing oil at the same facility at which such wastes were generated, unless the resulting coke product exceeds one or more of the characteristics of hazardous waste in 320 IAC 4.1-5.

(b) Generators and transporters of recyclable materials are subject to the applicable requirements of 320 IAC 4.1-7 through 320 IAC 4.1-14 and the notification requirements under 320 IAC 4.1-2, except as provided in paragraph (a) of this section.

(c)(1) Owners or operators of facilities that store recyclable materials before they are recycled are regulated under all applicable provisions of 320 IAC 4.1-40 through 320 IAC 4.1-51, 320 IAC 4.1-15 through 320 IAC 4.1-26, 320 IAC 4.1-32.5, and 320 IAC 4.1-33 through 320 IAC 4.1-39 and the notification requirements under 320 IAC 4.1-2, except as provided in paragraph (a) of this section. (The recycling process itself is exempt from regulation.)

(2) Owners or operators of facilities that recycle recyclable materials without storing them before they are recycled are subject to the following requirements, except as provided in paragraph (a) of this section:

(i) notification requirements under 320 IAC 4.1-2;

(ii) 320 IAC 4.1-16 through 320 IAC 4.1-19.

(Indiana Environmental Management Board; 320 IAC 4.1-3-6; filed Jul 30, 1985, 9:01 am: 8 IR 1733; filed Mar 16, 1987, 10:45 am)

SECTION 16. 320 IAC 4.1-3-7 is amended to read as follows:

320 IAC 4.1-3-7 Residues of hazardous waste in empty containers

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 7. (a)(1) Any hazardous waste remaining in either (i) an empty container or (ii) an inner liner removed from any empty container, as defined in paragraph (b) of this section, is not subject to regulation under 320 IAC 4.1-3 through 320 IAC 4.1-54 or to the notification requirements of 320 IAC 4.1-2.

(2) Any hazardous waste in either (i) a container that is not empty or (ii) an inner liner removed from a container that is not empty, as defined in paragraph (b) of this section, is subject to regulation under 320 IAC 4.1-3 through 320 IAC 4.1-54 and to the notification requirements of 320 IAC 4.1-2.

(b)(1) A container or an inner liner removed from a container that has held any hazardous waste, except waste that is a compressed gas or that is identified in ~~320 IAC 4.1-6-4(e),~~ as an acute hazardous waste listed in 320 IAC 4.1-6-2, 320 IAC 4.1-6-3, or 320 IAC 4.1-6-4(e) is empty if:
(i) all wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating; AND
(ii) no more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner; OR
(iii)(A) no more than 3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 110 gallons in size; or
(B) no more than 0.3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 110 gallons in size.

(2) A container that has held a hazardous waste that is a compressed gas is empty when the pressure in the container approaches atmospheric.

(3) A container or an inner liner removed from a container that has held a ~~hazardous waste identified in 320 IAC 4.1-6-4(e)~~ an acute hazardous waste listed

in 320 IAC 4.1-6-2, 320 IAC 4.1-6-3, or 320 IAC 4.1-6-4(e) is empty if:

(i) the container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate;

(ii) the container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by tests conducted by the generator, to achieve equivalent removal; or

(iii) in the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing chemical intermediate with the container, has been removed.

(Indiana Environmental Management Board; 320 IAC 4.1-3-7; filed Jul 30, 1985, 9:01 am: 8 IR 1734; filed Mar 16, 1987, 10:45 am)

SECTION 17. 320 IAC 4.1-6-1 is amended to read as follows:

320 IAC 4.1-6-1 General

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 1. (a) A solid waste is a hazardous waste if it is listed in this Rule [*320 IAC 4.1-6*], unless it has been excluded from this list under 320 IAC 4.1-1-4 and 320 IAC 4.1-1-5.

(b) The Board will indicate the basis for listing the classes or types of wastes listed in 320 IAC 4.1-6 by employing one or more of the following Hazard Codes:

Ignitable Waste	(I)
Corrosive Waste	(C)
Reactive Waste	(R)
EP Toxic Waste	(E)
Acute Hazardous Waste	(H)
Toxic Waste	(T)

320 IAC 4.1-6-8 identifies the constituent which caused the Board to list the waste as an EP Toxic Waste (E) or Toxic Waste (T) in 320 IAC 4.1-6-2 and 320 IAC 4.1-6-3.

(c) Each hazardous waste listed in 320 IAC 4.1-6 is assigned an EPA Hazardous Waste Number which precedes the name of the waste. This number must be used in complying with the notification requirements of 320 IAC 4.1-2 and certain recordkeeping and reporting requirements under 320 IAC 4.1-7 through 320 IAC 4.1-54.

(d) The following hazardous wastes listed in 320 IAC 4.1-6-2 or 320 IAC 4.1-6-3 are subject to the exclusion limits for acutely hazardous wastes established in 320 IAC 4.1-3-5: EPA Hazardous Wastes Nos. F020, F021, F022, F023, F026, and F027. *(Indiana Environmental Management Board; 320 IAC 4.1-6-1; filed Jul 30, 1985, 9:01 am: 8 IR 1738; filed Mar 16, 1987, 10:45 am)*

SECTION 18. 320 IAC 4.1-6-2 is amended to read as follows:

320 IAC 4.1-6-2 Hazardous waste from non-specific sources

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 2. ~~Hazardous waste from non-specific sources:~~ **The following solid wastes are listed hazardous wastes from non-specific sources unless they are excluded under 320 IAC 4.1-1-4 or 320 IAC 4.1-1-5.**

EPA Hazardous Waste No.	Hazardous Waste	Hazard Code
Generic:		
F001	The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; ~~and sludges from the recovery of these solvents in degreasing operations~~ **all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.**	(T)

EPA Hazardous Waste No.	Hazardous Waste	Hazard Co
F002	The following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, and trichlorofluoromethane; **and 1, 1, 2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005, and ~~the~~ still bottoms from the recovery of these spent solvents and spent solvent mixtures.**	
F003	The following spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; **all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and ~~the~~ still bottoms from the recovery of these spent solvents and spent solvent mixtures.**	
F004	The following spent non-halogenated solvents: cresols and cresylic acid, and nitrobenzene; **all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents, or those solvents listed in F001, F002, and F005; and ~~the~~ still bottoms from the recovery of these spent solvents and spent solvent mixtures.**	
F005	The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, ~~and~~ pyridine, **benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and ~~the~~ still bottoms from the recovery of these spent solvents and spent solvent mixtures.**	
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc, and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.	
F007	Spent cyanide plating bath solutions from electroplating operations ~~(except for precious metals electroplating spent cyanide plating bath solutions)~~.	
F008	Plating bath ~~sludges~~ **residues** from the bottom of plating baths from electroplating operations where cyanides are used in the process ~~(except for precious metals electroplating plating bath sludges)~~.	
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process ~~(except for precious metals electroplating spent stripping and cleaning bath solutions)~~.	

Code	EPA Hazardous Waste No.	Hazardous Waste	Hazard Code
(T)	F010	Quenching bath ~~sludge~~ residues from oil baths from metal heat treating operations where cyanides are used in the process ~~(except for precious metals heat treating quenching bath sludges)~~.	(R,T)
	F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations ~~(except for precious metals heat treating spent cyanide solutions from salt bath pot cleaning)~~.	(R,T)
	F012	Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process ~~(except for precious metals heat treating quenching wastewater treatment sludges)~~.	(T)
(I)	F019	Wastewater treatment sludges from the chemical conversion coating of aluminum.	(T)
	F020	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of hexachlorophene from highly purified 2,4,5-trichlorophenol.)	(H)
(T)	F021	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives.	(H)
I,T)	F022	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions.	(H)
	F023	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of hexachlorophene from highly purified 2,4,5-trichlorophenol.)	(H)
(T)	F024	Wastes, including but not limited to distillation residues, heavy ends, tars, and reactor and reactor cleanout wastes from the production of chlorinated aliphatic hydrocarbons, having carbon content from one to five, utilizing free radical catalyzed processes. [This listing does not include light ends, spent filters and filter aids, spent desiccants, wastewater, wastewater treatment sludges, spent catalysts, and wastes listed in 320 IAC 4.1-6-3.]	(T)
,T)	F026	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions.	(H)
,T)			

EPA Hazardous Waste No.	Hazardous Waste	Hazard Code
F027	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing Hexachlorophene synthesized from prepurified 2,4,5-trichlorophenol as the sole component.)	(R)
F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027.	(T)

(Indiana Environmental Management Board; 320 IAC 4.1-6-2; filed Jul 30, 1985, 9:01 am: 8 IR 1738; filed Mar 16, 1987, 10:45 am)

SECTION 19. 320 IAC 4.1-6-3 is amended to read as follows:

320 IAC 4.1-6-3 Hazardous waste from specific sources

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 3. ~~Hazardous waste from specific sources:~~ The following solid wastes are listed hazardous wastes from specific sources unless they are excluded under 320 IAC 4.1-1-4 or 320 IAC 4.1-1-5:

EPA Hazardous Waste No.	Hazardous Waste	Hazard Code
Wood Preservation:		
K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.	(T)
Inorganic Pigments:		
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.	(T)
K003	Wastewater treatment sludge from the production of molybdate orange pigments.	(T)
K004	Wastewater treatment sludge from the production of zinc yellow pigments.	(T)
K005	Wastewater treatment sludge from the production of chrome green pigments.	(T)
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).	(T)
K007	Wastewater treatment sludge from the production of iron blue pigments.	(T)
K008	Oven residue from the production of chrome oxide green pigments.	(T)
Organic Chemicals:		
K009	Distillation bottoms from the production of acetaldehyde from ethylene.	(T)
K010	Distillation side cuts from the production of acetaldehyde from ethylene.	(T)

EPA Hazardous Waste No.	Hazardous Waste	Hazard Code
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile.	(R,T)
K013	Bottom stream from the acetonitrile column in the production of acrylonitrile.	(R,T)
K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile.	(T)
K015	Still bottoms from the distillation of benzyl chloride.	(T)
K016	Heavy ends or distillation residues from the production of carbon tetrachloride.	(T)
K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.	(T)
K018	Heavy ends from the fractionation column in ethyl chloride production.	(T)
K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.	(T)
K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production.	(T)
K021	Aqueous spent antimony catalyst waste from fluoromethanes production.	(T)
K022	Distillation bottom tars from the production of phenol/acetone from cumene.	(T)
K023	Distillation light ends from the production of phthalic anhydride from naphthalene.	(T)
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene.	(T)
K093	Distillation light ends from the production of phthalic anhydride from ortho-xylene.	(T)
K094	Distillation bottoms from the production of phthalic anhydride from ortho-xylene.	(T)
K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene.	(T)
K026	Stripping still tails from the production of methyl ethyl pyridines.	(T)
K027	Centrifuge and distillation residues from toluene diisocyanate production.	(R,T)
K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.	(T)
K029	Waste from the product steam stripper in the production of 1,1,1-trichloroethane.	(T)
K095	Distillation bottoms from the production of 1,1,1-trichloroethane.	(T)
K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.	(T)

EPA Hazardous Waste No.	Hazardous Waste	Hazard Code
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene.	(T)
K083	Distillation bottoms from aniline production.	(T)
K103	Process residues from aniline extraction from the production of aniline.	(T)
K104	Combined wastewater streams generated from nitrobenzene/aniline production.	(T)
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes.	(T)
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.	(T)
K111	Product washwaters from the production of dinitrotoluene via nitration of toluene.	(C,T)
K112	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K113	Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K114	Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K115	Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K116	Organic condensate from the solvent recovery column in the production of toluene disocyanate via phosgenation of toluenediamine.	(T)
K117	Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene.	(T)
K118	Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	(T)
K136	Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	(T)
Inorganic Chemicals:		
K071	Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.	(T)
K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.	(T)
K106	Wastewater treatment sludge from the mercury cell process in chlorine production.	(T)
Pesticides:		
K031	By-product salts generated in the production of MSMA and cacodylic acid.	(T)
K032	Wastewater treatment sludge from the production of chlordane.	(T)

EPA Hazardous Waste No.	Hazardous Waste	Hazard C
Secondary Lead:		
K069	Emission control dust/sludge from secondary lead smelting.	
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.	
Veterinary Pharmaceuticals:		
K084	~~Waste water~~ Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	
K101	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	
K102	Residue from the use of activated carbon from decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	
Ink Formulation:		
K086	Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.	
Coking:		
K060	Ammonia still lime sludge from coking operations.	
K087	Decanter tank tar sludge from coking operations.	

(Indiana Environmental Management Board; 320 IAC 4.1-6-3; filed Jul 30, 1985, 9:01 am: 8 IR 1739; filed M... 16, 1987, 10:45 am)

SECTION 20. 320 IAC 4.1-6-4 is amended to read as follows:

320 IAC 4.1-6-4 Discarded commercial chemical products, off-specification species, container residues, spill residues

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 4. The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded, when they are mixed with waste oil or used oil or other material and applied to the land for dust suppression or road treatment, or when, in lieu of their original intended use, they are produced for use as (or as a component of) a fuel, distributed for use as a fuel, or burned as a fuel: (a) Any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in paragraphs (e) or (f) of this section.

(b) Any off-specification commercial chemic... product or manufacturing chemical product ... manufacturing chemical intermediate which, if it ... specifications, would have the generic name listed ... paragraphs (e) or (f) of this section.

(c) Any container or inner liner removed from ... container that has been used to hold any commerc... chemical product or manufacturing chemic... intermediate having the generic names listed ... paragraph (e) of this section, or any container or in... liner removed from a container that has been used ... hold any off-specification chemical product ... manufacturing chemical intermediate which, if it ... specifications, would have the generic name listed ... paragraph (e) of this section, unless the container ... empty as defined in 320 IAC 4.1-3-7(b)(3).

[Note: Unless the residue is being ~~beneficial~~ beneficially used or reused, or legitimately recycl... or reclaimed, or being accumulated, stored ... transported, or treated prior to such use, reu...

recycling, or reclamation, the Board considers the residue to be intended for discard and thus a hazardous waste. An example of a legitimate reuse of the residue would be where the residue remains in the container and the container is used to hold the same commercial chemical product or manufacturing chemical product or manufacturing chemical intermediate it previously held. An example of the discard of the residue would be where the drum is sent to a drum reconditioner who reconditions the drum but discards the residue.]

(d) Any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill into or on any land or water of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section, or any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill, into or on any land or water, of any off-specification chemical product and manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraphs (e) or (f) of this section.

[Note: The phrase "commercial chemical product or manufacturing chemical intermediate having the generic name listed in..." refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in paragraphs (e) or (f). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in paragraphs (e) or (f), such waste will be listed in either 320 IAC 4.1-6-2 or 320 IAC 4.1-6-3 or will be identified as a hazardous waste by the characteristics set forth in 320 IAC 4.1-5.]

(e) The commercial chemical products, manufacturing chemical intermediates or off-specification commercial chemical products or manufacturing chemical intermediates referred to in paragraphs (a) through (d) of this section, are identified as acute hazardous wastes (H) and are subject to the small quantity exclusion defined in 320 IAC 4.1-3-5(e).

[Note: For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), and R (Reactivity). Absence of a letter indicates that the compound only is listed for acute toxicity.]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

EPA Hazardous Waste No.	Acute Hazardous Waste
P023	Acetaldehyde, chloro-
P002	Acetamide, N-(aminothioxomethyl)-
P057	Acetamide, 2-fluoro-
P058	Acetic Acid, fluoro-, sodium salt
P066	Acetimidic acid, N-[(methylcarbamoyl)oxy]thio-, methyl ester
P001	3-(alpha-acetonylbenzyl)-4-hydroxycoumarin and salts (warfarin) when present at concentrations greater than 0.3%
P002	1-Acetyl-2-thiourea
P003	Acrolein
P070	Aldicarb
P004	Aldrin
P005	Allyl alcohol
P006	Aluminum phosphide
P007	5-(Aminomethyl)-3-isoxazolol
P008	4-aAminopyridine
P009	Ammonium picrate (R)
P119	Ammonium vanadate
P010	Arsenic acid
P012	Arsenic (III) oxide
P011	Arsenic (V) oxide
P011	Arsenic pentoxide
P012	Arsenic trioxide

EPA Hazardous Waste No.	Acute Hazardous Waste
P038	Arsine, diethyl-
P054	Aziridine
P013	Barium cyanide
P024	Benzenamine, 4-chloro-
P077	Benzenamine, 4-nitro-
P028	Benzene, (chloromethyl)-
P042	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-
P014	Benzenethiol
P028	Benzyl chloride
P015	Beryllium dust
P016	Bis(chloromethyl) ether
P017	Bromoacetone
P018	Brucine
P021	Calcium cyanide
P123	Camphene, octachloro-
P103	Carbamimidoselenoic acid
P022	Carbon bisulfide
P022	Carbon disulfide
P095	Carbonyl chloride
P033	Chlorine cyanide
P023	Chloroacetaldehyde
P024	p-Chloroaniline
P026	1-(o-Chlorophenyl)thiourea
P027	3-Chloropropionitrile
P029	Copper cyanides
P030	Cyanides (soluble cyanide salts), not elsewhere specified
P031	Cyanogen
P033	Cyanogen chloride
P036	Dichlorophenylarsine
P037	Dieldrin
P038	Diethylarsine
P039	O,O-Diethyl S-[2-(ethylthio)ethyl] phosphorodithioate
P041	Diethyl-p-nitrophenyl phosphate
P040	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	Diisopropyl fluorophosphate
P044	Dimethoate
P045	3,3-Dimethyl-1-(methylthio)-2-butanone, O-[methylamino)carbonyl] oxime
P071	O,O-Dimethyl O-p-nitrophenyl phosphorothioate
P082	Dimethylnitrosamine
P046	alpha,alpha-Dimethylphenethylamine
P047	4,6-Dinitro-o-cresol and salts
P034	4,6-Dinitro-o-cyclohexylphenol
P048	2,4-Dinitrophenol
P020	Dinoseb
P085	Diphosphoramide, octamethyl-
P039	Disulfoton
P049	2,4-Dithiobiuret
P109	Dithiopyrophosphoric acid, tetraethyl ester
P050	Endosulfan
P088	Endothall
P051	Endrin
P042	Epinephrine

EPA Hazardous Waste No.	Acute Hazardous Waste
P046	Ethanamine, 1,1-dimethyl-2-phenyl-
P084	Ethenamine, N-methyl-N-nitroso-
P101	Ethyl cyanide
P054	Ethylenimine
P097	Famphur
P056	Fluorine
P057	Fluoroacetamide
P058	Fluoroacetic acid, sodium salt
P065	Fulminic acid, mercury (II) salt (R,T)
P059	Heptachlor
P051	1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo,endo-1,4:5,8-dimethanonaphthalene
P037	1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo,exo-1,4:5,8-dimethanonaphthalene
P060	1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5, 8-endo, endo-dimethanonaphthalene
P004	1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5, 8-endo,exo-dimethanonaphthalene
P060	Hexachlorohexahydro-exo,exo-dimethanonaphthalene
P062	Hexaethyl tetraphosphate
P116	Hydrazinecarbothioamide
P068	Hydrazine,methyl-
P063	Hydrocyanic acid
P063	Hydrogen cyanide
P096	Hydrogen phosphide
P064	Isocyanic acid, methyl ester
P007	3(2H)-Isoxazolone, 5-(aminomethyl)-
P092	Mercury, (acetato-0) phenyl-
P065	Mercury fulminate (R,T)
P016	Methane, oxybis (chloro-
P112	Methane, tetranitro- (R)
P118	Methanethiol, trichloro-
P059	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a, 4,7,7a-tetrahydro-
P066	Methomyl
P067	2-Methylaziridine
P068	Methyl hydrazine
P064	Methyl isocyanate
P069	2-Methyllactonitrile
P071	Methyl parathion
P072	alpha-Naphthylthiourea
P073	Nickel carbonyl
P074	Nickel cyanide
P074	Nickel(II) cyanide
P073	Nickel tetracarbonyl
P075	Nicotine and salts
P076	Nitric oxide
P077	p-Nitroaniline
P078	Nitrogen dioxide
P076	Nitrogen (II) oxide
P078	Nitrogen (IV) oxide
P081	Nitroglycerine (R)
P082	N-Nitrosodimethylamine

EPA Hazardous Waste No.	Acute Hazardous Waste
P084	N-Nitrosomethylvinylamine
P050	5-Norbornene-2,3-dimethanol, 1,4,5,6,7,7-hexachloro, cyclic sulfite
P085	Octamethylpyrophosphoramide
P087	Osmium oxide
P087	Osmium tetroxide
P088	7-Oxabicyclo [2.2.1] heptane-2,3-dicarboxylic acid
P089	Parathion
P034	Phenol, 2-cyclohexyl-4,6-dinitro-
P048	Phenol, 2,4-dinitro-
P047	Phenol, 2,4-dinitro-6-methyl-
P020	Phenol, 2,4-dinitro-6-(1-methylpropyl)-
P009	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P036	Phenyl dichloroarsine
P092	Phenylmercuric acetate
P093	N-Phenylthiourea
P094	Phorate
P095	Phosgene
P096	Phosphine
P041	Phosphoric acid, diethyl p-nitrophenyl ester
P044	Phosphorodithioic acid, 0,0-dimethyl S-[2-(methylamino)-2-oxoethyl]ester
P043	Phosphorofluoric acid, bis(1-methylethyl)-ester
P094	Phosphorothioic acid, 0,0-diethyl S-(ethylthio) methyl ester
P089	Phosphorothioic acid, 0,0-diethyl 0-(p-nitrophenyl) ester
P040	Phosphorothioic acid, 0,0-diethyl 0-pyrazinyl ester
P097	Phosphorothioic acid, 0,0-dimethyl 0-[p-((dimethylamino)-sulfonyl)phenyl] ester
P110	Plumbane, tetraethyl-
P098	Potassium cyanide
P099	Potassium silver cyanide
P070	Propanal, 2-methyl-2-(methylthio), 0-[(methylamino) carbonyl] oxime
P101	Propanenitrile
P027	Propanenitrile, 3-chloro-
P069	Propanenitrile, 2-hydroxy-2-methyl-
P081	1,2,3-Propanetriol, trinitrate- (R)
P017	2-Propanone, 1-bromo-
P102	Propargyl alcohol
P003	2-Propenal
P005	2-Propen-1-ol
P067	1,2-Propylenimine
P102	2-Propyn-1-ol
P008	4-Pyridinamine
P075	Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts
P111	Pyrophosphoric acid, tetraethyl ester
P103	Selenourea
P104	Silver cyanide
P105	Sodium azide
P106	Sodium cyanide
P107	Strontium sulfide
P108	Strychnidin-10-one, and salts
P018	Strychnidin-10-one, 2,3-dimethoxy-
P108	Strychnine and salts
P115	Sulfuric acid, thallium (I) salt
P109	Tetraethyldithiopyrophosphate

EPA Hazardous Waste No.	Acute Hazardous Waste
	Tetraethyl lead
P110	Tetraethylpyrophosphate
P111	Tetranitromethane (R)
P112	Tetraphosphoric acid, hexaethyl ester
P062	Thallic oxide
P113	Thallium (III) oxide
P113	Thallium (I) selenite
P114	Thallium (I) sulfate
P115	Thiofanox
P045	Thioimidodicarbonic diamide
P049	Thiophenol
P014	Thiosemicarbazide
P116	Thiourea, (2-chlorophenyl)-
P026	Thiourea, 1-naphthalenyl-
P072	Thiourea, phenyl-
P093	Toxaphene
P123	Trichloromethanethiol
P118	Vanadic acid, ammonium salt
P119	Vanadium pentoxide
P120	Vanadium (V) oxide
P120	Warfarin, when present at concentrations greater than 0.3%
P001	Zinc cyanide
P121	Zinc phosphide (R,T) when present at concentrations greater than 10%
P122	

(f) The commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products referred to in paragraphs (a) through (d) of this section, are identified as Toxic wastes (T) unless otherwise designated and are subject to the small quantity generator exclusion defined in 320 IAC 4.1-3-5(a) and (g).

[Note: For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), R (Reactivity), I (Ignitability), and C (Corrosivity). Absence of a letter indicates that the compound is only listed for toxicity.]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

EPA Hazardous Waste No.	Toxic Hazardous Waste
U001	Acetaldehyde (I)
U034	Acetaldehyde, trichloro-
U187	Acetamide, N-(4-ethoxyphenyl)-
U005	Acetamide, N-9H-fluoren-2-yl-
U112	Acetic acid, ethyl ester (I)
U144	Acetic acid, lead salt
U214	Acetic acid, thallium (I) salt
U002	Acetone (I)
U003	Acetonitrile (I,T)
U248	3-(alpha-Acetonylbenzyl)-4 hydroxycoumarin and salts, when present at concentrations of 0.3% or less
U004	Acetophenone
U005	2-Acetylaminofluorene
U006	Acetyl chloride (C,R,T)
U007	Acrylamide
U008	Acrylic acid (I)
U009	Acrylonitrile

EPA Hazardous Waste No.	Toxic Hazardous Waste
U150	Alanine, 3-[p-bis(2-chloroethyl)amino]phenyl-, L-
U328	2-Amino-l-methylbenzene
U353	4-Amino-l-methylbenzene
U011	Amitrole
U012	Aniline (I,T)
U014	Auramine
U015	Azaserine
U010	Azirino (2',3':3,4) pyrrolo (1,2-a) indole-4,7-dione, 6-amino-8-[((aminocarbonyl) oxy) methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-,
U157	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
U016	Benz[c]acridine
U016	3,4-Benzacridine
U017	Benzal Chloride
U018	Benz[a]anthracene
U018	1,2-Benzanthracene
U094	1,2-Benzanthracene, 7,12-dimethyl-
U012	Benzenamine (I,T)
U014	Benzenamine, 4,4'-carbonimidoylbis (N,N-dimethyl-
U049	Benzenamine, 4-chloro-2-methyl
U093	Benzenamine, N,N-dimethyl-4-phenylazo-
U158	Benzenamine, 4,4'-methylenebis(2-chloro-
U222	Benzenamine, 2-methyl-, hydrochloride
U181	Benzenamine, 2-methyl-5-nitro
U019	Benzene (I,T)
U038	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy, ethyl ester
U030	Benzene, 1-bromo-4-phenoxy-
U037	Benzene, chloro-
U190	1,2-Benzenedicarboxylic acid anhydride
U028	1,2-Benzenedicarboxylic acid, [bis(2-ethylhexyl)] ester
U069	1,2-Benzenedicarboxylic acid, dibutyl ester
U088	1,2-Benzenedicarboxylic acid, diethyl ester
U102	1,2-Benzenedicarboxylic acid, dimethyl ester
U107	1,2-Benzenedicarboxylic acid, di-n-octyl ester
U070	Benzene, 1,2-dichloro-
U071	Benzene, 1,3-dichloro-
U072	Benzene, 1,4-dichloro-
U017	Benzene, (dichloromethyl)-
U223	Benzene, 1,3-diisocyanatomethyl- (R,T)
U239	Benzene, dimethyl- (I,T)
U201	1,3-Benzenediol
U127	Benzene, hexachloro-
U056	Benzene, hexahydro- (I)
U188	Benzene, hydroxy-
U220	Benzene, methyl-
U105	Benzene, 1-methyl-1,2,4-dinitro-
U106	Benzene, 1-methyl-2,6-dinitro-
U203	Benzene, 1,2-methylenedioxy-4-allyl-
U141	Benzene, 1,2,-methylenedioxy-4-propenyl-
U090	Benzene, 1,2,-methylenedioxy-4-propyl-
U055	Benzene, (1-methylethyl)- (I)
U169	Benzene, nitro- (I,T)
U183	Benzene, pentachloro-

EPA Hazardous Waste No.	Toxic Hazardous Waste
U185	Benzene, pentachloro-nitro-
U020	Benzenesulfonic acid chloride (C,R)
U020	Benzenesulfonyl chloride (C,R)
U207	Benzene, 1,2,4,5-tetrachloro-
U023	Benzene, (trichloromethyl)- (C,R,T)
U234	Benzene, 1,3,5-trinitro- (R,T)
U021	Benzidine
U202	1,2-Benzisothiazolin-3-one, 1,1-dioxide
U120	Benzo[j,k]fluorene
U022	Benzo[a]pyrene
U022	3,4-Benzopyrene
U197	p-Benzoquinone
U023	Benzotrichloride (C,R,T)
U050	1,2-Benzphenanthrene
U085	2,2'-Bioxirane (I,T)
U021	(1,1'-Biphenyl)-4,4'-diamine
U073	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dichloro-
U091	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethoxy-
U095	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethyl-
U024	Bis(2-chloroethoxy) methane
U027	Bis(2-chloroisopropyl) ether
U244	Bis(dimethylthiocarbamoyl) disulfide
U028	Bis(2-ethylhexyl) phthalate
U246	Bromine cyanide
U225	Bromoform
U030	4-Bromophenyl phenyl ether
U128	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U172	1-Butanamine, N-butyl-N-nitroso-
U035	Butanoic acid, 4-[Bis(2-chloroethyl)amino]benzene-
U031	1-Butanol (I)
U159	2-Butanone (I,T)
U160	2-Butanone peroxide (R,T)
U053	2-Butenal
U074	2-Butene, 1,4-dichloro- (I,T)
U031	n-Butyl alcohol (I)
U136	Cacodylic acid
U032	Calcium chromate
U238	Carbamic acid, ethyl ester
U178	Carbamic acid, methylnitroso-, ethyl ester
U176	Carbamide, N-ethyl-N-nitroso-
U177	Carbamide, N-methyl-N-nitroso-
U219	Carbamide, thio-
U097	Carbamoyl chloride, dimethyl-
U215	Carbonic acid, dithallium (I) salt
U156	Carbonochloridic acid, methyl ester (I,T)
U033	Carbon oxyfluoride (R,T)
U211	Carbon tetrachloride
U033	Carbonyl fluoride (R,T)
U034	Chloral
U035	Chlorambucil
U036	Chlordane, technical
U026	Chlornaphazine

EPA Hazardous Waste No.	Toxic Hazardous Waste
U037	Chlorobenzene
U039	4-Chloro-m-cresol
U041	1-Chloro-2,3-epoxypropane
U042	2-Chloroethyl vinyl ether
U044	Chloroform
U046	Chloromethyl methyl ether
U047	beta-Chloronaphthalene
U048	o-Chlorophenol
U049	4-Chloro-o-toluidine, hydrochloride
U032	Chromic acid, calcium salt
U050	Chrysene
U051	Creosote
U052	Cresols
U052	Cresylic acid
U053	Crotonaldehyde
U055	Cumene (I)
U246	Cyanogen bromide
U197	1,4-Cyclohexadienedione
U056	Cyclohexane (I)
U057	Cyclohexanone (I)
U130	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexa- chloro-
U058	Cyclophosphamide
U240	2,4-D, salts and esters
U059	Daunomycin
U060	DDD
U061	DDT
U142	Decachlorooctahydro-1,3,4-metheno-2H-cyclobuta[c,d]-pentalen-2-one
U062	Diallate
U133	Diamine (R,T)
U221	Diaminotoluene
U063	Dibenz[a,h]anthracene
U063	1,2:5,6-Dibenzanthracene
U064	1,2:7,8-Dibenzopyrene
U064	Dibenz[a,i]pyrene
U066	1,2-Dibromo-3-chloropropane
U069	Dibutyl phthalate
U062	S-(2,3-Dichloroallyl)diisopropylthiocarbamate
U070	o-Dichlorobenzene
U071	m-Dichlorobenzene
U072	p-Dichlorobenzene
U073	3,3'-Dichlorobenzidine
U074	1,4-Dichloro-2-butene (I,T)
U075	Dichlorodifluoromethane
U192	3,5-Dichloro-N-(1,1-dimethyl-2-propynyl) benzamide
U060	Dichloro diphenyl dichloroethane
U061	Dichloro diphenyl trichloroethane
U078	1,1-Dichloroethylene
U079	1,2-Dichloroethylene
U025	Dichloroethyl ether
U081	2,4-Dichlorophenol
U082	2,6-Dichlorophenol
U240	2,4-Dichlorophenoxyacetic acid, salts and esters

EPA Hazardous Waste No.	Toxic Hazardous Waste
U083	1,2-Dichloropropane
U084	1,3-Dichloropropene
U085	1,2:3,4-Diepoxybutane (I,T)
U108	1,4-Diethylene dioxide
U086	N,N-Diethylhydrazine
U087	0,0-Diethyl-S-methyl-dithiophosphate
U088	Diethyl phthalate
U089	Diethylstilbestrol
U148	1,2-Dihydro-3,6-pyradizinedione
U090	Dihydrosafrole
U091	3,3'-Dimethoxybenzidine
U092	Dimethylamine (I)
U093	Dimethylaminoazobenzene
U094	7,12-Dimethylbenz[a]anthracene
U095	3,3'-Dimethylbenzidine
U096	alpha,alpha-Dimethylbenzylhydroperoxide (R)
U097	Dimethylcarbamoyl chloride
U098	1,1-Dimethylhydrazine
U099	1,2-Dimethylhydrazine
U101	2,4-Dimethylphenol
U102	Dimethyl phthalate
U103	Dimethyl sulfate
U105	2,4-Dinitrotoluene
U106	2,6-Dinitrotoluene
U107	Di-n-octyl phthalate
U108	1,4-Dioxane
U109	1,2-Diphenylhydrazine
U110	Dipropylamine (I)
U111	Di-N-propylnitrosamine
U001	Ethanal (I)
U174	Ethanamine, N-ethyl-N-nitroso-
U067	Ethane, 1,2-dibromo-
U076	Ethane, 1,1-dichloro-
U077	Ethane, 1,2-dichloro-
U114	1,2-Ethanediylbiscarbamodithioic acid
U131	Ethane, 1,1,1,2,2,2-hexachloro-
U024	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-
U003	Ethanenitrile (I,T)
U117	Ethane, 1,1'-oxybis- (I)
U025	Ethane, 1,1'-oxybis[2-chloro-
U184	Ethane, pentachloro-
U208	Ethane, 1,1,1,2-tetrachloro-
U209	Ethane, 1,1,2,2-tetrachloro-
U218	Ethanethioamide
U227	Ethane, 1,1,2-trichloro-
U247	Ethane, 1,1,1-trichloro-2,2-bis(p-methoxyphenyl)
U043	Ethene, chloro-
U042	Ethene, 2-chloroethoxy-
U078	Ethene, 1,1-dichloro-
U079	Ethene, trans-1,2-dichloro-
U210	Ethene, 1,1,2,2-tetrachloro-
U173	Ethanol, 2,2'-(nitrosoimino)bis-

EPA Hazardous Waste No.	Toxic Hazardous Waste
U004	Ethanone, 1-phenyl-
U006	Ethanoyl chloride (C,R,T)
U359	**2-Ethoxyethanol**
U112	Ethyl acetate (I)
U113	Ethyl acrylate (I)
U238	Ethyl carbamate (urethan)
U038	Ethyl 4,4'-dichlorobenzilate
U114	Ethylenebis(dithiocarbamic acid)
U067	Ethylene dibromide
U077	Ethylene dichloride
U359	**Ethylene glycol monoethyl ether**
U115	Ethylene oxide (I,T)
U116	~~Ethylenethiourea~~ **Ethylene thiourea**
U117	Ethyl ether (I)
U076	Ethylidene dichloride
U118	Ethylmethacrylate
U119	Ethyl methanesulfonate
U139	Ferric dextran
U120	Fluoranthene
U122	Formaldehyde
U123	Formic acid (C,T)
U124	Furan (I)
U125	2-Furancarboxaldehyde (I)
U147	2,5-Furandione
U213	Furan, tetrahydro- (I)
U125	Furfural (I)
U124	Furfuran (I)
U206	D-Glucopyranose, 2-deoxy-2(3-methyl-3-nitrosoureido)-
U126	Glycidylaldehyde
U163	Guanidine, N-nitroso-N-methyl-N'nitro-
U127	Hexachlorobenzene
U128	Hexachlorobutadiene
U129	Hexachlorocyclohexane (gamma isomer)
U130	Hexachlorocyclopentadiene
U131	Hexachloroethane
U132	Hexachlorophene
U243	Hexachloropropene
U133	Hydrazine (R,T)
U088	Hydrazine, 1,2-diethyl-
U098	Hydrazine, 1,1-dimethyl-
U099	Hydrazine, 1,2-dimethyl-
U109	Hydrazine, 1,2-diphenyl-
U134	Hydrofluoric acid (C,T)
U134	Hydrogen fluoride (C,T)
U135	Hydrogen sulfide
U096	Hydroperoxide, 1-methyl-1-phenylethyl- (R)
U136	Hydroxydimethylarsine oxide
U116	2-Imidazolidinethione
U137	Indeno[1,2,3-cd]pyrene
U139	Iron dextran
U140	Isobutyl alcohol (I,T)
U141	Isosafrole

EPA Hazardous Waste No.	Toxic Hazardous Waste
U142	Kepone
U143	Lasiocarpine
U144	Lead acetate
U145	Lead phosphate
U146	Lead subacetate
U129	Lindane
U147	Maleic anhydride
U148	Maleic hydrazide
U149	Malononitrile
U150	Melphalan
U151	Mercury
U152	Methacrylonitrile (I,T)
U092	Methanamine, N-methyl- (I)
U029	Methane, bromo-
U045	Methane, chloro- (I,T)
U046	Methane, chloromethyoxy-
U068	Methane, dibromo-
U080	Methane, dichloro-
U075	Methane, dichlorodifluoro-
U138	Methane, iodo-
U119	Methanesulfonic acid, ethyl ester
U211	Methane, tetrachloro-
U121	Methane, trichlorofluoro-
U153	Methanethiol (I,T)
U225	Methane, tribromo-
U044	Methane, trichloro-
U121	Methane, trichlorofluoro-
U123	Methanoic acid (C,T)
U036	4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a- tetrahydro-
U154	Methanol (I)
U155	Methapyrilene
U247	Methoxychlor
U154	Methyl alcohol (I)
U029	Methyl bromide
U186	1-Methylbutadiene (I)
U045	Methyl Chloride (I,T)
U156	Methyl chlorocarbonate (I,T)
U226	Methylchloroform
U157	3-Methylcholanthrene
U158	4,4'-Methylenebis(2-chloroaniline)
U132	2,2'-Methylenebis(3,4,6-trichlorophenol)
U068	Methylene bromide
U080	Methylene chloride
U122	Methylene oxide
U159	Methyl ethyl ketone (I,T)
U160	Methyl ethyl ketone peroxide (R,T)
U138	Methyl iodide
U161	Methyl isobutyl ketone (I)
U162	Methyl methacrylate (I,T)
U163	N-Methyl-N'-nitro-N-nitrosoguanidine
U161	4-Methyl-2-pentanone (I)
U164	Methylthiouracil

EPA Hazardous Waste No.	Toxic Hazardous Waste
U010	Mitomycin C
U059	5,12-Naphthacenedione, (8S-cis)-8-acetyl-10-[(3-amino-2,3,6-trideoxy-alpha-L-lyxo-hexopyranosyl)oxyl]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-
U165	Naphthalene
U047	Naphthalene, 2-chloro-
U166	1,4-Naphthalenedione
U236	2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl-(1,1'-biphenyl)-4,4'diyl)]-bis(azo)bis (5-amino-4-hydroxy)-,tetrasodium salt
U166	1,4-Naphthaquinone
U167	1-Naphthylamine
U168	2-Naphthylamine
U167	alpha-Naphthylamine
U168	beta-Naphthylamine
U026	2-Naphthylamine, N,N'-bis(2-chloromethyl)-
U169	Nitrobenzene (I,T)
U170	p-Nitrophenol
U171	2-Nitropropane (I), T)
U172	N-Nitrosodi-n-butylamine
U173	N-Nitrosodiethanolamine
U174	N-Nitrosodiethylamine
U111	N-Nitroso-N-propylamine
U176	N-Nitroso-N-ethylurea
U177	N-Nitroso-N-methylurea
U178	N-Nitroso-N-methylurethane
U179	N-Nitrosopiperidine
U180	N-Nitrosopyrrolidine
U181	5-Nitro-o-toluidine
U193	1,2,-Oxathiolane, 2,2-dioxide
U058	2H-1,3,2-Oxazaphosphorine, 2-[bis(2-chloroethyl)amino] tetrahydro-, oxide 2-
U115	Oxirane (I,T)
U041	Oxirane, 2-(chloromethyl)-
U182	Paraldehyde
U183	Pentachlorobenzene
U184	Pentachloroethane
U185	Pentachloronitrobenzene
~~U242~~ See F027	Pentachlorophenol
U188	1,3-Pentadiene (I)
U187	Phenacetin
U188	Phenol
U048	Phenol, 2-chloro-
U039	Phenol, 4-chloro-3-methyl-
U081	Phenol, 2,4-dichloro-
U082	Phenol, 2,6-dichloro-
U101	Phenol, 2,4-dimethyl-
U170	Phenol, 4-nitro-
~~U242~~ See F027	Phenol, pentachloro-
~~U212~~ See F027	Phenol, 2,3,4,6-tetrachloro-
~~U230~~ See F027	Phenol, 2,4,5-trichloro-
~~U231~~ See F027	Phenol, 2,4,6-trichloro-
U137	1,10-(1,2-phenylene)pyrene
U145	Phosphoric acid, Lead salt
U087	Phosphorodithioic acid, 0,0-diethyl, S-methyl ester

EPA Hazardous Waste No.	Toxic Hazardous Waste
U189	Phosphorous sulfide (R)
U190	Phthalic anhydride
U191	2-Picoline
U192	Pronamide
U194	1-Propanamine (I,T)
U110	1-Propanamine, N-propyl- (I)
U066	Propane, 1,2-dibromo-3-chloro-
U149	Propanedinitrile
U171	Propane, 2-nitro-(I), T)
U027	Propane, 2,2'-oxybis[2-chloro-
U193	1,3-Propane sultone
U235	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U126	1-Propanol, 2,3-epoxy-
U140	1-Propanol, 2-methyl- (I,T)
U002	2-Propanone (I)
U007	2-Propenamide
U084	Propene, 1,3-dichloro-
U243	1-Propene, 1,1,2,3,3,3-hexachloro-
U009	2-Propenenitrile
U152	2-Propenenitrile, 2-methyl- (I,T)
U008	2-Propenoic acid (I)
U113	2-Propenoic acid, ethyl ester (I)
U118	2-Propenoic acid, 2-methyl-, ethyl ester
U152	2-Propenoic acid, 2-methyl, methyl ester (I,T)
~~U233~~ See F027	Propionic acid, 2-(2,4,5-trichlorophenoxy)-
U194	n-Propylamine (I,T)
U083	Propylene dichloride
U196	Pyridine
U155	Pyridine, 2-[(2-(dimethylamino)-2-thenylamino]-
U179	Pyridine, hexahydro-N-nitroso-
U191	Pyridine, 2-methyl
U164	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
U180	Pyrrole, tetrahydro-N-nitroso-
U200	Reserpine
U201	Resorcinol
U202	Saccharin and salts
U203	Safrole
U204	Selenious acid
U204	Selenium dioxide
U205	Selenium disulfide (R,T)
U015	L-Serine, diazoacetate (ester)
~~U233~~ See F027	Silvex
U089	4,4'-Stilbenediol, alpha,alpha'-diethyl-
U206	Streptozotocin
U135	Sulfur hydride
U103	Sulfuric acid, dimethyl ester
U189	Sulfur phosphide (R)
U205	Sulfur selenide (R,T)
~~U232~~ See F027	2,4,5-T
U207	1,2,4,5-Tetrachlorobenzene
U208	1,1,1,2-Tetrachloroethane
U209	1,1,2,2-Tetrachloroethane

EPA Hazardous Waste No.	Toxic Hazardous Waste
U210	Tetrachloroethylene
~~U212~~ See F027	2,3,4,6-Tetrachlorophenol
U213	Tetrahydrofuran (I)
U214	Thallium(I) acetate
U215	Thallium(I) carbonate
U216	Thallium(I) chloride
U217	Thallium(I) nitrate
U218	Thioacetamide
U153	Thiomethanol (I,T)
U219	Thiourea
U244	Thiram
U220	Toluene
U221	Toluenediamine
U223	Toluene diisocyanate (R,T)
U328	**o-Toluidine**
U353	**p-Toluidine**
U222	0-Toluidine hydrochloride
U011	1H-1,2,4-Triazol-3-amine
U226	1,1,1-Trichloroethane
U227	1,1,2-Trichloroethane
U228	Trichloroethene
U228	Trichloroethylene
U121	Trichloromonofluoromethane
~~U230~~ See F027	2,4,5-Trichlorophenol
~~U231~~ See F027	2,4,6- ~~Trichlorphenol~~ Trichlorophenol
~~U232~~ See F027	2,4,5-Trichlorophenoxyacetic acid
U234	sym-Trinitrobenzene (R,T)
U182	1,3,5-Trioxane, 2,4,5-trimethyl-
U235	Tris(2,3-dibromopropyl)phosphate
U236	Trypan blue
U237	Uracil, 5[bis(2-chloromethyl)amino]-
U237	Uracil mustard
U043	Vinyl chloride
U239	Xylene (I)
U200	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxy-benzoyl)oxy]-, methyl ester
U249	Zinc Phosphide, when present at concentrations of 10% or less

(Indiana Environmental Management Board; 320 IAC 4.1-6-4; filed Jul 30, 1985, 9:01 am: 8 IR 1743; filed Mar 16, 1987, 10:45 am)

SECTION 21. 320 IAC 4.1-6-7 is amended to read as follows:

320 IAC 4.1-6-7 Appendix III; chemical analysis test methods

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 7. Tables 1, 2, and 3 specify the appropriate analytical procedures, described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," (incorporated by reference, see 320 IAC 4.1-1-6) which shall be used to determine whether a sample contains a given 320 IAC 4.1-6-8 or 320 IAC 4.1-6-9 toxic constituent.

Table 1 identifies each 320 IAC 4.1-6-8 or 320 IAC 4.1-6-9 organic constituent along with the approved measurement method. Table 2 identifies the corresponding methods for inorganic species. Table 3 summarizes the contents of SW-846 and supplies specific section and method numbers for sampling and analysis methods.

Prior to final sampling and analysis method selection, the analyst should consult the specific

section or method described in SW-846 for additional guidance on which of the approved methods should be employed for a specific sample analysis situation.

TABLE 1 — ~~ANALYSIS~~ ANALYTICAL METHODS FOR ORGANIC CHEMICALS CONTAINED IN SW-846

Compound	First edition method(s)	Second edition method(s)
Acetonitrile	8.03, 8.24	8030, 8240
Acrolein	8.03, 8.24	8030, 8240
Acrylamide	8.01, 8.24	8015, 8240
Acrylonitrile	8.03, 8.24	8030, 8240
2-Amino-1-methylbenzene (o-Toluidine)	•	8250
4-Amino-1-methylbenzene (p-Toluidine)	•	8250
Aniline	•	8250
Benzene	8.02, 8.24	8020, 8240
Benz(a)anthracene	8.10, 8.25	8100, 8250, 8310
Benzo(a)pyrene	8.10, 8.25	8100, 8250, 8310
Benzotrichloride	8.12, 8.25	8120, 8250
Benzyl chloride	8.01, 8.12, 8.24, 8.25	8120, 8250
Benzo(b)fluoanthene	8.10, 8.25	8100, 8250, 8310
Bis(2-chloroethoxymethane)	8.01, 8.24	8010, 8240
Bis(2-chloroethyl)ether	8.01, 8.24	8010, 8240
Bis(2-chloroisopropyl)ether	8.01, 8.24	8010, 8240
Carbon disulfide	8.01, 8.24	8015, 8240
Carbon tetrachloride	8.01, 8.24	8010, 8240
Chlordane	8.08, 8.25	8080, 8250
~~Chlorinated dibenzodioxins~~	~~8.08, 8.25~~	~~8080, 8250~~
Chlorinated biphenyls	8.08, 8.25	8080, 8250
Chlorinated dibenzo-p-dioxins		8280
Chlorinated dibenzofurans		8280
Chloroacetaldehyde	8.01, 8.24	8010, 8240
Chlorobenzene	8.01, 8.02, 8.24	8020, 8240
Chloroform	8.01, 8.24	8010, 8240
Chloromethane	8.01, 8.24	8010, 8240
2-Chlorophenol	8.04, 8.25	8040, 8250
Chrysene	8.10, 8.25	8100, 8250, 8310
Creosote[4]	8.10, 8.25	8100, 8250
Cresol(s)	8.04, 8.25	8040, 8250
Cresylic Acid(s)	8.04, 8.25	8040, 8250
Dichlorobenzene(s)	8.01, 8.02, 8.12, 8.25	8010, 8120 8250
Dichloroethane(s)	8.01, 8.24	8010, 8240
Dichloromethane	8.01, 8.24	8010, 8240
Dichlorophenoxyacetic acid	8.40, 8.25	8150, 8250

Compound	First edition method(s)	Second edition method(s)
Dichloropropanol	8.12, 8.25	8120, 8250
2,4-Dimethylphenol	8.04, 8.25	8040, 8250
Dinitrobenzene	8.09, 8.25	8090, 8250
4,6-Dinitro-o-cresol	8.04, 8.25	8040, 8250
2,4-Dinitrotoluene	8.09, 8.25	8090, 8250
2,6-Dinitrotoluene	*	**8060 or 8250**
Endrin	8.08, 8.25	8080, 8250
2-Ethoxyethanol		**8030, 8240**
Ethyl ether	8.01, 8.02, 8.24	8015, 8240
Ethylene dibromide		**8010, 8240**
Formaldehyde	8.01, 8.24	8015, 8240
Formic acid	8.06, 8.25	8250
Heptachlor	8.06, 8.25	8080, 8250
Hexachlorobenzene	8.12, 8.25	8120, 8250
Hexachlorobutadiene	8.12, 8.25	8120, 8250
Hexachloroethane	8.12, 8.25	8010, 8240
Hexachlorocyclopentadiene	8.12, 8.25	8120, 8250
Lindane	8.08, 8.25	8080, 8250
Maleic anhydride	8.06, 8.25	8250
Methanol	8.01, 8.24	8010, 8240
Methomyl	8.32	8250
Methyl ethyl ketone	8.01, 8.02, 8.24	8015, 8240
Methyl isobutyl ketone	8.01, 8.02, 8.24	8015, 8240
Naphthalene	8.10, 8.25	8100, 8250
Napthoquinone	8.06, 8.09, 8.25	8090, 8250
Nitrobenzene	8.09, 8.25	8090, 8250
4-Nitrophenol	8.04, 8.25	8040, 8240
2-Nitropropane		**8030, 8240**
Paraldehyde (trimer of acetaldehyde)	8.01, 8.24	8015, 8240
Pentachlorophenol	8.04, 8.25	8040, 8250
Phenol	8.04, 8.25	8040, 8250
Phorate	8.22	8140
Phosphorodithioic acid esters	8.06, 8.09, 8.22	8140
Phthalic anhydride	8.06, 8.09, 8.25	8090, 8250
2-Picoline	8.06, 8.09, 8.25	8090, 8250
Pyridine	8.06, 8.09, 8.25	8090, 8250
Tetrachlorobenzene(s)	8.12, 8.25	8120, 8250
Tetrachloroethane(s)	8.01, 8.24	8010, 8240
Tetrachloroethene	8.01, 8.24	8010, 8240
Tetrachlorophenol	8.04, 8.24	8040, 8250
Toluene	8.02, 8.24	8020, 8240
2,4-Toluenediamine	*	**8250**

Compound	First edition method(s)	Second edition method(s)
2,6-Toluenediamine	•	8250
3,4-Toluenediamine	•	8250
Toluenediamine	8.25	8250
Toluene diisocyanate(s)	8.06, 8.25	8250
Toxaphene	8.08, 8.25	8080, 8250
Trichloroethane	8.01, 8.24	8010, 8240
Trichloroethene(s)	8.01, 8.24	8010, 8240
Trichlorofluoromethane	8.01, 8.24	8010, 8240
Trichlorophenol(s)	8.04, 8.25	8040, 8250
2,4,5-Trichlorophenoxy propionic acid	8.40, 8.24	8150, 8250
Trichloropropane	8.01, 8.24	8010, 8240
Vinyl chloride	8.01, 8.24	8010, 8240
Vinylidene chloride	8.01, 8.24	8010, 8240
Xylene	8.02, 8.24	8020, 8240

•Analyze for phenanthrene and carbazole; if these are present in a ratio between 1.4:1 and 5:1, creosote should be considered present.

•No number given-column "First edition method(s)" to be removed as per October 23, 1985, Federal Register. (column "Second edition method(s)" to be re-titled "Method Numbers").

TABLE 2—ANALYSIS METHODS FOR INORGANIC CHEMICALS CONTAINED IN SW-846

Compound	First edition method(s)	Second edition method(s)
Antimony	8.50	7040, 7041
Arsenic	8.51	7060, 7061
Barium	8.52	7080, 7081
Cadmium	8.53	7090, 7091
Chromium	8.54	7190, 7191
Chromium: Hexavalent	8.545, 8.546, 8.547	7195, 7196, 7197
Lead	8.56	7420, 7421
Mercury	8.57	7470, 7471
Nickel	8.58	7520, 7521
Selenium	8.59	7740, 7741
Silver	8.60	7760, 7761
Cyanides	8.55	9010
Total Organic Halogen	8.66	9020
Sulfides	8.67	9030

TABLE 3—SAMPLING AND ANALYSIS METHODS CONTAINED IN SW-846

Title	First Edition		Second Edition	
	Section No.	Method No.	Section No.	Method No.
Sampling of Solid Wastes	1.0		1.0	
Development of Appropriate Sampling Plans	1.0		1.1	
Regulatory and Scientific Objectives	1.0-2		1.1.1	

Title	First Edition Section No.	First Edition Method No.	Second Edition Section No.	Second Edition Method No.
Fundamental Statistical Concepts	1.0-3		1.1.2	
Basic Statistical Strategies	1.0-7		1.1.3	
Simple Random Sampling			1.1.3.1	
Stratified Random Sampling			1.1.3.2	
Systematic Random Sampling			1.1.3.3	
Special Considerations	1.0-7			
Composite Sampling			1.1.4.1	
Subsampling			1.1.4.2	
Cost and Loss Functions			1.1.4.3	
Implementation of Sampling Plan	1.0-7		1.2	
Selection of Sampling Equipment			1.2.1	
Composite Liquid Waste Sampler	3.2.1		1.2.1.1	
Weighted Bottle	3.2.2		1.2.1.2	
Dipper	3.2.3		1.2.1.3	
Thief	3.2.4		1.2.1.4	
Trier	3.2.5		1.2.1.5	
Auger	3.2.6		1.2.1.6	
Scoop and Shovel	3.2.7		1.2.1.7	
Selection of Sample Containers	3.3		1.2.2	
Processing and Storage of Samples	3.3		1.2.3	
Documentation of Chain of Custody	2.0		1.3	
Sample Labels	2.0-1		1.3.1	
Sample Seals	2.0-3		1.3.2	
Field Log Book	2.0-5		1.3.3	
Chain-of-Custody Record	2.0-6		1.3.4	
Sample Analysis Request Sheet	2.0-9		1.3.5	
Sample Delivery to Laboratory	2.0-10		1.3.6	
Shipping of Samples	2.0-10		1.3.7	
Receipt and Logging of Sample	2.0-12		1.3.8	
Assignment of Sample for Analysis	2.0-13		1.3.9	
Sampling Methodology	3.0		1.4	
Containers	3.2-2		1.4.1	
Tanks	3.2-2		1.4.2	
Waste Piles	3.2-2		1.4.3	
Landfills and Lagoons	3.2-2		1.4.4	
Waste Evaluation Procedures			2.0	
Characteristics of Hazardous Waste			2.1	
Ignitability	4.0		2.1.1	
Pensky-Martens Closed-Cup Method	4.1		2.1.1	1010
Setaflash Closed-Cup Method	4.1		2.1.1	1020
Corrosivity	5.0		2.1.2	
Corrosivity Toward Steel	5.3		2.1.2	1110
Reactivity	6.0		2.1.3	
Extraction Procedure Toxicity	7.0		2.1.4	
Extraction Procedure Toxicity Test	7.1, 7.2, 7.5			
Method and Structural Integrity Test	7.4		2.1.4	1310

Title	First Edition Section No.	First Edition Method No.	Second Edition Section No.	Second Edition Method No.
Sample Workup Techniques			4.0	
Inorganic Techniques	8.49		4.1	
Acid Digestion for Flame AAS			4.1	3010
Acid Digestion for Furnace AAS			4.1	3020
Acid Digestion of Oil, Grease, or Wax	8.49-9		4.1	3030
Dissolution Procedure for Oil, Grease, or Wax	8.49-8			
Alkaline Digestion	8.0	8.458	4.1	3060
Organic Techniques	8.0		4.2	
Separatory Funnel Liquid-Liquid Extraction	9.0	9.1	4.2	3510
Continuous Liquid-Liquid Extraction	9.0	9.01	4.2	3520
Acid-Base Cleanup Extraction	8.0	8.84	4.2	3530
Soxhlet Extraction	8.0	8.86	4.2	3540
Sonication Extraction	8.0	8.85	4.2	3550
Sample Introduction Techniques			5.0	
Headspace	8.0	8.82	5.0	5020
Purge-and-Trap	8.0	8.83	5.0	5030
Inorganic Analytical Methods	8.0		7.0	
Antimony, Flame AAS	8.0	8.50	7.0	7470
Antimony, Furnace AAS	8.0	8.50	7.0	7471
Arsenic, Flame AAS	8.0	8.51	7.0	7060
Arsenic, Furnace AAS	8.0	8.51	7.0	7061
Barium, Flame AAS	8.0	8.52	7.0	7080
Barium, Furnace AAS	8.0	8.52	7.0	7081
Cadmium, Flame AAS	8.0	8.53	7.0	7130
Cadmium, Furnace AAS	8.0	8.53	7.0	7131
Chromium, Flame AAS	8.0	8.54	7.0	7090
Chromium, Furnace AAS	8.0	8.54	7.0	7191
Chromium, Hexavalent, Coprecipitation	8.0	8.545	7.0	7195
Chromium, Hexavalent, Colorimetric	8.0	8.546	7.0	7196
Chromium, Hexavalent, Chelation	8.0	8.547	7.0	7197
Lead, Flame AAS	8.0	8.56	7.0	7420
Lead, Furnace AAS	8.0	8.56	7.0	7421
Mercury, Cold Vapor, Liquid	8.0	8.57	7.0	7470
Mercury, Cold Vapor, Solid	8.0	8.57	7.0	7471
Nickel, Flame AAS	8.0	8.58	7.0	7520
Nickel, Furnace AAS	8.0	8.58	7.0	7521
Selenium, Flame AAS	8.0	8.59	7.0	7740
Selenium, Gaseous Hydride AAS	8.0	8.59	7.0	7741
Silver, Flame AAS	8.0	8.60	7.0	7760
Silver, Furnace AAS	8.0	8.60	7.0	7761
Organic Analytical Methods	8.0		8.0	
Gas Chromatographic Methods	8.0		8.1	
Halogenated Volatile Organics	8.0	8.01	8.1	8010
Nonhalogenated Volatile Organics	8.0	8.01	8.1	8015
Aromatic Volatile Organics	8.0	8.02	8.1	8020

Title	First Edition Section No.	First Edition Method No.	Second Edition Section No.	Second Edition Method No.
Acrolein, Acrylonitrile, Acetonitrile	8.0	8.03	8.1	8030
Phenols	8.0	8.04	8.1	8040
Phthalate Esters	8.0	8.06	8.1	8060
Organochlorine Pesticides and PCBs	8.0	8.08	8.1	8080
Nitroaromatics and Cyclic Ketones	8.0	8.09	8.1	8090
Polynuclear Aromatic Hydrocarbons	8.0	8.10	8.1	8100
Chlorinated Hydrocarbons	8.0	8.12	8.1	8120
Organophosphorus Pesticides	8.0	8.22	8.1	8140
Chlorinated Herbicides	8.0	8.40	8.1	8150
Gas Chromatographic/Mass Spectroscopy Methods (GC/MS)	8.0		8.2	
GC/MS Volatiles	8.0	8.24	8.2	8240
GC/MS Semi-Volatiles, Packed Column	8.0	8.25	8.2	8250
GC/MS Semi-Volatiles, Capillary	8.0	8.27	8.2	8270
Analysis of Chlorinated Dioxins and Dibenzofurans			8.2	8280
High Performance Liquid Chromatographic Methods (HLPC)	8.0		8.3	
Polynuclear Aromatic Hydrocarbons	8.0	8.10	8.3	8310
Miscellaneous Analytical Methods	8.0		9.0	
Cyanide; Total and Amenable to Chlorination	8.0	8.55	9.0	9010
Total Organic Halogen (TOX)	8.0	8.66	9.0	9020
Sulfides	8.0	8.67	9.0	9030
pH Measurement	5.0	5.2	9.0	9040
Quality Control/Quality Assurance	10.0		10.1	
Introduction	10.0		10.1	
Program Design	10.0		10.2	
Sampling	10.0		10.3	
Analysis	10.0		10.4	
Data Handling	10.0		10.5	

(Indiana Environmental Management Board; 320 IAC 4.1-6-7; filed Jul 30, 1985, 9:01 am: 8 IR 1761; filed Mar 16, 1987, 10:45 am)

SECTION 22. 320 IAC 4.1-6-8 is amended to read as follows:

320 IAC 4.1-6-8 Appendix VII; basis for listing hazardous waste

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 8.

EPA Hazardous Waste No.	Hazardous Constituents for Which Listed
F001	Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chlorinated fluorocarbons.

EPA Hazardous Waste No.	Hazardous Constituents for Which Listed
F002	Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane.
F003	N.A.
F004	Cresols and cresylic acid, nitrobenzene.
F005	Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, 2-ethoxyethanol, benzene, 2-nitropropane.
F006	Cadmium, hexavalent chromium, nickel, cyanide (complexed).
F007	Cyanide (salts).
F008	Cyanide (salts).
F009	Cyanide (salts).
F010	Cyanide (salts).
F011	Cyanide (salts).
F012	Cyanide (complexed).
F019	Hexavalent chromium, cyanide (complexed).
F020	Tetra- and pentachlorodibenzo-p-dioxins; tetra and pentachlorodi-benzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
F021	Penta- and hexachlorodibenzo-p-dioxins; penta- and hexachlorodibenzofurans; pentachlorophenol and its derivatives.
F022	Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans.
F023	Tetra-, and pentachlorodibenzo-p-dioxins; tetra- and pentachlorodibenzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
F024	Chloromethane, dichloromethane, trichloromethane, carbon tetrachloride, chloroethlylene, 1,1-dichloroethane, 1,2-dichloroethane, trans-1-2-dichloroethylene, 1,1-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, 1,1,1,2-tetra-chloroethane, 1,1,2,2-tetrachloroethane, tetrachloroethylene, pentachloroethane, hexachloroethane, allyl chloride (3-chloropropene), dichloropropane, dichloropropene, 2-chloro-1,3-butadiene, hexachloro-1,3-butadiene, hexachlorocyclopentadiene, hexachlorocyclohexane, benzene, chlorbenzene, dichlorobenzenes, 1,2,4-trichlorobenzene, tetrachlorobenzene, pentachlorobenzene, hexachlorobenzene, toluene, naphtalene.
F026	Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans.
F027	Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
F028	Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.

EPA Hazardous Waste No.	Hazardous Constituents for Which Listed
K001	Pentachlorophenol, phenol, 2-chlorophenol, p-chloro-m-cresol, 2,4-dimethylphenyl, 2,4-dinitrophenol, trichlorophenols, tetrachlorophenols, 2,4-dinitrophenol, creosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benz(a)anthracene, dibenz(a)anthracene, acenaphthalene.
K002	Hexavalent chromium, lead.
K003	Hexavalent chromium, lead.
K004	Hexavalent chromium.
K005	Hexavalent chromium, lead.
K006	Hexavalent chromium.
K007	Cyanide (complexed), hexavalent chromium.
K008	Hexavalent chromium.
K009	Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid.
K010	Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid, chloroacetaldehyde.
K011	Acrylonitrile, acetonitrile, hydrocyanic acid.
K013	Hydrocyanic acid, acrylonitrile, acetonitrile.
K014	Acetonitrile, acrylamide.
K015	Benzyl chloride, chlorobenzene, toluene, benzotrichloride.
K016	Hexachlorobenzene, hexachlorobutadiene, carbon tetrachloride, hexachloroethane, perchloroethylene.
K017	Epichlorohydrin, chloroethers [bis(chloromethyl)ether and bis (2-chloroethyl) ethers], trichloropropane, dichloropropanols.
K018	1,2-dichloroethane, trichloroethylene, hexachlorobutadiene, hexachlorobenzene.
K019	Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride.
K020	Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride.
K021	Antimony, carbon tetrachloride, chloroform.
K022	Phenol, tars (polycyclic aromatic hydrocarbons).
K023	Phthalic anhydride, maleic anhydride.
K024	Phthalic anhydride, 1,4-naphthoquinone.
K025	Meta-dinitrobenzene, 2,4-dinitrotoluene.
K026	Paraldehyde, pyridines, 2-picoline.
K027	Toluene diisocyanate, toluene-2, 4-diamine.

EPA Hazardous Waste No.	Hazardous Constituents for Which Listed
K028	1,1,1-trichloroethane, vinyl chloride.
K029	1,2-dichloroethane, 1,1,1-trichloroethane, vinyl chloride, vinylidene chloride, chloroform.
K030	Hexachlorobenzene, hexachlorobutadiene, hexachloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, ethylene dichloride.
K031	Arsenic.
K032	Hexachlorocyclopentadiene.
K033	Hexachlorocyclopentadiene.
K034	Hexachlorocyclopentadiene.
K035	Creosote, chrysene, naphthalene, fluoranthene benzo(b) fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(a)anthracene, dibenzo(a)anthracene, acenaphthalene.
K036	Toluene, phosphorodithioic and phosphorothioic acid esters.
K037	Toluene, phosphorodithioic and phosphorothioic acid esters.
K038	Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters.
K039	Phosphorodithioic and phosphorothioic acid esters.
K040	Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters.
K041	Toxaphene.
K042	Hexachlorobenzene, ortho-dichlorobenzene.
K043	2,4-dichlorophenol, 2,6-dichlorophenol, 2,4,6-trichlorophenol.
K044	N.A.
K045	N.A.
K046	Lead.
K047	N.A.
K048	Hexavalent chromium, lead.
K049	Hexavalent chromium, lead.
K050	Hexavalent chromium.
K051	Hexavalent chromium, lead.
K052	Lead.
K060	Cyanide, napthalene, phenolic compounds, arsenic.
K061	Hexavalent chromium, lead, cadmium.
K062	Hexavalent chromium, lead.
K069	Hexavalent chromium, lead, cadmium.
K071	Mercury.
K073	Chloroform, carbon tetrachloride, hexachloroethane, trichloroethane, tetrachloroethylene, dichloroethylene, 1,1,2,2-tetrachloroethane.
K083	Aniline, diphenylamine, nitrobenzene, phenylenediamine.
K084	Arsenic.

EPA Hazardous Waste No.	Hazardous Constituents for Which Listed
K085	Benzene, dichlorobenzenes, trichlorobenzenes, tetrachlorobenzenes, pentachlorobenzene, hexachlorobenzene, benzyl chloride.
K086	Lead, hexavalent chromium.
K087	Phenol, naphthalene.
K093	Phthalic anhydride, maleic anhydride.
K094	Phthalic anhydride.
K095	1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane.
K096	1,2-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane.
K097	Chlordane, heptachlor.
K098	Toxaphene.
K099	2,4-dichlorophenol, 2,4,6-trichlorophenol.
K100	Hexavalent chromium, lead, cadmium.
K101	Arsenic.
K102	Arsenic.
K103	Aniline, nitrobenzene, phenylenediamine.
K104	Aniline, benzene, diphenylamine, nitrobenzene, phenylenediamine.
K105	Benzene, monochlorobenzene, dichlorobenzenes, 2,4,6-trichlorophenol.
K106	Mercury.
K111	2,4-Dinitrotoluene
K112	2,4-Toluenediamine, o-toluidine, p-toluidine, aniline
K113	2,4-Toluenediamine, o-toluidine, p-toluidine, aniline
K114	2,4-Toluenediamine, o-toluidine, p-toluidine
K115	2,4-Toluenediamine
K116	Carbon tetrachloride, tetrachloroethylene, chloroform, phosgene
K117	Ethylene dibromide
K118	Ethylene dibromide
K136	Ethylene dibromide

N.A.—Waste is hazardous because it fails the test for the characteristic of ignitabilty, corrosivity, or reactivity

(Indiana Environmental Management Board; 320 IAC 4.1-6-8; filed Jul 30, 1985, 9:01 am: 8 IR 1767; filed Mar 16, 1987, 10:45 am)

SECTION 23. 320 IAC 4.1-6-9 is amended to read as follows:

320 IAC 4.1-6-9 Appendix VIII; hazardous constituents

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 9. Hazardous Constituents

Acetonitrile (Ethanenitrile)

Acetophenone (Ethanone, 1-phenyl)

3-(alpha-Acetonylbenzyl)-4-hydroxycoumarin and salts (Warfarin)

2-Acetylaminofluorene (Acetamide, N-(9H-fluoren-2-yl)-)

Acetyl chloride (Ethanoyl chloride)

1-Acetyl-2-thiourea (Acetamide, N-(aminothioxomethyl)-)

Acrolein (2-Propenal)

Acrylamide (2-Propenamide)

Acrylonitrile (2-Propenenitrile)

Aflatoxins

Aldrin (1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a,8b-hexahydro-endo,exo -1,4:5,8-Dimethanonaphthalene)

Allyl alcohol (2-Propen-1-ol)

Aluminum phosphide

4-Aminobiphenyl ([1,1'-Biphenyl]-4-amine)

6-Amino-1,1a,2,8,8a,8b-hexahydro-8-(hydroxymethyl)-8a-methoxy-5-methyl-carbamate azirino[2',3':3,4] pyrrolo[1,2-a]indole-4,7-dione, (ester)(Mitomycin C)(Azirino[2'3':3,4]pyrrolo(1,2-a)indole-4,7-dione, 6-amino-8-[((amino-carbonyl)oxy)methyl]-1,1a,2,8,8a, 8b- hexahydro-8a-methoxy-5-methy-)

5-(Aminomethyl)-3-isoxazolol [3(2H)-Isoxazolone,5-(aminomethyl)-) 4-~~Amino pyridine~~ Aminopyridine (4-Pyridinamine)

Amitrole (1H-1,2,4-Triazol-3-amine)

Aniline (Benzenamine)

Antimony and compounds, N.O.S.*

Aramite (Sulfurous acid, 2-chloroethyl-, 2-[4-(1,1-dimethylethyl)phenoxy]-1-~~methyl ethyl~~ methylethyl ester)

Arsenic and compounds, N.O.S.*

Arsenic acid (Orthoarsenic acid)

Arsenic pentoxide (Arsenic (V) oxide)

Arsenic trioxide (Arsenic (III) oxide)

Auramine (Benzenamine, 4,4'-carbonimidoylbis[N,N-Dimethyl-, monohydrochloride)

Azaserine (L-Serine, diazoacetate (ester))

Barium and compounds, N.O.S.*

Barium cyanide

Benz[c]acridine (3,4-Benzacridine)

Benz[a]anthracene (1,2-Benzanthracene)

Benzene (Cyclohexatriene)

Benzene, 2-amino-1-methyl (o-Toluidine)

Benzene, 4-amino-1-methyl (p-Toluidine)

Benzenearsonic acid (Arsonic acid, phenyl-)

Benzene, dichloromethyl-(Benzal chloride)

Benzenethiol (Thiophenol)

Benzidine ([1,1'-Biphenyl]-4,4'diamine)

Benzo[b]fluoranthene (2,3-Benzofluoranthene)

Benzo[j]fluoranthene (7,8-Benzofluoranthene)

Benzo[a]pyrene (3,4-Benzopyrene)

p-Benzoquinone (1,4-Cyclohexadienedione)

Benzotrichloride (Benzene, trichloromethyl)

Benzyl chloride (Benzene, (chloromethyl)-)

Beryllium and compounds, N.O.S.*

Bis(2-chloroethoxy)methane (Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-])

Bis(2-chloroethyl) ether (Ethane, 1,1'-oxybis[2-chloro-])

N,N-Bis(2-chloroethyl)-2-naphthylamine (Chlornaphazine)

Bis(2-chloroisopropyl) ether (Propane, 2,2'-oxybis[2-chloro-])

Bis(chloromethyl) ether (Methane, oxybis[chloro-])

Bis(2-ethylhexyl) phthalate (1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester)

Bromoacetone (2-Propanone, 1-bromo-)

Bromomethane (Methyl bromide)

4-Bromophenyl phenyl ether (Benzene, 1-bromo-4-phenoxy-)

Brucine (Strychnidin-10-one, 2,3-dimethoxy-)

2-Butanone peroxide (Methyl ethyl ketone, peroxide)

Butyl benzyl phthalate (1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester)

2-sec-Butyl-4,6-dinitrophenol (DNBP) (Phenol, 2,4-dinitro-6-(1-methylpropyl)-)

Cadmium and compounds, N.O.S.*

Calcium chromate (Chromic acid, calcium salt)

Calcium cyanide

Carbon disulfide (Carbon bisulfide)

Carbon oxyfluoride (Carbonyl fluoride)

Chloral (Acetaldehyde, trichloro-)

Chlorambucil (Butanoic acid, 4-[bis(2-chloroethyl)amino]benzene-)

Chlordane (alpha and gamma isomers) (4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3,4,7,7a-~~tetra hydro~~ tetrahydro-) (alpha and gamma isomers)

Chlorinated benzenes, N.O.S.*

Chlorinated ethane, N.O.S.*

Chlorinated fluorocarbons, N.O.S.*

Chlorinated naphthalene, N.O.S.*

Chlorinated phenol, N.O.S.*

Chloroacetaldehyde (Acetaldehyde, chloro-)

Chloroalkyl ethers, N.O.S.*

p-Chloroaniline (Benzenamine, 4-chloro-)

Chlorobenzene (Benzene, chloro-)

Chlorobenzilate (Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-,ethyl ester)

p-Chloro-in-cresol (Phenol, 4-chloro-3-methyl)

1-Chloro-2,3-epoxypropane (Oxirane, 2-(chloromethyl)-)

2-Chloroethyl vinyl ether (Ethene, (2-chloroethoxy)-)

Chloroform (Methane, ~~trichloro~~ trichloro-)

Chloromethane (Methyl chloride)

Chloromethyl methyl ether (Methane, chloromethoxy-)

2-Chloronaphthalene (Naphthalene, beta-chloro-)

2-Chlorophenol (Phenol, o-chloro-)

1-(o-Chlorophenyl)thiourea (Thiourea, (2-chlorophenyl)-)

3-Chloropropionitrile (Propanenitrile, 3-chloro-)

Chromium and compounds, N.O.S.*

Chrysene (1,2-Benzphenanthrene)

Citrus red No. 2 (2-Naphthol, 1-[(2,5-dimethoxyphenyl)azo]-)

Coal tars

Copper cyanide

Creosote (Creosote, wood)

Cresols (Cresylic acid) (Phenol, methyl-)

Crotonaldehyde (2-Butenal)

Cyanides (soluble salts and complexes), N.O.S.*

Cyanogen (Ethanedinitrile)

Cyanogen bromide (Bromine cyanide)

Cyanogen chloride (Chlorine cyanide)

Cycasin (beta-D-Glucopyranoside, (methyl-ONN-azoxy)methyl-)

2-Cyclohexyl-4,6-dinitrophenol (Phenol, 2-cyclohexyl-4,6-dinitro-)

Cyclophosphamide (2H-1,3,2,-Oxazaphosphorine, [bis(2-chloroethyl)amino]-tetrahydro-, 2-oxide)

Daunomycin(5,12-Naphthacenedione,(8S-cis)-8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-)

DDD (Dichlorodiphenyldichloroethane) (Ethane,1,1-dichloro-2,2-bis(p-chlorophenyl)-)

DDE (Ethylene, 1,1-dichloro-2,2-bis(4-chlorophenyl)-)

DDT (Dichlorodiphenyltrichloroethane) (Ethane,1,1,1-trichloro-2,2-bis(p-chlorophenyl)-)

Diallate (S-(2,3-dichloroallyl) diisopropylthiocarbamate)

Dibenz[a,h]acridine (1,2,5,6-Dibenzacridine)

Dibenz[a,j]acridine (1,2,7,8-Dibenzacridine)

Dibenz[a,h]anthracene (1,2,5,6-Dibenzanthracene)

7H-Dibenzo[c,g]carbazole (3,4,5,6-Dibenzcarbazole)

Dibenzo[a,e]pyrene (1,2,4,5-Dibenzpyrene)

Dibenzo[a,h]pyrene (1,2,5,6-Dibenzpyrene)

Dibenzo[a,i]pyrene (1,2,7,8-Dibenzpyrene)

1,2-Dibromo-3-chloropropane (Propane, 1,2-dibromo-3-chloro-)

1,2-Dibromoethane (Ethylene dibromide)

Dibromomethane (Methylene bromide)

Di-n-butyl phthalate (1,2-Benzenedicarboxylic acid, dibutyl ester)

o-Dichlorobenzene (Benzene, 1,2-dichloro-)

m-Dichlorobenzene (Benzene, 1,3-dichloro-)

p-Dichlorobenzene (Benzene, 1,4-dichloro-)

Dichlorobenzene, N.O.S.* (Benzene, dichloro-, N.O.S.*)

3,3'-Dichlorobenzidine ([1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-)

1,4-~~Dicholoro~~ Dichloro-2-butene (2-Butene, 1,4-dichloro-)

Dichlorodifluoromethane (Methane, dichlorodifluoro-)

1,1-Dichloroethane (Ethylidene dichloride)

1,2-Dichloroethane (Ethylene dichloride) trans-1,2-Dichloroethene (1,2-Dichloroethylene)

Dichloroethylene, N.O.S.* (Ethene, dichloro-, N.O.S.*)

1,1-Dichloroethylene (Ethene, 1,1-dichloro-)

Dichloromethane (Methylene chloride)

2,4-Dichlorophenol (Phenol, 2,4-dichloro-)

2,6-Dichlorophenol (Phenol, 2,6-dichloro-)

2,4-Dichlorophenoxyacetic acid (2,4-D), salts and esters (Acetic acid, 2,4-dichlorophenoxy-, salts and esters)

Dichlorophenylarsine (Phenyl dichloroarsine)

Dichloropropane, N.O.S.* (Propane, ~~dicholoro~~ dichloro-, N.O.S.*)

1,2-Dichloropropane (Propylene dichloride)

Dichloropropanol, N.O.S.* (Propanol, dichloro-, N.O.S.*)

Dichloropropene, N.O.S.* (Propene, dichloro-, N.O.S.*)

1,3-Dichloropropene (1-Propene, 1,3-dichloro-)

Dieldrin(1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a -octa-hydro-endo,exo-1,4:5,8-Dimethanonaphthalene)

1,2:3,4-Diepoxybutane (2,2'-Bioxirane)

Diethylarsine (Arsine, diethyl-)

N,N-Diethylhydrazine (Hydrazine, 1,2-diethyl)

0,0-Diethyl S-methyl ester of phosphorodithioic acid (Phosphorodithioic acid, 0,0-diethyl S-methyl ester

0,0-Diethylphosphoric acid, 0-p-nitrophenyl ester (Phosphoric acid, diethyl p-nitrophenyl ester)

Diethyl phthalate (1,2-Benzenedicarboxylic acid, diethyl ester)

0,0-Diethyl 0-2-~~pryazinyl~~ pyrazinyl phosphorothioate (Phosphorothioic acid, 0,0-diethyl 0-pyrazinyl ester

Diethylstilbesterol (4,4'-Stilbenediol, alpha,alpha-diethyl, bis(dihydrogen phosphate, (E)-)

Dihydrosafrole (Benzene, 1,2-methylenedioxy-4-propyl-)

3,4-Dihydroxy-alpha-(methylamino)methyl benzyl alcohol (1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-)

Diisopropylfluorophosphate (DFP) (~~Phosphoro-fluoridic~~ Phosphorofluoridic acid, bis(1-methylethyl)ester)

Dimethoate (Phosphorodithioicacid,0,0-dimethyl S-[2-(methylamino)-2-oxoethyl] ester

3,3'-Dimethoxybenzidine ([1,1'-Biphenyl]-4,4'diamine, 3-3'-dimethoxy-)

p-Dimethylaminoazobenzene (Benzenamine, N,N-dimethyl-4-(phenylazo)-)

7,12-Dimethylbenz[a]anthracene (1,2-Benzanthracene, 7,12-dimethyl-)

3,3'-Dimethylbenzidine ([1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-)

Dimethylcarbamoyl chloride (Carbamoyl chloride, dimethyl-)

1,1-Dimethylhydrazine (Hydrazine, 1,1-dimethyl-)

1,2-Dimethylhydrazine (Hydrazine, 1,2-dimethyl-)

3,3-Dimethyl-1-(methylthio)-2-butanone, 0-[(methylamino) carbonyl]oxime (Thiofanox)

alpha,alpha-Dimethylphenethylamine (Ethanamine, 1,1-dimethyl-2-phenyl-)

2,4-Dimethylphenol (Phenol, 2,4-dimethyl-)

Dimethyl phthalate (1,2-Benzenedicarboxylic acid, dimethyl ester)

Dimethyl sulfate (Sulfuric acid, dimethyl ester)

Dinitrobenzene, N.O.S.* (Benzene, dinitro-, N.O.S.*)

4,6-Dinitro-o-cresol and salts (Phenol, 2,4-dinitro-6-methyl-, and salts)

2,4-Dinitrophenol (Phenol, 2,4-dinitro-)

2,4-Dinitrotoluene (Benzene, 1-methyl-2,4-~~dimitro~~ dinitro-)

2,6-Dinitrotoluene (Benzene, 1-methyl-2,6-dinitro-)

Di-n-octyl phthalate (1,2-Benzenedicarboxylic acid, dioctyl ester)

1,4-Dioxane (1,4-Diethylene oxide)

Diphenylamine (Benzenamine, N-phenyl-)

1,2-Diphenylhydrazine (Hydrazine, 1,2-diphenyl-)

Di-n-propylnitrosamine (N-Nitroso-di-n-propylamine)

Disulfoton (0,0-diethyl S-[2-(ethylthio)ethyl] phosphorodithioate)

2,4-Dithiobiuret (Thioimidodicarbonic diamide)

Endosulfan (5-Norbornene, 2,3-dimethanol, 1,4,5,6,7,7-hexachloro-, cyclic sulfite)

Endrin and metabolites(1,2,3,4,10,10-hexachloro-6,7-

epoxy-1,4,4a,5,6,7,8,8a -octahydro-endo,endo-1,4:5,8-dimethanonaphthalene, and metabolites)

Ethyl carbamate (Urethan) (Carbamic acid, ethyl ester)

Ethyl cyanide (propanenitrile)

Ethylenebisdithiocarbamic acid, salts and esters (1,2-Ethanediylbiscarbamodithioic acid, salts and esters

Ethylene glycol monoethyl ether (Ethanol, 2-ethoxy)

Ethyleneimine (Aziridine)

Ethylene oxide (Oxirane)

Ethylenethiourea (2-~~Imidazaeolidinethione~~ Imidazolidinethione)

Ethyl methacrylate (2-Propenoic acid, 2-methyl-, ethyl ester)

Ethyl methanesulfonate (Methanesulfonic acid, ethyl ester)

Fluoranthene (Benzo[j,k]fluorene)

Fluorine

2-Fluoroacetamide (Acetamide, 2-fluoro-)

Fluoroacetic acid, sodium salt (Acetic acid, fluoro-, sodium salt)

Formaldehyde (Methylene oxide)

Formic acid (Methanoic acid)

Glycidylaldehyde (1-Propanol-2,3-epoxy)

Halomethane, N.O.S.*

Heptachlor (4,7 Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-)

Heptachlor epoxide (alpha, beta, and gamma isomers) (4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7-tetrahydro-, alpha, beta, and gamma isomers)

Hexachlorobenzene (Benzene, hexachloro-)

Hexachlorobutadiene (1,3-Butadiene, 1,1,2,3,4,4-hexachloro-)

Hexachlorocyclohexane (all isomers) (Lindane and isomers)

Hexachlorocyclopentadiene (1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-)

Hexachlorodibenzo-p-dioxins

Hexachlorodibenzofurans

Hexachloroethane (Ethane, 1,1,1,2,2,2-hexachloro-)

1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo,endo- dimethanonaphthalene (Hexachlorohexahydro-endo,endo-dimethanonaphthalene)

Hexachlorophene (2,2'-Methylenebis(3,4,6-trichlorophenol))

Hexachloropropene (1-Propene, 1,1,2,3,3,3-hexachloro-)

Hexaethyl tetraphosphate (Tetraphosphoric acid, hexaethyl ester)

Hydrazine (Diamine)

Hydrocyanic acid (Hydrogen cyanide)

Hydrofluoric acid (Hydrogen fluoride)

Hydrogen sulfide (Sulfur hydride)

Hydroxydimethylarsine oxide (Cacodylic acid)

Indeno(1,2,3-cd)pyrene (1,10-(1,2-phenylene)pyrene)

Iodomethane (Methyl iodide)

Iron dextran (Ferric dextran)

Isocyanic acid, methyl ester (Methyl isocyanate)

Isobutyl alcohol (1-Propanol, 2-methyl-)

Isosafrole (Benzene, 1,2-methylenedioxy-4-allyl-)

Kepone (Decachlorooctahydro-1,3,4-Methano-2H-cyclobuta[cd]pentalen-2-one)

Lasiocarpine (2-Butenoic acid, 2-methyl-, 7-[(2,3-dihydroxy-2- (1-methoxyethyl)-3-methyl-1-oxobutoxy)methyl]-2,3,5,7a- tetrahydro-1H-pyrrolizin-1-yl ester)

Lead and compounds, N.O.S.*

Lead acetate (Acetic acid, lead salt)

Lead phosphate (Phosphoric acid, lead salt)

Lead subacetate (Lead, bis(acetato-0)tetrahydroxytri-)

Maleic anhydride (2,5-Furandione)

Maleic hydrazide (1,2-Dihydro-3,6-pyridazinedione)

Malononitrile (Propanedinitrile)

Melphalan (Alanine, 3-[p-bis(2-chloroethyl)amino] phenyl-, L-)

Mercury fulminate (Fulminic acid, mercury salt)

Mercury and compounds, N.O.S.*

Methacrylonitrile (2-Propenenitrile, 2-methyl-)

Methanethiol (Thiomethanol)

Methapyrilene (Pyridine, 2-[(2-dimethylamino)ethyl]-2-thenylamino-)

Metholmyl (Acetimidic acid, N-[(methylcarbamoyl) oxy]thio-, methyl ester

Methoxychlor (Ethane, 1,1,1-trichloro-2,2'-bis(p-methoxyphenyl)-)

2-Methylaziridine (1,2-Propylenimine)

3-Methylcholanthrene (Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-)

Methyl chlorocarbonate (Carbonochloridic acid, methyl ester)

4,4'-Methylenebis(2-chloroaniline) (Benzenamine, 4,4'-methylenebis-(2-chloro-)

Methyl ethyl ketone (MEK) (2-Butanone)

Methyl hydrazine (Hydrazine, methyl-)

2-Methyllactonitrile (Propanenitrile, 2-hydroxy-2-methyl-)

Methyl methacrylate (2-Propenoic acid, 2-methyl-, methyl ester)

Methyl methanesulfonate (Methanesulfonic acid, methyl ester)

2-Methyl-2-(methylthio)propionaldehyde-o-(methylcarbonyl) oxime (Propanol, 2-methyl-2-(methylthio)-, 0-[(methylamino) carbonyl]oxime)

N-Methyl-N'-nitro-N-nitrosoguanidine (Guanidine, N-nitroso-N-methyl-N'-nitro-)

Methyl parathion (0,0-dimethyl 0-(4-nitrophenyl) phosphorothioate)

Methylthiouracil (4-1H-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-)

Mustard gas (Sulfide, bis(2-chloroethyl)-)

Naphthalene

1,4-Naphthoquinone (1,4-Naphthalenedione)

1-Naphthylamine (alpha-Naphthylamine)

2-Naphthylamine (beta-Naphthylamine)

1-Naphthyl-2-thiourea (Thiourea, 1-naphthalenyl-)

Nickel and compounds, N.O.S.*

Nickel carbonyl (Nickel tetracarbonyl)

Nickel cyanide (Nickel (II) cyanide)

Nicotine and salts (Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts)

Nitric oxide (Nitrogen (II) oxide)

p-Nitroaniline (Benzenamine, 4-nitro-)

Nitrobenzine (Benzene, nitro-)

Nitrogen dioxide (Nitrogen (IV) oxide)

Nitrogen mustard and hydrochloride salt (Ethanamine, 2-chloro-, N-(2-chloroethyl)-N-methyl-, and hydrochloride salt)

Nitrogen mustard N-Oxide and hydrochloride salt (Ethanamine, 2-chloro-, N-(2-chloroethyl)-N-methyl-, and hydrochloride salt)

Nitroglycerine (1,2,3-Propanetriol, trinitrate)

4-Nitrophenol (Phenol, 4-nitro-)

2-Nitropropane (Propane, 2-nitro)

4-Nitroquinoline-1-oxide (Quinoline, 4-nitro-1-oxide-)

Nitrosamine, N.O.S.*

N-Nitrosodi-n-butylamine (1-Butanamine, N-butyl-N-nitroso-)

N-Nitrosodiethanolamine (Ethanol, 2,2'-(nitrosoimino)bis-)

N-Nitrosodiethylamine (Ethanamine, N-ethyl-N-nitroso-)

N-Nitrosodimethylamine (Dimethylnitrosamine)

N-Nitroso-N-ethylurea (Carbamide, N-ethyl-N-nitroso-)

N-Nitrosomethylethylamine (Ethanamine, N-methyl-N-nitroso-)

N-Nitroso-N-methylurea (Carbamide, N-methyl-N-nitroso-)

N-Nitroso-N-methylurethane (Carbamic acid, methylnitroso-, ethyl ester)

N-Nitrosomethylvinylamine (Ethenamine, N-methyl-N-nitroso-)

N-Nitrosomorpholine (Morpholine, N-nitroso-)

N-Nitrosonornicotine (Nornicotine, N-nitroso-)

N-Nitrosopiperidine (Pyridine, hexahydro-, N-nitroso-)

Nitrosopyrrolidine (Pyrrole, tetrahydro-, N-nitroso-)

N-Nitrososarcosine (Sarcosine, N-nitroso-)

5-Nitro-o-toluidine (Benzenamine, 2-methyl-5-nitro-)

Octamethylpyrophosphoramide (Diphosphoramide, octamethyl-)

Osmium tetroxide (Osmium (VIII) oxide)

7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid (Endothal)

Paraldehyde (1,3,5-Trioxane, 2,4,6-trimethyl-)

Parathion (Phosphorothioic acid, 0,0-diethyl 0-(p-nitrophenyl) ester

Pentachlorobenzene (Benzene, pentachloro-)

Pentachlorodibenzo-p-dioxins

Pentachlorodibenzofurans

Pentachloroethane (Ethane, pentachloro-)

Pentachloronitrobenzene (PCNB) (Benzene, pentachloronitro-)

Pentachlorophenol (Phenol, pentachloro-)

Phenacetin (Acetamide, N-(4-ethoxyphenyl)-)

Phenol (Benzene, hydroxy-)

Phenylenediamine (Benzenediamine)

Phenylmercury acetate (Mercury, acetatophenyl-)

N-Phenylthiourea (Thiourea, phenyl-)

Phosgene (Carbonyl chloride)

Phosphine (Hydrogen phosphide)

Phosphorodithioic acid, 0,0-diethyl S-[(ethylthio) methyl] ester (Phorate)

Phosphorothioic acid, 0,0-dimethyl 0-[p-((dimethylamino)sulfonyl)phenyl] ester (Famphur)

Phthalic acid esters, N.O.S.* (Benzene, 1,2-dicarboxylic acid, esters, N.O.S.*)

Phthalic anhydride (1,2-Benzenedicarboxylic acid anhydride)

2-Picoline (Pyridine, 2-methyl-)

Polychlorinated biphenyl, N.O.S.*

Potassium cyanide

Potassium silver cyanide (Argentate(1-), dicyano-, potassium)

Pronamide (3,5-Dichloro-N-(1,1-dimethyl-2-propynyl)benzamide)

1,3-Propane sultone (1,2-Oxathiolane, 2,2-dioxide)

n-Propylamine (1-Propanamine)

Propylthiouracil (Undecamethylenediamine, N,N'-bis(2-chlorobenzyl)-, dihydrochloride)

2-Propyn-1-ol (Propargyl alcohol)

Pyridine

Reserpine (Yohimban-16-carboxylic acid,11,17-dimethoxy-18- [(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester)

Resorcinol (1,3-Benzenediol)

Saccharin and salts (1,2-Benzoisothiazolin-3-one, 1,1-dioxide, and salts)

Safrole (Benzene, 1,2-methylenedioxy-4-allyl-)

Selenious acid (Selenium dioxide)

Selenium and compounds, N.O.S.*

Selenium sulfide (Sulfur selenide)

Selenourea (Carbamimidoselenoic acid)

Silver and compounds, N.O.S.*

Silver cyanide

Sodium cyanide

Streptozotocin (D-Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-)

Strontium sulfide

Strychnine and salts (Strychnidin-10-one, and salts)

1,2,4,5-Tetrachlorobenzene (Benzene, 1,2,4,5-tetrachloro-)

Tetrachlorodibenzo-p-dioxins

2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) (Dibenzo-p-dioxin, 2,3,7,8-tetrachloro-)

Tetrachlorodibenzofurans

Tetrachloroethane, N.O.S.* (Ethane, tetrachloro-, N.O.S.*)

1,1,1,2-Tetrachlorethane (Ethane, 1,1,1,2-tetrachloro-)

1,1,2,2-Tetrachlorethane (Ethane, 1,1,2,2-tetrachloro-)

Tetrachloroethylene (Ethene, 1,1,2,2-tetrachloro-)

Tetrachloromethane (Carbon tetrachloride)

2,3,4,6-Tetrachlorophenol (Phenol, 2,3,4,6-tetrachloro-)

Tetraethyldithiopyrophosphate (Dithiopyrophosphoric acid, tetraethyl-ester)

Tetraethyl lead (Plumbane, tetraethyl-)

Tetraethylpyrophosphate (Pyrophosphoric acide, tetraethyl ester)

Tetranitromethane (Methane, tetranitro-)

Thallium and compounds, N.O.S.*

Thallic oxide (Thallium (III) oxide)

Thallium (I) acetate (Acetic acid, thallium (I) salt)

Thallium (I) carbonate (Carbonic acid, dithallium (I) salt)

Thallium (I) chloride

Thallium (I) nitrate (Nitric acid, thallium (I) salt)

Thallium selenite

Thallium (I) sulfate (Sulfuric acid, thallium (I) salt)

Thioacetamide (Ethanethioamide)

Thiosemicarbazide (Hydrazinecarbothioamide)

Thiourea (Carbamide thio-)

Thiuram (Bis(dimethylthiocarbamoyl)disulfide)

Toluene (Benzene, methyl-)

2,4-Toluenediamine

2,6-Toluenediamine

3,4-Toluenediamine

Toluenediamine ~~(Diaminotoluene)~~, N.O.S.

o-Toluidine hydrochloride (Benzenamine, 2-methyl-, hydrochloride)

Tolylene diisocyanate (Benzene, 1,3-diisocyanatomethyl-)

Toxaphene (Camphene, octachloro-)

~~Tribromomomethane~~ Tribromomethane (Bromoform)

1,2,4-Trichlorobenzene (Benzene, 1,2,4-trichloro-)

1,1,1-Trichloroethane (Methyl chloroform)

1,1,2-Trichloroethane (Ethane, 1,1,2-trichloro-)

Trichloroethene (Trichloroethylene)

Trichloromethanethiol (Methanethiol, trichloro-)

Trichloromonofluoromethane (Methane, trichlorofluoro-)

2,4,5-Trichlorophenol (Phenol, 2,4,5-trichloro-)

2,4,6-Trichlorophenol (Phenol, 2,4,6-trichloro-)

2,4,5-Trichlorophenoxyacetic acid (2,4,5-T) (Acetic acid, 2,4,5-trichlorophenoxy-)

2,4,5-Trichlorophenoxypropionic acid (2,4,5-TP) (Silvex) (Propionoic acid, 2-(2,4,5-trichlorophenoxy)-)

Trichloropropane, N.O.S.* (Propane, trichloro-, N.O.S.*)

1,2,3-Trichloropropane (Propane, 1,2,3-trichloro-)

0,0,0-Triethyl phosphorothioate (Phosphorothioic acid, 0,0,0-triethyl ester)

sym-Trinitrobenzene (Benzene, 1,3,5-trinitro-)

Tris(1-azridinyl)phosphine sulfide (Phosphine sulfide, tris(1-aziridinyl-)

Tris(2,3-dibromopropyl) phosphate (1-Propanol, 2,3-dibromo-, phosphate)

Trypan blue (2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl (1,1'-biphenyl)-4,4'-diyl)bis(azo)]bis (5-amino-4-hydroxy-,tetrasodium salt)

Uracil mustard (Uracil 5-[bis(2-chloroethyl)amino]-)

Vanadic acid, ammonium salt (ammonium vanadate)

Vanadium pentoxide (Vanadium (V) oxide)

Vinyl chloride (Ethene, chloro-)

Zinc cyanide

Zinc phosphide

*The abbreviation N.O.S. (not otherwise specified) signifies those members of the general class not specifically listed by name in this appendix. *(Indiana Environmental Management Board; 320 IAC 4.1-6-9; filed Jul 30, 1985, 9:01 am: 8 IR 1770; filed Mar 16, 1987, 10:45 am)*

SECTION 24. 320 IAC 4.1-6-9.1 is added to read as follows:

320 IAC 4.1-6-9.1 Appendix X; method of analysis for chlorinated dibenzo-p-dioxins and dibenzofurans

Authority: IC 13-7-7; IC 13-7-8.5

Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 9.1. Appendix X — Method of Analysis for Chlorinated dibenzo-p-dioxins and dibenzofurans[1,2,3,4].

Method 8280

1.0. Scope and Application

1.1. This method measures the concentration of chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans in chemical wastes including still bottoms, filter aids, sludges, spent carbon, and reactor residues, and in soils.

1.2. The sensitivity of this method is dependent upon the level of interferences.

1.3. This method is recommended for use only by analysts experienced with residue analysis and skilled in mass spectral analytical techniques.

1.4. Because of the extreme toxicity of these compounds, the analyst must take necessary precautions to prevent exposure to himself, or to others, of materials known or believed to contain CDDs or CDFs.

[1] This method is appropriate for the analysis of tetra-, penta-, and hexachlorinated dibenzo-p-dioxins and -dibenzofurans.

[2] Analytical protocol for determination of TCDDs in phenolic chemical wastes and soil samples obtained from the proximity of chemical dumps. T.O. Tiernan and M. Taylor, Brehm Laboratory, Wright State University, Dayton, OH 45435.

[3] Analytical protocol for determination of chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans in river water. T.O. Tiernan and M. Taylor, Brehm Laboratory, Wright State University, Dayton, OH 45435.

[4] In general, the techniques that should be used to handle these materials are those which are followed for radioactive or infectious laboratory materials. Assistance in evaluating laboratory practices may be obtained from industrial hygienists and persons specializing in safe laboratory practices. Typical infectious waste incinerators are probably not satisfactory devices for disposal of materials highly contaminated with CDDs or CDFs. Safety instructions are outlined in EPA Test Method 613(4.0).

See also: 1) "Program for monitoring potential contamination in the laboratory following the handling and analyses of chlorinated dibenzo-p-dioxins and dibenzofurans" by F.D. Hileman et al., In: Human and Environmental Risks of Chlorinated Dioxins and Related Compounds, R.E. Tucker, et al., eds., Pienum Publishing Corporation,1983. 2) Safety procedures outlined in EPA Method 613, Federal Register Volume 44, No. 233, December 3, 1979.

2.0. Summary of the Method

2.1. This method is an analytical extraction cleanup procedure, and capillary column gas chromatograph-low resolution mass spectrometry method, using capillary column GC/MS conditions and internal standard techniques which allow for the measurement of PCDDs and PCDFs in the extract.

2.2. If interferences are encountered, the method provides selected general purpose cleanup procedures to aid the analyst in their elimination.

3.0. Interferences

3.1. Solvents, reagents, glassware, and other sample processing hardware may yield discrete artifacts and/or elevated baselines causing misinterpretation of gas chromatograms. All of these materials must be demonstrated to be free from interferences under the conditions of the analysis by running method blanks. Specific selection of reagents and purification of solvents by distillation in all-glass systems may be required.

3.2. Interferences co-extracted from the samples will vary considerably from source to source, depending upon the diversity of the industry being sampled. PCDD is often associated with other interfering chlorinated compounds such as PCBs which may be at concentrations several orders of magnitude higher than that of PCDD. While general cleanup techniques are provded [*sic.*] as part of

this method, unique samples may require additional cleanup approaches to achieve the sensitivity stated in Table 1.

3.3. The other isomers of tetrachlorodibenzo-p-dioxin may interfere with the measurement of 2,3,7,8-TCDD. Capillary column gas chromatography is required to resolve those isomers that yield virtually identical mass fragmentation patterns.

4.0. Apparatus and Materials

4.1. Sampling equipment for discrete or composite sampling.

4.1.1 Grab sample bottle — amber glass, 1-liter or 1-quart volume. French or Boston Round design is recommended. The container must be washed and solvent rinsed before use to minimize interferences.

4.1.2 Bottle caps — threaded to screw on to the sample bottles. Caps must be lined with Teflon. Solvent washed foil, used with the shiny side towards the sample, may be substituted for the Teflon if sample is not corrosive.

4.1.3 Compositing equipment — automatic or manual composing system. No tygon or rubber tubing may be used, and the system must incorporate glass sample containers for the collection of a minimum of 250 ml. Sample containers must be kept refrigerated after sampling.

4.2. Water bath — heated, with concentric ring cover, capable of temperature control (± 2° C). The bath should be used in a hood.

4.3. Gas chromatograph/mass spectrometer data system.

4.3.1 Gas chromatograph: An analytical system with a temperature-programmable gas chromatograph and all required accessories including syringes, analytical columns, and gases.

4.3.2 Column: SP-2250 coated on a 30 m long x 0.25 mm ID glass column (Supelco No. 2-3714 or equivalent). Glass capillary column conditions: Helium carrier gas at 30 cm/sec linear velocity run splitless. Column temperature is 210° C.

4.3.3 Mass spectrometer: Capable of scanning from 35 to 450 amu every 1 sec or less, utilizing 70 volts (nominal) electron energy in the electron impact ionization mode and producing a mass spectrum which meets all the criteria in Table 2 when 50 ng of decafluorotriphenyl-phosphine (DFTPP) is injected through the GC inlet. The system must also be capable of selected ion monitoring (SIM) for at least 4 ions simultaneously, with a cycle time of 1 sec or less. Minimum integration time for SIM is 100 ms. Selected ion monitoring is verified by injecting .015 ng of TCDD Cl^{37} to give a minimum signal to noise ratio of 5 to 1 at mass 328.

4.3.4 GC/MS interface: Any GC-to-MS interface that gives acceptable calibration points at 50 ng per injection for each compound of interest and achieves acceptable tuning performance criteria (see Sections 6.1—6.3) may be used. GC-to-MS interfaces constructed of all glass or glass-lined materials are recommended. Glass can be deactivated by silanizing with dichlorodimethylsilane. The interface must be capable of transporting at least 10 ng of the components of interest from the GC to the MS.

4.3.5 Data system: A computer system must be interfaced to the mass spectrometer. The system must allow the continuous acquisition and storage on machine-readable media of all mass spectra obtained throughout the duration of the chromatographic program. The computer must have software that can search any GC/MS data file for ions of a specific mass and that can plot such ion abundances versus time or scan number. This type of plot is defined as an Extracted Ion Current Profile (EICP). Software must also be able to integrate the abundance, in any EICP, between specified time or scan number limits.

4.4. Pipettes-Disposable, Pasteur, 150 mm long x 5 mm ID (Fisher Scientific Co., No. 13-678-6A or equivalent).

4.5. Flint glass bottle (Teflon-lined screw cap).

4.6. Reacti-vial (silanized) (Pierce Chemical Co.).

collection, the sample should be adjusted to a pH range of 6.0-8.0 with sodium hydroxide or sulfuric acid.

8.3. All samples must be extracted within seven (7) days and completely analyzed within thirty (30) days of collection.

9.0. Extraction and Cleanup Procedures.

^{37}Cl-labelled 2,3,7,8-TCDD and 2,3,7,8-TCDF are available from K.O.R. Isotopes, and Cambridge Isotopes, Inc., Cambridge, MA. Proper standardization requires the use of a specific labelled isomer for each congener to be determined. However, the only labelled isomers readily available are ^{37}Cl-2,3,7,8-TCDD and ^{37}Cl-2,3,7,8-TCDF. This method therefore uses these isomers as surrogates for the CDDs and CDFs. When other labelled CDDs and CDFs are available, their use will be required.

This procedure is adopted because standards are not available for most of the CDDs and CDFs, and assumes that all the congeners will show the same response as the unlabelled congener used as a standard. Although this assumption may not be true in all cases, the error will be small.

9.1. Use an aliquot of 1-10 g sample of the chemical waste or soil to be analyzed. Soils should be dried using a stream of prepurified nitrogen and pulverized in a ball-mill or similar device. Perform this operation in a clear area with proper hood space. Transfer the sample to a tared 125 ml flint glass bottle (Teflon-lined screw cap) and determine the weight of the sample. Add an appropriate quantity of ^{37}Cl-labelled 2,3,7,8-TCDD (adjust the quantity according to the required minimum detectable concentration), which is employed as an internal standard.

9.2. Extraction

9.2.1 Extract chemical waste samples by adding 10 ml methanol, 40 ml petroleum ether, 50 ml doubly distilled water, and then shaking the mixture for 2 minutes. Tars should be completely dissolved in any of the recommended neat solvents. Activated carbon samples must be extracted with benzene using method 3540 in SW-846 (Test Methods for Evaluating Solid Waste—Physical/Chemical Methods, available from G.P.O. Stock #055-022-81001-2). Quantitatively transfer the organic extract or dissolved sample to a clean 250 ml flint glass bottle (Teflon-lined screw cap), add 50 ml doubly distilled water and shake for 2 minutes. Discard the aqueous layer and proceed with Step 9.3.

9.2.2 Extract soil samples by adding 40 ml of petroleum ether to the sample, and then shaking for 20 minutes. Quantitatively transfer the organic extract to a clean 250 ml flint glass bottle (Teflon-lined screw cap), add 50 ml doubly distilled water and shake for 2 minutes. Discard the aqueous layer and proceed with Step 9.3.

9.3. Wash the organic layer with 50 ml of 20% aqueous potassium hydroxide by shaking for 10 minutes and then remove and discard the aqueous layer.

9.4. Wash the organic layer with 50 ml of doubly distilled water by shaking for 2 minutes, and discard the aqueous layer.

9.5. Cautiously add 50 ml concentrated sulfuric acid and shake for 10 minutes. Allow the mixture to stand until layers separate (approximately 10 minutes), and remove and discard the acid layer. Repeat acid washing until no color is visible in the acid layer.

9.6. Add 50 ml of doubly distilled water to the organic extract and shake for 2 minutes. Remove and discard the aqueous layer and dry the organic layer by adding 10 g of anhydrous sodium sulfate.

9.7. Concentrate the extract to incipient dryness by heating in a 55° C water bath and simultaneously flowing a stream of prepurified nitrogen over the extract. Quantitatively transfer the residue to an alumina microcolumn fabricated as follows:

9.7.1 Cut off the top section of a 10 ml disposable Pyrex pipette at the 4.0 ml mark and insert a plug of silanized glass wool into the tip of the lower portion of the pipette.

9.7.2 Add 2.8 g of Woelm basic alumina (previously activated at 600° C overnight and then cooled to room temperature in a desiccator just prior to use).

9.7.3 Transfer sample extract with a small volume of methylene chloride.

9.8. Elute the microcolumn with 10 ml of 3% methylene chloride-in-hexane followed by 15 ml of methylene chloride-in-hexane and discard these effluents. Elute the column with 15 ml of methylene chloride-in-hexane and concentrate this effluent (55° C water bath, stream of prepuri nitrogen) to about 0.3-0.5 ml.

9.9. Quantitatively transfer the residue (using methylene chloride to rinse the container) to a silan Reacti-Vial (Pierce Chemical Co.). Evaporate, using a stream of prepurified nitrogen, almo dryness, rinse the walls of the vessel with approximately 0.5 ml methylene chloride, evaporate ju dryness, and tightly cap the vial. Store the vial at 5° C until analysis, at which time the samp reconstituted by the addition of tridecane.

9.10. Approximately 1 hour before GC/MS (HRGC-LRMS) analysis, dilute the residue in the micro-r tion vessel with an appropriate quantity of tridecane. Gently swirl the tridecane on the lower por of the vessel to ensure dissolution of the CDDs and CDFs. Analyze a sample by GC/EC to pro insight into the complexity of the problem, and to determine the manner in which the m spectrometer should be used. Inject an appropriate aliquot of the sample into the GC/MS instrum using a syringe.

9.11. If, upon preliminary GC/MS analysis, the sample appears to contain interfering substances wh obscure the analyses for CDDs and CDFs, high performance liquid chromatographic (HP cleanup of the extract is accomplished, prior to further GC/MS analysis.

10.0. HPLC Cleanup Procedure.[7]

10.1. Place approximately 2 ml of hexane in a 50 ml flint glass sample bottle fitted with a Teflon-lined c

10.2. At the appropriate retention time, position sample bottle to collect the required fraction.

10.3. Add 2 ml of 5% (w/v) sodium carbonate to the sample fraction collected and shake for one minu

10.4. Quantitatively remove the hexane layer (top layer) and transfer to a micro-reaction vessel.

10.5. Concentrate the fraction to dryness and retain for further analysis.

11.0. GC/MS Analysis

11.1. The following column conditions are recommended: Glass capillary column conditions: SP-22 coated on a 30 m long x 0.25 mm I.D. glass column (Supelco No. 2-3714, or equivalent) with heliu carrier gas at 30 cm/sec linear velocity, run splitless. Column temperature is 210° C. Under the conditions the retention time for TCDDs is about 9.5 minutes. Calibrate the system daily with minimum, three injections of standard mixtures.

11.2. Calculate response factors for standards relative to ^{37}Cl-TCDD/F (see Section 12).

11.3. Analyze samples with selected ion monitoring of at least two ions from Table 3.

Proof of the presence of CDD or CDF exists if the following conditions are met:

11.3.1 The retention time of the peak in the sample must match that in the standard, within t performance specifications of the analytical system.

11.3.2 The ratio of ions must agree within 10% with that of the standard.

11.3.3 The retention time of the peak maximum for the ions of interest must exactly match that of the pe

11.4. Quantitate the CDD and CDF peaks from the response relative to the ^{37}Cl-TCDD/F inter standards. Recovery of the internal standard should be greater than 50 percent.

11.5. If a response is obtained for the appropriate set of ions, but is outside the expected ratio, a co-elut impurity may be suspected. In this case, another set of ions characteristic of the CDD/CDF molecu should be analyzed. For TCDD a good choice of ions is m/e 257 and m/e 259. For TCDF a good ch of ions is m/e 241 and 243. These ions are useful in characterizing the molecular structure to TC or TCDF. For analysis of TCDD good analytical technique would require using all four ions, m/e 2

320, 322 and 328, to verify detection and signal to noise ratio of 5 to 1. Suspected impurities such as DDE, DDD, or PCB residues can be confirmed by checking for their major fragments. These materials can be removed by the cleanup columns. Failure to meet criteria should be explained in the report, or the sample reanalyzed.

For cleanup see also method #8320 or #8330, SW-846 Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (1982).

11.6. If broad background interference restricts the sensitivity of the GC/MS analysis, the analyst should employ cleanup procedures and reanalyze by GC/MS. See section 10.0.

11.7. In those circumstances where these procedures do not yield a definitive conclusion, the use of high resolution mass spectrometry is suggested.

12.0. Calculations

12.1. Determine the concentration of individual compounds according to the formula:

$$\text{Concentration, ug/gm} = \frac{A \times A_s}{G \times A_{is} \times R_f}$$

where:

A = ug of internal standard added to the sample[8]
G = gm of sample extracted
A_s = area of characteristic ion of the compound being quantified
A_{is} = area of characteristic ion of the internal standard
R_f = response factor[9]

Response factors are calculated using data obtained from the analysis of standards according to the formula:

$$R_f \quad \frac{A_{is} \times C_{is}}{A_s \times C_s}$$

where:

C_{is} = concentration of the internal standard
C_s = concentration of the standard compound

12.2. Report results in micrograms per gram without correction for recovery data. When duplicate and spiked samples are analyzed, all data obtained should be reported.

12.3. Accuracy and Precision. No data are available at this time.

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[8] The proper amount of standard to be used is determined from the calibration curve (See Section 6.0).

[9] If standards for PCDDs/Fs and HxCDDs/Fs are not available, response factors for ions derived from these congeners are calculated relative to ^{37}Cl-TCDD/F. The analyst may use response factors for 1,2,3,4-or 2,3,7,8-TCDD, 1,2,3,4,7-PeCDD, or 1,2,3,4,7,8-HxCDD for quantitation of TCDDs/Fs, PeCDDs/Fs and HxCDDs/Fs, respectively. Implicit in this requirement is the assumption that the same response is obtained from PCDDs/Fs containing the same numbers of chlorine atoms.

TABLE 1.—GAS CHROMATOGRAPHY OF TCDD

Column	Retention time (min.)	Detection limit (ug/kg)[1]
Glass capillary	9.5	0.003

[1] Detection limit for liquid samples is 0.003 ug/l. This is calculated from the minimum detectable GC response being equal to five times the GC background noise assuming a 1 ml effective final volume of the 1 liter sample extract, and a GC injection of 5 microliters. Detection levels apply to both electron capture and GC/MS detection. For further details see 44 FR 69526 (December 3, 1979).

TABLE 2.—DFTPP KEY IONS AND ION ABUNDANCE CRITERIA[1]

Mass	Ion abundance criteria
51	30-60% of mass 198.
68	Less than 2% of mass 69.
70	Less than 2% of mass 69.
127	40-60% of mass 198.
197	Less than 1% of mass 198.
198	Base peak, 100% relative abundance.
199	5-9% of mass 198.
275	10-30% of mass 198.
365	Greater than 1% of mass 198.
441	Present but less than mass 443.
442	Greater than 40% of mass 198.
443	17-23% of mass 442.

[1]J.W. Eichelberger, L.E. Harris, and W.L. Budde, 1975. Reference compound to calibrate ion abundance measurement in gas chromatography-mass spectrometry. Analytical Chemistry 47:995.

TABLE 3.—LIST OF ACCURATE MASSES MONITORED USING GC SELECTED-ION MONITORING, LOW RESOLUTION, MASS SPECTROMETRY FOR SIMULTANEOUS DETERMINATION OF TETRA-, PENTA-, AND HEXACHLORINATED DIBENZO-p-DIOXINS AND DIBENZOFURANS

Class of Chlorinated Dibenzo-dioxins or dibenzo-furans	Number of chlorine substit-uents (x)	Monitored m/z for dibenzo-dioxins $C_{12}H_{8-x}O_2Cl_x$	Monitored m/z for dibenzo-furans $C_{12}H_{8-x}OCl_x$	Approximate theoretical ratio expected on basis of isotopic abundance
Tetra	4	[1]319.897	[1]303.902	0.74
		321.894	305.903	1.00
		[2]327.885	[2]311.894	.....
		[3]256.933	.....	0.21
		[3]258.930	.....	0.20
Penta	5	[1]353.858	[1]337.863	0.57
		355.855	339.860	1.00
Hexa	6	389.816	373.821	1.00
		391.813	375.818	0.87

[1]Molecular ion peak.
[2]Cl_4 — labelled standard peaks.
[3]Ions which can be monitored in TCDD analyses for confirmation purposes.

(Indiana Environmental Management Board; 320 IAC 4.1-6-9.1; filed Mar 16, 1987, 10:45 am)

SECTION 25. 320 IAC 4.1-7-3 is amended to read as follows:

320 IAC 4.1-7-3 EPA identification numbers

Authority: IC 13-7-7; IC 13-7-8.5

Affected: IC 13-7-1-2; IC 13-7-8.5

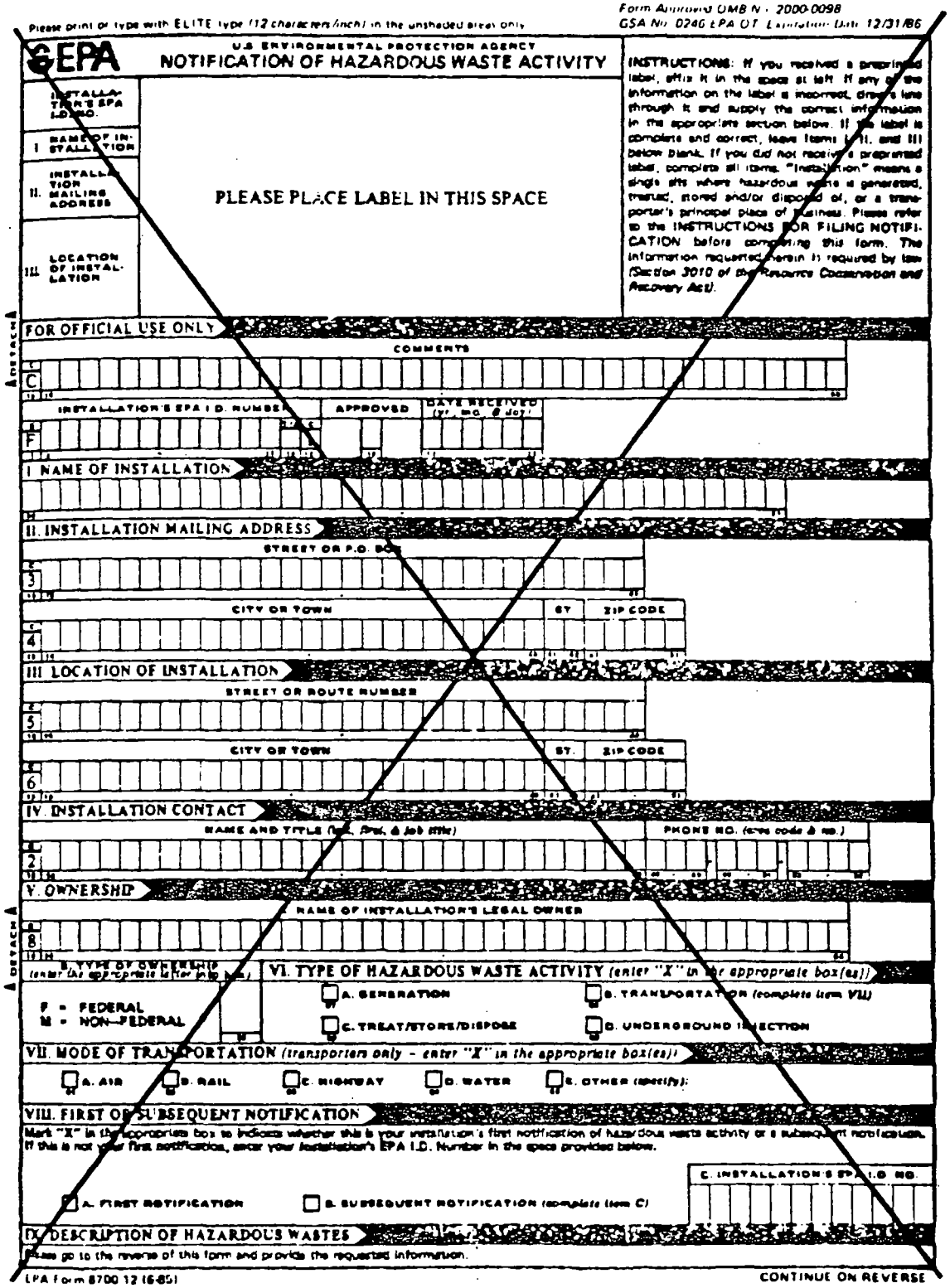
Sec. 3. (a) A generator must not treat, store, dispose of, transport, or offer for transportation, hazardous waste without having received an EPA identification number from the Administrator of U.S. EPA.

(b) A generator who has not received an EPA identification number may obtain one by applying to the Administrator using EPA form 8700-12. Upo

receiving the request the Administrator will assign an EPA identification number to the generator.

(c) A generator must not offer his hazardous waste to transporters or to treatment, storage, recovery, or disposal facilities that have not received an EPA identification number.

EPA FORM 8700-12 (6-85)



Please print or type with ELITE type (12 characters/inch) in the unshaded areas only

Form Approved OMB No. 2000-0098
GSA No. 0246 EPA Expiration Date 12/31/86

EPA — U.S. ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTRUCTIONS: If you received a preprinted label, affix it in the space at left. If any of the information on the label is incorrect, draw a line through it and supply the correct information in the appropriate section below. If the label is complete and correct, leave items I, II, and III below blank. If you did not receive a preprinted label, complete all items. "Installation" means a single site where hazardous waste is generated, treated, stored and/or disposed of, or a transporter's principal place of business. Please refer to the INSTRUCTIONS FOR FILING NOTIFICATION before completing this form. The information requested herein is required by law (Section 3010 of the Resource Conservation and Recovery Act).

INSTALLATION'S EPA I.D. NO.
I. NAME OF INSTALLATION
II. INSTALLATION MAILING ADDRESS
III. LOCATION OF INSTALLATION

PLEASE PLACE LABEL IN THIS SPACE

FOR OFFICIAL USE ONLY
COMMENTS
INSTALLATION'S EPA I.D. NUMBER | APPROVED | DATE RECEIVED (yr., mo., & day)

I. NAME OF INSTALLATION

II. INSTALLATION MAILING ADDRESS
STREET OR P.O. BOX
CITY OR TOWN | ST. | ZIP CODE

III. LOCATION OF INSTALLATION
STREET OR ROUTE NUMBER
CITY OR TOWN | ST. | ZIP CODE

IV. INSTALLATION CONTACT
NAME AND TITLE (last, first, & job title) | PHONE NO. (area code & no.)

V. OWNERSHIP
NAME OF INSTALLATION'S LEGAL OWNER

VI. TYPE OF OWNERSHIP (enter the appropriate letter into the box)
F = FEDERAL
M = NON-FEDERAL

VI. TYPE OF HAZARDOUS WASTE ACTIVITY (enter "X" in the appropriate box(es))
A. GENERATION
B. TRANSPORTATION (complete item VII)
C. TREAT/STORE/DISPOSE
D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION (transporters only - enter "X" in the appropriate box(es))
A. AIR | B. RAIL | C. HIGHWAY | D. WATER | E. OTHER (specify):

VIII. FIRST OR SUBSEQUENT NOTIFICATION
Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your installation's EPA I.D. Number in the space provided below.
A. FIRST NOTIFICATION
B. SUBSEQUENT NOTIFICATION (complete item C)
C. INSTALLATION'S EPA I.D. NO.

IX. DESCRIPTION OF HAZARDOUS WASTES
Please go to the reverse of this form and provide the requested information.

EPA Form 8700-12 (6-85)
CONTINUE ON REVERSE

NOTIFICATION OF HAZARDOUS WASTE ACTIVITY FORM

Form Approved OMB No 2050-0028 Expires 9-30-88
GSA No 0246 EPA-OT

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

United States Environmental Protection Agency
Washington, DC 20460

EPA Notification of Hazardous Waste Activity

Please refer to the *Instructions for Filing Notification* before completing this form. The information requested here is required by law (Section 3010 of the Resource Conservation and Recovery Act).

For Official Use Only

Comments

C C

Installation's EPA ID Number			Approved	Date Received (yr. mo. day)
C F	I/A	C 1		

I. Name of Installation

II. Installation Mailing Address

Street or P.O. Box — C 3

City or Town — State — ZIP Code — C 4

III. Location of Installation

Street or Route Number — C 5

City or Town — State — ZIP Code — C 6

IV. Installation Contact

Name and Title (last, first, and job title) — Phone Number (area code and number) — C 7

V. Ownership

A. Name of Installation's Legal Owner — B. Type of Ownership (enter code) — C R

VI. Type of Regulated Waste Activity (Mark 'X' in the appropriate boxes. Refer to instructions.)

A. Hazardous Waste Activity

- ☐ 1a. Generator ☐ 1b. Less than 1,000 kg/mo.
- ☐ 2. Transporter
- ☐ 3. Treater/Storer/Disposer
- ☐ 4. Underground Injection
- ☐ 5. Market or Burn Hazardous Waste Fuel (enter 'X' and mark appropriate boxes below)
  - ☐ a. Generator Marketing to Burner
  - ☐ b. Other Marketer
  - ☐ c. Burner

B. Used Oil Fuel Activities

- ☐ 6. Off-Specification Used Oil Fuel (enter 'X' and mark appropriate boxes below)
  - ☐ a. Generator Marketing to Burner
  - ☐ b. Other Marketer
  - ☐ c. Burner
- ☐ 7. Specification Used Oil Fuel Marketer (or On-site Burner) Who First Claims the Oil Meets the Specification

VII. Waste Fuel Burning: Type of Combustion Device (enter 'X' in all appropriate boxes to indicate type of combustion device(s) in which hazardous waste fuel or off-specification used oil fuel is burned. See instructions for definitions of combustion devices.)

☐ A. Utility Boiler ☐ B. Industrial Boiler ☐ C. Industrial Furnace

VIII. Mode of Transportation (transporters only — enter 'X' in the appropriate box(es))

☐ A. Air ☐ B. Rail ☐ C. Highway ☐ D. Water ☐ E. Other (specify)

IX. First or Subsequent Notification

Mark 'X' in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your installation's EPA ID Number in the space provided below.

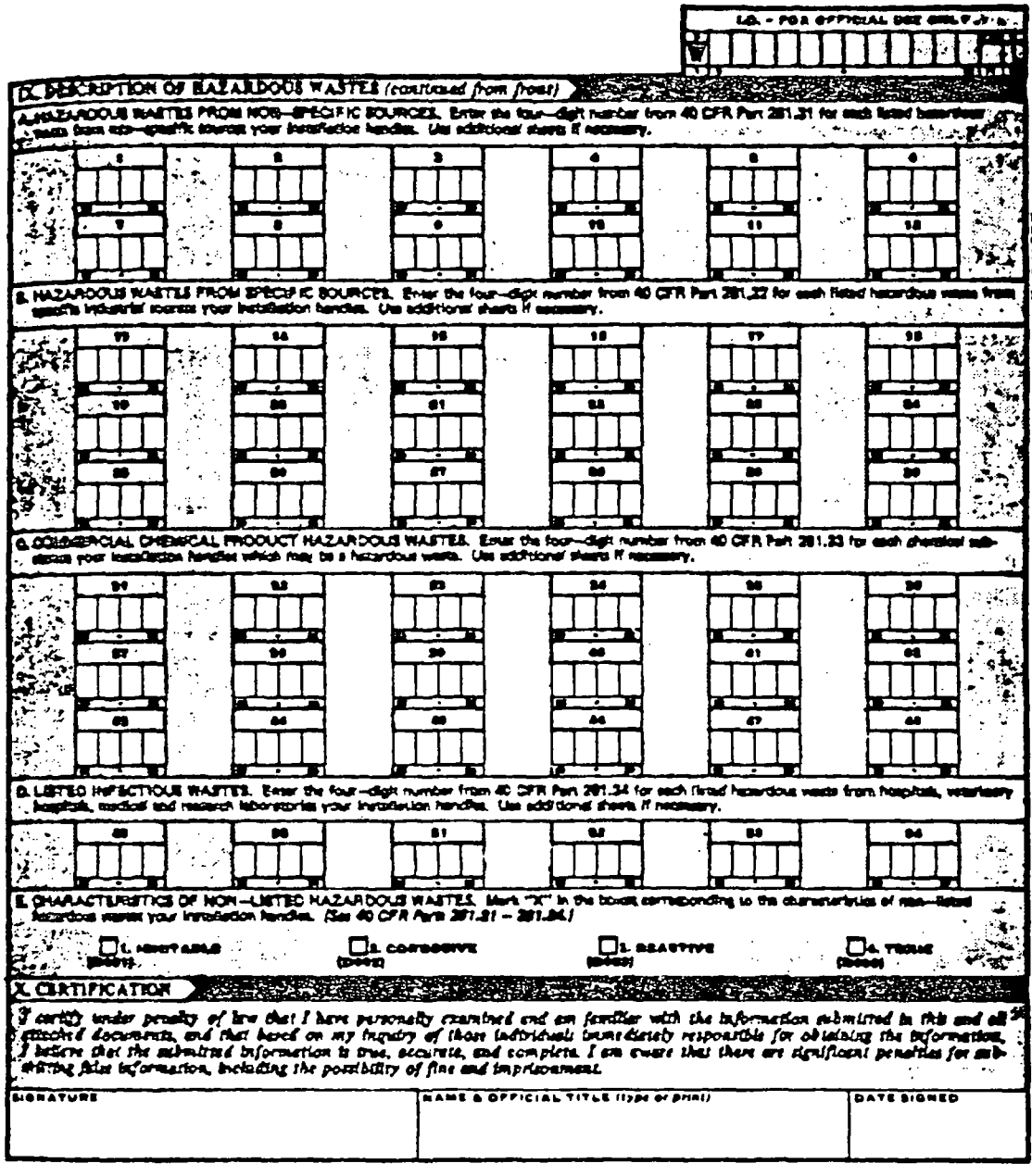
☐ A. First Notification ☐ B. Subsequent Notification (complete item C)

C. Installation's EPA ID Number

EPA Form 8700-12 (Rev. 11-85) Previous edition is obsolete

Continue on reverse

EPA FORM 8700-12 ~~(6-85)~~ (REV. 11-85) REVERSE



EPA Form 8700-12 ~~(6-85)~~ (Rev. 11-85) REVERSE

(Indiana Environmental Management Board; 320 IAC 4.1-7-3; filed Jul 30, 1985, 9:01 am: 8 IR 1776; filed Mar 16, 1987, 10:45 am)

SECTION 26. 320 IAC 4.1-8-1 is amended to read as follows:

320 IAC 4.1-8-1 General requirements

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 1. (a) A generator who transports, or offers for transportation, hazardous waste for off-site treatment, storage, disposal, or recovery (except to the extent that such generators who transport or offer for transportation hazardous waste for off-site recovery are exempt from regulation under 320 IAC 4.1-3 through 320 IAC 4.1-6) must complete the Manifest adopted by the Board on EPA form 8700-22, and if necessary, EPA form 8700-22A, according to the instructions included in 320 IAC 4.1-14-3.

(b) A generator must designate on the manifest one facility which is permitted to handle the waste described on the manifest.

(c) A generator may also designate on the manifest one alternate facility which is permitted to handle his waste in the event an emergency prevents delivery of the waste to the primary designated facililty [*sic.*].

(d) If the transporter is unable to deliver the hazardous waste to the designated facililty [*sic.*] or the alternate facility, the generator must either designate another facility or instruct the transporter to return the waste.

(e) The requirements of 320 IAC 4.1-8 do not apply to hazardous waste produced by generators of greater than 100 kg. but less than 1,000 kg. in a calendar month where:

(1) The waste is reclaimed under a contractual agreement pursuant to which:

(i) the type of waste and frequency of shipments are specified in the agreement;

(ii) the vehicle used to transport the waste to the recycling facility and to deliver regenerated material back to the generator is owned and operated by the reclaimer of the waste; and

(2) The generator maintains a copy of the reclamation agreement in his files for a period of at least three (3) years after termination or expiration of the agreement.

(Indiana Environmental Management Board; 320 IAC 4.1-8-1; filed Jul 30, 1985, 9:01 am: 8 IR 1779; filed May 30, 1986, 2:16 pm: 9 IR 2667; filed Mar 16, 1987, 10:45 am)

SECTION 27. 320 IAC 4.1-9-5 is amended to read as follows:

320 IAC 4.1-9-5 Accumulation time

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 5. (a) Except as provided in paragraph (d), (e), and (f) of this section, a generator may accumulate hazardous waste on-site for ninety (90) days or less without a permit or without having interim status, provided that:

(1) The waste is placed in containers and the generator complies with 320 IAC 4.1-23, or the waste is placed in tanks and the generator complies with 320 IAC 4.1-24 except 320 IAC 4.1-24-3.

(2) The date upon which each period of accummulation [*sic.*] begins is clearly marked and visible for inspection on each container.

(3) While being accummulated on-site, each container and tank is labeled or clearly marked with the words, "Hazardous Waste;" and

(4) The generator complies with the requirements for owners or operators in 320 IAC 4.1-17 and 320 IAC 4.1-18 and with 320 IAC 4.1-16-7.

(b) A generator who accumulates hazardous waste for more than ninety (90) days is an operator of a storage facility and is subject to the requirements of 320 IAC 4.1-15 through 320 IAC 4.1-32 and 320 IAC 4.1-40 through 320 IAC 4.1-54 and the permit requirements of 320 IAC 4.1-33 through 320 IAC 4.1-39 unless he has been granted an extension to the 90-day period. Such extensions may be granted by the ~~State~~ Department of Environmental Management if hazardous waste must remain on site for longer than 90 days due to unforeseen, temporary, and uncontrollable circumstances. An extension of up to 30 days may be granted at the discretion of the ~~Technical Secretary~~ Commissioner on a case-by-case basis.

(c)(1) A generator may accumulate as much as 55 gallons of hazardous waste or one quart of acutely hazardous waste listed in 320 IAC 4.1-6-4(e) in containers at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or interim status and without complying with paragraph (a) of this section provided he:

(i) complies with 320 IAC 4.1-23-2, 320 IAC 4.1-23-3, and 320 IAC 4.1-23-4(a); and

(ii) marks his containers either with the words "Hazardous Waste" or with other words that identify the contents of the containers.

(2) A generator who accumulates either hazardous waste or acutely hazardous waste listed in 320 IAC 4.1-6-4(e) in excess of the amounts listed in paragraph (c)(1) of this section at or near any

point of generation must, with respect to that amount of excess waste, comply within three days with paragraph (a) of this section or other applicable provisions of 320 IAC 4.1. During the three day period the generator must continue to comply with paragraphs (c)(1)(i)—(ii) of this section. The generator must mark the container holding the excess accumulation of hazardous waste with the date the excess amount began accumulating.

(d) A generator who generates greater than 100 kilograms but less than 1,000 kilograms of hazardous waste in a calendar month may accumulate hazardous waste on-site for one-hundred eighty (180) days or less without a permit or without having interim status provided that:

(1) the quantity of waste accumulated on-site never exceeds 6,000 kilograms;

(2) the generator complies with the requirements of paragraph (a)(1) except the generator need not comply with 320 IAC 4.1-23-6;

(3) the generator complies with the requirements of paragraphs (a)(2) and (a)(3) of this section and the requirements of 320 IAC 4.1-17; and

(4) the generator complies with the following requirements:

(i) at all times there must be at least one employee either on the premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures specified in paragraph (d)(4)(iv) of this section. This employee is the emergency coordinator;

(ii) the generator must post the following information next to the telephone:

(A) the name and telephone number of the emergency coordinator;

(B) location of fire extinguishers and spill control material, and, if present, fire alarm; and

(C) the telephone number of the fire department, unless the facility has a direct alarm.

(iii) the generator must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies;

(iv) the emergency coordinator or his designee must respond to any emergencies that arise. The applicable responses are as follows:

(A) in the event of a fire, call the fire department or attempt to extinguish it using a fire extinguisher;

(B) in the event of a spill, contain the flow of hazardous waste to the extent possible, and as soon as is practicable, clean up the hazardous waste and any contaminated materials or soil;

(C) in the event of a fire, explosion, or other release which could threaten human health outside the facility or when the generator has knowledge that a spill has reached surface water, the generator must immediately notify the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include the following information:

(1) the name, address, and U.S. EPA Identification Number of the generator;

(2) date, time, and type of incident (e.g., spill or fire);

(3) quantity and type of hazardous waste involved in the incident;

(4) extent of injuries, if any; and

(5) estimated quantity and disposition of recovered materials, if any.

(e) A generator who generates greater than 100 kilograms but less than 1,000 kilograms of hazardous waste in a calendar month and who must transport his waste, or offer his waste for transportation, over a distance of 200 miles or more for off-site treatment, storage, or disposal may accumulate hazardous waste on-site for 270 days or less without a permit or without having interim status provided that he complies with the requirements of paragraph (d) of this section.

(f) A generator who generates greater than 100 kilograms but less than 1,000 kilograms of hazardous waste in a calendar month and who accumulates hazardous waste in quantities exceeding 6,000 kilograms or accumulates hazardous waste for more than one-hundred eighty (180) days (or for more than 270 days if he must transport his waste, or offer his waste for transportation, over a distance of 200 miles or more) is an operator of a storage facility and is subject to the requirements of 320 IAC 4.1-15 through 320 IAC 4.1-32 and 320 IAC 4.1-40 through 320 IAC 4.1-54 and the permit requirements of 320 IAC 4.1-33 through 320 IAC 4.1-39 unless he has been granted an extension to the 180-day (or 270-day if applicable) period. Such exten-

sion may be granted by the Department of Environmental Management if hazardous wastes must remain on-site for longer than 180 days (or 270 days if applicable) due to unforeseen, temporary, and uncontrollable circumstances. An extension of up to 30 days may be granted at the discretion of the Commissioner on a case-by-case basis. *(Indiana Environmental Management Board; 320 IAC 4.1-9-5; filed Jul 30, 1985, 9:01 am: 8 IR 1780; filed Mar 16, 1987, 10:45 am)*

SECTION 28. 320 IAC 4.1-10-2 is amended to read as follows:

320 IAC 4.1-10-2 Biennial reporting

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 2. (a) A generator who ships his hazardous waste off-site must prepare and submit Biennial Reports:

(1) On forms provided by the ~~Board~~ Commissioner according to the instructions on the form.

(2) To the: ~~Environmental Management Board Division of Land Pollution Control Indiana State Board of Health 1330 W. Michigan Street, Indianapolis, Indiana 46206~~

Department of Environmental Management
Office of Solid and Hazardous Waste
105 S. Meridian Street
Indianapolis, Indiana 46225

(3) No later than March 1 of each even numbered year.

~~(b) Any generator who treats, stores, recovers, or disposes of hazardous wastes on site must submit an Biennial Report covering those hazardous wastes in accordance with the provisions of 320 IAC 4.1-15 through 320 IAC 4.1-54.~~

(b) The Biennial Report must include the following information:

(1) A description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated.

(2) A description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent such information is available for years prior to 1984.

(3) The certification signed by the generator or authorized representative.

(c) Any generator who treats, stores, recovers, or disposes of hazardous wastes on-site must submit an [*sic.*] Biennial Report covering those hazardous wastes in accordance with the provisions of 320 IAC 4.1-15 through 320 IAC 4.1-54. *(Indiana Environmental Management Board; 320 IAC 4.1-10-2; filed Jul 30, 1985, 9:01 am: 8 IR 1781; filed Mar 16, 1987, 10:45 am)*

SECTION 29. 320 IAC 4.1-10-5 is added to read as follows:

320 IAC 4.1-10-5 Special requirements for generators of between 100 and 1,000 kilograms in a calendar month

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 5. A generator who generates greater than 100 kilograms but less than 1,000 kilograms of hazardous waste in a calendar month is exempt from the requirements of 320 IAC 4.1-10, except for the recordkeeping requirements in paragraphs (a), (c), and (d) in 320 IAC 4.1-10-1 and the requirements of 320 IAC 4.1-10-4. *(Indiana Environmental Management Board; 320 IAC 4.1-10-5; filed Mar 16, 1987, 10:45 am)*

SECTION 30. 320 IAC 4.1-13-1 is amended to read as follows:

320 IAC 4.1-13-1 The manifest system

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 1. (a) A transporter may not accept hazardous waste from a generator unless it is accompanied by a manifest, signed by the generator in accordance with the provisions of 320 IAC 4.1-7 through 320 IAC 4.1-11.

(b) Before transporting the hazardous waste, the transporter must sign and date the manifest acknowledging acceptance of the hazardous waste from the generator. The transporter must return two signed copies to the generator before leaving the generator's property.

(c) The transporter must ensure that the manifest accompanies the hazardous waste.

(d) A transporter who delivers a hazardous waste to another transporter or to the designated facility must:

(1) obtain the date of delivery and the handwritten signature of that transporter or of the owner or operator of the designated facility on the manifest; and

(2) retain one (1) copy of the manifest in accordance with 320 IAC 4.1-13-3; and

(3) give the remaining copies of the manifest to the accepting transporter or designated facility.

(e) The requirements of paragraph (c), (d), and (f) of this section do not apply to water (bulk shipment) transporters if:

(1) the hazardous waste is delivered by water (bulk shipment) to the designated facility; and

(2) a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification, and signatures) accompanies the hazardous waste; and

(3) the delivering transporter obtains the date of delivery and handwritten signature of the owner or operator of the designated facility on either the manifest or the shipping paper; and

(4) the person delivering the hazardous waste to the initial water (bulk shipment) transporter obtains the date of delivery and signature of the water (bulk shipment) transporter on the manifest and forwards it and a copy to the designated facility; and

(5) a copy of the shipping paper or manifest is retained by each water (bulk shipment) transporter in accordance with 320 IAC 4.1-13-3.

(f) For shipments involving rail transportation, the requirements of paragraphs (c), (d), and (e) do not apply and the following requirements do apply:

(1) When accepting hazardous waste from a non-rail transporter, the initial rail transporter must:

(i) Sign and date the manifest acknowledging acceptance of the hazardous waste.

(ii) Return a signed copy of the manifest to the non-rail transporter.

(iii) Forward at least four copies of the manifest to:

(A) the next non-rail transporter, if any; or

(B) the designated facility, if the shipment is delivered to that facility by rail; or

(C) the last rail transporter designated to handle the waste in Indiana.

(iv) Retain one copy of the manifest and rail shipping paper in accordance with 320 IAC 4.1-13-3.

(2) Rail transporters must ensure that a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification, and signatures) accompanies the hazardous waste at all times.

[Note: Intermediate rail transporters are not required to sign either the manifest or shipping paper.]

(3) When delivering hazardous waste to the designated facility, a rail transporter must:

(i) obtain the date of delivery and handwritten signature of the owner or operator of the designated facility on the manifest or the shipping paper (if the manifest has not been received by the facility); and

(ii) retain a copy of the manifest or signed shipping paper in accordance with 320 IAC 4.1-13-3.

(4) When delivering hazardous waste to a non-rail transporter, a rail transporter must:

(i) obtain the date of delivery and the handwritten signature of the next non-rail transporter on the manifest; and

(ii) retain a copy of the manifest in accordance with 320 IAC 4.1-13-3.

(5) Before accepting hazardous waste from a rail transporter, a non-rail transporter must sign and date the manifest and provide a copy to the rail transporter.

(g) Transporters who transport hazardous waste out of the United States must:

(1) indicate on the manifest the date the hazardous waste left the United States; and

(2) sign the manifest and retain one (1) copy in accordance with 320 IAC 4.1-13-3(c); and

(3) return a signed copy of the manifest to the generator.

(h) A transporter transporting hazardous waste from a generator who generates greater than 100 kilograms but less than 1,000 kilograms of hazardous waste in a calendar month need not comply with the requirements of this section or those of 320 IAC 4.1-13-2 or 320 IAC 4.1-13-3 provided that:

(1) the waste is being transported pursuant to a reclamation agreement as provided for in 320 IAC 4.1-8-1;

(2) the transporter records, on a log or shipping paper, the following information for each shipment:

(i) the name, address, and U.S. EPA Identification Number of the generator of the waste;

(ii) the quantity of waste accepted;

(iii) all DOT-required shipping information;

(iv) the date the waste is accepted; and

(3) the transporter carries this record when transporting waste to the reclamation facility; and

(4) the transporter retains these records for a period of at least three (3) years after termination or expiration of the agreement.

(Indiana Environmental Management Board; 320 IAC

4.1-13-1; filed Jul 30, 1985, 9:01 am: 8 IR 1783; filed May 30, 1986, 2:16 pm: 9 IR 2670; filed Mar 16, 1987, 10:45 am)

SECTION 31. 320 IAC 4.1-15-1 is amended to read as follows:

320 IAC 4.1-15-1 Purpose, scope, applicability

Authority: IC 13-7-7; IC 13-7-8.5

Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 1. (a) The purpose of 320 IAC 4.1-15 through 320 IAC 4.1-32 is to establish minimum State standards which define the acceptable management of hazardous waste during the period of Interim Status **and until certification of final closure or, if the facility is subject to post-closure requirements, until post-closure responsibilities are fulfilled.**

(b) The standards in 320 IAC 4.1-15 through ~~320 IAC 4.1-32-1~~ 320 IAC 4.1-32 apply to owners and operators of facilities which treat, store, ~~recycle~~, recover, or dispose of hazardous waste who have fully complied with the requirements of 320 IAC 4.1-34 and 320 IAC 4.1-38, until ~~disposition of their Final Permit application is made~~ **either a permit is issued under 320 IAC 4.1-33 through 320 IAC 4.1-39 or until applicable 320 IAC 4.1-21 closure and post-closure responsibilities are fulfilled**, and to those owners and operators of facilities in existence on November 19, 1980, who have failed to provide timely notification as required by ~~Section 3010(a) of RCRA~~, 320 IAC 4.1-2 and/or failed to file Part A of the permit application ~~pursuant to~~ as required by 320 IAC 4.1-34 and 320 IAC 4.1-38.

These standards apply to all treatment, storage, ~~recycling~~, recovery, or disposal of hazardous waste at these facilities except as specifically provided otherwise in ~~this Rule~~ 320 IAC 4.1-15 through 320 IAC 4.1-32 or 320 IAC 4.1-3 through 320 IAC 4.1-6.

(c) The requirements of 320 IAC 4.1-15 through 320 IAC 4.1-32 do not apply to:

(1) a person disposing of hazardous waste by means of ocean disposal subject to a permit issued under the Marine Protection, Research, and Sanctuaries Act (16 USC 1431 et. seq. and 33 USC 1401 et. seq.);

[Note: 320 IAC 4.1-15 through 320 IAC 4.1-32 do apply to the treatment or storage of hazardous waste before it is loaded onto an ocean vessel for incineration or disposal at sea, as provided in paragraph (b) of this Section.]

(2) a person disposing of hazardous waste by means of underground injection subject to a permit issued under an Underground Injection Control (UIC) program approved or promulgated under the Safe Drinking Water Act (42 USC 300f et. seq.);

[Note: 320 IAC 4.1-15 through 320 IAC 4.1-32 do apply to the aboveground treatment or storage of hazardous waste before it is injected underground. 320 IAC 4.1-15 through 320 IAC 4.1-32 also apply to the disposal of hazardous waste by means of underground injection, as provided in paragraph (b) of this Section, until final disposition of a person's Final State permit application is made under 320 IAC 4.1-34 or under an approved or promulgated UIC program.]

(3) the owner or operator of a POTW which treats, stores, or disposes of hazardous waste;

[Note: The owner or operator of a facility under paragraphs (c)(1) through (c)(3) of this Section is subject to the requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54 to the extent they are included in a permit-by-rule granted to such a person under 320 IAC 4.1-33 through 320 IAC 4.1-39, or are required by 40 CFR § 144.14.]

(4) the owner or operator of a facility permitted, licensed, or registered by the ~~Board~~ Commissioner to manage municipal or industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation under 320 IAC 4.1-3-5;

~~(5) the owner or operator of a facility which is beneficially using or reusing or legitimately recycling or reclaiming hazardous waste which is generated by the owner or operator of the facility, except to the extent the requirements are included in 320 IAC 4.1-3-6(b);~~

(5) the owner and operator of a facility managing recyclable materials described in 320 IAC 4.1-3-6(a)(2) and (3) (except to the extent that requirements of 320 IAC 4.1-15 through 320 IAC 4.1-32 are referred to in 320 IAC 4.1-32.5);

(6) a generator accumulating waste on-site in compliance with 320 IAC 4.1-9-5, except to the extent the requirements are included in 320 IAC 4.1-9-5;

(7) a farmer disposing of waste pesticides from his own use in compliance with 320 IAC 4.1-11-2; or

(8) the owner or operator of a totally enclosed treatment facility, as defined in 320 IAC 4.1-1-7;

(9) the owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in 320 IAC 4.1-1-7.

(10)(i) Except as provided in paragraph (c)(10)(ii) of this Section, a person engaged in treatment or containment activities during immediate response to any of the following situations:

(A) a discharge of a hazardous waste;

(B) an imminent and substantial threat of a discharge of a hazardous waste;

(C) a discharge of a material which, when discharged, becomes a hazardous waste.

(iii) An owner or operator of a facility otherwise regulated by 320 IAC 4.1-15 through 320 IAC 4.1-32 must comply with all applicable requirements of 320 IAC 4.1-17 and 320 IAC 4.1-18.

(iiii) Any person who is covered by paragraph (c)(10)(ii) of this Section and who continues or initiates hazardous waste treatment or containment activities after the immediate response is over, is subject to all applicable requirements of 320 IAC 4.1-15 through 320 IAC 4.1-39 for those activities.

(11) A transporter storing manifested shipments of hazardous waste in containers meeting the requirements of 320 IAC 4.1-9-1 at a transfer facility for a period of ten days or less.

(12) The addition of absorbent material to waste in a container (as defined in 320 IAC 4.1-1-7) or the addition of waste to the absorbent material in a container provided that these actions occur at the time waste is first placed in the container and 320 IAC 4.1-16-8(b), 320 IAC 4.1-23-2, and 320 IAC 4.1-23-3 are complied with.

(d) The following hazardous wastes must not be managed at facilities subject to regulation under 320 IAC 4.1-15 through 320 IAC 4.1-32:

(1) EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, or F027 unless:

(i) the wastewater treatment sludge is generated in a surface impoundment as part of the plant's wastewater treatment system;

(ii) the waste is stored in tanks or containers;

(iii) the waste is stored or treated in waste piles that meet the requirements of 320 IAC 4.1-51-1(c) as well as all other applicable requirements of 320 IAC 4.1-26;

(iv) the waste is burned in incinerators that are certified pursuant to the standards and procedures in 320 IAC 4.1-29-6; or

(v) the waste is burned in facilities that thermally treat the waste in a device other than an incinerator and that are certified pursuant to the standards and procedures in 320 IAC 4.1-30-7.

(Indiana Environmental Management Board; 320 IAC 4.1-15-1; filed Jul 30, 1985, 9:01 am: 8 IR 1791; filed Mar 16, 1987, 10:45 am; errata, 10 IR 1704)

SECTION 32. 320 IAC 4.1-15-2 is amended to read as follows:

320 IAC 4.1-15-2 Imminent hazard action

Authority: IC 13-7-7; IC 13-7-8.5

Affected: IC 13-7-1-2; IC 13-7-8.5; IC 13-7-11; IC 13-7-12

Sec. 2. Notwithstanding any other provisions of 320 IAC 4.1-15 through 320 IAC 4.1-32, enforcement actions may be brought pursuant to **IC 13-7-11 and IC 13-7-12.** *(Indiana Environmental Management Board; 320 IAC 4.1-15-2; filed Jul 30, 1985, 9:01 am: 8 IR 1792; filed Mar 16, 1987, 10:45 am)*

SECTION 33. 320 IAC 4.1-16-4 is amended to read as follows:

320 IAC 4.1-16-4 General waste analysis

Authority: IC 13-7-7; IC 13-7-8.5

Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 4. (a)(1) Before an owner or operator treats, stores, recovers, or disposes of any hazardous waste, he must obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum, this analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with the requirements of 320 IAC 4.1-15 through 320 IAC 4.1-32.

(2) The analysis may include data developed under 320 IAC 4.1-3 through 320 IAC 4.1-6, and existing published or documented data on the hazardous waste or on waste generated from similar processes.

[Note: For example, the facility's record of analyses performed on the waste before the effective date of 320 IAC 4, or studies conducted on hazardous waste generated from processes similar to that which generated the waste to be managed at the facility, may be included in the data base required to comply with paragraph (a)(1) of this Section. The owner or operator of an off-site facility may arrange for the generator of the hazardous waste to supply part or all of the information required by paragraph (a)(1) of this Section. If the generator does not supply the information, and the owner or operator chooses to accept a hazardous waste, the owner or operator is responsible for obtaining the information required to comply with this section.]

(3) The analysis must be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis must be repeated:

(i) when the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous waste has changed; and

(ii) for off-site facilities, when the results of the inspection required in paragraph (a)(4) of this Section indicate that the hazardous waste received at

the facility does not match the waste designated on the accompanying manifest or shipping paper.

(4) The owner or operator of an off-site facility must inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

(b) The owner or operator must develop and follow a written waste analysis plan which describes the procedures which he will carry out to comply with paragraph (a) of this Section. He must keep this plan at the facility. At a minimum, the plan must specify:

(1) the parameters for which each hazardous waste will be analyzed and the rationale for the selection of these parameters (i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with paragraph (a) of this Section);

(2) the test methods which will be used to test for these parameters;

(3) the sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:

(i) one of the sampling methods described in 320 IAC 4.1-6-5; or

(ii) an equivalent sampling method.

[Note: See 320 IAC 4.1-1-5 for related discussion.]

(4) the frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date;

(5) for off-site facilities, the waste analyses that hazardous waste generators have agreed to supply; and

(6) where applicable, the methods which will be used to meet the additional waste analysis requirements for specific waste management methods as specified in 320 IAC 4.1-24-3, 320 IAC 4.1-25-4, 320 IAC 4.1-26-3, 320 IAC 4.1-27-3, 320 IAC 4.1-28-7, 320 IAC 4.1-29-2, 320 IAC 4.1-30-3, and 320 IAC 4.1-31-3.

(c) For off-site facilities, the waste analysis plan required in paragraph (b) of this Section must also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan must describe:

(1) the procedures which will be used to determine the identity of each movement of waste managed at the facility; and

(2) the sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

(Indiana Environmental Management Board; 320 IAC 4.1-16-4; filed Jul 30, 1985, 9:01 am: 8 IR 1792; filed Mar 16, 1987, 10:45 am)

SECTION 34. 320 IAC 4.1-16-9 is added to read as follows:

320 IAC 4.1-16-9 Location standards

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 9. The placement of any hazardous waste in a salt dome, salt bed formation, underground mine or cave is prohibited. *(Indiana Environmental Management Board; 320 IAC 4.1-16-9; filed Mar 16, 1987, 10:45 am)*

SECTION 35. 320 IAC 4.1-19-4 is amended to read as follows:

320 IAC 4.1-19-4 Operating record

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 4. (a) The owner or operator must keep a written operating record at his facility.

(b) The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility:

(1) a description and the quantity of each hazardous waste received, and the method(s) and date(s) of its treatment, storage, or disposal at the facility as required by 320 IAC 4.1-32-2;

(2) the location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of each hazardous waste must be recorded on a map or diagram of each cell or disposal area. For all facilities, this information must include cross-references to specific manifest document numbers if the waste was accompanied by a manifest;

[Note: See 320 IAC 4.1-21-9, 320 IAC 4.1-27-6, and 320 IAC 4.1-28-3 for related requirements.]

(3) records and results of waste analyses and trial tests performed as specified in 320 IAC 4.1-16-4, 320 IAC 4.1-24-3, 320 IAC 4.1-25-4, 320 IAC 4.1-26-3, 320 IAC 4.1-27-3, 320 IAC 4.1-28-7, 320 IAC 4.1-29-2, 320 IAC 4.1-30-3, and 320 IAC 4.1-31-3;

(4) summary reports and details of all incidents that require implementing the contingency plan as specified in 320 IAC 4.1-18-7(j);

(5) records and results of inspections as required by 320 IAC 4.1-16-6(d) (except these data need be kept only three years);

(6) monitoring, testing, or analytical data where required by 320 IAC 4.1-20-1, 320 IAC 4.1-20-5, 320 IAC 4.1-27-4, 320 IAC 4.1-27-5, 320 IAC 4.1-27-7(d)(1), 320 IAC 4.1-29-4, 320 IAC 4.1-30-4; and

[Note: As required by 320 IAC 4.1-20-5, monitoring data at disposal facilities must be kept throughout the post-closure period.]

(7) all closure cost estimates under 320 IAC 4.1-22-3 and, for disposal facilities, all post-closure cost estimates under 320 IAC 4.1-22-13.

(Indiana Environmental Management Board; 320 IAC 4.1-19-4; filed Jul 30, 1985, 9:01 am: 8 IR 1800; filed Mar 16, 1987, 10:45 am)

SECTION 36. 320 IAC 4.1-25-1.5 is added to read as follows:

320 IAC 4.1-25-1.5 Design requirements

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 1.5. (a) The owner or operator of a surface impoundment must install two or more liners and leachate collection system in accordance with 320 IAC 4.1-50-2(c), with respect to each new unit, replacement of an existing unit, or lateral expansion of an existing unit that is within the area identified in the Part A permit application, and with respect to waste received beginning May 8, 1985.

(b) The owner or operator of each unit referred to in paragraph (a) of this section must notify the ~~Technical Secretary~~ Commissioner at least sixty (60) days prior to receiving waste. The owner or operator of each facility submitting notice must file a Part B application within six months of the receipt of such notice.

(c) Paragraph (a) of this section will not apply if the owner or operator demonstrates to the ~~Technical Secretary~~ Commissioner, and the ~~Technical Secretary~~ Commissioner finds for such surface impoundment, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as such liners and leachate collection systems.

(d) The double liner requirement set forth in paragraph (a) of this section may be waived by the ~~Technical Secretary~~ Commissioner for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the EP toxicity characteristics in 320 IAC 4.1-5-5; and

(2)(i)(A) The monofill has at least one liner for which there is no evidence that such liner is leaking. For the purposes of this paragraph the term "liner" means a liner designed, constructed, installed, and operated to prevent hazardous waste from passing into the liner at any time during the active life of the facility, or a liner designed, constructed, installed, and operated to prevent hazardous waste from migrating beyond the liner to adjacent subsurface soil, ground water, or surface water at any time during the active life of the facility. In the case of any surface impoundment which has been exempted from the requirements of paragraph (a) of this section on the basis of a liner designed, constructed, installed, and operated to prevent hazardous waste from passing beyond the liner, at the closure of such impoundment the owner or operator must remove or decontaminate all waste residues, all contaminated liner material, and contaminated soil to the extent practicable. If all contaminated soil it [*sic.*] is not removed or decontaminated, the owner or operator of such impoundment must comply with appropriate post-closure requirements, including but not limited to groundwater monitoring and corrective action;

(B) The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in 320 IAC 4.1-1-7); and

(C) The monofill is in compliance with generally applicable groundwater monitoring requirements for facilities with permits under 320 IAC 4.1-45; or

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into groundwater or surface water at any future time.

(e) In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements of paragraph (a) of this section and in good faith compliance with paragraph (a) of this section and with guidance documents governing liners and leachate collection systems under paragraph (a) of this section, no liner or leachate collection system which is different from that which was so installed pursuant to paragraph (a) of this section will be required for such unit by the Commissioner when issuing the first permit to such facility, except that the Commissioner will not be precluded from requiring installation of a new liner when the Commissioner has reason to believe that any liner installed pursuant to the requirements of paragraph (a) of this section is

leaking. *(Indiana Environmental Management Board; 320 IAC 4.1-25-1.5; filed Mar 16, 1987, 10:45 am)*

SECTION 37. 320 IAC 4.1-25-2 is amended to read as follows:

320 IAC 4.1-25-2 General operating requirements
Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-1-3; IC 13-7-1-2; IC 13-7-8.5

Sec. 2. **(a)** A surface impoundment must maintain enough freeboard to prevent any overtopping of the dike by overfilling, wave action, or a storm. Except as provided in paragraph (b) of this section, there must be at least 60 centimeters (2 two feet) of freeboard.

(b) A freeboard level less than 60 centimeters (two feet) may be maintained if the owner or operator obtains certification by a qualified engineer that alternate design features or operating plans will, to the best of his knowledge and opinion, prevent overtopping of the dike. The certification, along with a written identification of alternate design features or operating plans preventing overtopping, must be maintained at the facility.

[Note: Any point source discharge from a surface impoundment to waters of the State is subject to the requirements of IC 13-1-3 and regulations promulgated thereunder. Spills may be subject to Section 311 of the Clean Water Act (33 USC 1321).] *(Indiana Environmental Management Board; 320 IAC 4.1-25-2; filed Jul 30, 1985, 9:01 am: 8 IR 1848; filed Mar 16, 1987, 10:45 am)*

SECTION 38. 320 IAC 4.1-25-7 is amended to read as follows:

320 IAC 4.1-25-7 Ignitable or reactive waste; special requirements
Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 7. ~~(a)~~ Ignitable or reactive waste must not be placed in a surface impoundment, unless:

~~(1)~~**(a)** The waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that:

~~(i)~~**(1)** The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under 320 IAC 4.1-5-2 or 320 IAC 4.1-5-4;; and

~~(ii)~~**(2)** 320 IAC 4.1-16-8(b) is complied with; or

~~(2) The surface impoundment is used solely for emergencies.~~

(b)(1) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react; and

(2) The owner or operator obtains a certification from a qualified chemist or engineer that, to the best of his knowledge and opinion, the design features or operating plans of the facility will prevent ignition or reaction; and

(3) The certification and the basis for it are maintained at the facility; or

(c) The surface impoundment is used solely for emergencies. *(Indiana Environmental Management Board; 320 IAC 4.1-25-7; filed Jul 30, 1985, 9:01 am: IR 1849; filed Mar 16, 1987, 10:45 am)*

SECTION 39. 320 IAC 4.1-26-4.5 is added to read as follows:

320 IAC 4.1-26-4.5 Design requirements
Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 4.5. The owner or operator of a waste pile is subject to the requirements for liners and leachate collection systems or equivalent protection provided in 320 IAC 4.1-51-2, with respect to each new unit, replacement of an existing unit, or lateral expansion of an existing unit that is within the area identified in the Part A permit application, and with respect to waste received beginning May 8, 1985. *(Indiana Environmental Management Board; 320 IAC 4.1-26-4.5; filed Mar 16, 1987, 10:45 am)*

SECTION 40. 320 IAC 4.1-27-2 is amended to read as follows:

320 IAC 4.1-27-2 General operating requirements
Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 2. (a) Hazardous waste must not be placed in or on a land treatment facility unless the waste can be made less hazardous or non-hazardous by ~~biological degradation or chemical reaction~~ degradation, transformation, or immobilization processes occurring in or on the soil.

(b) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portions of the facility during peak discharge from at least a 25-year storm.

(c) The owner or operator must design, construct, operate, and maintain a run-off management system capable of collecting and controlling a water volume at least equivalent to a 24-hour, 25-year storm.

(d) Collection and holding facilities (e.g., tanks

basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(e) If the treatment zone contains particulate matter which may be subject to wind dispersal, the owner or operator must manage the unit to control wind dispersal. *(Indiana Environmental Management Board; 320 IAC 4.1-27-2; filed Jul 30, 1985, 9:01 am: 8 IR 1851; filed Mar 16, 1987, 10:45 am)*

SECTION 41. 320 IAC 4.1-28-1.5 is added to read as follows:

320 IAC 4.1-28-1.5 Design requirements
Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 1.5. (a) The owner or operator of a landfill must install two or more liners and leachate collection systems above and between such liners in accordance with 320 IAC 4.1-53-2(c), with respect to each new unit, replacement of an existing unit, or lateral expansion of an existing unit that is within the area identified in the Part A permit application, and with respect to waste received beginning May 8, 1985.

(b) The owner or operator of each unit referred to in paragraph (a) of this section must notify the Technical Secretary at least sixty (60) days prior to receiving waste. The owner or operator of each facility submitting notice must file a Part B application within six months of the receipt of such notice.

(c) Paragraph (a) of this section will not apply if the owner or operator demonstrates to the Commissioner, and the Commissioner finds for such landfill, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as such liners and leachate collection systems.

(d) The double liner requirement set forth in paragraph (a) of this section may be waived by the Commissioner for any monofill, if:

(1) the monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the EP toxicity characteristics in 320 IAC 4.1-5-5; and

(2)(i)(A) the monofill has at least one liner for which there is no evidence that such liner is leaking;

(B) the monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in 320 IAC 4.1-1-7); and

(C) the monofill is in compliance with generally applicable groundwater monitoring requirements for facilities with permits under 320 IAC 4.1-45; or

(ii) the owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into groundwater or surface water at any future time.

(e) In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements of paragraph (a) of this section and in good faith compliance with paragraph (a) of this section and with guidance documents governing liners and leachate collection systems under paragraph (a) of this section, no liner or leachate collection system which is different from that which was so installed pursuant to paragraph (a) of this section will be required for such unit by the Commissioner when issuing the first permit to such facility, except that the Commissioner will not be precluded from requiring installation of a new liner when the Commissioner has reason to believe that any liner installed pursuant to the requirements of paragraph (a) of this section is leaking. *(Indiana Environmental Management Board; 320 IAC 4.1-28-1.5; filed Mar 16, 1987, 10:45 am)*

SECTION 42. 320 IAC 4.1-28-2 is amended to read as follows:

320 IAC 4.1-28-2 General operating requirements
Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 2. (a) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 25-year storm.

(b) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(c) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(d) The owner or operator of a landfill containing hazardous waste which is subject to dispersal by wind must cover or otherwise manage the landfill so that wind dispersal of the hazardous waste is controlled.

[Note: As required by 320 IAC 4.1-16-4, the waste analysis plan must include analyses needed to comply with 320 IAC 4.1-28-5, ~~and~~ 320 IAC 4.1-28-6, and 320

IAC 4.1-28-7. As required by 320 IAC 4.1-19-4, the owner or operator must place the results of these analyses in the operating record of the facility.] *(Indiana Environmental Management Board; 320 IAC 4.1-28-2; filed Jul 30, 1985, 9:01 am: 8 IR 1854; filed Mar 16, 1987, 10:45 am)*

SECTION 43. 320 IAC 4.1-28-4 is amended to read as follows:

320 IAC 4.1-28-4 Closure and post-closure

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2 IC 13-7-8.5

Sec. 4. ~~(a) The owner or operator must place a final cover over the landfill, and the closure plan under 320 IAC 4.1-21-3 must specify the function and design of the cover. In the post-closure plan under 320 IAC 4.1-21-8, the owner or operator must include the post-closure care requirements of paragraph (d) of this Section.~~

~~(b) In the closure and post-closure plans, the owner or operator must address the following objectives and indicate how they will be achieved:~~

~~(1) control of pollutant migration from the facility via ground water, surface water, and air;~~

~~(2) control of surface water infiltration, including prevention of pooling; and~~

~~(3) prevention of erosion.~~

~~(c) The owner or operator must consider at least the following factors in addressing the closure and post-closure care objectives of paragraph (b) of this Section:~~

~~(1) type and amount of hazardous waste and hazardous waste constituents in the landfill;~~

~~(2) the mobility and the expected rate of migration of the hazardous waste and hazardous waste constituents;~~

~~(3) site location, topography, and surrounding land use, with respect to the potential effects of pollutant migration (e.g., proximity to ground water, surface water, and drinking water sources);~~

~~(4) climate, including amount, frequency, and pH of precipitation;~~

~~(5) characteristics of the cover including material, final surface contours, thickness, porosity and permeability, slope, length of run of slope, and type of vegetation on the cover; and~~

~~(6) geological and soil profiles and surface and subsurface hydrology of the site.~~

~~(d) In addition to the requirements of 320 IAC 4.1-21-7, during the post-closure care period, the owner or operator of a hazardous waste landfill must:~~

~~(1) maintain the function and integrity of the final cover as specified in the approved closure plan;~~

~~(2) maintain and monitor the leachate collection, removal, and treatment system (if there is one present in the landfill) to prevent excess accumulation of leachate in the system;~~

~~[Note: If the collected leachate is a hazardous waste under 320 IAC 4.1-3 through 320 IAC 4.1-6, it must be managed as a hazardous waste in accordance with all applicable requirements of 320 IAC 4.1-7 through 320 IAC 4.1-32. If the collected leachate is discharged through a point source to waters of the State, it is subject to the requirements of IC 13-1-3 and regulations promulgated thereunder.]~~

~~(3) maintain and monitor the gas collection and control system (if there is one present in the landfill) to control the vertical and horizontal escape of gases;~~

~~(4) protect and maintain surveyed benchmarks; and~~

~~(5) restrict access to the landfill as appropriate for its post-closure use.~~

(a) At final closure of the landfill or upon closure of any cell, the owner or operator must cover the landfill or cell with a final cover designed and constructed to:

(1) provide long-term minimization of migration of liquids through the closed landfill;

(2) function with minimum maintenance;

(3) promote drainage and minimize erosion or abrasion of the cover;

(4) accommodate settling and subsidence so that the cover's integrity is maintained; and

(5) have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) After final closure, the owner or operator must comply with all post-closure requirements contained in 320 IAC 4.1-21-7 through 320 IAC 4.1-21-10 including maintenance and monitoring throughout the post-closure care period. The owner or operator must:

(1) maintain the integrity and effectiveness of the final cover, including making repairs to the cover as necessary to correct the effects of settling, subsidence, erosion, or other events;

(2) maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of 320 IAC 4.1-20;

(3) prevent run-on and runoff from eroding or otherwise damaging the final cover; and

(4) protect and maintain surveyed

benchmarks used in complying with 320 IAC 4.1-28-3.

(Indiana Environmental Management Board; 320 IAC 4.1-28-4; filed Jul 30, 1985, 9:01 am: 8 IR 1855; filed Mar 16, 1987, 10:45 am)

SECTION 44. 320 IAC 4.1-28-7 is amended to read as follows:

320 IAC 4.1-28-7 Special requirements for bulk and containerized liquids

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 7. (a) Bulk or non-containerized liquid waste or waste containing free liquids ~~must not~~ may be placed in a landfill ~~unless~~ prior to May 8, 1985, only if:

(1) the landfill has a liner and leachate collection and removal system that meets the requirements of 320 IAC 4.1-53-2(a); or

(2) before disposal, the liquid waste or waste containing free liquids is treated or stabilized, chemically or physically (e.g., by mixing with an absorbent solid), so that free liquids are no longer present.

~~(b) Containers holding free liquids must not be placed in a landfill unless:~~

~~(1) all free-standing liquid (i) has been removed by decanting, or other methods, (ii) has been mixed with an absorbent or solidified so that free-standing liquid is no longer observed, or (iii) has been otherwise eliminated; or~~

~~(2) the container is very small, such as an ampule; or~~

~~(3) the container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or~~

~~(4) the container is a lab pack as defined in 320 IAC 4.1-28-9 and is disposed of in accordance with 320 IAC 4.1-28-9.~~

(b) Effective May 8, 1985, the placement of bulk or non-containerized liquid hazardous waste or hazardous waste containing free liquids (whether or not absorbents have been added) in any landfill is prohibited.

(c) Containers holding free liquids must not be placed in a landfill unless:

(1) all free-standing liquid (i) has been removed by decanting, or other methods, (ii) has been mixed with an absorbent or solidified so that free-standing liquid is no longer observed, or (iii) has been otherwise eliminated; or

(2) the container is very small, such as an ampule; or

(3) the container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or

(4) the container is a lab pack as defined in 320 IAC 4.1-28-9 and is disposed of in accordance with 320 IAC 4.1-28-9.

(d) To demonstrate the absence or presence of free liquids in either a containerized or a bulk waste, the following test must be used: Method 9095 (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods." [EPA Publication No. SW-846].

(e) Effective November 8, 1985, the placement of any liquid which is not a hazardous waste in a landfill is prohibited unless the owner or operator of such landfill demonstrates to the Commissioner, or the Commissioner determines, that:

(1) the only reasonably available alternative to the placement in such landfill is placement in a landfill or unlined surface impoundment, whether or not permitted or operating under interim status, which contains, or may reasonably be anticipated to contain, hazardous waste; and

(2) placement in such owner or operator's landfill will not present a risk of contamination of any underground source of drinking water (as that term is defined in 320 IAC 4.1-1-7).

(Indiana Environmental Management Board; 320 IAC 4.1-28-7; filed Jul 30, 1985, 9:01 am: 8 IR 1856; filed Mar 16, 1987, 10:45 am)

SECTION 45. 320 IAC 4.1-28-8 is amended to read as follows:

320 IAC 4.1-28-8 Containers; special requirements

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 8. ~~An empty container must be crushed flat, shredded, or similarly reduced in volume before it is buried beneath the surface of a landfill.~~ Unless they are very small, such as an ampule, containers must be either:

(a) at least 90 percent full when placed in the landfill; or

(b) crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill.

(Indiana Environmental Management Board; 320 IAC 4.1-28-8; filed Jul 30, 1985, 9:01 am: 8 IR 1856; filed Mar 16, 1987, 10:45 am)

flame combustion is subject to the requirements of 320 IAC 4.1-29 if the unit is an incinerator. *(Indiana Environmental Management Board; 320 IAC 4.1-30-1; filed Jul 30, 1985, 9:01 am: 8 IR 1858; filed Mar 16, 1987, 10:45 am)*

SECTION 49. 320 IAC 4.1-30-7 is added to read as follows:

320 IAC 4.1-30-7 Interim status thermal treatment devices burning particular hazardous waste

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 7. (a) Owners or operators of thermal treatment devices subject to 320 IAC 4.1-30 may burn EPA Hazardous Wastes F020, F021, F022, F023, F026, or F027 if they receive a certification from the Technical Secretary that they can meet the performance standards of 320 IAC 4.1-54 when they burn these wastes.

(b) The following standards and procedures will be used in determining whether to certify a thermal treatment unit:

(1) The owner or operator will submit an application to the Technical Secretary containing the applicable information in 320 IAC 4.1-34-10 and 320 IAC 4.1-37-3 demonstrating that the thermal treatment unit can meet the performance standard in 320 IAC 4.1-54 when they burn these wastes.

(2) The Commissioner will issue a tentative decision as to whether the thermal treatment unit can meet the performance standards in 320 IAC 4.1-54. Notification of this tentative decision will be provided by newspaper advertisement and radio broadcast in the jurisdiction where the thermal treatment device is located. The Commissioner will accept comment on the tentative decision for sixty (60) days. The Commissioner also may hold a public hearing upon request or at his discretion.

(3) After the close of the public comment period, the Commissioner will issue a decision whether or not to certify the thermal treatment unit.

(Indiana Environmental Management Board; 320 IAC 4.1-30-7; filed Mar 16, 1987, 10:45 am)

SECTION 50. 320 IAC 4.1-32.5 is added to read as follows:

Rule 32.5. Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities

320 IAC 4.1-32.5-1 Recyclable materials used in a manner constituting disposal-applicability

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 1. (a) 320 IAC 4.1-32.5-1 through 320 IAC 4.1-32.5-4 apply to recycable materials that are applied to or placed on the land:

(1) without mixing with any other substance(s); or

(2) after mixing with any other substance(s), unless the recyclable material undergoes a chemical reaction so as to become inseparable from the other substance(s) by physical means; or

(3) after combination with any other substance(s) if the resulting combined material is not produced for the general public's use. These materials will be referred to from 320 IAC 4.1-32.5-1 through 320 IAC 4.1-32.5-4 as "materials used in a manner that constitutes disposal."

(b) Products produced for the general public's use that are used in a manner that constitutes disposal and that contain recyclable materials are not presently subject to regulation if the recyclable materials have undergone a chemical reaction in the course of producing the product so as to become inseparable by physical means. Commercial fertilizers that are produced for the general public's use that contain recyclable materials also are not presently subject to regulation. *(Indiana Environmental Management Board; 320 IAC 4.1-32.5-1; filed Mar 16, 1987, 10:45 am)*

320 IAC 4.1-32.5-2 Standards applicable to generators and transporters of materials used in a manner that constitute disposal

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 2. Generators and transporters of materials that are used in a manner that constitutes disposal are subject to the applicable requirements of 320 IAC 4.1-7 through 320 IAC 4.1-14, and the notification requirement under 320 IAC 4.1-2. *(Indiana Environmental Management Board; 320 IAC 4.1-32.5-2; filed Mar 16, 1987, 10:45 am)*

320 IAC 4.1-32.5-3 Standards applicable to storers of materials that are to be used in a manner that constitute disposal who are not the ultimate users

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 3. Owners or operators of facilities that store recyclable materials that are to be used in a manner that constitutes disposal, but who are not the ultimate users of the materials, are regulated under all applicable provisions of 320 IAC 4.1-40 through 320 IAC 4.1-51 and 320 IAC 4.1-15 through 320 IAC 4.1-26 and 320 IAC 4.1-33 through 320 IAC 4.1-39 and the notification requirement under 320 IAC 4.1-2. *(Indiana Environmental Management Board; 320 IAC 4.1-32.5-3; filed Mar 16, 1987, 10:45 am)*

320 IAC 4.1-32.5-4 Standards applicable to users of materials that are used in a manner that constitute disposal

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 4. (a) Owners or operators of facilities that use recyclable materials in a manner that constitutes disposal are regulated under all applicable provisions of 320 IAC 4.1-40 through 320 IAC 4.1-53 and 320 IAC 4.1-15 through 320 IAC 4.1-28 and 320 IAC 4.1-33 though [*sic.*] 320 IAC 4.1-39 and the notification requirement under 320 IAC 4.1-2. (These requirements do not apply to products which contain these recyclable materials under the provisions of 320 IAC 4.1-32.5-1(b).)

(b) The use of waste or used oil or other material, which is contaminated with dioxin or any other hazardous waste (other than a waste identified solely on the basis of ignitability), for dust suppression or road treatment is prohibited. *(Indiana Environmental Management Board; 320 IAC 4.1-32.5-4; filed Mar 16, 1987, 10:45 am)*

320 IAC 4.1-32.5-5 Hazardous waste burned for energy recovery-applicability

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 5. (a) The regulations of 320 IAC 4.1-32.5-5 through 320 IAC 4.1-32.5-10 apply to hazardous wastes that are burned for energy recovery in any boiler or industrial furnace that is not regulated under 320 IAC 4.1-54 or 320 IAC 4.1-29, except as provided by paragraph (b) of this section. Such hazardous wastes burned for energy recovery are termed "hazardous waste fuel". Fuel produced from hazardous waste by processing, blending, or ther [*sic.*] treatment is also hazardous waste fuel. (These regulations do not apply, however, to gas recovered from hazardous waste management activities when such gas is burned for energy recovery.)

(b) The following hazardous wastes are not subject to regulation under 320 IAC 4.1-32.5-5 through 320 IAC 4.1-32.5-10:

(1) used oil burned for energy recovery that is also a hazardous waste solely because it exhibits a characteristic of hazardous waste identified in 320 IAC 4.1-5. Such used oil is subject to regulation under 320 IAC 4.1-32.5-11 through 320 IAC 4.1-32.5-15 rather than under 320 IAC 4.1-32.5-5 through 320 IAC 4.1-32.5-10;

(2) hazardous wastes that are exempt from regulation under 320 IAC 4.1-3-4 and 320 IAC 4.1-6(a)(3)(v)—(ix), and hazardous wastes that are subject to the special requirements for small quantity generators under 320 IAC 4.1-3-5.

(Indiana Environmental Management Board; 320 IAC 4.1-32.5-5; filed Mar 16, 1987, 10:45 am; errata, 10 IR 1704)

320 IAC 4.1-32.5-6 Prohibitions

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 6. (a) A person may market hazardous waste fuel only:

(1) to persons who have notified EPA of their hazardous waste fuel activities under Section 3010 of RCRA and have a U.S. EPA Identification Number; and

(2) if the fuel is burned, to persons who burn the fuel in boilers or industrial furnaces identified in paragraph (b) of this section.

(b) Hazardous waste fuel may be burned for energy recovery in only the following devices:

(1) industrial furnaces identified in 320 IAC 4.1-1-7;

(2) boilers, as defined in 320 IAC 4.1-1-7, that are identified as follows:

(i) industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes; or

(ii) utility boilers used to produce electric power, steam, or heated or cooled air or other gases or fluids for sale.

(c) No fuel which contains any hazardous waste may be burned in any cement kiln which is located within the boundaries of any incorporated municipality with a population greater than 500,000 (based on the most recent census statistics) unless such kiln fully complies with regulations under 320 IAC 4.1 that are applicable to incinerators. *(Indiana Environ*

...tal Management Board; 320 IAC 4.1-32.5-6; filed Mar 16, 1987, 10:45 am)

320 IAC 4.1-32.5-7 Standards applicable to generators of hazardous waste fuel

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 7. (a) Generators of hazardous waste that is used as a fuel or used to produce a fuel are subject to 320 IAC 4.1-7 through 320 IAC 4.1-11.

(b) Generators who market hazardous waste fuel to a burner also are subject to 320 IAC 4.1-32.5-9.

(c) Generators who are burners also are subject to 320 IAC 4.1-32.5-10. *(Indiana Environmental Management Board; 320 IAC 4.1-32.5-7; filed Mar 16, ...7, 10:45 am)*

320 IAC 4.1-32.5-8 Standards applicable to transporters of hazardous waste fuel

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 8. Transporters of hazardous waste fuel (and hazardous waste that is used to produce a fuel) are subject to 320 IAC 4.1-12 through 320 IAC 4.1-14. *(Indiana Environmental Management Board; 320 IAC 4.1-32.5-8; filed Mar 16, 1987, 10:45 am)*

320 IAC 4.1-32.5-9 Standards applicable to marketers of hazardous waste fuel

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 9. Persons who market hazardous waste fuel are termed "marketers", and are subject to the following requirements. Marketers include generators who market hazardous waste fuel directly to a burner, persons who receive hazardous waste from generators and produce, process, or blend hazardous waste fuel from these hazardous wastes and persons who distribute but do not process or blend hazardous waste fuel.

(a) Prohibitions. The prohibitions under 320 IAC 4.1-32.5-6(a).

(b) Notification. Notification requirements under Section 3010 of RCRA for hazardous waste fuel activities. Even if a marketer has previously notified EPA of his hazardous waste management activities and obtained a U.S. EPA Identification Number, he must renotify to identify his hazardous waste fuel activities.

(c) Storage. The applicable provisions of 320 IAC 4.1-9-5, and 320 IAC 4.1-15 through 320 IAC 4.1-26, 320 IAC 4.1-33 through 320 IAC 4.1-39, and 320 IAC 4.1-40 through 320 IAC 4.1-51.

(d) Off-site shipment. The standards for generators in 320 IAC 4.1-7 through 320 IAC 4.1-11 when a marketer initiates a shipment of hazardous waste fuel.

(e) Required notices. (1) Before a marketer initiates the first shipment of hazardous waste fuel to a burner or another marketer, he must obtain a one-time written and signed notice from the burner or marketer certifying that:

(i) the burner or marketer has notified EPA under Section 3010 of RCRA and identified his waste as fuel activities; and

(ii) if the recipient is a burner, the burner will burn the hazardous waste fuel only in an industrial furnace or boiler identified in 320 IAC 4.1-32.5-6(b).

(2) Before a merketer [*sic.*] accepts the first shipment of hazardous waste fuel from another marketer, he must provide the other marketer with a one-time written and signed certification that he has notified EPA under Section 3010 of RCRA and identified his hazardous waste fuel activities; and

(f) Recordkeeping. In addition to the applicable recordkeeping requirements of 320 IAC 4.1-7 through 320 IAC 4.1-11, 320 IAC 4.1-15 through 320 IAC 4.1-32, and 320 IAC 4.1-40 through 320 IAC 4.1-54, a marketer must keep a copy of each certification notice he receives or sends for three years from the date he last engages in a hazardous waste fuel marketing transaction with the person who sends or receives the certification notice. *(Indiana Environmental Management Board; 320 IAC 4.1-32.5-9; filed Mar 16, 1987, 10:45 am)*

320 IAC 4.1-32.5-10 Standards applicable to burners of hazardous waste fuel

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 10. Owners and operators of industrial furnaces and boilers identified in 320 IAC 4.1-32.5-6(b) that burn hazardous fuel are "burners" and are subject to the following requirements:

(a) Prohibitions. The prohibitions under 320 IAC 4.1-32.5-6(b).

(b) Notification. Notification requirements under Section 3010 of RCRA for hazardous waste fuel activities. Even if a burner has previously notified EPA of his hazardous waste management activities

and obtained a U.S. EPA Identification Number, he must renotify to identify his hazardous waste fuel activities.

(c) Storage. (1) for short term accumulation by generators who burn their hazardous waste fuel on-site, the applicable provisions of 320 IAC 4.1-9-5; and

(2) for existing storage facilities, the applicable provisions of 320 IAC 4.1-15 through 320 IAC 4.1-26, and 320 IAC 4.1-33 through 320 IAC 4.1-39; and

(3) for new storage facilities, the applicable provisions of 320 IAC 4.1-40 through 320 IAC 4.1-51, and 320 IAC 4.1-33 through 320 IAC 4.1-39;

(d) Required notices. Before a burner accepts the first shipment of hazardous waste fuel from a marketer, he must provide the marketer a one-time written and signed notice certifying that:

(1) he has notified EPA under Section 3010 of RCRA and identified his waste-as-fuel activities; and

(2) he will burn the fuel only in a boiler or furnace identified in 320 IAC 4.1-32.5-6(b);

(e) Recordkeeping. In addition to the applicable recordkeeping requirements of 320 IAC 4.1-15 through 320 IAC 4.1-32 and 320 IAC 4.1-40 through 320 IAC 4.1-54, a burner must keep a copy of each certification notice that he sends to a marketer for three years from the date he last receives hazardous waste fuel from that marketer. *(Indiana Environmental Management Board; 320 IAC 4.1-32.5-10; filed Mar 16, 1987, 10:45 am)*

320 IAC 4.1-32.5-11 Used oil burned for energy recovery; applicability

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 11. (a) The regulations of 320 IAC 4.1-32.5-11 through 320 IAC 4.1-32.5-15 apply to used oil that is burned for energy recovery in any boiler or industrial furnace that is not regulated under 320 IAC 4.1-29 or 320 IAC 4.1-54, except as provided by paragraphs (c) and (e) of this section. Such used oil is termed "used oil fuel." Used oil fuel includes any fuel produced from used oil by processing, blending, or other treatment.

(b) "Used oil" means any oil that has been refined from crude oil, used, and as a result of such use, is contaminated by physical or chemical impurities.

(c) Except as provided by paragraph (d) of this section, used oil that is mixed with hazardous waste and burned for energy recovery is subject to regulation as hazardous waste fuel under 320 IAC 4.1-32.5-5 through 320 IAC 4.1-32.5-10. Used oil containing more than 1,000 ppm of a [*sic.*] total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in 320 IAC 4.1-6-1 through 320 IAC 4.1-6-4. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, by showing that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in 320 IAC 4.1-6-9).

(d) Used oil burned for energy recovery is subject to regulation under 320 IAC 4.1-32.5-11 through 320 IAC 4.1-32.5-15 rather than as hazardous waste fuel under 320 IAC 4.1-32.5-5 through 320 IAC 4.1-32.5-10 if it is a hazardous waste solely because it:

(1) exhibits a characteristic of hazardous waste identified in 320 IAC 4.1-5 provided that it is not mixed with a hazardous waste; or

(2) contains hazardous waste generated only by a person subject to the special requirements for small quantity generators under 320 IAC 4.1-3-5.

(e) Except as provided by paragraph (c) of this section, used oil burned for energy recovery, and any fuel produced from used oil by processing, blending, or other treatment, is subject to regulation under 320 IAC 4.1-32.5-11 through 320 IAC 4.1-32.5-15 unless it is shown not to exceed any of the allowable levels of the constituents and properties in the specification shown in the following table. Used oil fuel that meets the specification is subject only to the analysis and recordkeeping requirements under 320 IAC 4.1-32.5-14(b)(1) and (6). Used oil fuel that exceeds any specification level is termed "off-specification used oil fuel".

USED OIL EXCEEDING ANY SPECIFICATION LEVEL IS SUBJECT TO 320 IAC 4.1-32.5-11 THROUGH 320 IAC 4.1-32.5-15 WHEN BURNED FOR ENERGY RECOVERY[a]

Constituent/property	Allowable level
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Flash Point	100° F minimum
Total Halogens	4,000 ppm maximum[b]

[a] The specification does not apply to used oil fuel mixed with a hazardous waste other than small quantity generator hazardous waste.

[b] Used oil containing more than 1,000 ppm total halogens is presumed to be a hazardous waste under the rebuttable presumption provided under 320 IAC

4.1-32.5-11(c). Such used oil is subject to 320 IAC 4.1-32.5-5 through 320 IAC 4.1-32.5-10 rather than 320 IAC 4.1-32.5-11 through 320 IAC 4.1-32.5-15 when burned for energy recovery unless the presumption of mixing can be successfully rebutted.

(Indiana Environmental Management Board; 320 IAC 4.1-32.5-11; filed Mar 16, 1987, 10:45 am)

320 IAC 4.1-32.5-12 Prohibitions

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 12. (a) A person may market off-specification used oil for energy recovery only:

(1) to burners or other marketers who have notified EPA of their used oil management activities stating the location and general description of such activities, and who have an EPA identification number; and

(2) to burners who burn the used oil in an industrial furnace or boiler identified in paragraph (b) of this section.

(b) Off-specification used oil may be burned for energy recovery in only the following devices:

(1) industrial furnaces identified in 320 IAC 4.1-1-7; or

(2) boilers, as defined in 320 IAC 4.1-1-7, that are identified as follows:

(i) industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes;

(ii) utility boilers used to produce electric power, steam, or heated or cooled air or other gases or fluids for sale; or

(iii) used oil-fired space heaters provided that:

(A) the heater burns only used oil that the owner or operator generates or used oil received from do-it-yourself oil changers who generate used oil as household waste;

(B) the heater is designed to have a maximum capacity of not more than 0.5 million Btu per hour; and

(C) the combustion gases from the heater are vented to the ambient air.

(Indiana Environmental Management Board; 320 IAC 4.1-32.5-12; filed Mar 16, 1987, 10:45 am)

320 IAC 4.1-32.5-13 Standards applicable to generators of used oil burned for energy recovery

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 13. (a) Except as provided in paragraphs (b) and (c) of this section, generators of used oil are not subject to 320 IAC 4.1-32.5-11 through 320 IAC 4.1-32.5-15.

(b) Generators who market used oil directly to a burner are subject to 320 IAC 4.1-32.5-14.

(c) Generators who burn used oil are subject to 320 IAC 4.1-32.5-15. *(Indiana Environmental Management Board; 320 IAC 4.1-32.5-13; filed Mar 16, 1987, 10:45 am)*

320 IAC 4.1-32.5-14 Standards applicable to marketers of used oil burned for energy recovery

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 14. (a) Persons who market used oil fuel are termed "marketers". However, the following persons are not marketers subject to 320 IAC 4.1-32.5-11 through 320 IAC 4.1-32.5-15:

(1) Used oil generators, and collectors who transport used oil received only from generators, unless the generator or collector markets the used oil directly to a person who burns it for energy recovery. However, persons who burn some used oil fuel for purposes of processing or other treatment to produce used oil fuel for marketing are considered to be burning incidentally to processing. Thus, generators and collectors who market to such incidental burners are not marketers subject to 320 IAC 4.1-32.5-11 through 320 IAC 4.1-32.5-15.

(2) Persons who market only used oil fuel that meets the specification under 320 IAC 4.1-32.5-11(e) and who are not the first person to claim the oil meets the specification (i.e., marketers who do not receive used oil from generators or initial transporters and marketers who neither recieve [*sic.*] nor market off-specification used oil fuel).

(b) Marketers are subject to the following requirements:

(1) Analysis of used oil fuel. Used oil fuel is subject to regulation under 320 IAC 4.1-32.5-11 through 320 IAC 4.1-32.5-15 unless the marketer obtains analyses or other information documenting that the used oil fuel meets the specification provided under 320 IAC 4.1-32.5-11(e).

(2) Prohibitions. The prohibitions under 320 IAC 4.1-32.5-12(a).

(3) Notification. Notification to EPA stating the location and general description of used oil management activities. Even if a marketer has previously notified EPA of his hazardous waste management

activities under Section 3010 of RCRA and obtained a U.S. EPA Identification Number, he must renotify to identify his used oil management activities.

(4) Invoice system. When a marketer initiates a shipment of off-specification used oil, he must prepare and send the receiving facility an invoice containing the following information:

(i) an invoice number;

(ii) his own EPA identification number and the EPA identification number of the receiving facility;

(iii) the names and addresses of the shipping and receiving facilities;

(iv) the quantity of off-specification used oil to be delivered;

(v) the date(s) of shipment or delivery; and

(vi) the following statement: "This used oil is subject to EPA regulation under 40 CFR Part 266": (Indiana Equivalent: 320 IAC 4.1-32.5)

Note: — Used oil that meets the definition of combustible liquid (flash point below 200° F but at or greater than 100° F) or flammable liquid (flash point below 100° F) is subject to Department of Transportation Hazardous Materials Regulations at 49 CFR Parts 100-177.

(5) Required notices. (i) Before a marketer initiates the first shipment of off-specification used oil to a burner or other marketer, he must obtain a one-time written and signed notice from the burner or marketer certifying that:

(A) the burner or marketer has notified EPA stating the location and general description of his used oil management activities; and

(B) if the recipient is a burner, the burner will burn the off-specification used oil only in an industrial furnace or boiler identified in 320 IAC 4.1-32.5-12(b); and

(ii) Before a marketer accepts the first shipment of off-specification used oil from another marketer subject to the requirements of this section, he must provide the marketer with a one-time written and signed notice certifying that he has notified EPA of his used oil management activities; and

(6) Recordkeeping — (i) Used Oil Fuel That Meets the Specification. A marketer who first claims under paragraph (b)(1) of this section that used oil fuel meets the specification must keep copies of analysis (or other information used to make the determination) of used oil for three years. Such marketers must also record in an operating log and keep for three years the following information on each shipment of used oil fuel that meets the specification. Such used oil fuel is not subject to further regulation, unless it is subsequently mixed with hazardous waste or unless it is mixed with used oil so that it no longer meets the specification.

(A) the name and address of the facility receiving the shipment;

(B) the quantity of used oil fuel delivered;

(C) the date of shipment or delivery; and

(D) a cross-reference to the record of used oil analysis (or other information used to make the determination that the oil meets the specification) required under paragraph (b)(6)(i) of this section.

(ii) Off-Specification Used Oil Fuel. A marketer who receives or initiates an invoice under the requirements of this section must keep a copy of each invoice for three years from the date the invoice is received or prepared. In addition, a marketer must keep a copy of each certification notice that he receives or sends for three years from the date he last engages in an off-specification used oil fuel marketing transaction with the person who sends or receives the certification notice.

(Indiana Environmental Management Board; 320 IAC 4.1-32.5-14; filed Mar 16, 1987, 10:45 am)

320 IAC 4.1-32.5-15 Standards applicable to burners of used oil burned for energy recovery

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 15. Owners and operators of facilities that burn used oil fuel are "burners" and are subject to the following requirements:

(a) Prohibition. The prohibition under 320 IAC 4.1-32.5-12(b).

(b) Notification. Burners of off-specification used oil fuel must notify EPA stating the location and general description of used oil management activities except that owners and operators of used oil-fired space heaters that burn used oil fuel under the provisions of 320 IAC 4.1-32.5-12(b)(2) are exempt from these notification requirements. Even if a burner has previously notified EPA of his hazardous waste management activities under Section 3010 of RCRA and obtained an identification number, he must renotify to identify his used oil management activities.

(c) Required notices. Before a burner accepts the first shipment of off-specification used oil fuel from a marketer, he must provide the marketer a one-time written and signed notice certifying that:

(1) he has notified EPA stating the location and general description of his used oil management activities; and

(2) he will burn the used oil only in an industrial furnace or boiler identified in 320 IAC 4.1-32.5-12(b).

(d) Used oil fuel analysis. (1) Used oil fuel burned by the generator is subject to regulation under 320 IAC 4.1-32.5-11 through 320 IAC 4.1-32.5-15 unless the burner obtains analysis (or other information) documenting that the used oil meets the specification provided under 320 IAC 4.1-32.5-11(e).

(2) Burners who treat off-specification used oil fuel by processing, blending, or other treatment to meet the specification provided under 320 IAC 4.1-32.5-11(e) must obtain analyses (or other information) documenting that the used oil meets the specification.

(e) Recordkeeping. A burner who receives an invoice under the requirements of this section must keep a copy of each invoice for three years from the date the invoice is received. Burners must also keep for three years copies of analyses of used oil fuel as may be required by paragraph (d) of this section. In addition, he must keep a copy of each certification notice that he sends to a marketer for three years from the date he last receives off-specification used oil from that marketer. *(Indiana Environmental Management Board; 320 IAC 4.1-32.5-15; filed Mar 16, 1987, 10:45 am)*

320 IAC 4.1-32.5-16 Recyclable materials utilized for precious metal recovery; applicability and requirements

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 16. (a) The regulations of this section apply to recyclable materials that are reclaimed to recover economically significant amounts of gold, silver, platinum, paladium, irridium, osmium, rhodium, ruthenium, or any combination of these.

(b) Persons who generate, transport, or store recyclable materials that are regulated under this section are subject to the following requirements:

(1) notification requirements under 320 IAC 4.1-2;

(2) 320 IAC 4.1-8 (for generators), 320 IAC 4.1-13-1 and 320 IAC 4.1-13-2 (for transporters), and 320 IAC 4.1-19-2 and 320 IAC 4.1-19-3 (for persons who store).

(c) Persons who store recycled materials that are regulated under this Section must keep the following records to document that they are not accumulating these materials speculatively (as defined in 320 IAC 4.1-3-1(c)):

(i) records showing the volume of these materials stored at the beginning of the calendar year;

(ii) the amount of these materials generated or received during the calendar year; and

(iii) the amount of materials remaining at the end of the calendar year.

(d) Recyclable materials that are regulated under this Section that are accumulated speculatively (as defined in 320 IAC 4.1-3-1(c)) are subject to all applicable provisions of 320 IAC 4.1-7 through 320 IAC 4.1-54. *(Indiana Environmental Management Board; 320 IAC 4.1-32.5-16; filed Mar 16, 1987, 10:45 am)*

320 IAC 4.1-32.5-17 Spent lead-acid batteries being reclaimed; applicability and requirements

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 17. (a) The regulations of this section apply to persons who reclaim spent lead-acid batteries that are recyclable materials ("spent batteries"). Persons who generate, transport, or collect spent batteries, or who store spent batteries but do not reclaim them are not subject to regulation under 320 IAC 4.1-7 through 320 IAC 4.1-54, and also are not subject to the requirements of 320 IAC 4.1-2.

(b) Owners or operators of facilities that store spent batteries before reclaiming them are subject to the following requirements:

(1) notification requirements under 320 IAC 4.1-2;

(2) all applicable provisions in 320 IAC 4.1-40-1 through 320 IAC 4.1-41-9 [but not 320 IAC 4.1-41-4 (waste analysis)], 320 IAC 4.1-42-1 through 320 IAC 4.1-44-8 [but not 320 IAC 4.1-44-2 or 320 IAC 4.1-44-3 dealing with the use of the manifest and manifest discrepancies)], and 320 IAC 4.1-45-1 through 320 IAC 4.1-51-9;

(3) all provisions in 320 IAC 4.1-15-1 through 320 IAC 4.1-16-9 [but not 320 IAC 4.1-16-4 (waste analysis)], 320 IAC 4.1-17-1 through 320 IAC 4.1-19-8 [but not 320 IAC 4.1-19-2 or 320 IAC 4.1-19-3 (dealing with the use of the manifest and manifest discrepancies)] and 320 IAC 4.1-20-1 through 320 IAC 4.1-26-7;

(4) all applicable provisions in 320 IAC 4.1-33 through 320 IAC 4.1-39.

(Indiana Environmental Management Board; 320 IAC 4.1-32.5-17; filed Mar 16, 1987, 10:45 am)

SECTION 51. 320 IAC 4.1-33-1 is amended to read as follows:

320 IAC 4.1-33-1 Purpose and scope of these regulations

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5; IC 13-7-10

Sec. 1. (a) Coverage.

(1) 320 IAC 4.1-33 through 320 IAC 4.1-39 establish provisions for the State Hazardous Waste Permit Program pursuant to IC 13-7-10.

(2) The regulations in 320 IAC 4.1-33 through 320 IAC 4.1-39 cover basic State permitting requirements, such as application requirements, standard permit conditions, and monitoring and reporting requirements. These regulations are part of a regulatory scheme implementing RCRA as set forth in different Parts of the Code of Federal Regulations and are promulgated pursuant to IC 13-7. [The following chart outlines where the regulations implementing RCRA appear in 40 CFR and where they can be found in 320 IAC 4.1.]

Section of RCRA	Coverage	Federal Regulation	State Rule
Subtitle C.....	Overview and definitions	40 CFR Part 260	320 IAC 4.1-1 and 320 IAC 4.1-2
3001	Identification and listing ..... of hazardous waste	40 CFR Part 261	320 IAC 4.1-3 through 320 IAC 4.1-6
3002	Generators of hazardous..... waste	40 CFR Part 262	320 IAC 4.1-7 through 320 IAC 4.1-11
3003	Transporters of hazardous..... waste	40 CFR Part 263	320 IAC 4.1-12 through 320 IAC 4.1-14
3004	Standards for HWM ..... facilities	40 CFR Parts 264, ... 265.	320 IAC 4.1-40 through 320 IAC 4.1-54 and 320 IAC 4.1-15 through 320 IAC 4.1-32
3005	Permit requirements ..... for HWM facilities	40 CFR Parts 270..... and 124	320 IAC 4.1-33 through 320 IAC 4.1-39

(b) Scope of the Final State Permit Requirement. The State requires a permit for ~~the "recovery," "treatment," "storage," or "disposal"~~ of any hazardous waste facility which manages any "hazardous waste" as identified or listed in 320 IAC 4.1-3 through 320 IAC 4.1-6. ~~The terms "treatment," "storage," "disposal," and "hazardous waste" are defined in 320 IAC 4.1-33-2.~~ Owners and operators of hazardous waste management units must have permits during the active life (including the closure period) of the unit, and, for any unit which closed after January 26, 1983, during any post-closure care period required under 320 IAC 4.1-46-7 and during any compliance period specified under 320 IAC 4.1-45-7, including any extension of the compliance period under 320 IAC 4.1-45-7(c).

(1) Specific inclusions. Owners and operators of certain facilities require State hazardous waste permits as well as permits under other programs for certain aspects of the facility operation. State hazardous waste permits are required for:

(i) ~~Recovery, treatment, storage, or disposal of hazardous waste at facilities~~ Hazardous waste facilities requiring an NPDES permit. However, the owner and operator of a publicly owned treatment works receiving hazardous waste will be deemed to have a State permit for that waste if they comply with the requirements of 320 IAC 4.1-37-1(c) (permit-by-rule for POTWs).

(ii) Barges or vessels that dispose of hazardous waste by ocean disposal and onshore hazardous waste treatment or storage facilities associated with an ocean disposal operation. However, the owner and operator will be deemed to have a State permit for ocean disposal from the barge

vessel itself if they comply with the requirements of 320 IAC 4.1-37-1(a) (permit-by-rule for ocean disposal barges and vessels).

(2) Specific exclusions. The following persons are among those who are not required to obtain a State permit:

(i) Generators who accumulate hazardous waste on site for less than ~~90 days as provided in 320 IAC 4.1-9-5~~ **the time periods provided in 320 IAC 4.1-9-5.**

(ii) Farmers who dispose of hazardous waste pesticides from their own use as provided in 320 IAC 4.1-11-2.

(iii) The owner or operator of a facility permitted, licensed, or registered by the Board to manage municipal or industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation under 320 IAC 4.1-3-5.

(iv) Owners or operators of totally enclosed treatment facilities as defined in 320 IAC 4.1-1-7.

(v) Owners and operators of elementary neutralization units or wastewater treatment units as defined in 320 IAC 4.1-1-7.

(vi) Transporters storing manifested shipments of hazardous waste in containers meeting the requirements of 320 IAC 4.1-9-1 at a transfer facility for a period of ten days or less.

(vii) Persons adding absorbent material to waste in a container (as defined in 320 IAC 4.1-1-7) and persons adding waste to absorbent material in a container, provided that these actions occur at the time waste is first placed in the container; and 320 IAC 4.1-41-8(b), 320 IAC 4.1-48-2, and 320 IAC 4.1-48-3 are complied with.

(3) Further exclusions.

(i) A person is not required to obtain a State permit for treatment or containment activities taken during immediate response to any of the following situations:

(A) a discharge of a hazardous waste;

(B) an imminent and substantial threat of a discharge of hazardous waste;

(C) a discharge of a material which, when discharged, becomes a hazardous waste.

(ii) Any person who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of ~~this Rule of~~ 320 IAC 4.1-33 through 320 IAC 4.1-39 for those activities.

(4) Permits for less than an entire facility. The ~~State~~ Commissioner may issue or deny a permit for one or more units at a facility without simultaneously issuing or denying a permit to all of the units at the facility. The interim status of any unit for which a permit has not been issued or denied is not affected by the issuance or denial of a permit to any other unit at the facility.

(Indiana Environmental Management Board; 320 IAC 4.1-33-1; filed Jul 30, 1985, 9:01 am: 8 IR 1866; filed Mar 16, 1987, 10:45 am; errata, 10 IR 1704)

SECTION 52. 320 IAC 4.1-33-5 is amended to read as follows:

320 IAC 4.1-33-5 References

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 5. (a) When used in 320 IAC 4.1-33 through 320 IAC 4.1-38, the following publications are incorporated by reference:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (First Edition, 1980, as updated by Revisions A (August, 1980)), B (July, 1981) and C (February, 1982) or (Second Edition, 1982). The first edition of SW-846 is no longer in print. Revisions A and B are available from EPA, Office of Solid Waste, (WH-565-B), 401 M Street, S.W., Washington, D.C. 20460. Revision C is available from NTIS, 5285 Port Royal Road, Springfield, Virginia 22161. The second edition of SW-846 includes material from the first edition and Revisions A, B, and C in a reorganized format, **including paint filter liquids test, Method 9095.** It is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238, on a subscription basis, and future updates will automatically be mailed to the subscriber.

(Indiana Environmental Management Board; 320 IAC 4.1-33-5; filed Jul 30, 1985, 9:01 am: 8 IR 1872; filed Mar 16, 1987, 10:45 am)

SECTION 53. 320 IAC 4.1-34-1 is amended to read as follows:

320 IAC 4.1-34-1 General application requirements

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5; IC 13-7-8.6; IC 13-7-11

Sec. 1. (a) Permit application. Any person who is required to have a permit (including new applicants and permittees with expiring permits) shall complete, sign, and submit an application to the ~~Technical Secretary~~ Commissioner as described in this section and 320 IAC 4.1-38-1 through 320 IAC 4.1-38-4. Persons currently authorized with interim status shall apply for permits when required by the ~~Technical~~

~~Secretary~~ Commissioner. Persons covered by permits by rule (320 IAC 4.1-37-1), need not apply. Procedures for applications, issuance and administration of emergency permits are found exclusively in 320 IAC 4.1-37-2. **Procedures for application, issuance and administration of research, development, and demonstration permits are found exclusively in 320 IAC 4.1-37-6.**

(b) Who applies? When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit, except that the owner must also sign the permit application.

(c) Completeness. The ~~Technical Secretary~~ Commissioner shall not issue a permit before receiving a complete application for a permit except for permits-by-rule, or emergency permits. An application for a permit is complete when the ~~Technical Secretary~~ Commissioner receives an application form and any supplemental information which are completed to his or her satisfaction. ~~The completeness of any application for a permit shall be judged independently of the status of any other permit application or permit for the same facility.~~ **An application for a permit is complete notwithstanding the failure of the owner or operator to submit the exposure information described in paragraph (j) of this section.**

(d) Information requirements. All applicants for Final (State) Permits shall provide information set forth in 320 IAC 4.1-34-4 and applicable sections in 320 IAC 4.1-34-5 through 320 IAC 4.1-34-12 to the ~~Technical Secretary~~ Commissioner, using the application form provided by the ~~Technical Secretary~~ Commissioner.

(e) Existing HWM facilities, and interim status qualifications.

(1) ~~Owner~~ **Owners and operators of existing hazardous waste management facilities or of hazardous waste management facilities in existence on the effective date of statutory or regulatory amendments under Title 13 of the Indiana Code that render the facility subject to the requirement to have a Final (State) permit** must submit Part A of their permit application ~~as outlined in 320 IAC 4.1-34-4,~~ no later than: ~~thirty (30) days after the effective date of 320 IAC 4.1 or revision of 320 IAC 4.1, which first requires them to comply with the standards set forth in 320 IAC 4.1-15 through 320 IAC 4.1-32. For the purposes of 320 IAC 4.1-34 those persons who were in compliance with 320 IAC 4-9 will be deemed to be in compliance with this paragraph ((e) (1)).~~

(i) thirty (30) days after the effective date of 320 IAC 4.1 or revision of 320 IAC 4.1, which first requires them to comply with the standards set forth in 320 IAC 4.1-15 through 320 IAC 4.1-32 or 320 IAC 4.1-32.5, (unless the publication date is more than four months prior to the effective date, in which case the Part A must be submitted no later than the effective date); or

(ii) thirty (30) days after the date they first become subject to the standards set forth in 320 IAC 4.1-15 through 320 IAC 4.1-32 or 320 IAC 4.1-32.5, whichever first occurs.

For the purposes of 320 IAC 4.1-34 those persons who were in compliance with 320 IAC 4-9 will be deemed to be in compliance with this paragraph ((e)(1)).

(iii) for generators generating greater than 100 kilograms but less than 1,000 kilograms of hazardous waste in a calendar month and treats, stores, or disposes of these wastes on-site, by March 24, 1987.

(2) The ~~Technical Secretary~~ Commissioner may by ~~compliance~~ an order issued under IC 13-7-11 extend the date by which the owner and operator of an existing hazardous waste management facility must submit their Part A Permit application.

(3) At any time after the effective date of 320 IAC 4.1, the owner and operator of an existing HWM facility may be required to submit their Final (State) Permit application. Any owner or operator of an existing HWM facility may voluntarily submit their Final (State) Permit application at any time. **Any owner or operator shall be allowed at least six (6) months from the date of the requirement to submit the Final (State) Permit application. Notwithstanding the above, any owner or operator of an existing HWM facility must submit a Part B permit application in accordance with the dates specified in 320 IAC 4.1-38-4. Any owner or operator of a land disposal facility in existence on the effective date of statutory or regulatory amendments under Title 13 of the Indiana Code that render the facility subject to the requirement to have a Final (State) permit must submit a Part B application in accordance with the dates specified in 320 IAC 4.1-38-4.**

~~(4) Any owner or operator shall be allowed at least six (6) months from the date of the requirement to submit the Final (State) Permit application.~~

~~(5) Failure to furnish a requested Final (State) Permit application on time, or to furnish in full the information required by the application, is~~

~~grounds for termination of interim status under 320 IAC 4.1-39.~~

(4) Failure to furnish a requested Final (State) Permit application on time, or to furnish in full the information required by the application, is grounds for termination of interim status under 320 IAC 4.1-39.

(f) New HWM facilities.

(1) No person shall begin physical construction or operation of a new HWM facility without having complied with IC 13-7 8.6 if applicable and having received a finally effective Final (State) Permit pursuant to 320 IAC 4.1-33 through 320 IAC 4.1-39.

(g) Updating permit applications.

(1) If any owner or operator of a HWM facility has filed a permit application pursuant to 320 IAC 4.1-34-1(e)(1) (Part A application) and has not yet filed their Final (State) Permit application, the owner or operator shall file an amended Part A application:

(i) with the ~~Technical Secretary,~~ Commissioner no later than 30 days from the effective date of regulatory provisions listing or designating wastes as hazardous in the State in addition to those already listed or designated by the State, if the facility is treating, storing, recovering, or disposing of any of those newly listed or designated wastes; or

(ii) as necessary to comply with provisions of 320 IAC 4.1-38-3 for changes during interim status. Revised permit applications necessary to comply with the provisions of 320 IAC 4.1-38-3 shall be filed with the Technical Secretary.

(2) The owner or operator of a facility who fails to comply with the updating requirements of paragraph (g)(1) of this section does not receive interim status as to the wastes not covered by duly filed Part A permit application.

(h) Reapplications. Any HWM facility with an effective permit shall submit a new application at least 180 days before the expiration date of the effective permit, unless permission for a later date has been granted by the ~~Technical Secretary~~ Commissioner. (The ~~Technical Secretary~~ Commissioner shall not grant permission for applications to be submitted later than the expiration date of the existing permit).

(i) Recordkeeping. Applicants shall keep records of all data used to complete permit applications and any supplemental information submitted under 320 IAC 4.1-34-1(d), 320 IAC 4.1-34-4, and 320 IAC 4.1-34-5 through 320 IAC 4.1-34-12 for a period of at least 3 years from the date the application is signed.

(j) Exposure information.

(1) After August 8, 1985, any Part B permit application submitted by an owner or operator of a facility that stores, treats, or disposes of hazardous waste in a surface impoundment or a landfill must be accompanied by information, reasonably ascertainable by the owner or operator, on the potential for the public to be exposed to hazardous wastes or hazardous constitutents through releases related to the unit. At a minimum, such information must address:

(i) reasonably forseeable potential releases from both normal operations and accidents at the unit, including releases associated with transportation to or from the unit;

(ii) the potential pathways of human exposure to hazardous wastes or constituents resulting from the releases described under paragraph (i); and

(iii) the potential magnitude and nature of the human exposure resulting from such releases.

(2) By August 8, 1985, owners and operators of a landfill or a surface impoundment who have already submitted a Part B application must submit the exposure information required in paragraph (j)(1) of this section.

(Indiana Environmental Management Board; 320 IAC 4.1-34-1; filed Jul 30, 1985, 9:01 am: 8 IR 1872; filed Mar 16, 1987, 10:45 am)

SECTION 54. 320 IAC 4.1-34-5 is amended to read as follows:

320 IAC 4.1-34-5 Contents of final (state) permit application: general requirements

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 5. (a) The Final Permit application consists of the general information requirements of this section, and the specific information requirements in 320 IAC 4.1-34-5 through 320 IAC 4.1-34-12 applicable to the facility. The Final Permit application information requirements presented in 320 IAC 4.1-34-5 through 320 IAC 4.1-34-12 reflect the standards promulgated in 320 IAC 4.1-40 through 320 IAC 4.1-54. These information requirements are necessary in order for the ~~State~~ Commissioner to determine compliance with those standards contained in 320 IAC 4.1-40 through 320 IAC 4.1-54. If owners and operators of HWM facilities can demonstrate that the information prescribed in the Final Permit application information requirements cannot be provided to the extent

required, the ~~Technical Secretary~~ Commissioner may make allowance for submission of such information on a case-by-case basis. Information required in the Final Permit application information requirements shall be submitted to the ~~Technical Secretary~~ Commissioner and signed in accordance with requirements in 320 IAC 4.1-34-2. Certain technical data, such as design drawings and specifications, and engineering studies shall be certified by a registered professional engineer.

(b) General information requirements. The following information is required for all HWM facilities, except as 320 IAC 4.1-40-1 provides otherwise:

(1) A general description of the facility.

(2) Chemical and physical analyses of the hazardous waste to be handled at the facility. At a minimum, these analyses shall contain all the information which must be known to treat, store, recover, or dispose of the wastes properly in accordance with applicable portions of 320 IAC 4.1-40 through 320 IAC 4.1-54.

(3) A copy of the waste analysis plan required by 320 IAC 4.1-41-4(b) and, if applicable 320 IAC 4.1-41-4(c).

(4) A description of the security procedures and equipment required by 320 IAC 4.1-41-5, or a justification demonstrating the reasons for requesting a waiver of this requirement.

(5) A copy of the general inspection schedule required by 320 IAC 4.1-41-6(b); include where applicable, as part of the inspection schedule, specific requirements in 320 IAC 4.1-48-5, 320 IAC 4.1-49-4, 320 IAC 4.1-50-4, 320 IAC 4.1-51-5, 320 IAC 4.1-52-4, and 320 IAC 4.1-53-4.

(6) A justification of any request for a waiver(s) of the preparedness and prevention requirements of 320 IAC 4.1-42.

(7) A copy of the contingency plan required by 320 IAC 4.1-43.

[Note: Include, where applicable, as part of the contingency plan, specific requirements in 320 IAC 4.1-50-5 and 320 IAC 4.1-49-8.]

(8) A description of procedures, structures, or equipment used at the facility to:

(i) prevent hazards in unloading operations (for example, ramps, special forklifts);

(ii) prevent runoff from hazardous waste handling areas to other areas of the facility or environment, or to prevent flooding (for example, berms, dikes, trenches);

(iii) prevent contamination of water supplies;

(iv) mitigate effects of equipment failure and power outages; and

(v) prevent undue exposure of personnel hazardous waste (for example, protecti clothing).

(9) A description of precautions to preve accidental ignition or reaction of ignitable, reacti or incompatible wastes as required to demonstr compliance with 320 IAC 4.1-41-8 including doc mentation demonstrating compliance with 320 IA 4.1-41-8(c).

(10) Traffic pattern, estimated volume (numbe types of vehicles) and control (for example, sho turns across traffic lanes, and stacking lanes (appropriate); describe access road surfacing an load bearing capacity; show traffic control signals

(11) Facility location information:

(i) In order to determine the applicability of th seismic standard [320 IAC 4.1-41-9(a)] the owne or operator of a new facility must identify th political jurisdiction (e.g., county, township, election district) in which the facility is propose to be located.

[Note: If the county or election district is not listed 320 IAC 4.1-32-6, no further information is required demonstrate compliance with 320 IAC 4.1-41-9(a).]

(ii) If a facility is proposed to be located in area listed in 320 IAC 4.1-32-6, the owner operator shall demonstrate compliance with th seismic standard. This demonstration may b made using either published geologic data data obtained from field investigations carrie out by the applicant. The information provide must be of such quality to be acceptable geologists experienced in identifying an evaluating seismic activity. The informati submitted must show that either:

(A) No faults which have had displaceme in Holocene time are present, or no lineatio which suggest the presence of a fault (whi have displacement in Holocene time) with 3,000 feet of a facility are present, based data from:

(1) published geologic studies;

(2) aerial reconnaissance of the area within five-mile radius from the facility;

(3) an analysis of aerial photograp covering a 3,000-foot radius of the facility; a

(4) if needed to clarify the above data reconnaissance based on walking portions the area within 3,000 feet of the facility; or

(B) If faults (to include lineations) wh have had displacement in Holocene time a present ~~within~~ within 3,000 feet of a facility, faults pass with [*sic.*] 200 feet of the portions the facility where treatment, recover

storage, or disposal of hazardous waste will be conducted, based on data from a comprehensive geologic analysis of the site. Unless a site analysis is otherwise conclusive concerning the absence of faults within 200 feet of such portions of the facility, data shall be obtained from a subsurface exploration (trenching) of the area within a distance no less than 200 feet from portions of the facility where treatment, storage, recovery, or disposal of hazardous waste will be conducted. Such trenching shall be performed in a direction that is perpendicular to known faults (which have had displacement in Holocene time) passing within 3,000 feet of the portions of the facility where treatment, storage, or disposal of hazardous waste will be conducted. Such investigation shall document the location of faults found with supporting maps and other analyses.

[Note: The EPA Guidance Manual for the Location Standards provides greater detail on the content of each type of seismic investigation and the appropriate conditions under which each approach or a combination of approaches would be used.]

(iii) Owners and operators of all facilities shall provide an identification of whether the facility is located within a 100-year floodplain. This identification must indicate the source of data for such determination and include a copy of the relevant Federal Insurance Administration (FIA) flood map, if used, or the calculations and maps used where an FIA map is not available. Information shall also be provided identifying the 100-year flood level and any other special flooding factors (e.g., wave action) which must be considered in designing, constructing, operating, or maintaining the facility to withstand washout from a 100-year flood.

[Note: Where maps for the National Flood Insurance Program produced by the Federal Insurance Administration (FIA) of the Federal Emergency Management Agency are available, they will normally be determinative of whether a facility is located within or outside of the 100-year floodplain. However, where the FIA map excludes an area (usually areas of the floodplain less than 200 feet in width), these areas must be considered and a determination made as to whether they are in the 100-year floodplain. Where FIA maps are not available for a proposed facility location, the owner or operator must use equivalent mapping techniques to determine whether the facility is within the 100-year floodplain, and if so located, what the 100-year flood elevation would be.]

(iv) Owners and operators of facilities located in the 100-year floodplain must provide the following information:

(A) Engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the site as consequence of a 100-year flood.

(B) Structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., floodwalls, dikes) at the facility and how these will prevent washout.

(C) If applicable, and in lieu of paragraphs (b)(11)(iv)(A) and (B) above, a detailed description of procedures to be followed to remove hazardous waste to safety before the facility is flooded, including:

(1) Timing of such movement relative to flood levels, including estimated time to move the waste, to show that such movement can be completed before floodwaters reach the facility.

(2) A description of the location(s) to which the waste will be moved and demonstration that those facilities will be eligible to receive hazardous waste in accordance with the regulations under 320 IAC 4.1-33 through 320 IAC 4.1-54.

(3) The planned procedures, equipment, and personnel to be used and the means to ensure that such resources will be available in time for use.

(4) The potential for accidental discharges of the waste during movement.

(v) Existing facilities NOT in compliance with 320 IAC 4.1-41-9(b) shall provide a plan showing how the facility will be brought into compliance and a schedule for compliance.

(12) An outline of both the introductory and continuing training programs by owners or operators to prepare persons to operate or maintain the HWM facility in a safe manner as required to demonstrate compliance with 320 IAC 4.1-41-7. A brief description of how training will be designed to meet actual job tasks in accordance with requirements in 320 IAC 4.1-41-7(a)(3).

(13) A copy of the closure plan and where applicable, the post-closure plan required by 320 IAC 4.1-46-3 and 320 IAC 4.1-46-8. Include, where applicable, as part of the plans, specific requirements in 320 IAC 4.1-48-9, 320 IAC 4.1-49-5, 320 IAC 4.1-50-6, 320 IAC 4.1-51-8, 320 IAC 4.1-52-8, 320 IAC 4.1-53-6, and 320 IAC 4.1-54-8.

(14) For existing facilities, documentation that a notice has been placed in the deed or appropriate

alternate instrument as required by 320 IAC 4.1-46-10.

(15) The most recent closure cost estimate for the facility prepared in accordance with 320 IAC 4.1-47-3 plus a copy of the financial assurance mechanism adopted in compliance with 320 IAC 4.1-47-4.

(16) Where applicable, the most recent post-closure cost estimate for the facility prepared in accordance with 320 IAC 4.1-47-5 plus a copy of the financial assurance mechanism adopted in compliance with 320 IAC 4.1-47-6.

(17) Where applicable, a copy of the insurance policy or other documentation which comprises compliance with the requirements of 320 IAC 4.1-47-8. For a new facility, documentation showing the amount of insurance meeting the specification of 320 IAC 4.1-47-8(a) and, if applicable, 320 IAC 4.1-47-8(b), that the owner or operator plans to have in effect before initial receipt of hazardous waste for treatment, storage, recovery, or disposal. A request for a variance in the amount of required coverage, for a new or existing facility, may be submitted as specified in 320 IAC 4.1-47-8(c).

(18) A topographic map showing a distance of 1,000 feet around the facility at a scale of 2.5 centimeters (1 inch) equal to not more than 61.0 meters (200 feet). Contours must be shown on the map. The contour interval must be sufficient to clearly show the pattern of surface water flow in the vicinity of and from each operational unit of the facility. For example, contours with an interval of 1.5 meters (5 feet), if relief is greater than 6.1 meters (20 feet), or an interval of 0.6 meters (2 feet), if relief is less than 6.1 meters (20 feet). Owners and operators of HWM facilities located in mountainous areas should use large contour intervals to adequately show topographic profiles of facilities. The map shall clearly show the following:

(i) Map scale and date.

(ii) 100-year floodplain area.

(iii) Surface waters including intermittant streams.

(iv) Surrounding land uses (residential, commercial, agricultural, recreational).

(v) A wind rose (i.e., prevailing wind-speed and direction).

(vi) Orientation of the map (north arrow).

(vii) Legal boundaries of the HWM facility site.

(viii) Access control (fences, gates).

(ix) Injection and withdrawal wells both on-site and off-site.

(x) Buildings; treatment, storage, recovery, or disposal operations; or other structures (recreation areas, runoff control systems, access and internal roads, storm, sanitary, and proc sewerage systems, loading and unloading ar fire control facilities, etc.).

(xi) Barriers for drainage or flood control

(xii) Location of operational units within HWM facility site, where hazardous waste is will be) treated, stored, recovered, or dispo (include equipment cleanup areas).

[Note: For large HWM facilities the Board w allow the use of other scales on a case-by-case basi

(19) Applicants may be required to submit su information as may be necessary to enable t ~~Technical Secretary~~ Commissioner to carry o the requirements of ~~IC 3-7~~ IC 13-7.

(c) Additional information requirements. T following additional information regarding protecti of ground water is required from owners or operato of hazardous waste surface impoundments, piles, la treatment units, and landfills except as otherwi provided in 320 IAC 4.1-45-1(b):

(1) A summary of the groundwater monitorin data obtained during the interim status perio under 320 IAC 4.1-20-1 through 320 IAC 4.1-20- where applicable.

(2) Identification of the uppermost aquifer an aquifers hydraulically interconnected beneath th facility property, including groundwater flo direction and rate, and the basis for such identific tion (i.e.,the information obtained fro hydrogeologic investigations of the facility area).

(3) On the topographic map required unde paragraph (b)(18) of this section, a delineation of th waste management area, the property boundar the proposed "point of compliance" as defined unde 320 IAC 4.1-45-6, the proposed location o groundwater monitoring wells as required unde 320 IAC 4.1-45-8, and to the extent possible, th information required in paragraph (c)(2) of this se tion.

(4) A description of any plume of contaminati that has entered the ground water from a regulate unit at the time that the application was submitte that:

(i) delineates the extent of the plume on th topographic map required under paragrap (b)(18) of this section;

(ii) identifies the concentration of each 320 IA 4.1-6-9 constituent throughout the plume identifies the maximum concentrations of 32 IAC 4.1-6-9 constituent in the plume.

(5) Detailed plans and an engineering repor describing the proposed ground water monitorin program to be implemented to meet the require ments of 320 IAC 4.1-45-8.

(6) If the presence of hazardous constituents has not been detected in the ground water at the time of permit application, the owner or operator must submit sufficient information, supporting data, and analyses to establish a detection monitoring program which meets the requirements of 320 IAC 4.1-45-9. This submission must address the following items specified under 320 IAC 4.1-45-9:

(i) a proposed list of indicator parameters, waste constituents, or reaction products that can provide a reliable indication of the presence of hazardous constituents in the ground water;

(ii) a proposed groundwater monitoring system;

(iii) background values for each proposed monitoring parameter or constituent, or procedures to calculate such values; and

(iv) a description of proposed sampling, analysis and statistical comparison procedures to be utilized in evaluating groundwater monitoring data.

(7) If the presence of hazardous constituents has been detected in the ground water at the point of compliance at the time of permit application, the owner or operator must submit sufficient information, supporting data, and analyses to establish a compliance monitoring program which meets the requirements of 320 IAC 4.1-45-10. The owner or operator must also submit an engineering feasibility plan for a corrective action program necessary to meet the requirements of 320 IAC 4.1-45-11, except as provided in 320 IAC 4.1-45-9(h)(5). To demonstrate compliance with 320 IAC 4.1-45-10, the owner or operator must address the following items:

(i) a description of the wastes previously handled at the facility;

(ii) a characterization of the contaminated ground water, including concentrations of hazardous constituents;

(iii) a list of hazardous constituents for which compliance monitoring will be undertaken in accordance with 320 IAC 4.1-45-8 and 320 IAC 4.1-45-10;

(iv) proposed concentration limits for each hazardous constituent, based on the criteria set forth in 320 IAC 4.1-45-5(a), including a justification for establishing any alternate concentration limits;

(v) detailed plans and an engineering report describing the proposed groundwater monitoring system, in accordance with the requirements of 320 IAC 4.1-45-8; and

(vi) a description of proposed sampling, analysis and statistical comparison procedures to be utilized in evaluating groundwater monitoring data.

(8) If hazardous constituents have been measured in the ground water which exceed the concentration limits established under 320 IAC 4.1-45-5 Table 1, or if ground water monitoring conducted at the time of permit application under 320 IAC 4.1-45-1 through 320 IAC 4.1-45-5 at the waste boundary indicates the presence of hazardous constituents from the facility in ~~groundwater~~ **ground water** over background concentrations, the owner or operator must submit sufficient information, supporting data, and analyses to establish a corrective action program which meets the requirements of 320 IAC 4.1-45-11. However, an owner or operator is not required to submit information to establish a corrective action program if he demonstrates to the ~~Technical Secretary~~ **Commissioner** that alternate concentration limits will protect human health and the environment after considering the criteria listed in 320 IAC 4.1-45-5(b). An owner or operator who is not required to establish a corrective action program for this reason must instead submit sufficient information to establish a compliance monitoring program which meets the requirements of 320 IAC 4.1-45-10 and paragraph (c)(6) of this section. To demonstrate compliance with 320 IAC 4.1-45-11, the owner or operator must address, at a minimum, the following items:

(i) a characterization of the contaminated ~~groundwater~~ **ground water**, including concentrations of hazardous constituents;

(ii) the concentration limit for each hazardous constituent found in the ground water as set forth in 320 IAC 4.1-45-5;

(iii) detailed plans and an engineering report describing the corrective action to be taken; and

(iv) a description of how the groundwater monitoring program will demonstrate the adequacy of the corrective action.

(Indiana Environmental Management Board; 320 IAC 4.1-34-5; filed Jul 30, 1985, 9:01 am: 8 IR 1883; filed Mar 16, 1987, 10:45 am)

SECTION 55. 320 IAC 4.1-34-7 is amended to read as follows:

320 IAC 4.1-34-7 Specific final (state) permit application information requirements for tanks

Authority: IC 13-7-7; IC 13-7-8.5

Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 7. Except as otherwise provided in 320 IAC 4.1-49-1, owners and operators of facilities that use tanks to store or treat hazardous waste must provide a

description of design and operation procedures which demonstrate compliance with the requirements of 320 IAC 4.1-49-2, 320 IAC 4.1-49-3, 320 IAC 4.1-49-6, and 320 IAC 4.1-49-7 including:

(a) References to design standards or other available information used (or to be used) in design and construction of the tank.

(b) A description of design specifications including identification of construction materials and lining materials (include pertinent characteristics such as corrosion or erosion resistance).

(c) Tank dimensions, capacity, and shell thickness.

(d) A diagram of piping, instrumentation, and process flow.

(e) Description of feed systems, safety cutoff, bypass systems, and pressure controls (e.g., vents).

(f) Description of procedures for handling incompatible, ignitable, or reactive wastes, including the use of buffer zones.

(g) Where applicable, a description of the containment and detection systems to demonstrate compliance with 320 IAC 4.1-49-8(a) must include at least the following:

(1) Drawings and a description of the basic design parameters, dimensions, and materials of construction of the containment system.

(2) Capacity of the containment system relative to the design capacity of the tank(s) within the system.

(3) Description of the system to detect leaks and spills, and how precipitation and run-on will be prevented from entering into the detection system.

(Indiana Environmental Management Board; 320 IAC 4.1-34-7; filed Jul 30, 1985, 9:01 am: 8 IR 1887; filed Mar 16, 1987, 10:45 am)

SECTION 56. 320 IAC 4.1-34-8 is amended to read as follows:

320 IAC 4.1-34-8 Specific final (state) permit application information requirements for surface impoundments

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 8. Except as otherwise provided in 320 IAC 4.1-40-1, owners and operators of facilities that store, treat or dispose of hazardous waste in surface impoundments must provide the following additional information:

(a) A list of the hazardous wastes placed or to be placed in each surface impoundment;.

(b) Detailed plans and an engineering report describing how the surface impoundment is or will be designed, constructed, operated and maintained to meet the requirements of 320 IAC 4.1-50-2. This submission must address the following items as specified in 320 IAC 4.1-50-2:

(1) the liner system (except for an existing portion of a surface impoundment). If an exemption from the requirement for a liner is sought as provided by 320 IAC 4.1-50-2(b), submit detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the ground water or surface water at any future time;

(2) prevention of overtopping; and

(3) structural integrity of dikes;

~~(c) If any exemption from 320 IAC 4.1-45 is sought, as provided by 320 IAC 4.1-50-3, detailed plans and an engineering report explaining the location of the saturated zone in relation to the surface impoundment, and the design of a double liner system that incorporates a leak detection system between the liners;~~

~~(d) A description of how each surface impoundment, including the liner and cover systems and appurtenances for control of overtopping, will be inspected in order to meet the requirements of 320 IAC 4.1-50-4 (a) and (b). This information should be included in the inspection plan submitted under 320 IAC 4.1-34-5(b)(5);~~

~~(e) A certification by a qualified engineer which attests to the structural integrity of each dike, as required under 320 IAC 4.1-50-4(c). For new units, the owner or operator must submit a statement by a qualified engineer that he will provide such certification upon completion of construction in accordance with the plans and specifications;~~

~~(f) A description of the procedure to be used for removing a surface impoundment from service, as required under 320 IAC 4.1-50-5(b) and (c). This information should be included in the contingency plan submitted under 320 IAC 4.1-34-5(b)(7);~~

~~(g) A description of how hazardous waste residues and contaminated materials will be removed from the unit at closure, as required under 320 IAC 4.1-50-6(a)(1). For any wastes not to be removed from the unit upon closure, the owner or operator must submit detailed plans and engineering report describing how 320 IAC 4.1-50-6(a)(2) and (b) will be complied with. This information should be included in the closure plan and, when~~

~~applicable, the post-closure plan submitted under 320 IAC 4.1-34-5(b)(13);~~

~~(g) If ignitable or reactive wastes are to be placed in a surface impoundment, an explanation of how 320 IAC 4.1-50-7 will be complied with;~~

~~(h) If incompatible waste, or incompatible waste and materials will be placed in a surface impoundment, an explanation of how 320 IAC 4.1-50-8 will be complied with.~~

(c) A description of how each surface impoundment, including the liner and cover systems and appurtenances for control of overtopping, will be inspected in order to meet the requirements of 320 IAC 4.1-50-4(a) and (b). This information should be included in the inspection plan submitted under 320 IAC 4.1-34-5(b)(5).

(d) A certification by a qualified engineer which attests to the structural integrity of each dike, as required under 320 IAC 4.1-50-4(c). For new units, the owner or operator must submit a statement by a qualified engineer that he will provide such a certification upon completion of construction in accordance with the plans and specifications.

(e) A description of the procedure to be used for removing a surface impoundment from service, as required under 320 IAC 4.1-50-5(b) and (c). This information should be included in the contingency plan submitted under 320 IAC 4.1-34-5(b)(7).

(f) A description of how hazardous waste residues and contaminated materials will be removed from the unit at closure, as required under 320 IAC 4.1-50-6(a)(1). For any wastes not to be removed from the unit upon closure, the owner or operator must submit detailed plans and an engineering report describing how 320 IAC 4.1-50-6(a)(2) and (b) will be complied with. This information should be included in the closure plan and, where applicable, the post-closure plan submitted under 320 IAC 4.1-34-5(b)(13).

(g) If ignitable or reactive wastes are to be placed in a surface impoundment, an explanation of how 320 IAC 4.1-50-7 will be complied with.

(h) If incompatible waste, or incompatible waste and materials will be placed in a surface impoundment, an explanation of how 320 IAC 4.1-50-8 will be complied with.

(i) A waste management plan for EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027 describing how the surface impoundment is or will be designed, constructed, operated, and maintained to meet the requirements of 320 IAC 4.1-50-9. This submission must address the following items as specified in 320 IAC 4.1-50-9:

(1) the volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) the attenuative properties of underlying and surrounding soils or other materials;

(3) the mobilizing properties of other materials co-disposed with these wastes; and

(4) the effectiveness of additional treatment, design, or monitoring techniques.

(Indiana Environmental Management Board; 320 IAC 4.1-34-8; filed Jul 30, 1985, 9:01 am: 8 IR 1887; filed Mar 16, 1987, 10:45 am)

SECTION 57. 320 IAC 4.1-34-9 is amended to read as follows:

320 IAC 4.1-34-9 Specific final (state) permit application information requirements for waste piles

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 9. Except as otherwise provided in 320 IAC 4.1-40-1, owners and operators of facilities that store or treat hazardous waste in waste piles must provide the following additional information:

(a) A list of hazardous wastes placed or to be placed in each waste pile;.

(b) If an exemption is sought to 320 IAC 4.1-51-2; and 320 IAC 4.1-45 as provided by 320 IAC 4.1-51-1(c) or 320 IAC 4.1-45-1(b)(2), an explanation of how the standards of 320 IAC 4.1-51-1(c) will be complied with; or detailed plans and an engineering report describing how the requirements of 320 IAC 4.1-45-1(b)(2) will be met.

(c) Detailed plans and an engineering report describing how the pile is or will be designed, constructed, operated and maintained to meet the requirements of 320 IAC 4.1-51-2. This submission must address the following items as specified in 320 IAC 4.1-51-2:

(1) the liner system (except for an existing portion of a pile). If an exemption from the requirement for a liner is sought, as provided by 320 IAC 4.1-51-3, the owner or operator must submit detailed plans and engineering and hydrogeologic reports, as applicable, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into

the ground water or surface water at any future time;
(2) control of run-on;
(3) control of run-off;
(4) management of collection and holding units associated with run-on and run-off control systems; and
(5) control of wind dispersal of particulate matter, where applicable;

~~(d) If an exemption from 320 IAC 4.1-45 is sought as provided by320 IAC 4.1-51-3 or 320 IAC 4.1-51-4, submit detailed plans and an engineering report describing how the requirements of 320 IAC 4.1-51-3(a) or 320 IAC 4.1-51-4(a) will be complied with;~~

~~(e) A description of how each waste pile, including the liner and appurtenances for control of run-on and run-off, will be inspected in order to meet the requirements of 320 IAC 4.1-51-5(a) and (b). This information should be included in the inspection plan submitted under320 IAC 4.1-34-5(b)(5). If an exemption is sought to 320 IAC 4.1-45 pursuant to 320 IAC 4.1-51-4, describe in the inspection plan how the inspection requirements of 320 IAC 4.1-51-4(a)(3) will be complied with.~~

~~(f) If treatment is carried out on or in the pile, details of the process and equipment used, and the nature and quality of the residuals;~~

~~(g) If ignitable or reactive wastes are to be placed in a waste pile, an explanation of how the requirements of 320 IAC 4.1-51-6 will be complied with;~~

~~(h) If incompatible wastes, or incompatible wastes and materials will be placed in a waste pile, an explanation of how 320 IAC 4.1-51-7 will be complied with;~~

~~(i) A description of how hazardous waste residues and contaminated materials will be removed from the waste pile at closure, as required under 320 IAC 4.1-51-8(a). For any waste not to be removed from the waste pile upon closure, the owner or operator must submit detailed plans and an engineering report describing how 320 IAC 4.1-53-6(a) and (b) will be complied with. This information should be included in the closure plan and, where applicable, the post-closure plan submitted under 320 IAC 4.1-34-5(b)(13).~~

(d) A description of how each waste pile, including the liner and appurtenances for control of run-on and run-off, will be inspected in order to meet the requirements of 320 IAC 4.1-51-5(a) and (b). This information should be included in the inspection plan submitted under 320 IAC 4.1-34-5(b)(5).

(e) If treatment is carried out on or in the pile, details of the process and equipment used, and the nature and quality of the residuals.

(f) If ignitable or reactive wastes are to be placed in a waste pile, an explanation of how the requirements of 320 IAC 4.1-51-6 will be complied with.

(g) If incompatible wastes, or incompatible wastes and materials will be placed in a waste pile, an explanation of how 320 IAC 4.1-51-7 will be complied with.

(h) A description of how hazardous waste residues and contaminated materials will be removed from the waste pile at closure, as required under 320 IAC 4.1-51-8(a). For any waste not to be removed from the waste pile upon closure, the owner or operator must submit detailed plans and an engineering report describing how 320 IAC 4.1-53-6(a) and (b) will be complied with. This information should be included in the closure plan and, where applicable, the post-closure plan submitted under 320 IAC 4.1-34-5(b)(13).

(i) A waste management plan for EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027 describing how a waste pile that is not enclosed (as defined in 320 IAC 4.1-51-1) is to be designed, constructed, operated, and maintained to meet the requirements of 320 IAC 4.1-51-9. This submission must address the following items as specified in 320 IAC 4.1-51-9:
(1) the volume, physical, and chemical characteristics of the wastes to be disposed in the waste pile, including their potential to migrate through soil or to volatilize or escape into the atmosphere;
(2) the attenuative properties of underlying and surrounding soils or other materials;
(3) the mobilizing properties of other materials co-disposed with these wastes; and
(4) the effectiveness of additional treatment, design, or monitoring techniques.

(Indiana Environmental Management Board; 320 IAC 4.1-34-9; filed Jul 30, 1985, 9:01 am: 8 IR 1888; filed Mar 16, 1987, 10:45 am)

SECTION 58. 320 IAC 4.1-34-11 is amended to read as follows:

320 IAC 4.1-34-11 Specific final (state) permit application information requirements for land treatment facilities

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 11. Except as otherwise provided in 320 IAC 4.1-40-1, owners and operators of facilities that use land treatment to dispose of hazardous waste must provide the following additional information:

(a) A description of plans to conduct a treatment demonstration as required under 320 IAC 4.1-52-3. The description must include the following information:

(1) the wastes for which the demonstration will be made and the potential hazardous constituents in the waste;

(2) the data sources to be used to make the demonstration (e.g., literature, laboratory data, field data, or operating data);

(3) any specific laboratory or field test that will be conducted, including:

(i) the type of test (e.g., column leaching, degradation);

(ii) materials and methods, including analytical procedures;

(iii) expected time for completion;

(iv) characteristics of the unit that will be simulated in the demonstration, including treatment zone characteristics, climatic conditions, and operating practices.

(b) A description of a land treatment program, as required under 320 IAC 4.1-52-2. This information must be submitted with the plans for the treatment demonstration, and updated following the treatment demonstration. The land treatment program must address the following items:

(1) the wastes to be land treated;

(2) design measures and operating practices necessary to maximize treatment in accordance with 320 IAC 4.1-52-4(a) including:

(i) waste application method and rate;

(ii) measures to control soil pH;

(iii) enhancement of microbial or chemical reactions;

(iv) control of moisture content;

(3) provisions for unsaturated zone monitoring, including:

(i) sampling equipment, procedures, and frequency;

(ii) procedures for selecting sampling locations;

(iii) analytical procedures;

(iv) chain of custody control;

(v) procedures for establishing background values;

(vi) statistical methods for interpreting results;

(vii) the justification for any hazardous constituents recommended for selection as principal hazardous constituents, in accordance with the criteria for such selection in 320 IAC 4.1-52-6(a);

(4) a list of hazardous constituents reasonably expected to be in, or derived from, the wastes to be land treated based on waste analysis performed pursuant to 320 IAC 4.1-41-4;

(5) the proposed dimensions of the treatment zone;

(c) A description of how the unit is or will be designed, constructed, operated, and maintained in order to meet the requirements of 320 IAC 4.1-52-4. This submission must address the following items:

(1) control of run-on;

(2) collection and control of run-off;

(3) minimization of run-off of hazardous constituents from the treatment zone;

(4) management of collection and holding facilities associated with run-on and run-off control systems;

(5) periodic inspection of the unit. This information should be included in the inspection plan submitted under 320 IAC 4.1-34-5(b)(5);

(6) control of wind dispersal of particulate matter, if applicable;

(d) If food-chain crops are to be grown in or on the treatment zone of the land treatment unit, a description of how the demonstration required under 320 IAC 4.1-52-5(a) will be conducted including:

(1) characteristics of the food-chain crop for which the demonstration will be made;

(2) characteristics of the waste, treatment zone, and waste application method and rate to be used in the demonstration;

(3) procedures for crop growth, sample collection, sample analysis, and data evaluation;

(4) characteristics of the comparison crop including the location and conditions under which it was or will be grown;

(e) If food-chain crops are to be grown, and cadmium is present in the land-treated waste, a description of how the requirements of 320 IAC 4.1-52-5(b) will be complied with;.

(f) A description of the vegetative cover to be applied to closed portions of the facility, and a plan for maintaining such cover during the post-closure care period, as required under 320 IAC 4.1-52-8(a)(8) and 320 IAC 4.1-52-8(c)(2). This information should be included in the closure plan and, where applicable, the post-closure care plan submitted under 320 IAC 4.1-34-5(b)(13);.

(g) If ignitable or reactive wastes will be placed in or on the treatment zone, an explanation of how the requirements of 320 IAC 4.1-52-9 will be complied with;.

(h) If incompatible wastes, or incompatible wastes

and materials, will be placed in or on the same treatment zone, an explanation of how 320 IAC 4.1-52-10 will be complied with.

(i) A waste management plan for EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027 describing how a land treatment facility is or will be designed, constructed, operated, and maintained to meet the requirements of 320 IAC 4.1-52-11. This submission must address the following items as specified in 320 IAC 4.1-52-11.

(1) the volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) the attenuative properties of underlying and surrounding soils or other materials;

(3) the mobilizing properties of other materials co-disposed with these wastes; and

(4) the effectiveness of additional treatment, design, or monitoring techniques.

(Indiana Environmental Management Board; 320 IAC 4.1-34-11; filed Jul 30, 1985, 9:01 am: 8 IR 1890; filed Mar 16, 1987, 10:45 am)

SECTION 59. 320 IAC 4.1-34-12 is amended to read as follows:

320 IAC 4.1-34-12 Specific final (state) permit application information requirements for landfills

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 12. Except as otherwise provided in 320 IAC 4.1-40-1, owners and operators of facilities that dispose of hazardous waste in landfills must provide the following additional information:

(a) A list of the hazardous wastes placed or to be placed in each landfill or landfill cell;.

(b) Detailed plans and an engineering report describing how the landfill is or will be designed, constructed, operated and maintained to comply with the requirements of 320 IAC 4.1-53-2. This submission must address the following items as specified in 320 IAC 4.1-53-2:

(1) the liner system and leachate collection and removal system (except for an existing portion of a landfill). If an exemption from the requirements for a liner and a leachate collection and removal system is sought as provided by 320 IAC 4.1-53-2(b), submit detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituent into the ground water or surface water at any future time;

(2) control of run-on;

(3) control of run-off;

(4) management of collection and holding facilities associated with run-on and run-off control systems; and

(5) control of wind dispersal of particulate matter, where applicable;

(c) If an exemption from 320 IAC 4.1-45 is sought as provided by 320 IAC 4.1-53-3(a), the owner or operator must submit detailed plans and an engineering report explaining the location of the saturated zone in relation to the landfill, the design of a double-liner system that incorporates a leak detection system between the liners and a leachate collection and removal system above the liners;.

(d) A description of how each landfill, including the liner and cover systems, will be inspected in order to meet the requirements of 320 IAC 4.1-53-4(a) and (b). This information should be included in the inspection plan submitted under 320 IAC 4.1-34-5(b)(5).

(e) Detailed plans and an engineering report describing the final cover which will be applied to each landfill or landfill cell at closure in accordance with 320 IAC 4.1-53-6(a), and a description of how each landfill will be maintained and monitored after closure in accordance with 320 IAC 4.1-53-6(b). This information should be included in the closure and post-closure plans submitted under 320 IAC 4.1-34-5(b)(13).

(f) If ignitable or reactive wastes will be landfilled, an explanation of how the standards of 320 IAC 4.1-53-7 will be complied with;.

(g) If incompatible wastes, or incompatible wastes and materials will be landfilled, an explanation of how 320 IAC 4.1-53-8 will be complied with;.

(h) If bulk or non-containerized liquid waste or wastes containing free liquids is to be landfilled **prior to May 8, 1985**, an explanation of how the requirements of 320 IAC 4.1-53-9 will be complied with;.

(i) If containers of hazardous waste are to be landfilled, an explanation of how the requirements of 320 IAC 4.1-53-10 or 320 IAC 4.1-53-11, as applicable, will be complied with.

(j) A waste management plan for EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027 describing how a landfill is or will be designed, constructed, operated, and maintained to meet the requirements of 320 IAC 4.1-53-12. This submission must address the following items as specified in 320 IAC 4.1-53-12:

(1) the volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;
(2) the attenuative properties of underlying and surrounding soils or other materials;
(3) the mobilizing properties of other materials co-disposed with these wastes; and
(4) the effectiveness of additional treatment, design, or monitoring techniques.

(Indiana Environmental Management Board; 320 IAC 4.1-34-12; filed Jul 30, 1985, 9:01 am: 8 IR 1891; filed Mar 16, 1987, 10:45 am)

SECTION 60. 320 IAC 4.1-35-1 is amended to read as follows:

320 IAC 4.1-35-1 Conditions applicable to all permits

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 1. The following conditions apply to all Final (State) Permits, and shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these regulations must be given in the permit.

(a) Duty to comply. The permittee must comply with all conditions of this permit, except that the permittee need not comply with the conditions of this permit to the extent and for the duration such noncompliance is authorized in an emergency permit. (See 320 IAC 4.1-37-2.) Any permit noncompliance, except under the terms of an emergency permit, constitutes a violation of IC 13-7 and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

(b) Duty to reapply. If the permittee wishes to continue an activity regulated by this permit, after the expiration date of this permit, the permittee must apply for and obtain a new permit.

(c) Need to halt or reduce activity not a defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(d) In the event of noncompliance with the permit, the permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

(e) Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

(f) Permit actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

(g) Property rights. The permit does not convey any property rights of any sort, or any exclusive privilege.

(h) Duty to provide information. The permittee shall furnish to the ~~Technical Secretary~~ Commissioner, within a reasonable time, any relevant information which the ~~Technical Secretary~~ Commissioner may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the ~~Technical Secretary~~ Commissioner, upon request, copies of records required to be kept by this permit.

(i) Inspection and entry. The permittee shall allow the ~~Technical Secretary~~ Commissioner, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:
(1) enter at reasonable times upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
(2) have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
(3) inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
(4) sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by IC 13-7, any substances or parameters at any location.

(j) Monitoring and records.

(1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(2) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, **the certification required by 320 IAC 4.1-44-4(b)(9)**, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report, certification, or application. This period may be extended by request of the ~~Technical Secretary~~ Commissioner at any time. The permittee shall maintain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and for disposal facilities, the post-closure care period as well.

(3) Records for monitoring information shall include:

(i) the date, exact place, and time of sampling or measurements;

(ii) the individual(s) who performed the sampling or measurements;

(iii) the date(s) analyses were performed;

(iv) the individual(s) who performed the analyses;

(v) the analytical techniques or methods used; and

(vi) the results of such analyses.

(k) Signatory requirements. All applications, reports, or information submitted to the ~~Technical Secretary~~ Commissioner shall be signed and certified (See 320 IAC 4.1-34-2).

(l) Reporting requirements.

(1) Planned changes. The permittee shall give notice to the ~~Technical Secretary~~ Commissioner as soon as possible of any planned physical alterations or additions to the permitted facility.

(2) Anticipated noncompliance. The permittee shall give advance notice to the ~~Technical Secretary~~ Commissioner of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. For a new facility, the permittee may not treat, store, recover, or dispose of hazardous waste; and for a facility being modified, the permittee may not treat, store, recover, or dispose of hazardous waste in the modified portion of the facility, until:

(i) the permittee has submitted to the ~~Technical Secretary~~ Commissioner by certified mail or hand delivery a letter signed by permittee and a registered professional engineer stating the [sic.] that the facility has been constructed or modified in compliance with the permit; and

(ii)(A) the ~~Technical Secretary~~ Department of Environmental Management has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit; or

(B) within 15 days of the date of submission of the letter in paragraph (l)(2)(i) of this section, the permittee has not received notice from the ~~Technical Secretary~~ Commissioner of his or her intent to inspect, prior inspection is waived and the permittee may commence treatment, storage, disposal or recovery of hazardous waste.

(3) Transfers. This permit is not transferable to any person except after notice to the ~~Technical Secretary~~ Commissioner. The ~~Technical Secretary~~ Commissioner may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under 320 IAC 4.1. (See 320 IAC 4.1-36-1.)

(4) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(5) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(6) Twenty-four hour reporting.

(i) The permittee shall orally report to the ~~Technical Secretary~~ Commissioner any noncompliance which may endanger health or the environment within 24 hours from the time the permittee becomes aware of the circumstances, including:

(A) Information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies.

(B) Any information of a release or discharge of hazardous waste or of a fire or explosion from the HWM facility, which could threaten the environment or human health outside the facility.

(ii) The description of the occurrence and its cause shall include:

(A) name, address, and telephone number of the owner or operator;

(B) name, address, and telephone number of the facility;

(C) date, time, and type of incident;

(D) name and quantity of material(s) involved;

(E) the extent of injuries, if any;

(F) an assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and

(G) estimated quantity and disposition of recovered material that resulted from the incident.

(iii) A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The ~~Technical Secretary~~ Commissioner may waive the five day written notice requirement in favor of a written report within fifteen days.

(7) Manifest discrepancy report: If a significant discrepancy in a manifest is discovered, the permittee must attempt to reconcile the discrepancy. If not resolved within fifteen days, the permittee must immediately submit a letter report, including a copy of the manifest, to the ~~Technical Secretary~~ Commissioner. (See 320 IAC 4.1-44-3.)

(8) Unmanifested waste report: This report must be submitted to the ~~Technical Secretary~~ Commissioner within 15 days of receipt of unmanifested waste. (See 320 IAC 4.1-44-7.)

(9) Biennial report: A biennial report must be submitted covering facility activities during odd-numbered calendar years. (See 320 IAC 4.1-44-6.)

(10) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (l)(4), (5), and (6) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (l)(6) of this section.

(11) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the ~~Technical Secretary~~ Commissioner, it shall promptly submit such facts or information.

(Indiana Environmental Management Board; 320 IAC 4.1-35-1; filed Jul 30, 1985, 9:01 am: 8 IR 1892; filed Mar 16, 1987, 10:45 am)

SECTION 61. 320 IAC 4.1-35-3 is amended to read as follows:

320 IAC 4.1-35-3 Establishing permit conditions

Authority: IC 13-7-7; IC 13-7-8.5

Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 3. (a) In addition to conditions required in all permits (320 IAC 4.1-35-1), the ~~Technical Secretary~~ Commissioner shall establish conditions, as required on a case-by-case basis, in permits under 320 IAC 4.1-39-13 (duration of permits), 320 IAC 4.1-35-4(a) (schedules of compliance), and 320 IAC 4.1-35-2 (monitoring).

(b)(1) Each Final (State) Permit shall include permit conditions necessary to achieve compliance with the [*sic.*] ~~EMA~~ IC 13-7 and ~~regulations~~ rules promulgated thereunder, including each of the applicable requirements specified in 320 IAC 4.1-32.5 and 320 IAC 4.1-40 through 320 IAC 4.1-54. In satisfying this provision, the ~~Technical Secretary~~ Commissioner may incorporate applicable requirements of 320 IAC 4.1-32.5 and 320 IAC 4.1-40 through 320 IAC 4.1-54 directly into the permit or establish other permit conditions that are based on 320 IAC 4.1.

(2) Each permit issued under 320 IAC 4.1-33 through 320 IAC 4.1-39 shall contain terms and conditions as the Commissioner determines necessary to protect human health and the environment.

(c) If new requirements become effective (including any interim final regulation) during the permitting process which is:

(1) prior to modification, or revocation and reissuance of a permit to the extent allowed in 320 IAC 4.1-36-2; and

(2) are of sufficient magnitude to make additional proceedings desirable, the ~~Technical Secretary~~ Commissioner shall, at his or her discretion, reopen the comment period.

(d) New or reissued permits, and to the extent allowed under 320 IAC 4.1-36-2, modified or revoked and reissued permits, shall incorporate each of the applicable requirements referenced in this section and in 320 IAC 4.1-35-2.

(e) Incorporation. All permit conditions shall be incorporated either expressly or by reference. If incorporated by reference, a specific citation to the applicable regulations or requirements must be given in the permit. *(Indiana Environmental Management Board; 320 IAC 4.1-35-3; filed Jul 30, 1985, 9:01 am: 8 IR 1895; filed Mar 16, 1987, 10:45 am)*

SECTION 62. 320 IAC 4.1-36-2 is amended to read as follows:

320 IAC 4.1-36-2 Major modification or revocation and reissuance of permits

Authority: IC 13-7-7; IC 13-7-8.5
***Affected*: IC 13-7-1-2; IC 13-7-8.5**

Sec. 2. When the ~~Technical Secretary~~ Commissioner receives any information (for example, inspects the facility, receives information submitted by the permittee as required in the permit (see 320 IAC 4.1-35-1), receives a request for modification or revocation and reissuance under 320 IAC 4.1-39-3, or conducts a review of the permit file) he or she may determine whether or not one or more of the causes listed in paragraphs (a) and (b) of this section for modification, or revocation and reissuance or both exist. If cause exists, the ~~Technical Secretary~~ Commissioner may modify or revoke and reissue the permit accordingly, subject to the limitations of paragraph (c) of this section, and may request an updated application if necessary. When a permit is modified, only the conditions subject to modification are reopened. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term. (See 320 IAC 4.1-39-3(b)(2).) If cause does not exist under this section or 320 IAC 4.1-36-3, the ~~Technical Secretary~~ Commissioner shall not modify or revoke and reissue the permit. If a permit modification satisfies the criteria in 320 IAC 4.1-36-3 for a minor modification, the permit may be modified without a draft permit or public review. Otherwise, a draft permit must be prepared and other procedures in 320 IAC 4.1-39 followed.

(a) Causes for modification. The following are causes for modification, but not revocation and reissuance, of permits; the following may be causes for revocation and reissuance, as well as modification, when the permittee requests or agrees.

(1) Alterations. There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.

(2) Information. The ~~Technical Secretary~~ Commissioner has received information. Permits may be modified during their terms for this cause only if the information was not available at the time of permit issuance (other than revised ~~regulations~~ rules, guidance, or test methods) and would have justified the application of different permit conditions at the time of issuance.

(3) New regulations. The standards or ~~regulations~~ rules on which the permit was based have been changed by promulgation of amended standards or ~~regulations~~ rules or by judicial decision after the permit was issued. Permits may be modified during their terms for this cause only as follows:

(i) For promulgation of amended standards or regulations, when:

(A) the permit condition requested to be modified was based on a ~~regulation~~ rule promulgated in 320 IAC 4.1-1 through 320 IAC 4.1-57; and

(B) the ~~State~~ Board has revised, withdrawn, or modified that portion of the ~~regulation~~ rule on which the permit condition was based; and

(C) a permittee requests modification in accordance with 320 IAC 4.1-39-3 within ninety (90) days after Indiana Register notice of the action on which the request is based.

(ii) For judicial decisions, a court of competent jurisdiction has remanded and stayed State promulgated ~~regulations~~ rules if the remand and stay concern that portion of the ~~regulations~~ rules on which the permit condition was based and a request is filed by the permittee in accordance with 320 IAC 4.1-39-3 within ninety (90) days of judicial remand.

(4) Compliance schedules. The ~~Technical Secretary~~ Commissioner determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy.

(5) The ~~Technical Secretary~~ Commissioner may also modify a permit:

(i) When modification of a closure plan is required under 320 IAC 4.1-46-3(b) or 320 IAC 4.1-46-8(b).

(ii) After the ~~Technical Secretary~~ Commissioner receives the notification of expected closure under 320 IAC 4.1-46-4, when the ~~Technical Secretary~~ Commissioner determines that extension of the 90 to 180 day periods under 320 IAC 4.1-46-4, modification of the 30-year post-closure period under 320 IAC 4.1-46-7(a), continuation of security requirements under 320 IAC 4.1-46-7(b), or permission to disturb the integrity of the containment system under 320 IAC 4.1-46-7(c) are unwarranted.

(iii) When the permittee has filed a request under 320 IAC 4.1-47-8(c) for a variance to the level of financial responsibility or when the ~~Technical Secretary~~ Commissioner demonstrates under 320 IAC 4.1-47-8(d) that an upward adjustment of the level of financial responsibility is required.

(iv) When the corrective action program specified in the permit under 320 IAC 4.1-45-11

has not brought the regulated unit into compliance with the groundwater protection standard within a reasonable period of time.

(v) To include a detection monitoring program meeting the requirements of 320 IAC 4.1-45-9, when the owner or operator has been conducting a compliance monitoring program under 320 IAC 4.1-45-10 or a corrective action program under 320 IAC 4.1-45-11 and compliance period ends before the end of the post-closure care period for the unit.

(vi) When a permit requires a compliance monitoring program under 320 IAC 4.1-45-10, but monitoring data collected prior to permit issuance indicate that the facility is exceeding the groundwater protection standard.

(vii) To include conditions applicable to units at a facility that were not previously included in the facility's permit.

(viii) When a land treatment unit is not achieving complete treatment of hazardous constituents under its current permit conditions.

(6) Notwithstanding any other provision in this section, when a permit for a land disposal facility is reviewed by the Commissioner under 320 IAC 4.1-34-1(h), the Commissioner shall modify the permit as necessary to assure that the facility continues to comply with 320 IAC 4.1.

(b) Causes for modification or revocation and reissuance. The following are causes to modify or, alternatively, revoke and reissue a permit:

(1) Cause exists for termination under 320 IAC 4.1-36-4, and the ~~Technical~~ ~~Secretary~~ Commissioner determines that modification or revocation and reissuance is appropriate.

(2) The ~~Technical~~ ~~Secretary~~ Commissioner has received notification (as required in the permit, see 320 IAC 4.1-35-1(l)(3)) of a proposed transfer of the permit.

(c) Facility siting. Suitability of the facility location will not be considered at the time of permit modification or revocation and reissuance unless new information or standards indicate that a threat to human health or the environment exists which was unknown at the time of permit issuance. *(Indiana Environmental Management Board; 320 IAC 4.1-36-2; filed Jul 30, 1985, 9:01 am: 8 IR 1896; filed Mar 16, 1987, 10:45 am)*

SECTION 63. 320 IAC 4.1-37-1 is amended to read as follows:

320 IAC 4.1-37-1 Permits-by-rule

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 1. Notwithstanding any other provision of 320 IAC 4.1-33 through 320 IAC 4.1-38 or 320 IAC 4.1-39, the following shall be deemed to have a permit if the conditions listed are met:

(a) Ocean disposal barges or vessels. The owner or operator of a barge or other vessel which accepts hazardous waste for ocean disposal, if the owner or operator:

(1) has a permit for ocean dumping issued by the US EPA under 40 CFR Part 220 (Ocean Dumping, authorized by the Marine Protection, Research, and Sanctuaries Act, as amended, 33 U.S.C. 1420 et seq.);

(2) complies with the conditions of that permit; and

(3) complies with the following hazardous waste regulations:

(i) 320 IAC 4.1-41-2, Identification number;

(ii) 320 IAC 4.1-44-2, Use of manifest system;

(iii) 320 IAC 4.1-44-3, Manifest discrepancies;

(iv) 320 IAC 4.1-44-4(a) and (b)(1), Operating record;

(v) 320 IAC 4.1-44-6, Biennial report; and

(vi) 320 IAC 4.1-44-7, Unmanifested waste report.

(b) Injection wells. The owner or operator of an injection well disposing of hazardous waste, if the owner or operator:

(1) has a permit for underground injection issued by the US EPA under 40 CFR Part 144; and

(2) complies with the conditions of that permit and the Federal Underground Injection Control Program requirements which include 40 CFR 144.14 (requirements for wells managing hazardous waste) (see 40 CFR 144);

(3) for UIC permits issued after November 8, 1984, complies with 320 IAC 4.1-45-12.

(c) Publicly owned treatment works. The owner or operator of a POTW which accepts for treatment hazardous waste, if the owner or operator:

(1) has an NPDES permit;

(2) complies with the conditions of that permit; and

(3) complies with the following regulations:

(i) 320 IAC 4.1-41-2, Identification number;

(ii) 320 IAC 4.1-44-2, Use of manifest system;

(iii) 320 IAC 4.1-44-3, Manifest discrepancies;

(iv) 320 IAC 4.1-44-4(a) and (b)(1), Operating record;

(v) 320 IAC 4.1-44-6, Biennial report; ~~and~~

(vi) 320 IAC 4.1-44-7, Unmanifested waste report;; and

(vii) for NPDES permits issued after November 8, 1984, 320 IAC 4.1-45-12; and

(4) If the waste meets all Federal, State, and local pretreatment requirements which would be applicable to the waste if it were being discharged into the POTW through a sewer, pipe, or similar conveyance.

(Indiana Environmental Management Board; 320 IAC 4.1-37-1; filed Jul 30, 1985, 9:01 am: 8 IR 1898; filed Mar 16, 1987, 10:45 am)

SECTION 64. 320 IAC 4.1-37-6 is added to read as follows:

320 IAC 4.1-37-6 Research, development, and demonstration permits

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 6. (a) The Commissioner may issue a research, development, and demonstration permit for any hazardous waste treatment facility which proposes to utilize an innovative and experimental hazardous waste treatment technology or process for which permit standards for such experimental activity have not been promulgated under 320 IAC 4.1-32.5 or 320 IAC 4.1-40 through 320 IAC 4.1-54. Any such permit shall include such terms and conditions as will assure protection of human health and the environment. Such permits:

(1) shall provide for the construction of such facilities as necessary, and for operation of the facility for not longer than one year unless renewed as provided in paragraph (d) of this section; and

(2) shall provide for the receipt and treatment by the facility of only those types and quantities of hazardous waste which the Commissioner deems necessary for purposes of determining the efficacy and performance capabilities of the technology or process and the effects of such technology or process on human health and the environment; and

(3) shall include such requirements as the Commissioner deems necessary to protect human health and the environment (including, but not limited to, requirements regarding monitoring, operation, financial responsibility, closure, and remedial action), and such requirements as the Commissioner deems necessary regarding testing and providing of information to the Commissioner with respect to the operation of the facility.

(b) For the purpose of expediting review and issuance of permits under this section, the Commissioner may, consistent with the protection of human health and the environment, modify or waive permit application and permit issuance requirements in 320 IAC 4.1-33 through 320 IAC 4.1-39 except that there may be no modification or waiver of regulations regarding financial responsibility (including insurance) or of procedures regarding pub participation.

(c) The Commissioner may order an immedi termination of all operations at the facility at any ti he or she determines that termination is necessary protect human health and the environment.

(d) Any permit issued under this section may renewed not more than three times. Each su renewal shall be for a period of not more than one ye *(Indiana Environmental Management Board; 320 IA 4.1-37-6; filed Mar 16, 1987, 10:45 am)*

SECTION 65. 320 IAC 4.1-38-1 is amended read as follows:

320 IAC 4.1-38-1 Qualifying for interim status

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 1. (a) Any person who owns or operates "existing HWM facility" or a facility in existence the effective date of statutory or regulator amendments under Title 13 of the Indiana Cod that render the facility subject to the requireme to have a Final (State) permit shall have interi status and shall be treated as having been issued permit to the extent he or she has:

(1) Complied with the requirements of 320 IA 4.1-2 pertaining to notification of hazardous was activity.

(2) Complied with the requirements of 320 IA 4.1-34-1(e) and 320 IAC 4.1-34-4.

(b) Failure to qualify for interim status. If th ~~Technical~~ ~~Secretary~~ Commissioner has reason believe upon examination of a Part A application tha it fails to meet the requirements of 320 IAC 4.1-34-4, h or she shall notify the owner or operator in writing the apparent deficiency. Such notice shall specify th grounds for the ~~Technical~~ ~~Secretary's~~ Commi sioner's belief that the application is deficient. Th owner or operator shall have 30 days from receipt respond to such a notification and to explain or cure th alleged deficiency in his Part A application. If, afte such notification and opportunity for response, th ~~Technical~~ ~~Secretary~~ Commissioner determines th the application is deficient he or she may tak appropriate enforcement action.

(c) Paragraph (a) of this section shall not appl to any facility which has been previously denied permit under 40 CFR 270 or under 320 IAC 4.1 if authority to operate the facility under RCRA under Title 13 of the Indiana Code has bee previously terminated. *(Indiana Environmenta*

Management Board; 320 IAC 4.1-38-1; filed Jul 30, 1985, 9:01 am: 8 IR 1903; filed Mar 16, 1987, 10:45 am)

SECTION 66. 320 IAC 4.1-38-4 is amended to read as follows:

320 IAC 4.1-38-4 Termination of interim status

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 4. Interim status terminates when:

(a) final adminstrative disposition of a Final (State) Permit application is made (pursuant to 320 IAC 4.1-39); or

(b) interim status is terminated as provided in 320 IAC 4.1-34-1(e)(5).;

(c) for owners or operators of each land disposal facility which has been granted interim status prior to November 8, 1984, on November 8, 1985, unless:

(1) the owner or operator submits a Part B application for a permit for such facility prior to that date; and

(2) the owner or operator certifies that such facility is in compliance with all applicable groundwater monitoring and financial responsibility requirements;

(d) for owners or operators of each land disposal facility which is in existence on the effective date of statutory or regulatory amendments under Title 13 of the Indiana Code that render the facility subject to the requirement to have a Final (State) permit and which is granted interim status, twelve months after the date on which the facility first becomes subject to such permit requirement unless the owner or operator of such facility:

(1) submits a Part B application for a Final (State) permit for such facility before the date twelve months after the date on which the facility first becomes subject to such permit requirement; and

(2) certifies that such facility is in compliance with all applicable groundwater monitoring and financial responsibility requirements;

(e) for owners or operators of each incinerator facility on November 8, 1989, unless the owner or operator of the facility submits a Part B application for a Final (State) permit for an incinerator facility by November 8, 1986;

(f) for owners or operators of any facility (other than a land disposal or an incinerator facility) on November 8, 1992, unless the owner or operator of the facility submits a Part B application for a Final (State) permit for the facility by November 8, 1988.

(Indiana Environmental Management Board; 320 IAC 4.1-38-4; filed Jul 30, 1985, 9:01 am: 8 IR 1904; filed Mar 16, 1987, 10:45 am)

SECTION 67. 320 IAC 4.1-40-1 is amended to read as follows:

320 IAC 4.1-40-1 Purpose, scope, and applicability

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 1. (a) The purpose of 320 IAC 4.1-40 through 320 IAC 4.1-54 is to establish minimum standards which define the acceptable management of hazardous waste at Final (State) Permitted facilities.

(b) The standards in 320 IAC 4.1-40 through 320 IAC 4.1-54 apply to owners and operators of all facilities which treat, recover, store, or dispose of hazardous waste, except as specifically provided otherwise in 320 IAC 4.1-40 through 320 IAC 4.1-54 or 320 IAC 4.1-3 through 320 IAC 4.1-6.

(c) The requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54 apply to a person disposing of hazardous waste by means of ocean disposal subject to a permit issued under the Marine Protection, Research, and Sanctuaries Act only to the extent they are included in a State hazardous waste permit-by-rule granted to such a person under 320 IAC 4.1-37-1.

[Note: 320 IAC 4.1-40 through 320 IAC 4.1-54 apply to the treatment, recovery, or storage of hazardous waste before it is loaded onto an ocean vessel for incineration or disposal at sea.]

(d) The requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54 apply to a person disposing of hazardous waste by means of underground injection subject to a permit issued under an Underground Injection Control (UIC) program approved or promulgated under the Safe Drinking Water Act (42 USC 300f et. seq.) only to the extent they are required by 40 CFR 144.14.

[Note: 320 IAC 4.1-40 through 320 IAC 4.1-54 apply to the above-ground treatment or storage of hazardous waste before it is injected underground.]

(e) The requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54 apply to the owner or operator of a POTW which treats, stores, or disposes of hazardous waste only to the extent they are included in a State permit-by-rule granted to such a person under 320 IAC 4.1-37-1.

(f) The requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54 do not apply to:

(1) the owner or operator of a facility permitted, licensed, or registered by the State to manage municipal or industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation by 320 IAC 4.1-3-5;

~~(2) An owner or operator of a facility which is beneficially using or reusing or legitimately recycling or reclaiming hazardous waste which is generated by the owner or operator of the facility, except to the extent that 320 IAC 4.1-3-6(b) provides otherwise;~~

(2) the owner or operator of a facility managing recyclable materials described in 320 IAC 4.1-3-6(a)(2) and (3) (except to the extent that requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54 are referred to in 320 IAC 4.1-32.5);

(3) a generator accumulating waste on-site in compliance with 320 IAC 4.1-9-5;

(4) a farmer disposing of waste pesticides from his own use in compliance with 320 IAC 4.1-11-2; or

(5) the owner or operator of a totally enclosed treatment facility, as defined in 320 IAC 4.1-1-7;

(6) the owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in 320 IAC 4.1-1-7;

(7)(i) Except as provided in paragraph (f)(7)(ii) of this section, a person engaged in treatment or containment activities during immediate response to any of the following situations:

(A) a discharge of a hazardous waste;

(B) an imminent and substantial threat of a discharge of hazardous waste;

(C) a discharge of a material which, when discharged, becomes a hazardous waste.

(ii) An owner or operator of a facility otherwise regulated by 320 IAC 4.1-40 through 320 IAC 4.1-54 must comply with all applicable requirements of 320 IAC 4.1-42 and 320 IAC 4.1-43.

(iii) Any person who is covered by paragraph (f)(7)(i) of this section and who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54 and 320 IAC 4.1-39 for those activities.

(8) a transporter storing manifested shipments of hazardous waste in containers meeting the requirements of 320 IAC 4.1-9-1 at a transfer facility for a period of ten days or less;

(9) the addition of absorbent material to waste in a container (as defined in 320 IAC 4.1-1-7) or the addition of waste to absorbent material in a container, provided that these actions occur at the time waste is first placed in the container; and 320 IAC 4.1-41-8(b), 320 IAC 4.1-48-2, and 320 IAC 4.1-48-3 are complied with.

(Indiana Environmental Management Board; 320 IAC 4.1-40-1; filed Jul 30, 1985, 9:01 am: 8 IR 1910; filed Mar 16, 1987, 10:45 am)

SECTION 68. 320 IAC 4.1-41-4 is amended to read as follows:

320 IAC 4.1-41-4 General waste analysis

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 4. (a)(1) Before an owner or operator treats, stores, recovers, or disposes of any hazardous waste, he must obtain a detailed chemical and physical analysis of a representative sample of the waste.

At a minimum, this analysis must contain all the information which must be known to treat, store, recover, or dispose of the waste in accordance with the requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54 or with the conditions of a permit issued under 320 IAC 4.1-39.

(2) The analysis may include data developed under 320 IAC 4.1-3 through 320 IAC 4.1-6, and existing published or documented data on the hazardous waste or on hazardous waste generated from similar processes.

[Note: For example, the facility's records of analyses performed on the waste before the effective date of these ~~regulations~~ **rules**, or studies conducted on hazardous waste generated from processes similar to that which generated the waste to be managed at the facility, may be included in the data base required to comply with paragraph (a)(1) of this Section. The owner or operator of an off-site facility may arrange for the generator of the hazardous waste to supply part or all of the information required by paragraph (a)(1) of this Section. If the generator does not supply the information, and the owner or operator chooses to accept a hazardous waste, the owner or operator is responsible for obtaining the information required to comply with this Section.]

(3) The analysis must be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis must be repeated:

(i) when the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous waste has changed; and

(ii) for off-site facilities, when the results of the inspection required in paragraph (a)(4) of this Sec-

tion indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

(4) The owner or operator of an off-site facility must inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

(b) The owner or operator must develop and follow a written waste analysis plan which describes the procedures which he will carry out to comply with paragraph (a) of this Section. He must keep this plan at the facility. At a minimum, the plan must specify:

(1) the parameters for which each hazardous waste will be analyzed and the rationale for the selection of these parameters (i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with paragraph (a) of this Section);

(2) the test methods which will be used to test for these parameters;

(3) the sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:

(i) one of the sampling methods described in 320 IAC 4.1-6-5; or

(ii) an equivalent sampling method.

(4) the frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date; and

(5) for off-site facilities, the waste analyses that hazardous waste generators have agreed to supply;

(6) where applicable, the methods which will be used to meet the additional waste analysis requirements for specific waste management methods as specified in 320 IAC 4.1-41-8, 320 IAC 4.1-53-9 and 320 IAC 4.1-54-2.

(c) For off-site facilities, the waste analysis plan required in paragraph (b) of this Section must also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan must describe:

(1) the procedures which will be used to determine the identity of each movement of waste managed at the facility; and

(2) the sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

[Note: 320 IAC 4.1-34 requires that the waste analysis plan be submitted with the Final (State) Permit application.] *(Indiana Environmental Management Board; 320 IAC 4.1-41-4; filed Jul 30, 1985, 9:01 am: 8 IR 1912; filed Mar 16, 1987, 10:45 am)*

SECTION 69. 320 IAC 4.1-41-9 is amended to read as follows:

320 IAC 4.1-41-9 Location standards

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 9. (a) Seismic considerations:.

(1) Portions of new facilities where treatment, storage, recovery, or disposal of hazardous waste will be conducted must not be located within 61 meters (200 feet) of a fault which has had displacement in Holocene time.

(2) As used in paragraph (a)(1) of this Section:

(i) "Fault" means a fracture along which rocks on one side have been displaced with respect to those on the other side.

(ii) "Displacement" means the relative movement of any two sides of a fault measured in any direction.

(iii) "Holocene" means the most recent epoch of the Quarternary period, extending from the end of the Pleistocene to the present.

[Note: Procedures for demonstrating compliance with this standard in the Final (State) Permit application are specified in 320 IAC 4.1-34-5. Facilities which are located in political jurisdictions other than those listed in 320 IAC 4.1-32-6, are assumed to be in compliance with this requirement.]

(b) Floodplains.

(1) A facility located in a 100-year floodplain must be designed, constructed, operated, and maintained to prevent washout of any hazardous waste by a 100-year flood, unless the owner or operator can demonstrate to the ~~Technical Secretary's~~ Commissioner's satisfaction that:

(i) procedures are in effect which will cause the waste to be removed safely, before flood waters can reach the facility, to a location where the wastes will not be vulnerable to flood waters; or

(ii) for existing surface impoundments, waste piles, land treatment units, and landfills, no adverse effects on human health or the environment will result if washout occurs, considering:

(A) the volume and physical and chemical characteristics of the waste in the facility;

(B) the concentration of hazardous constituents that would potentially affect surface waters as a result of washout;

(C) the impact of such concentrations on the current or potential uses of and water quality standards established for the affected surface waters; and

(D) the impact of hazardous constituents on the sediments of affected surface waters or the soils of the 100-year floodplain that could result from washout.

[Note: The location where wastes are moved must be a facility which is either permitted by EPA under 40 CFR 270, or a facility permitted pursuant to 320 IAC 4.1-15 through 320 IAC 4.1-32 and 320 IAC 4.1-33 through 320 IAC 4.1-38 or in interim status under 40 CFR 270 and 271 or permitted by a state with a hazardous waste management program authorized under 40 CFR Part 271.]

(2) As used in paragraph (b)(1) of this Section:

(i) "100-year floodplain" means any land area which is subject to a one percent or greater chance of flooding in any given year from any source.

(ii) "Washout" means the movement of hazardous waste from the active portion of the facility as a result of flooding.

(iii) "100-year flood" means a flood that has a one percent chance of being equalled or exceeded in any given year.

(c) Salt dome formations, salt bed formations, underground mines and caves. The placement of any noncontainerized or bulk liquid hazardous waste in any salt dome formation, salt bed formation, underground mine or cave is prohibited. *(Indiana Environmental Management Board; 320 IAC 4.1-41-9; filed Jul 30, 1985, 9:01 am: 8 IR 1916; filed Mar 16, 1987, 10:45 am)*

SECTION 70. 320 IAC 4.1-44-4 is amended to read as follows:

320 IAC 4.1-44-4 Operating record

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 4. (a) The owner or operator must keep a written operating record at his facility.

(b) The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility:

(1) a description and the quantity of each hazardous waste received, and the method(s) and date(s) of its treatment, storage, recovery, or disposal at the facility as required by 320 IAC 4.1-32-2;

(2) the location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of hazardous waste must be recorded on a map diagram of each cell or disposal area. For facilities, this information must include cross references to specific manifest document numbers if the waste was accompanied by a manifest;

[Note: See 320 IAC 4.1-46-9 for related requirements.]

(3) records and results of waste analyses performed as specified in 320 IAC 4.1-41-4, 320 IAC 4.1-41-8, 320 IAC 4.1-53-9, and 320 IAC 4.1-54-4;

(4) summary reports and details of all incidents that require implementing the contingency plan specified in 320 IAC 4.1-43-7(j);

(5) records and results of inspections as required by 320 IAC 4.1-41-6(d) (except these data need be kept only three years);

(6) monitoring, testing, or analytical data where required by 320 IAC 4.1-45, 320 IAC 4.1-50-4, 320 IAC 4.1-51-4, 320 IAC 4.1-51-5, 320 IAC 4.1-52-5, 320 IAC 4.1-52-6, 320 IAC 4.1-52-8, 320 IAC 4.1-53-4, 320 IAC 4.1-53-5, 320 IAC 4.1-54-7;

(7) for off-site facilities, notices to generators as specified in 320 IAC 4.1-41-3(b); **and**

(8) all closure cost estimates under 320 IAC 4.1-43 and, for disposal facilities, all post-closure cost estimates under 320 IAC 4.1-47-5.; **and**

(9) a certification by the permittee no less often than annually, that the permittee has a program in place to reduce the volume and toxicity of hazardous waste that he generates to the degree determined by the permittee to be economically practicable; and the proposed method of treatment, storage, or disposal is that practicable method currently available to the permittee which minimizes the present and future threat to human health and the environment.

(Indiana Environmental Management Board; 320 IAC 4.1-44-4; filed Jul 30, 1985, 9:01 am: 8 IR 1921; filed May 30, 1986, 2:16 pm: 9 IR 2685; filed Mar 16, 1987, 10:45 am)

SECTION 71. 320 IAC 4.1-45-1 is amended to read as follows:

320 IAC 4.1-45-1 Applicability

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 1. ~~(a) Except as provided in paragraph (b) of this section, 320 IAC 4.1-45 applies to owners and operators of facilities that treat, recover, store, dispose of hazardous waste in surface impoundments, waste piles, land treatment units, or landfills. The owner or operator must satisfy the requirements of 320 IAC 4.1-45 for all wastes (or constituents there-~~

~~contained in any such waste management unit at the facility that receives hazardous waste after January 26, 1983, (hereinafter referred to as a "regulated unit"). Any waste or waste constituent migrating beyond the waste management area under 320 IAC 4.1-45-6(b) is presumed to originate from a regulated unit unless the Technical Secretary finds that such waste or waste constituent originated from another source.~~

~~(b) The owner or operator is not subject to regulation under 320 IAC 4.1-45 if:~~

~~(1) He is exempted under 320 IAC 4.1-40-1;~~

~~(2) he designs and operates a surface impoundment in compliance with 320 IAC 4.1-50-3, a pile in compliance with 320 IAC 4.1-51-1(c), 320 IAC 4.1-51-3, or 320 IAC 4.1-51-4 or a landfill in compliance with 320 IAC 4.1-53-3;~~

(a)(1) Except as provided in paragraph (b) of this section, 320 IAC 4.1-45 applies to owners or operators of facilities that treat, store, dispose, or recover hazardous waste. The owner or operator must satisfy the requirements identified in paragraph (a)(2) of this section for all wastes (or constituents thereof) contained in solid waste management units at the facility, regardless of the time at which waste was placed in such units.

(2) All solid waste management units must comply with the requirements in 320 IAC 4.1-45-12. A surface impoundment, waste pile, and land treatment unit or landfill that receives hazardous waste after July 26, 1982, (hereinafter referred to as a "regulated unit") must comply with the requirements of 320 IAC 4.1-45-2 through 320 IAC 4.1-45-11 in lieu of 320 IAC 4.1-45-12 for purposes of detecting, characterizing and responding to releases to the uppermost aquifer. The financial responsibility requirements of 320 IAC 4.1-45-12 apply to regulated units.

(b) The owner or operator's regulated unit or units are not subject to regulation for releases into the uppermost aquifer under 320 IAC 4.1-45 if:

(1) the owner or operator is exempted under 320 IAC 4.1-40-1; or

(2) he operates a unit which the Commissioner finds:

(i) is an engineered structure;

(ii) does not receive or contain liquid waste or waste containing free liquids;

(iii) is designed and operated to exclude liquid, precipitation, and other run-on and runoff;

(iv) has both inner and outer layers of containment enclosing the waste;

(v) has a leak detection system built into each containment layer;

(vi) the owner or operator will provide continuing operation and maintenance of these leak detection systems during the active life of the unit and the closure and post-closure care periods; and

(vii) to a reasonable degree of certainty, will not allow hazardous constituents to migrate beyond the outer containment layer prior to the end of the post-closure care period; or

(3) the ~~Technical Secretary~~ Commissioner finds, pursuant to 320 IAC 4.1-52-8(d), that the treatment zone of a land treatment unit that qualifies as a regulated unit does not contain levels of hazardous constituents that are above background levels of those constituents by an amount that is statistically significant, and if an unsaturated zone monitoring program meeting the requirements of 320 IAC 4.1-52-6 has not shown a statistically significant increase in hazardous constituents below the treatment zone during the operating life of the unit. An exemption under this paragraph can only relieve an owner or operator of responsibility to meet the requirements of 320 IAC 4.1-45 during the post-closure care period; or

(4) the ~~Technical Secretary~~ Commissioner finds, based on a demonstration by the owner or operator, that there is no potential for migration of liquid from a regulated unit to the uppermost aquifer during the active life of the regulated unit (including the closure period) and the post-closure care period specified under 320 IAC 4.1-46-7. This demonstration must be certified by a qualified geologist or geotechnical engineer. In order to provide an adequate margin of safety in the prediction of potential migration of liquid, the owner or operator must base any predictions made under this paragraph on assumptions that maximize the rate of liquid migration.; or

(5) he designs and operates a pile in compliance with 320 IAC 4.1-51-1(c).

(c) 320 IAC 4.1-45 applies during the active life of the regulated unit (including the closure period). After closure of the regulated unit, 320 IAC 4.1-45:

(1) does not apply if all waste, waste residues, contaminated containment system components, and contaminated subsoils are removed or decontaminated at closure;

(2) applies during the post-closure care period under 320 IAC 4.1-46-7 if the owner or operator is conducting a detection monitoring program under 320 IAC 4.1-45-9; or

(3) applies during the compliance period under

320 IAC 4.1-45-7 if the owner or operator is conducting a compliance monitoring program under 320 IAC 4.1-45-10 or a corrective action program under 320 IAC 4.1-45-11.

(Indiana Environmental Management Board; 320 IAC 4.1-45-1; filed Jul 30, 1985, 9:01 am: 8 IR 1923; filed Mar 16, 1987, 10:45 am)

SECTION 72. 320 IAC 4.1-45-12 is added to read as follows:

320 IAC 4.1-45-12 Corrective action for solid waste management units

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 12. (a) The owner or operator of a facility seeking a permit for the treatment, recovery, storage, or disposal of hazardous waste must institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in such unit.

(b) Corrective action will be specified in the permit. The permit will contain schedules of compliance for such corrective action (where such corrective action cannot be completed prior to issuance of the permit) and assurances of financial responsibility for completing such corrective action.

(Indiana Environmental Management Board; 320 IAC 4.1-45-12; filed Mar 16, 1987, 10:45 am)

SECTION 73. 320 IAC 4.1-48-6 is amended to read as follows:

320 IAC 4.1-48-6 Containment

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-1-3; IC 13-7-1-2; IC 13-7-8.5

Sec. 6. (a) Container storage areas must have a containment system that is designed and operated in accordance with paragraph (b) of this section, except as otherwise provided by paragraph (c) of this section.

(b) A containment system must be designed and operated as follows:

(1) a base must underlie the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed;

(2) the base must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids;

(3) the containment system must have suffi capacity to contain ten percent (10%) of the vo of containers or the volume of the largest conta whichever is greater. Containers that do not co free liquids need not be considered in determination;

(4) run-on into the containment system mu prevented unless the collection system has suffic excess capacity in addition to that required paragraph (b)(3) of this section to contain any ru which might enter the system; and

(5) spilled or leaked waste and accumula precipitation must be removed from the sump collection area in as timely a manner as is neces to prevent overflow of the collection system.

(c) Storage areas that store containers holding o wastes that do not contain free liquids need not hav containment system defined by paragraph (b) of t section except as provided by paragraph (d) of t section, or provided that:

(1) the storage area is sloped or is otherw designed and operated to drain and remove liqu resulting from precipitation, or

(2) the containers are elevated or are otherw protected from contact with accumulated liquid

(d) Storage areas that store containers holdi the wastes listed below that do not contain fr liquids must have a containment system defined paragraph (b) of this section:

(1) F020, F021, F022, F023, F026, and F027

[Note: If the collected material is a hazardous was under 320 IAC 4.1-3 through 320 IAC 4.1-6, it must managed as a hazardous waste in accordance with applicable requirements of 320 IAC 4.1-7 through 32 IAC 4.1-32 and 320 IAC 4.1-40 through 320 IAC 4.1-5 If the collected material is discharged through a poi source to waters of the State, it is subject to the requir ments of IC 13-1-3 and regulations promulgat thereunder.] *(Indiana Environmental Managemen Board; 320 IAC 4.1-48-6; filed Jul 30, 1985, 9:01 am: IR 1959; filed Mar 16, 1987, 10:45 am)*

SECTION 74. 320 IAC 4.1-49-4 is amended t read as follows:

320 IAC 4.1-49-4 Inspections

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 4. (a) The owner or operator must inspect

(1) overfilling control equipment (e.g., waste fee cut-off systems and by-pass systems) at least onc each operating day to ensure that it is in goo working order;

(2) data gathered from monitoring equipmen

(e.g., pressure and temperature gauges) where present, at least once each operating day to ensure that the tank is being operated according to its design;

(3) for uncovered tanks, the level of waste in the tank, at least once each operating day, to ensure compliance with 320 IAC 4.1-49-3(b)(2);

(4) the construction materials of the above-ground portions of the tank, at least weekly to detect corrosion or erosion and leaking of fixtures and seams; and

(5) the area immediately surrounding the tank, at least weekly, to detect obvious signs of leakage (e.g., wet spots or dead vegetation).

(b) As part of the inspection schedule required in 320 IAC 4.1-41-6(b) and in addition to the specific requirements of paragraph (a) of this Section, the owner or operator must develop a schedule and procedure for assessing the condition of the tank. The schedule and procedure must be adequate to detect cracks, leaks, corrosion or erosion which may lead to cracks or leaks, or wall thinning to less than the thickness required under 320 IAC 4.1-49-2. Procedures for emptying a tank to allow entry an [*sic.*] inspection of the interior must be established when necessary to detect corrosion or erosion of the tank sides and bottom. The frequency of these assessments must be based on the material of construction of the tank, type of corrosion or erosion protection used, rate of corrosion or erosion observed during previous inspections, and the characteristics of the waste being treated or stored.

(c)(1) As part of the contingency plan required under 320 IAC 4.1-43, the owner or operator must specify the procedures he intends to use to respond to tank spills or leakage, including procedures and timing for expeditious removal of leaked or spilled waste and repair of the tank.

(2) For EPA Hazardous Wastes Nos. F020, F021, F022, F023, F026, and F027, the contingency plan must also include the procedures for responding to a spill or leak of these wastes from tanks into the containment system. These procedures shall include measures for immediate removal of the waste from the system and replacement or repair of the leaking tank.

[Note: As required by 320 IAC 4.1-41-6(c), the owner or operator must remedy any leak, crack, or wall thinning in violation of 320 IAC 4.1-49-2, or equipment or process malfunction in violation of 320 IAC 4.1-49-3, which he discovers during inspection. See 29 CFR Section 1910.94(d)(11) for Occupational Safety and Health Administration requirements relating to entry of tanks for inspsection [*sic.*].] *(Indiana Environmental Management Board; 320 IAC 4.1-49-4; filed Jul 30, 1985, 9:01 am: 8 IR 1960; filed Mar 16, 1987, 10:45 am)*

SECTION 75. 320 IAC 4.1-49-8 is added to read as follows:

320 IAC 4.1-49-8 Special requirements for hazardous wastes F020, F021, F022, F023, F026, and F027

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 8. (a) In addition to the other requirements of 320 IAC 4.1-49, the following requirements apply to tanks storing or treating hazardous wastes F020, F021, F022, F023, F026, and F027.

(1) Tanks must have systems designed and operated to detect and adequately contain spills or leaks. The design and operation of any containment system must reflect consideration of all relevant factors, including:

(i) capacity of the tank;

(ii) volumes and characteristics of wastes stored or treated in the tank;

(iii) method of collection of spills or leaks;

(iv) the design and construction materials of the tank and containment system; and

(v) the need to prevent precipitation and run-on from entering into the system.

(2) As part of the contingency plan required by 320 IAC 4.1-43, the owner or operator must specify such procedures for responding to a spill or leak from the tank into the containment system as may be necessary to protect human health and the environment. These procedures shall include measures for immediate removal of the waste from the system and replacement or repair of the leaking tank.

(Indiana Environmental Management Board; 320 IAC 4.1-49-8; filed Mar 16, 1987, 10:45 am)

SECTION 76. 320 IAC 4.1-50-2 is amended to read as follows:

320 IAC 4.1-50-2 Design and operating requirements

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 2. (a) ~~A surface impoundment (except for an existing portion of a surface impoundment) must have a liner that is designed, constructed, and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the impoundment.~~ **Any surface impoundment that is not covered by paragraph (c) of this section or 320**

IAC 4.1-25-1.5 must have a liner for all portions of the impoundment (except for existing portions of such impoundments). The liner must be designed, constructed, and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the impoundment. The liner may be constructed of materials that may allow wastes to migrate into the liner (but not into the adjacent subsurface soil or groundwater or surface water) during the active life of the facility, provided that the impoundment is closed in accordance with 320 IAC 4.1-50-6(a)(1). For impoundments that will be closed in accordance with 320 IAC 4.1-50-6(a)(2), the liner must be constructed of materials that can prevent wastes from migrating into the liner during the active life of the facility. The liner must be:

(1) constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(2) placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(3) installed to cover all surrounding earth likely to be in contact with the waste or leachate.

(b) The owner or operator will be exempted from the requirements of paragraph (a) of this section if the Technical Secretary finds, based on a demonstration by the owner or operator, that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see 320 IAC 4.1-45-4) into the groundwater or surface water at any future time. In deciding whether to grant an exemption, the Technical Secretary will consider:

(1) the nature and quantity of the wastes;

(2) the proposed alternate design and operation;

(3) the hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the impoundment and groundwater or surface water; and

(4) all other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to groundwater or surface water.

~~(c) A surface impoundment must be designed, constructed, maintained, and operated to prevent overtopping resulting from normal or abnormal operations; overfilling; wind and wave action; rainfall; run-on; malfunctions of level controls, alarms, and other equipment; and human error.~~

~~(d) A surface impoundment must have dikes that are designed, constructed, and maintained with sufficient structural integrity to prevent massive failure of the dikes. In ensuring structural integrity, it must not be presumed that the liner system will function without leakage during the active life of the unit.~~

~~(e) The Technical Secretary will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.~~

(c) The owner or operator of each new surface impoundment, each new surface impoundment unit at an existing facility, each replacement of an existing surface impoundment unit, and each lateral expansion of an existing surface impoundment unit, must install two or more liners and a leachate collection system between such liners. The liners and leachate collection system must protect human health and the environment. The requirements of this paragraph shall apply with respect to all waste received after the issuance of the permit. The requirement for the installation of two or more liners in this paragraph may be satisfied by the installation of a top liner designed, operated and constructed of materials to prevent the migration of any constituent into such liner during the period such facility remains in operation (including any post-closure monitoring period), and a lower liner designed, operated, and constructed to prevent the migration of any constituent through such liner during such period. For the purpose of the preceding sentence, a lower liner shall be deemed to satisfy such requirement if it is constructed of at least a 3-foot thick layer of recompacted clay or other natural material with a permeability of no more than 1×10^{-7} centimeter per second.

(d) Paragraph (c) of this section will not apply if the owner or operator demonstrates to the Commissioner and the Commissioner finds for such surface impoundment, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituent into the groundwater or surface water at least as effectively as such liners and leachate collection systems.

(e) The double liner requirement set forth in paragraph (c) of this section may be waived by the Commissioner for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the EP toxicity characteristics in 320 IAC 4.1-5-5; and

(2)(i)(A) The monofill has at least one liner for which there is no evidence that such liner is leaking. For the purposes of this paragraph, the term "liner" means a liner designed, constructed, installed, and operated to prevent hazardous waste from passing into the liner at any time during the active life of the facility, or a liner designed, constructed, installed, and operated to prevent hazardous waste from migrating beyond the liner to adjacent subsurface soil, groundwater, or surface water at any time during the active life of the facility. In the case of any surface impoundment which has been exempted from the requirements of paragraph (c) of this section on the basis of a liner designed, constructed, installed, and operated to prevent hazardous waste from passing beyond the liner, at the closure of such impoundment, the owner or operator must remove or decontaminate all waste residues, all contaminated liner material, and contaminated soil to the extent practicable. If all contaminated soil is not removed or decontaminated, the owner or operator of such impoundment will comply with appropriate post-closure requirements, including but not limited to groundwater monitoring and corrective action;

(B) The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in 320 IAC 4.1-1-7); and

(C) The monofill is in compliance with generally applicable groundwater monitoring requirements for facilities with Final (State) permits; or

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into groundwater or surface water at any future time.

(f) A surface impoundment must be designed, constructed, maintained, and operated to prevent overtopping resulting from normal or abnormal operations; overfilling; wind and wave action; rainfall; run-on; malfunctions of level controllers, alarms, and other equipment; and human error.

(g) A surface impoundment must have dikes that are designed, constructed, and maintained with sufficient structural integrity to prevent massive failure of the dikes. In ensuring structural integrity, it must not be presumed that the liner system will function without leakage during the active life of the unit.

(h) The Commissioner will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied. *(Indiana Environmental Management Board; 320 IAC 4.1-50-2; filed Jul 30, 1985, 9:01 am: 8 IR 1962; filed Mar 16, 1987, 10:45 am)*

SECTION 77. 320 IAC 4.1-50-4 is amended to read as follows:

320 IAC 4.1-50-4 Monitoring and inspection

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 4. (a) During construction and installation, liners (except in the case of existing portions of surface impoundments exempt from 320 IAC 4.1-50-2(a)) and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(1) synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(2) soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural nonuniformities that may cause an increase in the permeability of the liner or cover.

(b) While a surface impoundment is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) deterioration, malfunctions, or improper operation of overtopping control systems;

(2) sudden drops in the level of the impoundment's contents;

~~(3) The presence of liquids in leak detection systems, where installed to comply with 320 IAC 4.1-50-3; and~~

~~(4) Severe erosion or other signs of deterioration in dikes or other containment devices.~~

(3) severe erosion or other signs of deterioration in dikes or other containment devices.

(c) Prior to the issuance of a permit, and after any

extended period of time (at least six (6) months) during which the impoundment was not in service, the owner or operator must obtain a certification from a qualified engineer that the impoundment's dike, including that portion of any dike which provides freeboard, has structural integrity. The certification must establish, in particular, that the dike:

(1) will withstand the stress of the pressure exerted by the types and amounts of wastes to be placed in the impoundment; and

(2) will not fail due to scouring or piping, without dependence on any liner system included in the surface impoundment construction.

(Indiana Environmental Management Board; 320 IAC 4.1-50-4; filed Jul 30, 1985, 9:01 am: 8 IR 1963; filed Mar 16, 1987, 10:45 am)

SECTION 78. 320 IAC 4.1-50-5 is amended to read as follows:

320 IAC 4.1-50-5 Emergency repairs; contingency plans

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 5. (a) A surface impoundment must be removed from service in accordance with paragraph (b) of this section when:

(1) the level of liquids in the impoundment suddenly drops and the drop is not known to be caused by changes in the flows into or out of the impoundment; or

(2) the dike leaks.

(b) When a surface impoundment must be removed from service as required by paragraph (a) of this section, the owner or operator must:

(1) immediately shut off the flow or stop the addition of wastes into the impoundment;

(2) immediately contain any surface leakage which has occurred or is occurring;

(3) immediately stop the leak;

(4) take any other necessary steps to stop or prevent catastrophic failure;

(5) if a leak cannot be stopped by any other means, empty the impoundment; and

(6) notify the Technical Secretary of the problem in writing within seven (7) days after detecting the problem.

(c) As part of the contingency plan required in 320 IAC 4.1-43, the owner or operator must specify a procedure for complying with the requirements of paragraph (b) of this section.

(d) No surface impoundment that has been removed from service in accordance with the requirements of this section may be restored to service unless the portion of the impoundment which was failing is repaired and the following steps are taken:

(1) If the impoundment was removed from service as the result of actual or imminent dike failure, the dike's structural integrity must be recertified in accordance with 320 IAC 4.1-50-4(c).

(2) If the impoundment was removed from service as the result of a sudden drop in the liquid level, then:

(i) for any existing portion of the impoundment, a liner must be installed in compliance with 320 IAC 4.1-50-2(a); ~~or 320 IAC 4.1-50-3~~; and

(ii) for any other portion of the impoundment, the repaired liner system must be certified by a qualified engineer as meeting the design specifications approved in the permit.

(e) A surface impoundment that has been removed from service in accordance with the requirements of this section and that is not repaired within a reasonable period of time must be closed in accordance with the provisions of 320 IAC 4.1-50-6. *(Indiana Environmental Management Board; 320 IAC 4.1-50-5; filed Jul 30, 1985, 9:01 am: 8 IR 1963; filed Mar 16, 1987, 10:45 am)*

SECTION 79. 320 IAC 4.1-50-6 is amended to read as follows:

320 IAC 4.1-50-6 Closure and post-closure care

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 6. (a) At closure, the owner or operator must:

(1) remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless 320 IAC 4.1-3-3(d); or

(2)(i) eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues;

(ii) stabilize remaining wastes to a bearing capacity sufficient to support final cover; and

(iii) cover the surface impoundment with a final cover designed and constructed to:

(A) provide long-term minimization of the migration of liquids through the closed impoundment;

(B) function with minimum maintenance;

(C) promote drainage and minimize erosion or abrasion of the final cover;

(D) accommodate settling and subsidence so that the cover's integrity is maintained; and

(E) have a permeability less than or equal to the

permeability of any bottom liner system or natural subsoils present.

(b) If some waste residues or contaminated materials are left in place at final closure, the owner or operator must comply with all post-closure requirements contained in 320 IAC 4.1-46-7 through 320 IAC 4.1-46-10, including maintenance and monitoring throughout the post-closure care period (specified in the permit under 320 IAC 4.1-46-7). The owner or operator must:

(1) maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;

~~(2) maintain and monitor the leak detection system in accordance with 320 IAC 4.1-50-3 where such a system is present between double liner systems;~~

~~(3) maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of 320 IAC 4.1-45; and~~

~~(4) prevent run-on and run-off from eroding or otherwise damaging the final cover.~~

(2) maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of 320 IAC 4.1-45; and

(3) prevent run-on and run-off from eroding or otherwise damaging the final cover.

(c)(1) If an owner or operator plans to close a surface impoundment in accordance with paragraph (a)(1) of this section, and the impoundment does not comply with the liner requirements of 320 IAC 4.1-50-2(a) and is not exempt from them in accordance with 320 IAC 4.1-50-2(d), then:

(i) the closure plan for the impoundment under 320 IAC 4.1-46-3 must include both a plan for complying with paragraph (a)(1) of this section and a contingent plan for complying with paragraph (a)(2) of this section in case not all contaminated subsoils can be practicably removed at closure; and

(ii) the owner or operator must prepare a contingent post-closure plan under 320 IAC 4.1-46-8 ~~from~~ for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure.

(2) The cost estimates calculated under 320 IAC 4.1-47-3 and 320 IAC 4.1-47-5 for closure and post-closure care of an impoundment subject to this paragraph must include the cost of complying with the contingent closure plan and the contingent post-closure plan, but are not required to include the cost of expected closure under paragraph (a)(1) of this section.

~~(d) During the post-closure care period, if liquids leak into a leak detection system installed under 320 IAC 4.1-50-3, the owner or operator must notify the Technical Secretary of the leak in writing within seven(7) days after detecting the leak. The Technical Secretary will modify the permit to require compliance with the requirements of 320 IAC 4.1-45.~~ *(Indiana Environmental Management Board; 320 IAC 4.1-50-6; filed Jul 30, 1985, 9:01 am: 8 IR 1964; filed Mar 16, 1987, 10:45 am)*

SECTION 80. 320 IAC 4.1-50-9 is added to read as follows:

320 IAC 4.1-50-9 Special requirements for hazardous wastes F020, F021, F022, F023, F026, and F027

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 9. (a) Hazardous wastes F020, F021, F022, F023, F026, and F027 must not be placed in a surface impoundment unless the owner or operator operates the surface impoundment in accordance with a management plan for these wastes that is approved by the Commissioner pursuant to the standards set out in this section, and in accord with all other applicable requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54. The factors to be considered are:

(1) the volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) the attenuative properties of underlying and surrounding soils or other materials;

(3) the mobilizing properties of other materials co-disposed with these wastes; and

(4) the effectiveness of additional treatment, design, or monitoring techniques.

(b) The Commissioner may determine that additional design, operating, and monitoring requirements are necessary for surface impoundments managing hazardous wastes F020, F021, F022, F023, F026, and F027 in order to reduce the possibility of migration of these wastes to groundwater, surface water, or air so as to protect human health and the environment. *(Indiana Environmental Management Board; 320 IAC 4.1-50-9; filed Mar 16, 1987, 10:45 am)*

SECTION 81. 320 IAC 4.1-51-5 is amended to read as follows:

320 IAC 4.1-51-5 Monitoring and inspection

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 5. (a) During construction or installation,

liners (except in the case of existing portions of piles exempt from 320 IAC 4.1-51-2(a)) and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(1) synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(2) soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural nonuniformities that may cause an increase in the permeability of the liner or cover.

(b) While a waste pile is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) deterioration, malfunctions, or improper operation of run-on and run-off control systems;

~~(2) the presence of liquids in leak detection systems, where installed to comply with 320 IAC 4.1-51-3.~~

~~(3) proper functioning of wind dispersal control systems, where present; and~~

~~(4) the presence of leachate in and proper functioning of leachate collection and removal systems, where present.~~

(2) proper functioning of wind dispersal control systems, where present; and

(3) the presence of leachate in and proper functioning of leachate collection and removal systems, where present.

(Indiana Environmental Management Board; 320 IAC 4.1-51-5; filed Jul 30, 1985, 9:01 am: 8 IR 1967; filed Mar 16, 1987, 10:45 am)

SECTION 82. 320 IAC 4.1-51-9 is added to read as follows:

320 IAC 4.1-51-9 Special requirements for hazardous wastes F020, F021, F022, F023, F026, and F027

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 9. (a) Hazardous wastes F020, F021, F022, F023, F026, and F027 must not be placed in waste piles that are not enclosed (as defined in 320 IAC 4.1-51-1(c)) unless the owner or operator operates the waste pile in accordance with a management plan for these wastes that is approved by the Commissioner pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54. The factors to be considered are:

(1) the volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) the attenuative properties of underlying and surrounding soils or other materials;

(3) the mobilizing properties of other materials co-disposed with these wastes; and

(4) the effectiveness of additional treatment, design, or monitoring techniques.

(b) The Commissioner may determine that additional design, operating, and monitoring requirements are necessary for piles managing hazardous wastes F020, F021, F022, F023, F026, and F027 in order to reduce the possibility of migration of these wastes to groundwater, surface water, or air so as to protect human health and the environment. *(Indiana Environmental Management Board; 320 IAC 4.1-51-9; filed Mar 16, 1987, 10:45 am)*

SECTION 83. 320 IAC 4.1-52-11 is added to read as follows:

320 IAC 4.1-52-11 Special requirements for hazardous wastes F020, F021, F022, F023, F026, and F027

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 11. (a) Hazardous wastes F020, F021, F022, F023, F026, and F027 must not be placed in a land treatment unit unless the owner or operator operates the facility in accordance with a management plan for these wastes that is approved by the Commissioner pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements of 320 IAC 4.1-40 through 320 IAC 4.1-54. The factors to be considered are:

(1) the volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) the attenuative properties of underlying and surrounding soils or other materials;

(3) the mobilizing properties of other materials co-disposed with these wastes; and

(4) the effectiveness of additional treatment, design, or monitoring techniques.

(b) The Commissioner may determine that additional design, operating, and monitoring requirements are necessary for land treatment facilities managing hazardous wastes F020, F021, F022, F023, F026, and F027 in order to reduce the possibility of migration of these wastes to groundwater, surface water, or air so as to protect human health and the

environment. *(Indiana Environmental Management Board; 320 IAC 4.1-52-11; filed Mar 16, 1987, 10:45 am)*

SECTION 84. 320 IAC 4.1-53-2 is amended to read as follows:

320 IAC 4.1-53-2 Design and operating requirements

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 2. (a) ~~A landfill (except for an existing portion of a landfill) must have:~~ Any landfill that is not covered by paragraph (c) of this section or 320 IAC 4.1-28-1.5(a) must have a liner system for all portions of the landfill (except for existing portions of such landfill). The liner system must have:

(1) A liner that is designed, constructed, and installed to prevent any migration of wastes out of the landfill to the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the landfill. The liner must be constructed of materials that prevent wastes from passing into the liner during the active life of the facility. The liner must be:

(i) constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(ii) placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(iii) installed to cover all surrounding earth likely to be in contact with the waste or leachate; and

(2) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the landfill. The ~~Technical Secretary~~ Commissioner will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must be:

(i) Constructed of materials that are:

(A) chemically resistant to the waste managed in the landfill and the leachate expected to be generated; and

(B) of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and by any equipment used at the landfill; and

(ii) Designed and operated to function without clogging through the scheduled closure of the landfill.

(b) The owner or operator will be exempted from the requirements of paragraph (a) of this section if the ~~Technical Secretary~~ Commissioner finds, based on a demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see 320 IAC 4.1-45-4) into the groundwater or surface water at any future time. In deciding whether to grant an exemption, the ~~Technical Secretary~~ Commissioner will consider:

(1) the nature and quantity of the wastes;

(2) the proposed alternate design and operation;

(3) the hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the landfill and groundwater or surface water; and

(4) all other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to groundwater or surface water.

~~(c) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 25-year storm.~~

~~(d) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.~~

~~(e) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms so as not to exceed the design capacity of the system.~~

~~(f) If the landfill contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the landfill to control wind dispersal.~~

~~(g) The Technical Secretary will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.~~

(c) The owner or operator of each new landfill, each new landfill unit at an existing facility, each

replacement of an existing landfill unit, and each lateral expansion of an existing landfill unit, must install two or more liners and a leachate collection system above and between the liners. The liners and leachate collection systems must protect human health and the environment. The requirement for the installation of two or more liners in this paragraph may be satisfied by the installation of a top liner designed, operated and constructed of materials to prevent the migration of any constituent into such liner during the period such facility remains in operation (including any post-closure monitoring period), and a lower liner designed, operated, and constructed to prevent the migration of any constituent through such liner during such period. For the purpose of the preceding sentence, a lower liner shall be deemed to satisfy such requirement if it is constructed of at least a 3-foot thick layer of recompacted clay or other natural material with a permeability of no more than 1×10^{-7} centimeter per second.

(d) Paragraph (c) of this section will not apply if the owner or operator demonstrates to the Commissioner and the Commissioner finds for such landfill, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituent into the groundwater or surface water at least as effectively as such liners and leachate collection systems.

(e) The double liner requirement set forth in paragraph (c) of this section may be waived by the Commissioner for any monofill, if:

(1) the monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the EP toxicity characteristics in 320 IAC 4.1-5-5; and

(2)(i)(A) the monofill has at least one liner for which there is no evidence that such liner is leaking;

(B) the monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in 320 IAC 4.1-1-7); and

(C) the monofill is in compliance with generally applicable groundwater monitoring requirements for facilities with final (State) permits; or

(ii) the owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into groundwater surface water at any future time.

(f) The owner or operator must desi construct, operate, and maintain a run-on cont system capable of preventing flow onto the acti portion of the landfill during peak discharge fr at least a 25-year storm.

(g) The owner or operator must desig construct, operate, and maintain a run-off management system to collect and control at leas the water volume resulting from a 24-hour, 25 year storm.

(h) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms so as not to exceed the design capacity of the system.

(i) If the landfill contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the landfill to control wind dispersal.

(j) The Commissioner will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied. *(Indiana Environmental Management Board; 320 IAC 4.1-53-2; filed Jul 30, 1985, 9:01 am: 8 IR 1974; filed Mar 16, 1987, 10:45 am)*

SECTION 85. 320 IAC 4.1-53-4 is amended to read as follows:

320 IAC 4.1-53-4 Monitoring and inspection

Authority: IC 13-7-7; IC 13-7-8.5

Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 4. (a) During construction or installation, liners (except in the case of existing portions of landfills exempt from 320 IAC 4.1-53-2(a)) and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(1) synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(2) soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(b) While a landfill is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) deterioration, malfunctions, or improper operation of run-on and run-off control systems;
~~(2) The presence of liquids in leak detection systems, where installed to comply with 320 IAC 4.1-53-3;~~
~~(3) proper functioning of wind dispersal control systems, where present; and~~
~~(4) the presence of leachate in and proper functioning of leachate collection and removal systems, where present.~~
(2) proper functioning of wind dispersal control systems, where present; and
(3) the presence of leachate in and proper functioning of leachate collection and removal systems, where present.

(Indiana Environmental Management Board; 320 IAC 4.1-53-4; filed Jul 30, 1985, 9:01 am: 8 IR 1976; filed Mar 16, 1987, 10:45 am)

SECTION 86. 320 IAC 4.1-53-6 is amended to read as follows:

320 IAC 4.1-53-6 Closure and post-closure care

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 6. (a) At final closure of the landfill or upon closure of any cell, the owner or operator must cover the landfill or cell with a final cover designed and constructed to:

(1) provide long-term minimization of migration of liquids through the closed landfill;
(2) function with minimum maintenance;
(3) promote drainage and minimize erosion or abrasion of the cover;
(4) accommodate settling and subsidence so that the cover's integrity is maintained; and
(5) have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) After final closure, the owner or operator must comply with all post-closure requirements contained in 320 IAC 4.1-46-7 through 320 IAC 4.1-46-10, including maintenance and monitoring throughout the post-closure care period (specified in the permit under 320 IAC 4.1-46-7). The owner or operator must:

(1) maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;
~~(2) maintain and monitor the leak detection system in accordance with 320 IAC 4.1-53-3, where such a system is present between double liner systems;~~
~~(3) continue to operate the leachate collection and removal system until leachate is no longer detected;~~
~~(4) maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of 320 IAC 4.1-45;~~
~~(5) prevent run-on and run-off from eroding or otherwise damaging the final cover; and~~
~~(6) protect and maintain surveyed benchmarks used in complying with 320 IAC 4.1-53-5.~~
(2) continue to operate the leachate collection and removal system until leachate is no longer detected;
(3) maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of 320 IAC 4.1-45;
(4) prevent run-on and run-off from eroding or otherwise damaging the final cover; and
(5) protect and maintain surveyed benchmarks used in complying with 320 IAC 4.1-53-5.

~~(c) During the post-closure care period, if liquid leaks into the leak detection system installed under 320 IAC 4.1-53-3, the owner or operator must notify the Technical Secretary of the leak in writing within seven (7) days after detecting the leak. The Technical Secretary will modify the permit to require compliance with the requirements of 320 IAC 4.1-45.~~

(Indiana Environmental Management Board; 320 IAC 4.1-53-6; filed Jul 30, 1985, 9:01 am: 8 IR 1976; filed Mar 16, 1987, 10:45 am)

SECTION 87. 320 IAC 4.1-53-9 is amended to read as follows:

320 IAC 4.1-53-9 Special requirements for bulk and containerized liquids

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 9. (a) Bulk or non-containerized liquid waste or waste containing free liquids ~~must not be placed in a landfill unless~~ may be placed in a landfill prior to May 8, 1985, only if:

(1) the landfill has a liner and leachate collection and removal system that meet the requirements of 320 IAC 4.1-53-2(a); or
(2) before disposal, the liquid waste or waste containing free liquids is treated or stabilized, chemically or physically (e.g., by mixing with an absorbent solid), so that free liquids are no longer present.

~~(b) Containers holding free liquids must not be placed in a landfill unless:~~
~~(1) all free-standing liquid:~~
~~(i) has been removed by decanting, or other methods;~~

~~(ii) has been mixed with absorbent or solidified so that free-standing liquid is no longer observed; or~~

~~(iii) has been otherwise eliminated; or~~

~~(2) the container is very small, such as an ampule; or~~

~~(3) the container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or~~

~~(4) the container is a lab pack as defined in 320 IAC 4.1-53-11 and is disposed of in accordance with 320 IAC 4.1-53-11.~~

(b) Effective May 8, 1985, the placement of bulk or non-containerized liquid hazardous waste or hazardous waste containing free liquids (whether or not absorbents have been added) in any landfill is prohibited.

(c) To demonstrate the absence or presence of free liquids in either a containerized or a bulk waste, the following test must be used: Method 9095 (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods." [EPA Publication No. SW-846].

(d) Containers holding free liquids must not be placed in a landfill unless:

(1) all free-standing liquid:

(i) has been removed by decanting, or other methods;

(ii) has been mixed with absorbent or solidified so that free-standing liquid is no longer observed; or

(iii) has been otherwise eliminated; or

(2) the container is very small, such as an ampule; or

(3) the container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or

(4) the container is a lab pack as defined in 320 IAC 4.1-53-11 and is disposed of in accordance with 320 IAC 4.1-53-11.

(e) Effective November 8, 1985, the placement of any liquid which is not a hazardous waste in a landfill is prohibited unless the owner or operator of such landfill demonstrates to the Commissioner or the Commissioner determines, that:

(1) the only reasonably available alternative to the placement in such landfill is placement in a landfill or unlined surface impoundment, whether or not permitted or operating under interim status, which contains, or may reasonably be anticipated to contain, hazardous waste; and

(2) placement in such owner or opera... landfill will not present a risk of contamina... of any underground source of drinking w... (as that term is defined in 320 IAC 4.1-1-7). ... *(Indiana Environmental Management Board; 320 I... 4.1-53-9; filed Jul 30, 1985, 9:01 am: 8 IR 1977; fi... Mar 16, 1987, 10:45 am)*

SECTION 88. 320 IAC 4.1-53-12 is added to r... as follows:

320 IAC 4.1-53-12 Special requirements f... hazardous wastes F02... F021, F022, F023, F026, a... F027

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 12. (a) Hazardous wastes F020, F021, F02... F023, F026, and F027 must not be placed in a landf... unless the owner or operator operates the landfill ... accord with a management plan for these wastes th... is approved by the Commissioner pursuant to t... standards set out in this paragraph, and in accord wi... all other applicable requirements of 320 IAC 4.1-... through 320 IAC 4.1-54. The factors to be consider... are:

(1) the volume, physical, and chemic... characteristics of the wastes, including the... potential to migrate through the soil or to volatili... or escape into the atmosphere;

(2) the attenuative properties of underlying an... surrounding soils or other materials;

(3) the mobilizing properties of other materials c... disposed with these wastes; and

(4) the effectiveness of additional treatmen... design, or monitoring requirements.

(b) The Commissioner may determine that add... tional design, operating, and monitoring requir... ments are necessary for landfills managing hazardo... wastes F020, F021, F022, F023, F026, and F027 i... order to reduce the possibility of migration of the... wastes to groundwater, surface water, or air so as t... protect human health and the environment. *(Indian... Environmental Management Board; 320 IAC 4.1-5... 12; filed Mar 16, 1987, 10:45 am)*

SECTION 89. 320 IAC 4.1-54-1 is amended t... read as follows:

320 IAC 4.1-54-1 Applicability

Authority: IC 13-7-7; IC 13-7-8.5
Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 1. (a) 320 IAC 4.1-54 applies to owners an... operators of facilities that incinerate hazardous wast... except as 320 IAC 4.1-40-1 provides otherwise. Th...

following facility owners or operators are considered to incinerate hazardous waste:

(1) owners or operators of hazardous waste incinerators (as defined in 320 IAC 4.1-1-7); and

(2) owners or operators who burn hazardous waste in boilers or in industrial furnaces in order to destroy such waste, or who burn hazardous waste in boilers or in industrial furnaces for any recycling purpose and elect to be regulated under 320 IAC 4.1-54.

(b) After consideration of the waste analysis included with the Final (State) Permit application, the ~~Technical Secretary~~ Commissioner, in establishing the permit conditions, must exempt the applicant from all requirements of 320 IAC 4.1-54 except 320 IAC 4.1-54-2 (Waste analysis) and 320 IAC 4.1-54-8 (Closure):

(1) If the ~~Technical Secretary~~ Commissioner finds that the waste to be burned is:

(i) listed as a hazardous waste in 320 IAC 4.1-6, solely because it is ignitable (Hazard Code I), or corrosive (Hazard Code C), or both; or

(ii) listed as a hazardous waste in 320 IAC 4.1-6, solely because it is reactive (Hazard Code R) for characteristics other than those listed in 320 IAC 4.1-5-4(a)(4) and (5), and will not be burned when other hazardous wastes are present in the combustion zone; or

(iii) a hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the test for characteristics of hazardous wastes under 320 IAC 4.1-5; or

(iv) a hazardous waste solely because it possesses any of the reactivity characteristics described by 320 IAC 4.1-5-4(a)(1), (2), (3), (6), (7), and (8), and will not be burned when other hazardous wastes are present in the combustion zone; and

(2) If the waste analysis shows that the waste contains none of the hazardous constituents listed in 320 IAC 4.1-6-9 which would reasonably be expected to be in the waste.

(c) If the waste to be burned is one which is described by paragraphs (b)(1)(i), (b)(1)(ii), (b)(1)(iii), or (b)(1)(iv) of this section and contains insignificant concentrations of the hazardous constituents listed in 320 IAC 4.1-6-9, then the ~~Technical Secretary~~ Commissioner may, in establishing permit conditions, exempt the applicant from all requirements of 320 IAC 4.1-54, except 320 IAC 4.1-54-2 (Waste analysis) and 320 IAC 4.1-54-8 (Closure), after consideration of the waste analysis included with the permit application, unless the ~~Technical Secretary~~ Commissioner finds that the waste will pose a threat to human health and the environment when burned in an incinerator.

(d) The owner or operator of an incinerator may conduct trial burns subject only to the requirements of 320 IAC 4.1-37-3 (Short term and incinerator permits).

(Indiana Environmental Management Board; 320 IAC 4.1-54-1; filed Jul 30, 1985, 9:01 am: 8 IR 1978; filed Mar 16, 1987, 10:45 am)

SECTION 90. 320 IAC 4.1-54-4 is amended to read as follows:

320 IAC 4.1-54-4 Performance standards

Authority: IC 13-7-7; IC 13-7-8.5

Affected: IC 13-7-1-2; IC 13-7-8.5

Sec. 4. An incinerator burning hazardous waste must be designed, constructed, and maintained so that, when operated in accordance with operating requirements specified under 320 IAC 4.1-54-6, it will meet the following performance standards:

(a)(1) **Except as provided in paragraph (a)(2),** an incinerator burning hazardous waste must achieve a destruction and removal efficiency (DRE) of 99.99% for each principal organic hazardous constituent (POHC) designated (under 320 IAC 4.1-54-3) in its permit for each waste feed. DRE is determined for each POHC from the following equation:

$$DRE = \frac{(Win - Wout)}{Win} \times 100\%$$

Where:

Win = Mass feed rate of one principal organic hazardous constituent (POHC) in the waste stream feeding the incinerator, and

Wout = Mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) An incinerator burning hazardous wastes F020, F021, F022, F023, F026, or F027 must achieve a destruction and removal efficiency (DRE) of 99.9999% for each principal organic hazardous constituent (POHC) designated (under 320 IAC 4.1-54-3) in its permit. This performance must be demonstrated on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-p-dioxins and dibenzofurans. DRE is determined for each POHC from the equation in 320 IAC 4.1-54-4(a)(1). In addition, the owner or operator of the incinerator must notify the Commissioner of his intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(b) An incinerator burning hazardous waste and producing stack emissions of more than 1.8 kilograms per hour (4 pounds per hour) of hydrogen chloride (HCl) must control HCl emissions such that the rate of emission is no greater than the larger of either 1.8 kilograms per hour or one percent (1%) of the HCl in the stack gas prior to entering any pollution control equipment.

(c) An incinerator burning hazardous waste must not emit particulate matter in excess of 180 milligrams per dry standard cubic meter (0.08 grains per dry standard cubic foot) when corrected for the amount of oxygen in the stack gas according to the formula:

$$P_c = P_m \times \frac{14}{21\text{-}Y}$$

Where P_c is the corrected concentration of particulate matter, P_m is the measured concentration of particulate matter, and Y is the measured concentration of oxygen in the stack gas, using the Orsat method for oxygen analysis of dry flue gas, presented in 40 CFR Part 60, Appendix A (Method 3). This correction procedure is to be used by all hazardous waste incinerators except those operating under conditions of oxygen enrichment. For these facilities, the Technical Secretary will select an appropriate correction procedure, to be specified in the facility permit.

(d) For purposes of permit enforcement, compliance with the operating requirements specified in the permit (under 320 IAC 4.1-54-6) will be regarded as compliance with this Section. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the performance requirements of this Section may be "information" justifying modification, revocation, or reissuance of a permit under 320 IAC 4.1-36-2. *(Indiana Environmental Management Board; 320 IAC 4.1-54-4; filed Jul 30, 1985, 9:01 am: 8 IR 1979; filed Mar 16, 1987, 10:45 am)*

SECTION 91. The following are repealed:

320 IAC 4.1-50-3 Double-lined surface impoundments: exemption from 320 IAC 4.1-45 groundwater protection requirements — Repealed

Sec. 3. *(Repealed by Indiana Environmental Management Board; filed Mar 16, 1987, 10:45 am)*

320 IAC 4.1-51-3 Double-lined piles: exemption from 320 IAC 4.1-45 groundwater protection requirements — Repealed

Sec. 3. *(Repealed by Indiana Environmental Management Board; filed Mar 16, 1987, 10:45 am)*

320 IAC 4.1-51-4 Inspection of liners: exemption from 320 IAC 4.1-45 groundwater protection requirements — Repealed

Sec. 4. *(Repealed by Indiana Environmental Management Board; filed Mar 16, 1987, 10:45 am)*

320 IAC 4.1-53-3 Double-lined landfills: exemption from 320 IAC 4.1-45 groundwater protection requirements — Repealed

Sec. 3. *(Repealed by Indiana Environmental Management Board; filed Mar 16, 1987, 10:45 am)*

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