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Environmental Protection Agency

40 CFR Part 61

National Emission Standards for Hazardous Air Pollutants; Asbestos NESHAP Revision; Final Rule

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 61

[AD-FRL-3814-7]

RIN 2060-AC57

National Emission Standards for Hazardous Air Pollutants; Asbestos NESHAP Revision

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: This Federal Register notice promulgates rules under section 112 of the Clean Air Act (CAA) for asbestos emissions and is based on the Administrator's determination that asbestos presents a significant risk to human health as a result of air emissions from one or more source categories and is therefore a hazardous air pollutant (*see* 36 FR 3031, March 31, 1971). The purpose of the revisions promulgated today is to enhance enforcement and promote compliance with the current standard without altering the stringency of existing controls. On January 10, 1989 the Environmental Protection Agency (EPA or the Agency) proposed amendments to the asbestos National Emission Standard for Hazardous Air Pollutants (NESHAP) that would require control device and fugitive emission monitoring, recordkeeping, and reporting for asbestos milling, manufacturing, and fabricating operations. For planned demolitions and renovations, revisions to the notification requirements were proposed, and safety was added as a reason for exemption from the use of wet removal methods. Recordkeeping requirements were proposed for asbestos waste disposal. Clarifying revisions to several definitions and provisions were also proposed. Numerous comments were received on the proposed revisions, and today's notice responds to those comments, and incorporates changes as a result of those comments.

EFFECTIVE DATE: November 20, 1990. Under section 307(b)(1) of the Clean Air Act, judicial review of the actions taken by this notice is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit within 60 Days of today's publication of these rules. Under section 307(b)(2) of the Clean Air Act, the requirements that are the subject of today's notice may not be challenged later in civil or criminal proceedings brought by EPA to enforce these requirements.

ADDRESSES: *Background information document.* The background information document (BID) for the promulgated revisions may be obtained from the U.S. EPA Library (MD-35), Research Triangle Park, North Carolina, 27711, telephone no. (919) 541-2777. Please refer to "Background Information for Promulgated Asbestos NESHAP Revisions," (Publication No. EPA 450/3-90/017). The BID contains a summary of all the public comments made on the proposed revisions and the Administrator's responses to the comments.

Dockets. Docket No. A-88-28 contains supporting information used in developing the final revisions to the asbestos NESHAP and is available for public inspection and copying between 8:30 a.m. and 3:30 p.m., Monday through Friday, at EPA's Air Docket (LE-131), Room M-1500, 1st Floor, Waterside Mall, 401 M Street, SW., Washington, DC 20460. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: For further information and official interpretations of applicability, compliance requirements, and reporting aspects of the promulgated revisions, contact the appropriate Regional, State or local office contact as listed in 40 CFR 61.04. For further information on the background of the regulatory decisions in the promulated revisions, contact Mr. Sims Roy, Standards Development Branch, Emission Standards Division (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone no. (919) 541-5263. For further information on the technical aspects of the promulgated revisions, contact Mr. Ronald Myers, Industrial Studies Branch, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone no. (919) 541-5407.

SUPPLEMENTARY INFORMATION:

I. The Standards

The promulgated revisions implement section 112 of the Clean Air Act (CAA) and are based on the Administrator's determination that asbestos presents a significant risk to human health as a result of air emissions from one or more source categories and is therefore a hazardous air pollutant (*see* 36 FR 3031 (March 31, 1971)). The revisions promulgated today amend the asbestos NESHAP to enhance enforcement and promote compliance with the current standard without altering the stringency of existing controls.

Milling, Manufacturing and Fabricating

The revisions to the standards require asbestos milling, manufacturing and fabricating sources to conduct daily monitoring for visible emissions. While the absence of visible emissions does not mean there are no asbestos fibers being emitted, the presence of visible emissions does indicate a serious control device malfunction. Because visible emissions monitoring is intended primarily to detect serious control device malfunctions, weekly inspections of air cleaning devices are also required. In addition, the revisions promulgated require these sources to maintain records of the results of visible emissions monitoring and control device inspections, and to submit quarterly a copy of visible emissions monitoring records of visible emissions occurred during the quarter. The revision requires owners or operators who install fabric filters after the effective date of this rule to provide for easy inspection of the bags.

Demolition and Renovation

The revisions require the owner or operator of a demolition or renovation activity to provide additional information in notifications, and to renotify EPA if the start date of a demolition or renovation changes from that given in the original notification. Another revision requires owners or operators to give a 10-day notice for renovations. A person trained in the provisions of this rule and the means of complying with them is required to be on site when asbestos-containing material (ACM) is stripped, removed or disturbed. When wetting is suspended due to freezing temperatures, owners or operators are required to measure air temperature in the work area three times during the workday and keep daily temperature records for at least 2 years. The revisions also clarify EPA's position regarding the handling and treatment of nonfriable asbestos materials such as resilient floor covering, including vinyl asbestos floor tile, and roofing material.

Waste Disposal

The revisions require vehicles used to transport asbestos-containing waste material to be marked with the sign prescribed by the Occupational Safety and Health Administration during loading and unloading to warn people of the presence of asbestos. For all asbestos-containing waste material transported offsite, the revisions require that a waste shipment record (WSR) be provided to the waste site owner or operator at the time that the waste is

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delivered to the waste disposal site. If a copy of the WSR signed by the waste site owner or operator is not received within 35 days of the date the waste was accepted by the initial transporter, the revisions direct the waste generator to contact the transporter and/or disposal site owner or operator to determine the status of the waste shipment. The revisions further direct the waste generator to submit an exception report to EPA if a signed copy of the WSR is not received within 45 days of the date the waste was accepted by the initial transporter. Labels are required on containers of asbestos-containing waste material from manufacturing, fabricating, demolition and renovation activities indicating the name of the waste generator and the location where the waste was generated.

Inactive Waste Disposal Sites

The revisions require the owner or operator of an inactive waste disposal site for a milling, manufacturing or fabricating operation to notify the Administrator in writing prior to excavating or otherwise disturbing asbestos-containing waste material that has been deposited at the disposal site and to record on the deed to the property a notation that will inform future purchasers of the property that it has been used for the disposal of asbestos-containing waste material and that the survey plot and record of the location and quantity of such waste material are on file with the Administrator.

Active Waste Disposal Sites

The revisions require the owner or operator of an active waste disposal site to maintain WSRs and report in writing the receipt of a significant amount of improperly enclosed or uncovered waste to EPA by the following working day. The owner or operator of an active waste disposal site is required by the revisions promulgated today to send a signed copy of the WSR back to the waste generator no more than 30 days after receipt of the waste, to attempt to reconcile any discrepancy between the quantity given on the WSR and the quantity actually received and, failing to do so within 15 days after receiving the waste, to report the discrepancy and any attempts to reconcile it to the Administrator. The revisions promulgated today also require the owner or operator of an active disposal site to maintain records of the location, depth and area, and volume of asbestos-containing waste material within the disposal site on a map or diagram of the disposal area. Upon closure, the owner or operator must comply with all the rules promulgated for inactive waste disposal sites. A revision requires the owner or operator of an active waste disposal site to notify the Administrator in writing prior to excavating or otherwise disturbing asbestos-containing waste material that has been deposited at the disposal site and covered.

Asbestos Conversion Processes

A section is promulgated to clarify that operations that convert asbestos-containing waste material into nonasbestos (asbestos-free) material are covered by the NESHAP. The provisions promulgated require the owner or operator of such an operation to obtain prior written approval of the Administrator to construct the facility, and conduct a start-up performance test using specified analytical methods and procedures. Requirements for continuous monitoring during and after the initial 90 days of operation, emissions control, maintenance of records of test results on site, and reports to the Administrator are also promulgated today.

II. Environmental, Energy and Economic Impacts

The environmental, energy, and economic impacts of the revisions for demolition and renovation, including waste disposal, were estimated from two baselines. One is full compliance with the NESHAP, and the other is current use of engineering controls and work practices. Enforcement experience indicates that many asbestos removal operations related to demolition and the subsequent waste disposal operations are performed out of compliance with the NESHAP. The lack of compliance with the NESHAP removal provisions leads to the improper disposal of some waste, especially demolition waste, with the result that emissions from the disposal of demolition waste greatly exceed other emissions, including process emissions from milling, manufacturing, and fabricating. Liability and other considerations generally lead the owners of buildings being renovated to follow or even exceed the requirements of the NESHAP. Thus, the appropriate baseline for demolition is current use of work practices rather than full compliance. At asbestos milling, manufacturing, and fabricating facilities, the required air pollution control devices are generally in place. Thus, for milling, manufacturing, and fabricating, full compliance with the NESHAP, including the waste disposal requirements, is assumed for the baseline.

Few emission measurement data exit for asbestos sources. Thus, emissions were estimated using engineering methods and assumptions, which resulted in substantial uncertainty. A detailed description of the approaches used to estimate emissions is found in "Asbestos Emission Estimates for Milling, Manufacturing, Fabricating, Demolition, Renovation, and Waste Disposal," which is contained in Docket A-88-28. Estimated process emissions under the current NESHAP at full compliance for milling, manufacturing, and fabricating are approximately 7,400 kg/yr. Based on current practices, estimated emissions from the removal activities associated with demolition and renovation are approximately 1,300 kg/yr and estimated waste disposal emissions from all sources are 227,000 kg/yr. If demolition and renovation were in full compliance, estimated emissions from asbestos removal activities associated with demolition and renovation would be about 700 kg/yr. Estimated emissions from waste disposal, assuming full compliance with the NESHAP by all sources, would be about 600 kg/yr.

The costs of the revisions are expected to be small relative to normal operating costs for these industries. The revisions are intended to promote compliance and enhance enforceability. Small additional costs are associated with the recordkeeping and reporting requirements of the revisions. Economic impacts of the promulgated alternatives are expected to be minimal. Adverse impacts of the promulgated revisions on water, noise, and energy were considered. Due to the nature of the revisions, no significant adverse impacts on water, noise, or energy are anticipated.

III. Public Participation

The revisions were proposed and published in the Federal Register on January 10, 1989 (54 FR 912). The preamble to the proposed standards revisions noted the availability in the docket of the supporting information used in developing the proposed revisions. Public comments were solicited at the time of proposal.

To provide interested persons the opportunity for oral presentation of data, views, or arguments concerning the proposed revisions, a public hearing was held on February 8, 1989, at Research Triangle Park, North Carolina. The hearing was open to the public, and 6 persons presented comments.

The public comment period specified in the Federal Register notice was from January 10, 1989 to March 7, 1989. One

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hundred comment letters were received in response to the **Federal Register** proposal. The comments have been carefully considered and, where determined to be appropriate by the Administrator, changes have been made to the proposed revisions.

IV. Significant Comments and Changes to the Proposed Revisions

Comments on the proposed revisions were received from industry, trade associations and regulatory agencies. A detailed discussion of these comments and responses can be found in the promulgation BID, which is referred to in the ADDRESSES section of this preamble. The comments and responses summarized in the BID serve as the basis for the changes that have been made to the revisions between proposal and promulgation. The major comments and responses are summarized in this preamble. Most of the comment letters contained multiple comments. Significant comments have been divided into the following areas: demolition and renovation, and waste disposal.

Demolition and Renovation

Nonfriable ACM

Comment: Several commenters argued that the rule should be modified to clarify that certain products are nonfriable and, therefore, not regulated. Asbestos cement (A/C) products, including transite and exterior shingles, should be included among nonfriable products according to commenters IV-D-49, IV-D-72, and IV-D-93. Asbestos-containing flooring products, such as tile and sheet vinyl flooring, were considered by several commenters (IV-D-15, IV-D-47, IV-D-48, IV-D-55, IV-D-84, and IV-D-95) to always be nonfriable and exempt from the rule, with the exception of flooring that was being sanded (IV-D-47, IV-D-48). Another commenter, IV-D-48, in reference to asbestos roofing products, argued that there is no basis in the record for saying that severely weathered asphaltic material could become brittle. Commenters IV-D-21, IV-D-31, IV-D-48, IV-D-49, and IV-D-93 recommended that the rule be clarified to exempt all nonfriable materials as the rule is currently understood. Commenter IV-D-93 argued that in present day ACM, the asbestos fibers are locked in cement or bituminous or resinous binders and that the materials can be removed and disposed of without any significant release to the environment.

Response: In 1973 when the asbestos NESHAP rules were first promulgated for the demolition of buildings, EPA's intention was to distinguish between materials that would readily release asbestos fibers when damaged or disturbed and those materials that were unlikely to result in the release of significant amounts of asbestos fibers. To accomplish this, EPA labeled as "friable" those materials that were likely to readily release fibers. Friable materials, when dry, could easily be crumbled, pulverized, or reduced to powder using hand pressure. The term "reduced to powder" is readily understood to mean that the affected material is changed to a dust or powder that can become airborne. "Pulverized" indicates that the resulting material will include dust as well as a large number of small pieces of the original material. The term "crumbled" indicates that the affected material is easily (i.e., using hand pressure) broken into a large number of small pieces. Although dust is likely to be produced as a result of crumbling, it is possible that there are some types of materials that can be crumbled without producing dust. It is also understood that crumbling refers to an action that occurs essentially in one effort and not to repeated attempts to crumble the material. For example, floor tile in good condition can be broken by hand into a few large pieces, but it is not easily broken in one effort into many small pieces. On the other hand, floor tile that has lost its structural matrix is in poor condition and can be broken into many small pieces in one effort.

Later, EPA realized that, in some instances, nonfriable materials that were subjected to intense forces, such as the intense mechanical forces encountered during demolition, could be crumbled, pulverized, or reduced to powder. In these instances, certain materials which had been considered nonfriable appeared capable of releasing significant amounts of asbestos fibers to the atmosphere. Examples of practices that were observed by EPA to reduce otherwise nonfriable asbestos material to dust capable of becoming airborne included the breaking of nonfriable insulation from steel beams by repeatedly running over the beams with a crawler tractor. In view of the damage done to these otherwise nonfriable materials and the resulting increased potential for fiber release, these and other similar practices involving nonfriable asbestos material were considered to render nonfriable ACM into dust capable of becoming airborne.

As a result, EPA issued a policy determination in 1985 regarding the removal of nonfriable asbestos material that was consistent with EPA's intent to distinguish between material that could release significant amounts of asbestos fibers during demolition and renovation operations and those that would not. This policy determination stated in essence that any ACM, whether originally friable or nonfriable that become (or are likely to become) crumbled, pulverized, or reduced to powder are covered by the NESHAP. Specifically, the determination stated that

> * * * even though the regulations address only material that is presently friable, it does not limit itself to material that is friable at the time of notification. Rather, if at any point during the renovation or demolition, additional friable asbestos material is * * * created from nonfriable forms, then this additional friable material becomes subject to the regulations from the time of creation * * *

The issuance of this determination did not alter the intent of the NESHAP, but was consistent with the intent of the standard that was written to prevent significant emissions of asbestos fibers. The intent of the policy determination was that it apply narrowly to specific instances where otherwise nonfriable materials would be damaged during demolition or renovation to the extent that significant amounts of asbestos fibers would be released to the atmosphere. A statement in the determination to the effect that some nonfriable materials may remain nonfriable throughout demolition and renovation is evidence that this determination was intended to be narrowly interpreted and not used to require removal of all nonfriable materials. For example, materials such as resilient floor covering, asphalt roofing products, packings, and gaskets would rarely, if ever, need to be removed because, even when broken or damaged, they would not release significant amounts of asbestos fibers. But, just as it is important to recognize that some nonfriable materials do not have to be removed prior to demolition, it is also important to recognize that some nonfriable materials should be removed prior to demolition if, as a result of the forces of demolition, nonfriable material is likely to become crumbled, pulverized, or otherwise reduced to powder. For example, the A/C siding on a building that is to be demolished using a wrecking ball is very likely to be crumbled or pulverized with increased potential for the release of significant levels of asbestos fibers. Such material in this instance should be removed prior to demolition.

Since this policy determination was made, there has been some confusion in

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its application. As a result, contractors operating in more than one enforcement jurisdiction have encountered different interpretations for similar demolition operations. For example, there have been instances in which contractors are required, prior to demolition, to remove floor tile in one enforcement jurisdiction but not in another. Contractors and/or building owners and operators are unsure as to what materials must be removed and what materials can be left in place and are often hesitant to proceed without a ruling from EPA, which can involve significant delays.

As a consequence, EPA received a number of requests from State and regional enforcement agencies to clarify what is required under the NESHAP in dealing with nonfriable materials since the 1985 policy determination was issued. In response to these requests, a clarification of the nonfriable issue was included in the revisions proposed on January 10, 1989. These revisions were intended to clarify the intent of the original rule. Basically, EPA stated in the January 10, 1989, **Federal Register** notice that certain nonfriable materials, such as floor tile, roofing products, and packings and gaskets that are in good condition, can be left in buildings being demolished because fiber release from these materials, even if the materials are damaged, is relatively small compared to the fiber release from friable materials. Other nonfriable products such as A/C products have a greater potential to release asbestos fibers when heavily damaged and may have to be removed prior to demolition.

In response to the revisions proposed on January 10, 1989, numerous comments were submitted to EPA. Many of the commenters argued that EPA was attempting to regulate nonfriable materials, which were explicitly exempted in previous asbestos NESHAP rulemakings. Many comments stated that the proposed revisions did not help to clarify EPA's position on nonfriable material and may have made matters more confusing.

In responding to the comments, a literature survey was conducted to determine if it was possible to quantify the fiber release potential of nonfriable materials when they are damaged during demolition. All of the available data on fiber release from floor tile, roofing products, gaskets, packings, and A/C products was reviewed. In some instances, the fiber release data were measured during actual removal operations, while other data were from simulated removal activities in laboratory settings. For the materials evaluated, the potential for fiber release appeared minimal and substantially lower than for friable materials. These findings, while uncertain, support EPA's original argument that there is a basis for making a distinction between materials that readily release fibers and those that do not.

As a result of the comments received on this issue and the additional information gathered in response to comments, EPA has been able to compile a list of nonfriable ACM that, under normal conditions, do not have to be removed prior to demolition operations. These ACM are not expected to release significant amounts of asbestos fibers to the outside air during demolition and, consistent with the intent of the existing standards, are not being regulated. A definition of "category I nonfriable ACM" is added to the final rule, which lists resilient floor covering, roofing products, gaskets, and packings. However, if these materials are in poor condition and are friable or they are subjected to sanding, grinding, cutting, or abrading, they are to be treated as friable asbestos material. Category I nonfriable ACM that is in poor condition, but is not friable and will not be subjected to sanding, grinding, cutting, or abrading, is not subject to the NESHAP. "In poor condition" has been defined to mean that the binding of the material is losing its integrity as indicated by peeling, cracking, or crumbling of the material. Other nonfriable materials are identified as Category II nonfriable ACM and have to be evaluated on a case-by-case basis. Category II materials that become crumbled, pulverized, or reduced to powder during removal or during demolition are covered by the NESHAP.

Broken ACM

Comment: Commenters IV-D-47, IV-D-89, IV-D-93, and IV-D-95 explained that use of the term "broken" to describe materials that are subject to the rule is inconsistent with the current NESHAP and expands coverage of the NESHAP. These commenters stated that merely breaking nonfriable material does not equate to fiber release. One commenter, IV-D-89, noted that noncompliance may increase where nonfriable material is broken during demolition or renovation, but is not controlled or reported according to the NESHAP.

Response: After considering this issue, EPA agrees with commenters that retaining the word "broken" could be interpreted as substantially increasing the scope of the standard and, therefore, has removed it from the definition. Most nonfriable materials can be broken without releasing significant quantities of airborne asbestos fibers. It is only when the material is extensively damaged, *i.e.*, crumbled, pulverized, or reduced to powder, that the potential for significant fiber release is greatly increased. Also, in the definitions of "asbestos-containing waste material," "friable asbestos material," and elsewhere, the word "broken" is deleted. The EPA is planning to issue additional information in the future on this and other aspects of the NESHAP to help enforcement officials and the regulated community interpret and apply the NESHAP provisions.

Inspections

Comment. Three commenters argued that EPA should include mandatory asbestos surveys in the rule. Commenter IV-D-4 stated that EPA should require surveys for all buildings prior to and separate from any demolition or renovation activity. Commenter IV-D-4 stated that such building surveys could become part of a public record, making the absence of a survey a violation. Commenter IV-D-4 noted that, if the survey indicated that a structure was asbestos free, all notification and enforcement costs would be eliminated. Also, commenter IV-D-4 explained that a demolition without proper notification could be easily established later.

Commenters IV-D-57 and IV-D-84 stated that EPA's requirement to survey buildings prior to demolition and renovation is implicit and should be made explicit and require that surveys be performed by an accredited asbestos inspector. Commenter IV-D-57 also noted that OSHA requires a building survey by a competent person and stated that EPA should similarly require a site-specific survey before demolition, with details on how the building will be demolished and how the asbestos will be controlled.

Response: The EPA currently requires that a facility be inspected for asbestos prior to demolition or renovation. As a result of the survey, information on the asbestos material present, the nature of the demolition or renovation, and measures that will be taken to control emissions of asbestos must be reported to EPA. Commenters IV-D-57 and IV-D-84 are correct in saying that it is an implicit requirement and that it is not stated explicitly in the rule. The final rule expressly requires a facility survey for asbestos prior to demolition or renovation. Although previously implied, this revision clarifies EPA's position on the requirement to perform building surveys.

The EPA also considered the suggestion to require that surveys be

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performed by an "accredited" inspector or by a "competent" person as required by OSHA. OSHA's requirement to have a competent person perform an engineering survey prior to demolition (29 CFR 1926.850) is to ensure that the structural integrity of a structure is sufficient to prevent worker injury caused by the unplanned collapse of any portion of the structure; a search for asbestos is not required. An accredited inspector or competent person can perform the survey although using such individuals is not required. Using an accredited inspector and following the AHERA requirements for building inspections would help ensure a thorough inspection of the facility as required by the NESHAP. However, EPA has not had this requirement before and did not propose such a requirement. The EPA will consider a requirement to use accredited inspectors in future amendments to the rule.

Commenter IV-D-4's suggestion to require the survey of all buildings in advance of demolition or renovation would increase the stringency of the regulation by requiring all owners and operators to survey their facilities for asbestos even when no demolition or renovation operations were planned. The revisions proposed on January 10, 1989, are intended to clarify the rule and promote compliance. The need for a revision that would affect stringency may be considered at a later date. However, such a requirement would require a substantial commitment of resources to perform surveys of all existing buildings. In addition, it is not clear that it would always negate the need for pre-demolition inspections in the future.

Friable Asbestos Material—Analytical Method

Comment: Commenters IV-D-17, IV-D-35, and IV-D-70 supported the proposed changes to the definition of "friable asbestos material," specifically the change to percent by area. Commenter IV-D-69 argued that to go from percent weight to percent area may have a major impact on coverage because there may be wide discrepancies in the results reported by the two methods. Commenter IV-D-69 provided an example of this, stating that a cement-based fireproofing that contained 30 percent asbestos by area contained less than 1 percent by weight. Commenter IV-D-70 felt that the definition of "friable asbestos material" was appropriate; however, the method referenced should not be limited to point counting in view of 47 FR 1982, p. 38535, which clarifies the acceptability of "an equivalent estimation method."

Commenter IV-D-78 stated that the definition would require asbestos content to be determined by transmission electron microscopy (TEM) analysis, and that the high cost of TEM should be considered. Commenter IV-D-78 recommended that the current method continue to be accepted with TEM specified over other methods.

Response: The revisions to the asbestos NESHAP proposed on January 10, 1989 would have changed the definition of "friable asbestos material" from "greater than 1 percent weight" to "greater than 1 percent area" and referenced a method for the analysis. Because the method referenced actually contains two analytical methods—polarized light microscopy (PLM) which currently measures area, and x-ray diffraction (XRD) which measures weight—EPA has modified the definition to specify the PLM method to avoid possible confusion as to which method is referenced. Because the PLM point counting method measures percent area, the phrase "by area" is not necessary and has been taken out of the definition. The difference between percent area and percent weight depends on the density and volume of materials in the sample. These relationships are described in Asbestos Content in Bulk Insulation Samples: Visual Estimates and Weight Composition (EPA-560/5-88-011, September 1988). However, the fact remains that the PLM procedure used to determine the amount of asbestos in building materials (Interim Method for the Determination of Asbestos in Bulk Insulation Samples (EPA-600/M4-82-020, December 1982) measures percent area and not percent weight. PLM laboratories polled at meetings of the National Asbestos Council admitted that percent area is what they measure and report. Accordingly, there should be no impact on the standard from the proposed change.

Point counting is not required for the PLM procedure. An equivalent visual estimation technique may be used. Visual estimation may be made during macroscopic examination with a stereobinocular microscope, resulting in a volumetric estimation of components. For most samples, quantitation by macroscopic examination is preferred. Visual estimation may also be made during polarized light microscopy (PLM) examination, resulting in a projected area estimation of components. However, if the asbestos content is estimated to be less than 10 percent by a method other than point counting, such as visual estimation, EPA has revised the definition to require that the determination be repeated using the point counting technique with PLM. Point counting, a systematic technique for estimating concentration, may also be useful in quality assurance activities, especially in establishing a relationship between point counts and visual estimation procedures.

The accuracy of quantitative data from either technique of estimation is dependent upon several factors, including: sample homogeneity, asbestos content, asbestos fiber size, the presence of interfering matrix/binder material, and the skill of the microscopist. It is suggested that the quantitation skill of the microscopist may be improved and concurrently verified through the use of calibration standards. These standards may include well-characterized bulk materials or in-house calibration standards formulated by mixing known weights of commonly available fibrous (asbestos, cellulose, glass, *etc.*) and nonfibrous (plaster, clay, vermiculite, calcium carbonate, *etc.*) materials.

For some materials, experience has shown that gravimetry (gravimetric sample reduction) is a viable technique to aid in the determination of asbestos content. The technique involves the systematic removal (and determination of the resulting weight loss) of interfering components, and the concentration of asbestos in a residue, the components of which are identified by PLM. EPA is currently conducting research to develop procedures that will help determine the appropriate analytical procedure to use based on the type of material, the level of asbestos present in the material, as well as other factors.

TEM is not recommended for routine analysis of bulk samples. TEM may be useful in the analysis of special materials containing finely divided asbestos particles. The EPA is currently reviewing procedures for analyzing bulk samples for asbestos. Under investigation are procedures that would determine what analytical techniques are appropriate for bulk samples of different materials and different asbestos contents. For example, a simple visual estimation technique may be appropriate for the initial screening of bulk samples of friable material. If the visual estimation technique indicates that the asbestos content is less than 10 percent, additional quantitation by point counting would be required. If the material to be analyzed contains asbestos fibers below the limit of resolution for PLM, which is often true of floor tile, then analysis by TEM is appropriate.

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Method of Notification

Comment: Several comments were received on the requirement to use certified mail for notifying EPA. Most of the commenters objected to the use of certified mail to the exclusion of other methods.

Commenters IV-D-23, IV-D-24, IV-D-25, IV-D-42, IV-D-78, IV-D-59, and IV-D-65 considered the certified mail requirement to be unnecessary for EPA to achieve the intended purpose of the notification process. It was stated that certified mail would require a trip to a post office, which is a deterrent to timely notification. Commenters IV-D-23, IV-D-24, IV-D-41, and IV-D-78 argued that notification by telefax machine may be more practical than certified mail. Commenters IV-D-25, IV-D-65, and IV-D-83 suggested that notification by telephone or telefax be allowed, followed by a written notification. Commenters IV-D-24, IV-D-25, IV-D-42, and IV-D-65 observed that regular mailing of notices works satisfactorily and should be allowed. Commenters IV-D-28 and IV-D-66 favored allowing the use of overnight mail.

Commenter IV-D-59 argued that, if a State agency has jurisdiction, the method of notification should be left up to the State agency.

Commenter IV-D-32 argued that all notifications should be in writing because telephone notification does not result in a legally enforceable written record. Also, commenter IV-D-32 stated that allowing the use of telephones would promote schedule changes for minor reasons that would not otherwise be considered.

Response: Several of the commenters objected to the required use of certified mail even though EPA proposed the use of certified mail as a way of ensuring that owners/operators had proof of notification. In view of the negative comments and after reconsidering the issue, the EPA has decided not to require certified mail although its use would be allowed. The use of the regular mail system, *i.e.,* U.S. Postal Service, has worked satisfactorily in the past and will continue to be allowed. Also, because the rule specifies postmark "* * * or deliver * * *," private overnight mail delivery is permitted.

Regarding the use of telephone facsimile (fax) machines to transmit notices, EPA does not consider these systems to be sufficiently reliable, at this time, to allow their use. Often, it is difficult to know whether a transmission was successful. Disadvantages associated with their use include occasional incomplete transmissions and transmissions of poor quality requiring faxed messages to be followed by telephone contact to confirm proper transmission. More than one transmission may be required. In some instances, quality cannot be improved. Also, because of competing messages, it often requires a long time before a fax can be properly transmitted and verified. The EPA may consider the use of facsimile machines in the future when their reliability has been improved.

The EPA does not consider it necessary to allow the use of the telephone for the original notification of a demolition or renovation activity covered by this standard. The notification must be in writing.

Where States or local authorities enforce their own asbestos regulations, they may choose the notification procedures. But if a State is delegated authority for enforcing the NESHAP, then they must adhere to the NESHAP's requirements.

The EPA is in agreement with the commenter who favors written notifications over telephone notifications and the final rule continues to require the former.

It should be noted that OSHA has recently proposed notification requirements (55 FR 29712, July 20, 1990) similar to those in the NESHAP. The EPA is coordinating with OSHA during their rulemaking to determine the most efficient mechanism to avoid duplication and ensure that both EPA and OSHA receive adequate notice without unduly burdening industry.

Renotification

Comment: Numerous comments were received on the proposed renotification requirements. Although a few favored the requirements as proposed and a few thought the requirements should be more stringent, most of the commenters favored the use of telephone renotification. The comments were as follows:

Commenter IV-D-28 disagreed with the NADC comment in the proposal preamble that renotification by telephone should be allowed; commenter IV-D-28 recommended a 10-day written notice for all projects.

Commenter IV-D-21 suggested that the renotification provisions be made more flexible by allowing the actual start date to vary by a couple of days for projects lasting longer than 5 days before requiring the owner/operator to renotify.

Commenters IV-D-21, IV-D-25, IV-D-26, IV-D-36, IV-D-37, IV-D-41, IV-D-42, IV-D-45, IV-D-46, IV-D-49, IV-D-50, IV-D-58, IV-D-59, IV-D-60, IV-D-61, IV-D-62, IV-D-65, IV-D-69, IV-D-71, IV-D-73, IV-D-74, IV-D-76, IV-D-87, IV-D-88, and IV-D-94 suggested that EPA allow the use of some other means besides certified mail for renotification, such as same day telephone or telefax messages, when a 5-day written notice would further delay the project. This would be simpler and less time-consuming. Commenter IV-D-41 also suggested that, when it is feasible to provide a 5-day written notice, i.e., delays are known at least 5 days in advance, then such notice would be provided. Also, as commenters IV-D-46, IV-D-49, IV-D-50, IV-D-58, IV-D-60, IV-D-62, IV-D-69, and IV-D-73 suggested, a telephone notice could be followed by a written notice.

According to commenters IV-D-23, IV-D-24, IV-D-36, IV-D-37, IV-D-41, IV-D-42, IV-D-43, IV-D-45, IV-D-46, IV-D-49, IV-D-50, IV-D-51, IV-D-58, IV-D-59, IV-D-63, IV-D-64, IV-D-73, IV-D-75, IV-D-76, IV-D-78, IV-D-87, IV-D-88, and IV-D-94, there are numerous unforeseen factors, such as equipment mobilization problems, personnel availability, weather, or other project difficulties, that can cause a removal project to start on a date other than the one submitted in the original notification. These commenters explained that the proposed renotification requirements, with their additional waiting requirements, could result in unreasonable project delays and significantly increased project costs. Several of these commenters and commenter IV-D-84 suggested that EPA allow a project to start within some reasonable period of time, such as a couple of days, of the original start date without having to renotify EPA in writing. The EPA should provide for some flexibility in predicting the exact start date. In the experience of one of the commenters, jobs usually start within a day or two of the scheduled date.

Response: The EPA agrees that a 10-day advance notice is appropriate for demolitions and renovations that can be planned for and scheduled. In some situations, however, such as emergency renovations or government-ordered demolition of buildings that are in danger of imminent collapse, EPA considers shorter notification periods appropriate. For renotification, a 10-day additional waiting period would be excessively burdensome.

The EPA has considered the suggestion that telephone renotification be permitted and has determined that providing for the use of the telephone, followed by a written notice, would provide the necessary flexibility and would be in the best interests of both

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the regulated community and EPA. The EPA does not want to interfere with commerce by requiring a 5-day waiting period for a written renotification when a telephone call followed by a written renotification would suffice. Nor does EPA wish to make useless visits to jobs that have been rescheduled because a written renotification of a change in start date was not received in time.

Emergency Renovation

Comment: Commenters IV-D-9, IV-D-14, IV-D-41, IV-D-42, and IV-D-49 stated that the scope of the term "emergency renovation operation" should not be limited to events resulting in "unsafe conditions," but should include events such as fires, ruptured pipes, boiler failures, and other situations that could present potential public health or safety hazards if not immediately attended to. Commenter IV-D-18 asked if the definition would include the release of asbestos into the air. Commenter IV-D-63 recommended that the definition include operations necessary to protect equipment from significant damage.

Response: Events that would necessitate an emergency renovation include those that may produce immediately unsafe conditions as well as those that, if not quickly remedied, could reasonably be foreseen to result in an unsafe or detrimental effect on health. For example, a boiler in an apartment building that suddenly malfunctions during the winter would need to be repaired immediately. To protect equipment from significant damage and to avoid imposing an unreasonable financial burden by requiring sources that experience a sudden unexpected equipment failure to wait 10 days, the final rule includes equipment damage and financial burden as additional reasons for emergency renovations, and the definition of emergency renovation is revised accordingly.

Definition of Facility

Comment: Several commenters argued that the exclusion of residential facilities having four or fewer dwelling units should be eliminated. Commenter IV-D-89 asserted that residential demolition and renovation and associated waste disposal involve significant quantities of asbestos and should be regulated. Commenter IV-D-54 argued that residential buildings having four or fewer units should not be exempt from the work practices provisions even if they are exempt from the notification requirements. Commenter IV-D-94 recommended that only facilities with one dwelling unit be excluded because renters of apartments are frequently exposed as a result of asbestos work performed by untrained workers.

Response: The recommendation to remove the exemption for residential facilities having four or fewer dwelling units would expand the scope of the rule. Revisions that alter stringency may be considered during a later rulemaking. However, EPA does not consider residential structures that are demolished or renovated as part of a commercial or public project to be exempt from this rule. For example, the demolition of one or more houses as part of an urban renewal project, a highway construction project, or a project to develop a shopping mall, industrial facility, or other private development, would be subject to the NESHAP. Nor would the conversion of a hotel or large apartment building to a condominium, a cooperative, or a loft exempt the structure from the NESHAP. To clarify that condominiums, cooperatives, and lofts which exceed four dwelling units are subject to the NESHAP, the definition of facility has been modified accordingly. The owner of a home that renovates his house or demolishes it to construct another house is not to be subject to the NESHAP.

Definition of Installation

Comment: Commenter IV-D-83 argued that the definition of "installation" needs clarification and asks whether a group of residential buildings would be excluded. The commenter argued that a group of residential buildings at one location being demolished or renovated by one developer should be covered.

Response: A group of residential buildings under the control of the same owner or operator is considered an installation according to the definition of "installation" and is, therefore, covered by the rule. As an example, several houses located on highway right-of-way that are all demolished as part of the same highway project would be considered an "installation," even when the houses are not proximate to each other. In this example, the houses are under the control of the same owner or operator, i.e., the highway agency responsible for the highway project.

Training

Comment: Commenters IV-D-18 and IV-D-66 recommended that a refresher course be attended every 2 years.

Response: Regarding the commenters who recommended that refresher courses be taken every 2 years, EPA agrees and has modified the rule to require refresher courses. The EPA considers such additional training important to maintain familiarity with the NESHAP as well as to keep abreast of any changes in the standards.

Sanding, Grinding, or Abrading Nonfriable ACM

Comment: Commenters IV-D-15, IV-D-47, IV-D-48, IV-D-55, IV-D-84, and IV-D-95 considered asbestos-containing flooring products, such as tile and sheet vinyl flooring, to always be nonfriable and exempt from the rule, with the exception of flooring that was being sanded (Commenters IV-D-47 and IV-D-48.)

Response: The EPA considers the deliberate sanding, grinding, or abrading (including drilling, cutting, and chipping) of all nonfriable materials, including resilient floor covering, asphalt roofing material, packings, and gaskets to be sources of asbestos emissions and the revisions require otherwise nonfriable ACM to be treated as if it were friable when it is sanded, ground or abraded.

Also, a definition of "grinding" is added to clarify the types of activities, especially those involving nonfriable asbestos materials, that are subject to the regulation. For example, typical floor tile removal methods, such as mechanical chipping, result in the floor tile being broken up into numerous small fragments. This removal method is subject to the NESHAP provisions. Other floor tile removal methods are available that do not result in the material being so severely damaged. Such methods include the use of heat from heat guns or electric heat machines, the use of infrared machines, flooding with water or amended water, and the use of dry ice or liquid nitrogen. These methods when properly utilized allow the tiles to be removed with a minimum of damage to the tiles and would not be subject to the NESHAP.

Definition of Nonfriable Asbestos Material

Comment: Commenters IV-D-15 and IV-D-69 asserted that the meaning of "nonfriable" is unclear because it was not defined in the revisions proposed on January 10, 1989. A problem may result if it is considered the opposite of friable. Commenter IV-D-39 also argued for a definition of "nonfriable" and asserted that, like "friable," the threshold of at least 1 percent by area should apply.

Response: The EPA agrees that the meaning of "nonfriable" needs to be clarified. A definition of "nonfriable asbestos material" has been added to the final rule. The EPA considers nonfriable asbestos material to be material containing more than 1 percent

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asbestos by area that cannot be crumbled, pulverized, or reduced to power by hand pressure. However, some nonfriable asbestos materials can be crumbled, pulverized, etc., in the course of demolition/renovation operations leading to asbestos emissions and are, therefore, subject to control under the NESHAP.

Waste Disposal

Marking

Comment: Commenters IV-D-61 and IV-D-98 asserted that the term "placard" is inappropriate because it has a specific application under DOT regulations for hazardous waste transport, and that the proposal should be revised to maintain the distinction between "marking" and "placarding" as was done in RCRA and TSCA rulemakings.

Response: The EPA has modified the final rule to replace the term "placard," a term used by the DOT in its regulation of the transportation of hazardous materials, with the term "mark" as suggested by the commenters. This should help avoid confusing DOT requirements with requirements under the NESHAP.

Labeling

Comment: Commenters IV-D-18, IV-D-28, IV-D-41, and IV-D-84 recommended that EPA in Section 61.150, and perhaps elsewhere, cite only OSHA labels and delete references to other labels because OSHA requires the use of their labels in all cases.

Response: The EPA agrees with the commenters who suggest that only OSHA labels be required on containers and has revised the final rule accordingly.

Offsite Disposal

Comment: Two commenters were concerned with placarding and other requirements of § 61.149(d). Commenter IV-D-22 stated that his company moves tailings from the mill by dump truck or earth-moving equipment to a disposal site on company property and would like the requirements for placards, etc., in § 61.149(d) changed so that they would apply only to transport to an offsite disposal facility.

Commenter IV-D-93 also suggested that the requirements of § 61.149(d) should apply only to vehicles transferring waste offsite.

Response: Although company personnel may not require a warning that asbestos waste is being transported, others who are on site and who are not company employees, e.g., vendor and construction personnel, clearly do. Further, OSHA requires that workers be informed of hazards to which they are exposed. Accordingly, EPA believes the provisions of § 61.149(d) are appropriate as proposed and should not be changed as suggested.

EPA Identification Number

Comment: Several comments addressed the proposal to assign identification numbers to generators of asbestos waste. Most of the commenters found the requirement confusing. Commenters IV-D-9 and IV-D-49 stated that the system of using EPA identification numbers is confusing and misleading and should be subject to public comment rather than tacked onto the final version of the amendments. Commenter IV-D-25 wondered how the system is to operate and whether they would use the number they already have for hazardous waste. Commenter IV-D-26 was unclear as to who the generator would be and suggested that the abatement contractor be considered the generator. Commenter IV-D-28 thought that this requirement would generate a list of one-time generators, and that it should be deferred for further study. Commenter IV-D-41 asked if RCRA hazardous waste identification numbers were going to be assigned to asbestos waste generators. As explained by commenter IV-D-61, not all generators will have an EPA identification number as required in § 61.150(d) (1)(i) and (4)(i). Commenters IV-D-62 and IV-D-63 expressed confusion over the proposed identification number and urged that a single number be assigned to an entire company, rather than to each building or facility. Commenter IV-D-18 asked how the identification numbers are to be determined and assigned; is it to be done now; and, if the program is delegated to a State or local program, would this require a State identification number?

Response: Because of the confusion expressed by all the commenters over how a system of assigning identification numbers to asbestos waste generators would work, EPA has reconsidered this revision and has decided to delete the requirement for an identification number. The EPA is confident that, even without such a unique numbering system, it will be possible to track waste shipments for the purpose of pursuing enforcement actions.

Semiannual Reports

Comment: Commenter IV-D-4 opposed semiannual reporting by generators or disposal sites but recommended exception reporting by both. Commenter IV-D-9 noted that semiannual reporting is also redundant in view of the Superfund Amendments and Reauthorization Act (SARA) Title III regulations. Commenters IV-D-28, IV-D-39, IV-D-41, IV-D-75, and IV-D-83 asserted that EPA should delete the semiannual reporting requirement in § 61.150(d)(4) because it is redundant since the information is also provided on the waste tracking form and will just add more paperwork. Commenter IV-D-94 was concerned that small, rural landfills will use the proposed recordkeeping requirements as an excuse to refuse to accept asbestos waste, which could increase illegal dumping. Commenter IV-D-94 stated that the regulation in effect prior to the January 10, 1989, proposal should be retained.

Commenters IV-D-24, IV-D-61, and IV-D-62 noted that most waste shipment reporting now occurs on an annual basis and that they preferred annual to semiannual reporting. Commenter IV-D-41 recommended that EPA adopt the biennial reporting used by EPA's Office of Solid Waste (OSW). Commenter IV-D-65 stated that, if necessary, EPA should supplement the existing biennial RCRA report.

Commenter IV-D-63 asserted that it is unnecessary for the generator to submit semiannual waste disposal reports. Commenter IV-D-81 stated that the proposal imposes redundant reporting requirements on owners/operators due to § 61.150(c)(4).

Commenter IV-D-51 argued that industrial landfills on site that are subject to RCRA and State statutes should be exempt from the reporting and recordkeeping requirements of § 61.150(d). Commenter IV-D-55 stated that § 61.150(d) does not define adequately who keeps disposal records and who submits semiannual reports. Commenter IV-D-55 felt that building owners are unfamiliar with the report called for in § 61.150(d)(4).

Response: Upon additional consideration of this provision, EPA has decided to omit the requirement for semiannual reporting from today's rule. This decision is based in part on several comments opposing semiannual reporting as unnecessary. In addition, because of the large commitment of enforcement resources that would be required for such a system to properly function, EPA believes that the proposal is overly ambitious at this time. The EPA believes, however, that enforcement can use the available information and adequately identify violators by comparing the waste records that are required to be kept by waste generators and waste disposal sites. At this time, a more workable

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solution will be to require disposal sites to report to EPA whenever there is a discrepancy between the amount of waste received and the amount reported on the waste shipment papers. The discrepancy report should be submitted to the same agency that was notified of the demolition or renovation and, if different, to the agency responsible for administering the NESHAP program for the disposal site. In addition, new and existing disposal sites will be required to comply with the general reporting provisions of 40 CFR part 61. Specifically, new disposal sites will be required to comply with the requirement to apply for approval to construct (§ 61.07), and the requirements to notify EPA of startup dates (§ 61.09). Existing disposal sites that will accept asbestos waste after the effective date of the rule will be required to supply EPA with certain information concerning their operations (§ 61.10). This information will assist enforcement in tracking asbestos waste.

Excepted Waste Shipment Report

The proposed revisions included a requirement for waste generators to indicate, as part of a semiannual report to the Administrator, waste shipments for which 35 days or more have elapsed since the waste was shipped without the waste generator having received a copy of the WSR signed and dated by the disposal site owner or operator. While EPA has determined that semiannual reports are not necessary, it considers this requirement a vital part of the asbestos waste tracking system and a provisions for excepted waste shipment reports is included in the final rule.

Waste Conversion Processes

Comment: Commenter IV-D-21 asked that procedures for sample preparation for TEM be clarified; that comminution size of particle reduction be specified; that the standard or interim method of analysis that is acceptable be identified; and that laboratory qualifications meeting requirements of the National Institute of Standards and Technology (NIST) and AHERA be identified.

Response: Currently EPA has no protocol for TEM analysis of output materials. The final rule requires the owner or operator of waste conversion processes to submit a protocol for sampling and analysis by TEM for approval by EPA.

V. Administrative

The docket is an organized and complete file of all the information considered by EPA in the development of this rulemaking. The docket is a dynamic file, since material is added throughout the rulemaking development. The docketing system is intended to allow members of the public and industries involved to readily identify and locate documents so that they can effectively participate in the rulemaking process. Along with the statement of basis and purpose of the proposed and promulgated revisions and EPA responses to significant comments, the contents of the docket, except for interagency review materials, will serve as the record in case of judicial review (section 307(d)(7)(A)).

The effective date of this regulation is November 20, 1990. Section 112 of the Clean Air Act provides that standards of performance or revisions thereof become effective upon promulgation except that in the case of an existing source, the standard shall not apply until 90 days after its effective date.

As prescribed by section 112, the promulgation of these standards was preceded by the Administrator's determination that asbestos presents a significant risk to human health as a result of air emissions from one or more source categories and is therefore a hazardous air pollutant (36 FR 3031, dated March 31, 1971). In accordance with section 117 of the Act, publication of these promulgated standards was preceded by consultation with appropriate advisory committees, independent experts, and Federal departments and agencies.

Section 317 of the Clean Air Act requires the Administrator to prepare an economic impact assessment for any new standard promulgated under section 112 of the Act. Since the costs of the revision will be small, an economic impact assessment was not considered necessary for this regulation.

Information collection requirements associated with this regulation (those included in 40 CFR part 60, subpart A and subpart XXX) have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.* and have been assigned OMB control number (2060-0101).

Under Executive Order 12291, EPA is required to judge whether a regulation is a "major rule" and therefore subject to the requirements of a regulatory impact analysis (RIA). The Agency has determined that this regulation would result in none of the adverse economic effects set forth in section 1 of the Order as grounds for finding a regulation to be a "major rule." The Agency has, therefore, concluded that this regulation is not a "major rule" under Executive Order 12291.

The Regulatory Flexibility Act of 1980 requires the identification of potentially adverse impacts of Federal regulations upon small business entities. The Act specifically requires the completion of a Regulatory Flexibility Analysis in those instances where small business impacts are possible. Because these standards impose no adverse economic impacts, a Regulatory Flexibility Analysis has not been conducted.

Pursuant to the provisions of 5 U.S.C. 605(b), I hereby certify that this rule will not have a significant economic impact on a substantial number of small entities.

List of Subjects in 40 CFR Part 61

Asbestos, Beryllium, Benzene, Hazardous substances, Mercury, Reporting and recordkeeping requirements, Vinyl chloride, Blast furnaces, Steel mills.

Dated: October 29, 1990.

William K. Reilly,

Administrator.

40 CFR part 61 is amended as follows:

PART 61—[AMENDED]

1. The authority citation for 40 CFR part 61, subpart M, is revised to read as follows:

Authority: 42 U.S.C. 7401, 7412, 7414, 7416, 7601.

2.–3. Section 61.140 is revised to read as follows:

§ 61.140 Applicability.

The provisions of this subpart are applicable to those sources specified in § 61.142 through 61.151, 61.154, and 61.155.

4. In § 61.141, the following definitions are revised: "Asbestos-containing waste materials," "Commercial asbestos," "Demolition," "Emergency renovation operation," "Fabricating," "Facility," "Facility component," "Friable asbestos materials," "Inactive waste disposal site," "Manufacturing," "Outside air," "Particulate asbestos material," "Planned renovation operation," "Remove," "Renovation," "Roadways," "Strip," and "Visible emissions."

The following definitions are added: "Adequately wet," "Category I nonfriable ACM," "Cutting," "Category II nonfriable ACM," "Fugitive sources," "Glove bag," "Grinding," "In poor condition," "Installation," "Leak-tight," "Malfunction," "Natural barrier," "Nonfriable asbestos-containing material," "Nonscheduled renovation operation," "Owner or operator of a demolition or a renovation activity," "Regulated asbestos-containing material," "Resilient floor covering," "Waste generator," "Waste shipment record," and "Working day."

The definitions, "Adequately wetted" and "Asbestos material," are removed.

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§ 61.141 Definitions.

* * * * *

Adequately wet means sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from asbestos-containing material, then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wet.

* * * * *

Asbestos-containing waste materials means mill tailings or any waste that contains commercial asbestos and is generated by a source subject to the provisions of this subpart. This term includes filters from control devices, friable asbestos waste material, and bags or other similar packaging contaminated with commercial asbestos. As applied to demolition and renovations operations, this term also includes regulated asbestos-containing material waste and materials contaminated with asbestos including disposable equipment and clothing.

* * * * *

Category I nonfriable asbestos-containing material (ACM) means asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy.

Category II nonfriable ACM means any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos as determined using the methods specified in appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Commercial asbestos means any material containing asbestos that is extracted from ore and has value because of its asbestos content.

Cutting means to penetrate with a sharp-edged instrument and includes sawing, but does not include shearing, slicing, or punching.

Demolition means the wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any facility.

Emergency renovation operation means a renovation operation that was not planned but results from a sudden, unexpected event that, if not immediately attended to, presents a safety or public health hazard, is necessary to protect equipment from damage, or is necessary to avoid imposing an unreasonable financial burden. This term includes operations necessitated by nonroutine failures of equipment.

Fabricating means any processing (*e.g.*, cutting, sawing, drilling) of a manufactured product that contains commercial asbestos, with the exception of processing at temporary sites (field fabricating) for the construction or restoration of facilities. In the case of friction products, fabricating includes bonding, debonding, grinding, sawing, drilling, or other similar operations performed as part of fabricating.

Facility means any institutional, commercial, public, industrial, or residential structure, installation, or building (including any structure, installation, or building containing condominiums or individual dwelling units operated as a residential cooperative, but excluding residential buildings having four or fewer dwelling units); any ship; and any active or inactive waste disposal site. For purposes of this definition, any building, structure, or installation that contains a loft used as a dwelling is not considered a residential structure, installation, or building. Any structure, installation or building that was previously subject to this subpart is not excluded, regardless of its current use or function.

Facility component means any part of a facility including equipment.

Friable asbestos material means any material containing more than 1 percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763 section 1, Polarized Light Microscopy, that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than 10 percent as determined by a method other than point counting by polarized light microscopy (PLM), verify the asbestos content by point counting using PLM.

Fugitive source means any source of emissions not controlled by an air pollution control device.

Glove bag means a sealed compartment with attached inner gloves used for the handling of asbestos-containing materials. properly installed and used, glove bags provide a small work area enclosure typically used for small-scale asbestos stripping operations. Information on glove-bag installation, equipment and supplies, and work practices is contained in the Occupational Safety and Health Administration's (OSHA's) final rule on occupational exposure to asbestos (appendix G to 29 CFR 1926.58).

Grinding means to reduce to powder or small fragments and includes mechanical chipping or drilling.

In poor condition means the binding of the material is losing its integrity as indicated by peeling, cracking, or crumbling of the material.

Inactive waste disposal site means any disposal site or portion of it where additional asbestos-containing waste material has not been deposited within the past year.

Installation means any building or structure or any group of buildings or structures at a single demolition or renovation site that are under the control of the same owner or operator (or owner or operator under common control).

Leak-tight means that solids or liquids cannot escape or spill out. It also means dust-tight.

Malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner so that emissions of asbestos are increased. Failures of equipment shall not be considered malfunctions if they are caused in any way by poor maintenance, careless operation, or any other preventable upset conditions, equipment breakdown, or process failure.

Manufacturing means the combining of commercial asbestos—or, in the case of woven friction products, the combining of textiles containing commercial asbestos—with any other material(s), including commercial asbestos, and the processing of this combination into a product. Chlorine production is considered a part of manufacturing.

Natural barrier means a natural object that effectively precludes or deters access. Natural barriers include physical obstacles such as cliffs, lakes or other large bodies of water, deep and wide ravines, and mountains. Remoteness by itself is not a natural barrier.

Nonfriable asbestos-containing material means any material containing more than 1 percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy, that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Nonscheduled renovation operation means a renovation operation necessitated by the routine failure of equipment, which is expected to occur within a given period based on past operating experience, but for which an exact date cannot be predicted.

Outside air means the air outside buildings and structures, including, but

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not limited to, the air under a bridge or in an open air ferry dock.

Owner or operator of a demolition or renovation activity means any person who owns, leases, operates, controls, or supervises the facility being demolished or renovated or any person who owns, leases, operates, controls, or supervises the demolition or renovation operation, or both.

Particulate asbestos material means finely divided particles of asbestos or material containing asbestos.

Planned renovation operations means a renovation operation, or a number of such operations, in which some RACM will be removed or stripped within a given period of time and that can be predicted. Individual nonscheduled operations are included if a number of such operations can be predicted to occur during a given period of time based on operating experience.

Regulated asbestos-containing material (RACM) means (a) Friable asbestos material, (b) Category I nonfriable ACM that has become friable, (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this subpart.

Remove means to take out RACM or facility components that contain or are covered with RACM from any facility.

Renovation means altering a facility or one or more facility components in any way, including the stripping or removal of RACM from a facility component. Operations in which load-supporting structural members are wrecked or taken out are demolitions.

Resilient floor covering means asbestos-containing floor tile, including asphalt and vinyl floor tile, and sheet vinyl floor covering containing more than 1 percent asbestos as determined using polarized light microscopy according to the method specified in appendix A, subpart F, 40 CFR part 763, Section 1, Polarized Light Microscopy.

Roadways means surfaces on which vehicles travel. This term includes public and private highways, roads, streets, parking areas, and driveways.

Strip means to take off RACM from any part of a facility or facility components.

* * * * *

Visible emissions means any emissions, which are visually detectable without the aid of instruments, coming from RACM or asbestos-containing waste material, or from any asbestos milling, manufacturing, or fabricating operation. This does not include condensed, uncombined water vapor.

Waste generator means any owner or operator of a source covered by this subpart whose act or process produces asbestos-containing waste material.

Waste shipment record means the shipping document, required to be originated and signed by the waste generator, used to track and substantiate the disposition of asbestos-containing waste material.

Working day means Monday through Friday and includes holidays that fall on any of the days Monday through Friday.

5. Section 61.142 is revised to read as follows:

§ 61.142 Standard for asbestos mills.

(a) Each owner or operator of an asbestos mill shall either discharge no visible emissions to the outside air from that asbestos mill, including fugitive sources, or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(b) Each owner or operator of an asbestos mill shall meet the following requirements:

(1) Monitor each potential source of asbestos emissions from any part of the mill facility, including air cleaning devices, process equipment, and buildings that house equipment for material processing and handling, at least once each day, during daylight hours, for visible emissions to the outside air during periods of operation. The monitoring shall be by visual observation of at least 15 seconds duration per source of emissions.

(2) Inspect each air cleaning device at least once each week for proper operation and for changes that signal the potential for malfunction, including, to the maximum extent possible without dismantling other than opening the device, the presence of tears, holes, and abrasions in filter bags and for dust deposits on the clean side of bags. For air cleaning devices that cannot be inspected on a weekly basis according to this paragraph, submit to the Administrator, and revise as necessary, a written maintenance plan to include, at a minimum, the following:

(i) Maintenance schedule.

(ii) Recordkeeping plan.

(3) Maintain records of the results of visible emissions monitoring and air cleaning device inspections using a format similar to that shown in Figures 1 and 2 and include the following:

(i) Date and time of each inspection.

(ii) Presence or absence of visible emissions.

(iii) Condition of fabric filters, including presence of any tears, holes, and abrasions.

(iv) Presence of dust deposits on clean side of fabric filters.

(v) Brief description of corrective actions taken, including date and time.

(vi) Daily hours of operation for each air cleaning device.

(4) Furnish upon request, and make available at the affected facility during normal business hours for inspection by the Administrator, all records required under this section.

(5) Retain a copy of all monitoring and inspection records for at least 2 years.

(6) Submit quarterly a copy of visible emission monitoring records to the Administrator if visible emissions occurred during the report period. Quarterly reports shall be postmarked by the 30th day following the end of the calendar quarter.

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Date of inspection (mo/day/yr)	Time of inspection (a.m./p.m.)	Air cleaning device or fugitive source designation or number	Visible emissions observed (yes/no), corrective action taken	Daily operating hours	Inspector's initials

Figure 1. Record of Visible Emission Monitoring

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1. Air cleaning device designation or number _____

2. Date of inspection _____ _____ _____ _____

3. Time of inspection _____ _____ _____ _____

4. Is air cleaning device operating properly (yes/no) _____ _____ _____ _____

5. Tears, holes, or abrasions in fabric filter (yes/no) _____ _____ _____ _____

6. Dust on clean side of fabric filters (yes/no) _____ _____ _____ _____

7. Other signs of malfunctions or potential malfunctions (yes/no) _____ _____ _____ _____

8. Describe other malfunctions or signs of potential malfunctions. _____

_____

_____

9. Describe corrective action(s) taken. _____

_____

_____

10. Date and time corrective action taken _____ _____ _____ _____

11. Inspected by

(Print/Type Name)	(Title)	(Signature)	(Date)
(Print/Type Name)	(Title)	(Signature)	(Date)

Figure 2. Air Cleaning Device Inspection Checklist

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6. Section 61.143 is revised to read as follows:

§ 61.143 Standard for roadways.

No person may construct or maintain a roadway with asbestos tailings or asbestos-containing waste material on that roadway, unless, for asbestos tailings.

(a) It is a temporary roadway on an area of asbestos ore deposits (asbestos mine): or

(b) It is a temporary roadway at an active asbestos mill site and is encapsulated with a resinous or bituminous binder. The encapsulated road surface must be maintained at a minimum frequency of one per year to prevent dust emissions; or

(c) It is encapsulated in asphalt concrete meeting the specifications contained in section 401 of Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-85, 1985, or their equivalent.

7. In § 61.144, paragraph (a)(9) and paragraphs (b) (1) and (2) are revised, and paragraphs (b)(3) through (b)(8) are added to read as follows:

§ 61.144 Standards for manufacturing.

(a) * * *

(9) The manufacture of chlorine utilizing asbestos diaphragm technology.

* * * * *

(b) * * *

(1) Discharge no visible emissions to the outside air from these operations or from any building or structure in which they are conducted or from any other fugitive sources; or

(2) Use the methods specified by § 61.152 to clean emissions from these operations containing particulate asbestos material before they escape to, or are vented to, the outside air.

(3) Monitor each potential source of asbestos emissions from any part of the manufacturing facility, including air cleaning devices, process equipment, and buildings housing material processing and handling equipment, at least once each day during daylight hours for visible emissions to the outside air during periods of operation. The monitoring shall be visual observation of at least 15 seconds duration per source of emissions.

(4) Inspect each air cleaning device at least once each week for proper operation and for changes that signal the potential for malfunctions, including, to the maximum extent possible without dismantling other than opening the device, the presence of tears, holes, and abrasions in filter bags and for dust deposits on the clean side of bags. For air cleaning devices that cannot be inspected on a weekly basis according to this paragraph, submit to the Administrator, and revise as necessary, a written maintenance plan to include, at a minimum, the following:

(i) Maintenance schedule.

(ii) Recordkeeping plan.

(5) Maintain records of the results of visible emission monitoring and air cleaning device inspections using a format similar to that shown in Figures 1 and 2 and include the following.

(i) Date and time of each inspection.

(ii) Presence or absence of visible emissions.

(iii) Condition of fabric filters, including presence of any tears, holes and abrasions.

(iv) Presence of dust deposits on clean side of fabric filters.

(v) Brief description of corrective actions taken, including date and time.

(vi) Daily hours of operation for each air cleaning device.

(6) Furnish upon request, and make available at the affected facility during normal business hours for inspection by the Administrator, all records required under this section.

(7) Retain a copy of all monitoring and inspection records for at least 2 years.

(8) Submit quarterly a copy of the visible emission monitoring records to the Administrator if visible emissions occurred during the report period. Quarterly reports shall be postmarked by the 30th day following the end of the calendar quarter.

8. Sections 61.146 and 61.147 are removed, and § 61.145 is revised to read as follows:

§ 61.145 Standard for demolition and renovation.

(a) *Applicability.* To determine which requirements of paragraphs (a), (b), and (c) of this section apply to the owner or operator of a demolition or renovation activity and prior to the commencement of the demolition or renovation, thoroughly inspect the affected facility or part of the facility where the demolition or renovation operation will occur for the presence of asbestos, including Category I and Category II nonfriable ACM. The requirements of paragraphs (b) and (c) of this section apply to each owner or operator of a demolition or renovation activity, including the removal of RACM as follows:

(1) In a facility being demolished, all the requirements of paragraphs (b) and (c) of this section apply, except as provided in paragraph (a)(3) of this section, if the combined amount of RACM is

(i) At least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on other facility components, or

(ii) At least 1 cubic meter (35 cubic feet) off facility components where the length or area could not be measured previously.

(2) In a facility being demolished, only the notification requirements of paragraphs (b)(1), (2), (3)(i) and (iv), and (4)(i) through (vii) and (4)(ix) and (xvi) of this section apply, if the combined amount of RACM is

(i) Less than 80 linear meters (260 linear feet) on pipes less than 15 square meters (160 square feet) on other facility components, and

(ii) Less than one cubic meter (35 cubic feet) off facility components where the length or area could not be measured previously or there is no asbestos.

(3) If the facility is being demolished under an order of a State or local government agency, issued because the facility is structurally unsound and in danger of imminent collapse, only the requirements of paragraphs (b)(1), (b)(2), (b)(3)(iii), (b)(4) (except (b)(4)(viii)), (b)(5), and (c)(4) through (c)(9) of this section apply.

(4) In a facility being renovated, including any individual nonscheduled renovation operation, all the requirements of paragraphs (b) and (c) of this section apply if the combined amount of RACM to be stripped, removed, dislodged, cut, drilled, or similarly disturbed is

(i) At least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on other facility components, or

(ii) At least 1 cubic meter (35 cubic feet) off facility components where the length or area could not be measured previously.

(iii) To determine whether paragraph (a)(4) of this section applies to planned renovation operations involving individual nonscheduled operations, predict the combined additive amount of RACM to be removed or stripped during a calendar year of January 1 through December 31.

(iv) To determine whether paragraph (a)(4) of this section applies to emergency renovation operations, estimate the combined amount of RACM to be removed or stripped as a result of the sudden, unexpected event that necessitated the renovation.

(5) Owners or operators of demolition and renovation operations are exempt from the requirements of §§ 61.05(a), 61.07, and 61.09.

(b) *Notification requirements.* Each owner or operator of a demolition or

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renovation activity to which this section applies shall:

(1) Provide the Administrator with written notice of intention to demolish or renovate. Delivery of the notice by U.S. Postal Service, commercial delivery service, or hand delivery is acceptable.

(2) Update notice, as necessary, including when the amount of asbestos affected changes by at least 20 percent.

(3) Postmark or deliver the notice as follows:

(i) At least 10 working days before asbestos stripping or removal work or any other activity begins (such as site preparation that would break up, dislodge or similarly disturb asbestos material), if the operation is described in paragraphs (a) (1) and (4) (except (a)(4)(iii) and (a)(4)(iv)) of this section. If the operation is as described in paragraph (a)(2) of this section, notification is required 10 working days before demolition begins.

(ii) At least 10 working days before the end of the calendar year preceding the year for which notice is being given for renovations described in paragraph (a)(4)(iii) of this section.

(iii) As early as possible before, but not later than, the following working day if the operation is a demolition ordered according to paragraph (a)(3) of this section or, if the operation is a renovation described in paragraph (a)(4)(iv) of this section.

(iv) For asbestos stripping or removal work in a demolition or renovation operation, described in paragraphs (a) (1) and (4) (except (a)(4)(iii) and (a)(4)(iv)) of this section, and for a demolition described in paragraph (a)(2) of this section, that will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Administrator as follows:

(A) When the asbestos stripping or removal operation or demolition operation covered by this paragraph will begin after the date contained in the notice,

(*1*) Notify the Administrator of the new start date by telephone as soon as possible before the original start date, and

(*2*) Provide the Administrator with a written notice of the new start date as soon as possible before, and no later than, the original start date. Delivery of the updated notice by the U.S. Postal Service, commercial delivery service, or hand delivery is acceptable.

(B) When the asbestos stripping or removal operation or demolition operation covered by this paragraph will begin on a date earlier than the original start date,

(*1*) Provide the Administrator with a written notice of the new start date at least 10 working days before asbestos stripping or removal work begins.

(*2*) For demolitions covered by paragraph (a)(2) of this section, provide the Administrator written notice of a new start date at least 10 working days before commencement of demolition. Delivery of updated notice by U.S. Postal Service, commercial delivery service, or hand delivery is acceptable.

(C) In no event shall an operation covered by this paragraph begin on a date other than the date contained in the written notice of the new start date.

(4) Include the following in the notice:

(i) An indication of whether the notice is the original or a revised notification.

(ii) Name, address, and telephone number of both the facility owner and operator and the asbestos removal contractor owner or operator.

(iii) Type of operation: demolition or renovation.

(iv) Description of the facility or affected part of the facility including the size (square meters [square feet] and number of floors), age, and present and prior use of the facility.

(v) Procedure, including analytical methods, employed to detect the presence of RACM and Category I and Category II nonfriable ACM.

(vi) Estimate of the approximate amount of RACM to be removed from the facility in terms of length of pipe in linear meters (linear feet), surface area in square meters (square feet) on other facility components, or volume in cubic meters (cubic feet) if off the facility components. Also, estimate the approximate amount of Category I and Category II nonfriable ACM in the affected part of the facility that will not be removed before demolition.

(vii) Location and street address (including building number or name and floor or room number, if appropriate), city, county, and state, of the facility being demolished or renovated.

(viii) Scheduled starting and completion dates of asbestos removal work (or any other activity, such as site preparation that would break up, dislodge, or similarly disturb asbestos material) in a demolition or renovation; planned renovation operations involving individual nonscheduled operations shall only include the beginning and ending dates of the report period as described in paragraph (a)(4)(iii) of this section.

(ix) Scheduled starting and completion dates of demolition or renovation.

(x) Description of planned demolition or renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components.

(xi) Description of work practices and engineering controls to be used to comply with the requirements of this subpart, including asbestos removal and waste-handling emission control procedures.

(xii) Name and location of the waste disposal site where the asbestos-containing waste material will be deposited.

(xiii) A certification that at least one person trained as required by paragraph (c)(8) of this section will supervise the stripping and removal described by this notification. This requirement shall become effective 1 year after promulgation of this regulation.

(xiv) For facilities described in paragraph (a)(3) of this section, the name, title, and authority of the State or local government representative who has ordered the demolition, the date that the order was issued, and the date on which the demolition was ordered to begin. A copy of the order shall be attached to the notification.

(xv) For emergency renovations described in paragraph (a)(4)(iv) of this section, the date and hour that the emergency occurred, a description of the sudden, unexpected event, and an explanation of how the event caused an unsafe condition, or would cause equipment damage or an unreasonable financial burden.

(xvi) Description of procedures to be followed in the event that unexpected RACM is found or Category II nonfriable ACM becomes crumbled, pulverized, or reduced to powder.

(xvii) Name, address, and telephone number of the waste transporter.

(5) The information required in paragraph (b)(4) of this section must be reported using a form similiar to that shown in Figure 3.

(c) *Procedures for asbestos emission control.* Each owner or operator of a demolition or renovation activity to whom this paragraph applies, according to paragraph (a) of this section, shall comply with the following procedures:

(1) Remove all RACM from a facility being demolished or renovated before any activity begins that would break up, dislodge, or similarly disturb the material or preclude access to the material for subsequent removal. RACM need not be removed before demolition if:

(i) It is Category I nonfriable ACM that is not in poor condition and is not friable.

(ii) It is on a facility component that is encased in concrete or other similarly

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hard material and is adequately wet whenever exposed during demolition; or

(iii) It was not accessible for testing and was, therefore, not discovered until after demolition began and, as a result of the demolition, the material cannot be safely removed. If not removed for safety reasons, the exposed RACM and any asbestos-contaminated debris must be treated as asbestos-containing waste material and adequately wet at all times until disposed of.

(iv) They are Category II nonfriable ACM and the probability is low that the materials will become crumbled, pulverized, or reduced to powder during demolition.

(2) When a facility component that contains, is covered with, or is coated with RACM is being taken out of the facility as a unit or in sections:

(i) Adequately wet all RACM exposed during cutting or disjoining operations; and

(ii) Carefully lower each unit or section to the floor and to ground level, not dropping, throwing, sliding, or otherwise damaging or disturbing the RACM.

(3) When RACM is stripped from a facility component while it remains in place in the facility, adequately wet the RACM during the stripping operation.

(i) In renovation operations, wetting is not required if:

(A) The owner or operator has obtained prior written approval from the Administrator based on a written application that wetting to comply with this paragraph would unavoidably damage equipment or present a safety hazard; and

(B) The owner or operator uses of the following emission control methods:

(*1*) A local exhaust ventilation and collection system designed and operated to capture the particulate asbestos material produced by the stripping and removal of the asbestos materials. The system must exhibit no visible emissions to the outside air or be designed and operated in accordance with the requirements in § 61.152.

(*2*) A glove-bag system designed and operated to contain the particulate asbestos material produced by the stripping of the asbestos materials.

(*3*) Leak-tight wrapping to contain all RACM prior to dismantlement.

(ii) In renovation operations where wetting would result in equipment damage or a safety hazard, and the methods allowed in paragraph (c)(3)(i) of this section cannot be used, another method may be used after obtaining written approval from the Administrator based upon a determination that it is equivalent to wetting in controlling emissions or to the methods allowed in paragraph (c)(3)(i) of this section.

(iii) A copy of the Administrator's written approval shall be kept at the worksite and made available for inspection.

(4) After a facility component covered with, coated with, or containing RACM has been taken out of the facility as a unit or in sections pursuant to paragraph (c)(2) of this section, it shall be stripped or contained in leak-tight wrapping, except as described in paragraph (c)(5) of this section. If stripped, either:

(i) Adequately wet the RACM during stripping; or

(ii) Use a local exhaust ventilation and collection system designed and operated to capture the particulate asbestos material produced by the stripping. The system must exhibit no visible emissions to the outside air or be designed and operated in accordance with the requirements in § 61.152.

(5) For large facility components such as reactor vessels, large tanks, and steam generators, but not beams (which must be handled in accordance with paragraphs (c)(2), (3), and (4) of this section), the RACM is not required to be stripped if the following requirements are met:

(i) The component is removed, transported, stored, disposed of, or reused without disturbing or damaging the RACM.

(ii) The component is encased in a leak-tight wrapping.

(iii) The leak-tight wrapping is labeled according to § 61.149(d)(1)(i), (ii), and (iii) during all loading and unloading operations and during storage.

(6) For all RACM, including material that has been removed or stripped:

(i) Adequately wet the material and ensure that it remains wet until collected and contained or treated in preparation for disposal in accordance with § 61.150; and

(ii) Carefully lower the material to the ground and floor, not dropping, throwing, sliding, or otherwise damaging or disturbing the material.

(iii) Transport the material to the ground via leak-tight chutes or containers if it has been removed or stripped more than 50 feet above ground level and was not removed as units or in sections.

(iv) RACM contained in leak-tight wrapping that has been removed in accordance with paragraphs (c)(4) and (c)(3)(i)(B)(*3*) of this section need not be wetted.

(7) When the temperature at the point of wetting is below 0 °C (32 °F):

(i) The owner or operator need not comply with paragraph (c)(2)(i) and the wetting provisions of paragraph (c)(3) of this section.

(ii) The owner or operator shall remove facility components containing, coated with, or covered with RACM as units or in sections to the maximum extent possible.

(iii) During periods when wetting operations are suspended due to freezing temperatures, the owner or operator must record the temperature in the area containing the facility components at the beginning, middle, and end of each workday and keep daily temperature records available for inspection by the Administrator during normal business hours at the demolition or renovation site. The owner or operator shall retain the temperature records for at least 2 years.

(8) Effective 1 year after promulgation of this regulation, no RACM shall be stripped, removed, or otherwise handled or disturbed at a facility regulated by this section unless at least one on-site representative, such as a foreman or management-level person or other authorized representative, trained in the provisions of this regulation and the means of complying with them, is present. Every 2 years, the trained on-site individual shall receive refresher training in the provisions of this regulation. The required training shall include as a minimum: applicability; notifications; material identification; control procedures for removals including, at least, wetting, local exhaust ventilation, negative pressure enclosures, glove-bag procedures, and High Efficiency Particulate Air (HEPA) filters; waste disposal work practices; reporting and recordkeeping; and asbestos hazards and worker protection. Evidence that the required training has been completed shall be posted and made available for inspection by the Administrator at the demolition or renovation site.

(9) For facilities described in paragraph (a)(3) of this section, adequately wet the portion of the facility that contains RACM during the wrecking operation.

(10) If a facility is demolished by intentional burning, all RACM including Category I and Category II nonfriable ACM must be removed in accordance with the NESHAP before burning.

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NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. TYPE OF NOTIFICATION (O=Original R=Revised C=Cancelled):

II. FACILITY INFORMATION (Identify owner, removal contractor, and other operator)

OWNER NAME:		
Address:		
City:	State:	Zip:
Contact:		Tel:
REMOVAL CONTRACTOR:		
Address:		
City:	State:	Zip:
Contact:		Tel:
OTHER OPERATOR:		
Address:		
City:	State:	Zip:
Contact:		Tel:

III. TYPE OF OPERATION (D=Demo O=Ordered Demo R=Renovation E=Emer.Renovation):

IV. IS ASBESTOS PRESENT? (Yes/No)

V. FACILITY DESCRIPTION (Include building name, number and floor or room number)

Bldg Name:		
Address:		
City:	State:	County:
Site Location:		
Building Size:	# of Floors:	Age in Years:
Present Use:	Prior Use:	

VI. PROCEDURE, INCLUDING ANALYTICAL METHOD, IF APPROPRIATE, USED TO DETECT THE PRESENCE OF ASBESTOS MATERIAL:

VII. APPROXIMATE AMOUNT OF ASBESTOS, INCLUDING: 1. Regulated ACM to be removed 2. Category I ACM Not Removed 3. Category II ACM Not Removed	RACM To Be Removed	Nonfriable Asbestos Material Not To Be Removed		Indicate Unit of Measurement Below	
		Cat I	Cat II	UNIT	
Pipes				LnFt:	Ln m:
Surface Area				SqFt:	Sq m:
Vol RACM Off Facility Component				CuFt:	Cu m:

VIII. SCHEDULED DATES ASBESTOS REMOVAL (MM/DD/YY) Start: Complete:

IX. SCHEDULED DATES DEMO/RENOVATION (MM/DD/YY) Start: Complete:

Continued on page two

Figure 3. Notification of Demolition and Renovation

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NOTIFICATION OF DEMOLITION AND RENOVATION (continued)

X. DESCRIPTION OF PLANNED DEMOLITION OR RENOVATION WORK, AND METHOD(S) TO BE USED:		
XI. DESCRIPTION OF WORK PRACTICES AND ENGINEERING CONTROLS TO BE USED TO PREVENT EMISSIONS OF ASBESTOS AT THE DEMOLITION AND RENOVATION SITE:		
XII. WASTE TRANSPORTER #1		
Name:		
Address		
City:	State:	Zip:
Contact Person:		Telephone:
WASTE TRANSPORTER #2		
Name:		
Address:		
City:	State:	Zip:
Contact Person:		Telephone:
XIII. WASTE DISPOSAL SITE		
Name:		
Location:		
City:	State:	Zip:
Telephone:		
XIV. IF DEMOLITION ORDERED BY A GOVERNMENT AGENCY, PLEASE IDENTIFY THE AGENCY BELOW:		
Name:	Title:	
Authority:		
Date of Order (MM/DD/YY):	Date Ordered to Begin (MM/DD/YY):	
XV. FOR EMERGENCY RENOVATIONS		
Date and Hour of Emergency (MM/DD/YY):		
Description of the Sudden, Unexpected Event:		
Explanation of how the event caused unsafe conditions or would cause equipment damage or an unreasonable financial burden:		
XVI. DESCRIPTION OF PROCEDURES TO BE FOLLOWED IN THE EVENT THAT UNEXPECTED ASBESTOS IS FOUND OR PREVIOUSLY NONFRIABLE ASBESTOS MATERIAL BECOMES CRUMBLED, PULVERIZED, OR REDUCED TO POWDER.		
XVI. I CERTIFY THAT AN INDIVIDUAL TRAINED IN THE PROVISIONS OF THIS REGULATION (40 CFR PART 61, SUBPART M) WILL BE ON-SITE DURING THE DEMOLITION OR RENOVATION AND EVIDENC THAT THE REQUIRED TRAINING HAS BEEN ACCOMPLISHED BY THIS PERSON WILL BE AVAILABLE FOR INSPECTION DURING NORMAL BUSINESS HOURS. (Required 1 year after promulgation)		
	(Signature of Owner/Operator)	(Date)
XVII. I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT.		
	(Signature of Owner/Operator)	(Date)

Figure 3. Notification of Demolition and Renovation

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9. Section 61.148 is redesignated as § 61.146 and is amended by revising paragraphs (a), the introductory text of (b), paragraph (b)(2), and paragraph (d) to read as follows:

§ 61.146 Standard for spraying.

* * * * *

(a) For spray-on application on buildings, structures, pipes, and conduits, do not use material containing more than 1 percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy, except as provided in paragraph (c) of this section.

(b) For spray-on application of materials that contain more than 1 percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy, on equipment and machinery, except as provided in paragraph (c) of this section:

* * * * *

(2) Discharge no visible emissions to the outside air from spray-on application of the asbestos-containing material or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

* * * * *

(d) Owners or operators of sources subject to this paragraph are exempt from the requirements of §§ 61.05(a), 61.07 and 61.09.

10. Section 61.149 is redesignated as § 61.147, paragraphs (b) (1) and (2) are revised, and paragraphs (b)(3) through (b)(8) are added to read as follows:

§ 61.147 Standard for fabricating.

* * * * *

(b) * * *

(1) Discharge no visible emissions to the outside air from any of the operations or from any building or structure in which they are conducted or from any other fugitive sources; or

(2) Use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(3) Monitor each potential source of asbestos emissions from any part of the fabricating facility, including air cleaning devices, process equipment, and buildings that house equipment for material processing and handling, at least once each day, during daylight hours, for visible emissions to the outside air during periods of operation. The monitoring shall be by visual observation of at least 15 seconds duration per source of emissions.

(4) Inspect each air cleaning device at least once each week for proper operation and for changes that signal the potential for malfunctions, including, to the maximum extent possible without dismantling other than opening the device, the presence of tears, holes, and abrasions in filter bags and for dust deposits on the clean side of bags. For air cleaning devices that cannot be inspected on a weekly basis according to this paragraph, submit to the Administrator, and revise as necessary, a written maintenance plan to include, at a minimum, the following:

(i) Maintenance schedule.

(ii) Recordkeeping plan.

(5) Maintain records of the results of visible emission monitoring and air cleaning device inspections using a format similar to that shown in Figures 1 and 2 and include the following:

(i) Date and time of each inspection.

(ii) Presence or absence of visible emissions.

(iii) Condition of fabric filters, including presence of any tears, holes, and abrasions.

(iv) Presence of dust deposits on clean side of fabric filters.

(v) Brief description of corrective actions taken, including date and time.

(vi) Daily hours of operation for each air cleaning device.

(6) Furnish upon request and make available at the affected facility during normal business hours for inspection by the Administrator, all records required under this section.

(7) Retain a copy of all monitoring and inspection records for at least 2 years.

(8) Submit quarterly a copy of the visible emission monitoring records to the Administrator if visible emissions occurred during the report period. Quarterly reports shall be postmarked by the 30th day following the end of the calendar quarter.

11. Section 61.150 is redesignated as § 61.148 and revised to read as follows:

§ 61.148 Standard for insulating materials.

No owner or operator of a facility may install or reinstall on a facility component any insulating materials that contain commercial asbestos if the materials are either molded and friable or wet-applied and friable after drying. The provisions of this section do not apply to spray-applied insulating materials regulated under § 61.146.

12. Section 61.151 is redesignated as § 61.149 and is amended by revising paragraphs (a), (b), introductory text of (c), (c)(1) (ii) and (iii), and (c)(2), and adding new paragraphs (d) through (f) to read as follows:

§ 61.149 Standard for waste disposal for asbestos mills.

* * * * *

(a) Deposit all asbestos-containing waste material at a waste disposal site operated in accordance with the provisions of § 61.154; and

(b) Discharge no visible emissions to the outside air from the transfer of control device asbestos waste to the tailings conveyor, or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air. Dispose of the asbestos waste from control devices in accordance with § 61.150(a) or paragraph (c) of this section; and

(c) Discharge no visible emissions to the outside air during the collection, processing, packaging, or on-site transporting of any asbestos-containing waste material, or use one of the disposal methods specified in paragraphs (c) (1) or (2) of this section, as follows:

(1) * * *

(ii) Discharge no visible emissions to the outside air from the wetting operation or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

* * * * *

(iii) Wetting may be suspended when the ambient temperature at the waste disposal site is less than −9.5 °C (15 °F), as determined by an appropriate measurement method with an accuracy of ± 1°C (± 2 °F). During periods when wetting operations are suspended, the temperature must be recorded at least at hourly intervals, and records must be retained for at least 2 years in a form suitable for inspection.

(2) Use an alternative emission control and waste treatment method that has received prior written approval by the Administrator. To obtain approval for an alternative method, a written application must be submitted to the Administrator demonstrating that the following criteria are met:

(i) The alternative method will control asbestos emissions equivalent to currently required methods.

(ii) The suitability of the alternative method for the intended application.

(iii) The alternative method will not violate other regulations.

(iv) The alternative method will not result in increased water pollution, land pollution, or occupational hazards.

(d) When waste is transported by vehicle to a disposal site:

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(1) Mark vehicles used to transport asbestos-containing waste material during the loading and unloading of the waste so that the signs are visible. The markings must:

(i) Be displayed in such a manner and location that a person can easily read the legend.

(ii) Conform to the requirements for 51 cm × 36 cm (20 in × 14 in) upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and

(iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	Notation
DANGER	2.5 cm (1 inch) Sans Serif, Gothic or Block
ASBESTOS DUST HAZARD	2.5 cm (1 inch) Sans Serif, Gothic or Block
CANCER AND LUNG DISEASE HAZARD	1.9 cm (¾ inch) Sans Serif, Gothic or Block
Authorized Personnel Only	14 Point Gothic

Spacing between any two lines must be a least equal to the height of the upper of the two lines.

(2) For off-site disposal, provide a copy of the waste shipment record, described in paragraph (e)(1) of this section, to the disposal site owner or operator at the same time as the asbestos-containing waste material is delivered to the disposal site.

(e) For all asbestos-containing waste material transported off the facility site:

(1) Maintain asbestos waste shipment records, using a form similar to that shown in Figure 4, and include the following information:

(i) The name, address, and telephone number of the waste generator.

(ii) The name and address of the local, State, or EPA Regional agency responsible for administering the asbestos NESHAP program.

(iii) The quantity of the asbestos-containing waste material in cubic meters (cubic yards).

(iv) The name and telephone number of the disposal site operator.

(v) The name and physical site location of the disposal site.

(vi) The date transported.

(vii) The name, address, and telephone number of the transporter(s).

(viii) A certification that the contents of this consignment are fully and accurately described 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 government regulations.

(2) For waste shipments where a copy of the waste shipment record, signed by the owner or operator of the designated disposal site, is not received by the waste generator within 35 days of the date the waste was accepted by the initial transporter, contact the transporter and/or the owner or operator of the designated disposal site to determine the status of the waste shipment.

(3) Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator if a copy of the waste shipment record, signed by the owner or operator of the designated waste disposal site, is not received by the waste generator within 45 days of the date the waste was accepted by the initial transporter. Include in the report the following information:

(i) A copy of the waste shipment record for which a confirmation of delivery was not received, and

(ii) A cover letter signed by the waste generator explaining the efforts taken to locate the asbestos waste shipment and the results of those efforts.

(4) Retain a copy of all waste shipment records, including a copy of the waste shipment record signed by the owner or operator of the designated waste disposal site, for at least 2 years.

(f) Furnish upon request, and make available for inspection by the Administrator, all records required under this section.

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Generator	1. Work site name and mailing address	Owner's name	Owner's telephone no.
	2. Operator's name and address		Operator's telephone no.
	3. Waste disposal site (WDS) name, mailing address, and physical site location		WDS phone no.
	4. Name, and address of responsible agency		
	5. Description of materials	6. Containers No. Type	7. Total quantity m^3 (yd^3)
	8. Special handling instructions and additional information		
	9. OPERATOR'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 government regulations.		
	Printed/typed name & title	Signature	Month Day Year
Transporter	10. Transporter 1 (Acknowledgment of receipt of materials)		
	Printed/typed name & title Address and telephone no.	Signature	Month Day Year
	11. Transporter 2 (Acknowledgment of receipt of materials)		
	Printed/typed name & title Address and telephone no.	Signature	Month Day Year
Disposal Site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title	Signature	Month Day Year

(Continued)

Figure 4. Waste Shipment Record

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INSTRUCTIONS

Waste Generator Section (Items 1-9)

1. Enter the name of the facility at which asbestos waste is generated and the address where the facility is located. In the appropriate spaces, also enter the name of the owner of the facility and the owner's phone number.

2. If a demolition or renovation, enter the name and address of the company and authorized agent responsible for performing the asbestos removal. In the appropriate spaces, also enter the phone number of the operator.

3. Enter the name, address, and physical site location of the waste disposal site (WDS) that will be receiving the asbestos materials. In the appropriate spaces, also enter the phone number of the WDS. Enter "on-site" if the waste will be disposed of on the generator's property.

4. Provide the name and address of the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program.

5. Indicate the types of asbestos waste materials generated. If from a demolition or renovation, indicate the amount of asbestos that is

   - Friable asbestos material
   - Nonfriable asbestos material

6. Enter the number of containers used to transport the asbestos materials listed in item 5. Also enter one of the following container codes used in transporting each type of asbestos material (specify any other type of container used if not listed below):

   DM - Metal drums, barrels
   DP - Plastic drums, barrels
   BA - 6 mil plastic bags or wrapping

7. Enter the quantities of each type of asbestos material removed in units of cubic meters (cubic yards).

8. Use this space to indicate special transportation, treatment, storage or disposal or Bill of Lading information. If an alternate waste disposal site is designated, note it here. Emergency response telephone numbers or similar information may be included here.

9. The authorized agent of the waste generator must read and then sign and date this certification. The date is the date of receipt by transporter.

NOTE: The waste generator must retain a copy of this form.

(continued)

Figure 4. Waste Shipment Record

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Transporter Section (Items 10 & 11)

10. & 11. Enter name, address, and telephone number of each transporter used, if applicable. Print or type the full name and title of person accepting responsibility and acknowledging receipt of materials as listed on this waste shipment record for transport. Enter date of receipt and signature.

NOTE: The transporter must retain a copy of this form.

Disposal Site Section (Items 12 & 13)

12. The authorized representative of the WDS must note in this space any discrepancy between waste described on this manifest and waste actually received as well as any improperly enclosed or contained waste. Any rejected materials should be listed and destination of those materials provided. A site that converts asbestos-containing waste material to nonasbestos material is considered a WDS.

13. The signature (by hand) of the authorized WDS agent indicates acceptance and agreement with statements on this manifest except as noted in item 12. The date is the date of signature and receipt of shipment.

NOTE: The WDS must retain a completed copy of this form. The WDS must also send a completed copy to the operator listed in item 2.

Figure 4. Waste Shipment Record

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13. Section 61.152 is redesignated as § 61.150 and is revised to read as follows:

§ 61.150 Standard for waste disposal for manufacturing, fabricating, demolition, renovation, and spraying operations.

Each owner or operator of any source covered under the provisions of §§ 61.144, 61.145, 61.146, and 61.147 shall comply with the following provisions:

(a) Discharge no visible emissions to the outside air during the collection, processing (including incineration), packaging, or transporting of any asbestos-containing waste material generated by the source, or use one of the emission control and waste treatment methods specified in paragraphs (a) (1) through (4) of this section.

(1) Adequately wet asbestos-containing waste material as follows:

(i) Mix control device asbestos waste to form a slurry; adequately wet other asbestos-containing waste material; and

(ii) Discharge no visible emissions to the outside air from collection, mixing, wetting, and handling operations, or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air; and

(iii) After wetting, seal all asbestos-containing waste material in leak-tight containers while wet; or, for materials that will not fit into containers without additional breaking, put materials into leak-tight wrapping; and

(iv) Label the containers or wrapped materials specified in paragraph (a)(1)(iii) of this section using warning labels specified by Occupational Safety and Health Standards of the Department of Labor, Occupational Safety and Health Administration (OSHA) under 29 CFR 1910.1001(j)(2) or 1926.58(k)(2)(iii). The labels shall be printed in letters of sufficient size and contrast so as to be readily visible and legible.

(v) For asbestos-containing waste material to be transported off the facility site, label containers or wrapped materials with the name of the waste generator and the location at which the waste was generated.

(2) Process asbestos-containing waste material into nonfriable forms as follows:

(i) Form all asbestos-containing waste material into nonfriable pellets or other shapes;

(ii) Discharge no visible emissions to the outside air from collection and processing operations, including incineration, or use the method specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(3) For facilities demolished where the RACM is not removed prior to demolition according to §§ 61.145(c)(1)(i), (ii), (iii), and (iv) or for facilities demolished according to § 61.145(c)(9), adequately wet asbestos-containing waste material at all times after demolition and keep wet during handling and loading for transport to a disposal site. Asbestos-containing waste materials covered by this paragraph do not have to be sealed in leak-tight containers or wrapping but may be transported and disposed of in bulk.

(4) Use an alternative emission control and waste treatment method that has received prior approval by the Administrator according to the procedure described in § 61.149(c)(2).

(5) As applied to demolition and renovation, the requirements of paragraph (a) of this section do not apply to Category I nonfriable ACM waste and Category II nonfriable ACM waste that did not become crumbled, pulverized, or reduced to powder.

(b) All asbestos-containing waste material shall be desposited as soon as is practical by the waste generator at:

(1) A waste disposal site operated in accordance with the provisions of § 61.154, or

(2) An EPA-approved site that converts RACM and asbestos-containing waste material into nonasbestos (asbestos-free) material according to the provisions of § 61.155.

(3) The requirements of paragraph (b) of this section do not apply to Category I nonfriable ACM that is not RACM.

(c) Mark vehicles used to transport asbestos-containing waste material during the loading and unloading of waste so that the signs are visible. The markings must conform to the requirements of §§ 61.149(d)(1) (i), (ii), and (iii).

(d) For all asbestos-containing waste material transported off the facility site:

(1) Maintain waste shipment records, using a form similar to that shown in Figure 4, and include the following information:

(i) The name, address, and telephone number of the waste generator.

(ii) The name and address of the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program.

(iii) The approximate quantity in cubic meters (cubic yards).

(iv) The name and telephone number of the disposal site operator.

(v) The name and physical site location of the disposal site.

(vi) The date transported.

(vii) The name, address, and telephone number of the transporter(s).

(viii) A certification that the contents of this consignment are fully and accurately described 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 government regulations.

(2) Provide a copy of the waste shipment record, described in paragraph (d)(1) of this section, to the disposal site owners or operators at the same time as the asbestos-containing waste material is delivered to the disposal site.

(3) For waste shipments where a copy of the waste shipment record, signed by the owner or operator of the designated disposal site, is not received by the waste generator within 35 days of the date the waste was accepted by the initial transporter, contact the transporter and/or the owner or operator of the designated disposal site to determine the status of the waste shipment.

(4) Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator if a copy of the waste shipment record, signed by the owner or operator of the designated waste disposal site, is not received by the waste generator within 45 days of the date the waste was accepted by the initial transporter. Include in the report the following information:

(i) A copy of the waste shipment record for which a confirmation of delivery was not received, and

(ii) A cover letter signed by the waste generator explaining the efforts taken to locate the asbestos waste shipment and the results of those efforts.

(5) Retain a copy of all waste shipment records, including a copy of the waste shipment record signed by the owner or operator of the designated waste disposal site, for at least 2 years.

(e) Furnish upon request, and make available for inspection by the Administrator, all records required under this section.

14. Section 61.153 is redesignated as § 61.151 and is amended by revising the introductory text, paragraphs (a)(2), (a)(4), and (b)(3), and adding paragraphs (d) and (e) to read as follows:

§ 61.151 Standard for inactive waste disposal sites for asbestos mills and manufacturing and fabricating operations.

Each owner or operator of any inactive waste disposal site that was operated by sources covered under

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§§ 61.142, 61.144, or 61.147 and received deposits of asbestos-containing waste material generated by the sources, shall:

(a) * * *

(2) Cover the asbestos-containing waste material with at least 15 centimeters (6 inches) of compacted nonasbestos-containing material, and grow and maintain a cover of vegetation on the area adequate to prevent exposure of the asbestos-containing waste material. In desert areas where vegetation would be difficult to maintain, at least 8 additional centimeters (3 inches) of well-graded, nonasbestos crushed rock may be placed on top of the final cover instead of vegetation and maintained to prevent emissions; or

* * * * *

(4) For inactive waste disposal sites for asbestos tailings, a resinous or petroleum-based dust suppression agent that effectively binds dust to control surface air emissions may be used instead of the methods in paragraphs (a)(1), (2), and (3) of this section. Use the agent in the manner and frequency recommended for the particular asbestos tailings by the manufacturer of the dust suppression agent to achieve and maintain dust control. Obtain prior written approval of the Administrator to use other equally effective dust suppression agents. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.

(b) * * *

(3) When requesting a determination on whether a natural barrier adequately deters public access, supply information enabling the Administrator to determine whether a fence or a natural barrier adequately deters access by the general public.

* * * * *

(d) Notify the Administrator in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site under this section, and follow the procedures specified in the notification. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Administrator at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:

(1) Scheduled starting and completion dates.

(2) Reason for disturbing the waste.

(3) Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Administrator may require changes in the emission control procedures to be used.

(4) Location of any temporary storage site and the final disposal site.

(e) Within 60 days of a site becoming inactive and after the effective date of this subpart, record, in accordance with State law, a notation on the deed to the facility property and on any other instrument that would normally be examined during a title search; this notation will in perpetuity notify any potential purchaser of the property that:

(1) The land has been used for the disposal of asbestos-containing waste material;

(2) The survey plot and record of the location and quantity of asbestos-containing waste disposed of within the disposal site required in § 61.154(f) have been filed with the Administrator; and

(3) The site is subject to 40 CFR part 61, subpart M.

15. Section 61.154 is redesignated as § 61.152 and amended by removing paragraph (a)(1)(i), redesignating paragraphs (a)(1)(ii)–(iv) as paragraphs (a)(1)(i)–(iii), redesignating paragraph (b)(2) as paragraph (b)(3), revising the introductory text of paragraph (a) and paragraphs (b)(1) and (b)(3), and adding paragraphs (a)(3) and (b)(2) to read as follows:

§ 61.152 Air cleaning.

(a) The owner or operator who uses air cleaning, as specified in §§ 61.142(a), 61.144(b)(2), 61.145(c)(3)(i)(B)(*1*), 61.145(c)(4)(ii), 61.145(c)(11)(i), 61.146(b)(2), 61.147(b)(2), 61.149(b), 61.149(c)(1)(ii), 61.150(a)(1)(ii), 61.150(a)(2)(ii), and 61.155(e) shall:

* * * * *

(3) For fabric filter collection devices installed after January 10, 1989, provide for easy inspection for faulty bags.

(b) * * *

(1) After January 10, 1989, if the use of fabric creates a fire or explosion hazard, or the Administrator determines that a fabric filter is not feasible, the Administrator may authorize as a substitute the use of wet collectors designed to operate with a unit contacting energy of at least 9.95 kilopascals (40 inches water gage pressure).

(2) Use a HEPA filter that is certified to be at least 99.97 percent efficient for 0.3 micron particles.

(3) The Administrator may authorize the use of filtering equipment other than described in paragraphs (a)(1) and (b)(1) and (2) of this section if the owner or operator demonstrates to the Administrator's satisfaction that it is equivalent to the described equipment in filtering particulate asbestos material.

16. Section 61.155 is redesignated as § 61.153 and amended by redesignating paragraphs (a)(3) and (a)(4) as paragraphs (a)(4) and (a)(5), respectively, revising the introductory text of paragraphs (a), (a)(4), and (a)(5) and revising paragraphs (a)(2), (a)(4)(ii) and (iii), and (b), and adding paragraph (a)(3) to read as follows:

§ 61.153 Reporting.

(a) Any new source to which this subpart applies (with the exception of sources subject to §§ 61.143, 61.146, and 61.148), which has an initial startup date preceding the effective date of this revision, shall provide the following information to the Administrator postmarked or delivered within 90 days of the effective date. In the case of a new source that does not have an initial startup date preceding the effective date, the information shall be provided, postmarked or delivered, within 90 days of the initial startup date. Any owner or operator of an existing source shall provide the following information to the Administrator within 90 days of the effective date of this subpart unless the owner or operator of the existing source has previously provided this information to the Administrator. Any changes in the information provided by any existing source shall be provided to the Administrator, postmarked or delivered, within 30 days after the change.

* * * * *

(2) If a fabric filter device is used to control emissions,

(i) The airflow permeability in $m^3/min/m^2$ ($ft^3/min/ft^2$) if the fabric filter device uses a woven fabric, and, if the fabric is synthetic, whether the fill yarn is spun or not spun; and

(ii) If the fabric filter device uses a felted fabric, the density in g/m^2 (oz/yd^2), the minimum thickness in millimeters (inches), and the airflow permeability in $m^3/min/m^2$ ($ft^3/min/ft^2$).

(3) If a HEPA filter is used to control emissions, the certified efficiency.

(4) For sources subject to §§ 61.149 and 61.150:

* * * * *

(ii) The average volume of asbestos-containing waste material disposed of, measured in m^3/day (yd^3/day); and

(iii) The emission control methods used in all stages of waste disposal; and

* * * * *

(5) For sources subject to §§ 61.151 and 61.154:

* * * * *

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(b) The information required by paragraph (a) of this section must accompany the information required by § 61.10. Active waste disposal sites subject to § 61.154 shall also comply with this provision. Roadways, demolition and renovation, spraying, and insulating materials are exempted from the requirements of § 61.10(a). The information described in this section must be reported using the format of Appendix A of this part as a guide.

17. Section 61.156 is redesignated as § 61.154 and amended by revising the introductory text of § 61.154, paragraphs (c) and (d), and adding paragraphs (e) through (j) to read as follows:

§ 61.154 Standard for active waste disposal sites.

Each owner or operator of an active waste disposal site that receives asbestos-containing waste material from a source covered under §§ 61.149, 61.150, or 61.155 shall meet the requirements of this section:

* * * * *

(c) Rather than meet the no visible emission requirement of paragraph (a) of this section, at the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-containing waste material that has been deposited at the site during the operating day or previous 24-hour period shall:

(1) Be covered with at least 15 centimeters (6 inches) of compacted nonasbestos-containing material, or

(2) Be covered with a resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. Such an agent shall be used in the manner and frequency recommended for the particular dust by the dust suppression agent manufacturer to achieve and maintain dust control. Other equally effective dust suppression agents may be used upon prior approval by the Administrator. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.

(d) Rather than meet the no visible emission requirement of paragraph (a) of this section, use an alternative emissions control method that has received prior written approval by the Administrator according to the procedures described in § 61.149(c)(2).

(e) For all asbestos-containing waste material received, the owner or operator of the active waste disposal site shall:

(1) Maintain waste shipment records, using a form similar to that shown in Figure 4, and include the following information:

(i) The name, address, and telephone number of the waste generator.

(ii) The name, address, and telephone number of the transporter(s).

(iii) The quantity of the asbestos-containing waste material in cubic meters (cubic yards).

(iv) The presence of improperly enclosed or uncovered waste, or any asbestos-containing waste material not sealed in lead-tight containers. Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site, by the following working day, the presence of a significant amount of improperly enclosed or uncovered waste. Submit a copy of the waste shipment record along with the report.

(v) The date of the receipt.

(2) As soon as possible and no longer than 30 days after receipt of the waste, send a copy of the signed waste shipment record to the waste generator.

(3) Upon discovering a discrepancy between the quantity of waste designated on the waste shipment records and the quantity actually received, attempt to reconcile the discrepancy with the waste generator. If the discrepancy is not resolved within 15 days after receiving the waste, immediately report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site. Describe the discrepancy and attempts to reconcile it, and submit a copy of the waste shipment record along with the report.

(4) Retain a copy of all records and reports required by this paragraph for at least 2 years.

(f) Maintain, until closure, records of the location, depth and area, and quantity in cubic meters (cubic yards) of asbestos-containing waste material within the disposal site on a map or diagram of the disposal area.

(g) Upon closure, comply with all the provisions of § 61.151.

(h) Submit to the Administrator, upon closure of the facility, a copy of records of asbestos waste disposal locations and quantities.

(i) Furnish upon request, and make available during normal business hours for inspection by the Administrator, all records required under this section.

(j) Notify the Administrator in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Administrator at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:

(1) Scheduled starting and completion dates.

(2) Reason for disturbing the waste.

(3) Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Administrator may require changes in the emission control procedures to be used.

(4) Location of any temporary storage site and the final disposal site.

18. Section 61.155 is added to subpart M to read as follows:

§ 61.155 Standard for operations that convert asbesto-containing waste material into nonasbestos (asbestos-free) material.

Each owner or operator of an operation that converts RACM and asbestos-containing waste material into nonasbestos (asbestos-free) material shall:

(a) Obtain the prior written approval of the Administrator to construct the facility. To obtain approval, the owner or operator shall provide the Administrator with the following information:

(1) Application to construct pursuant to § 61.07.

(2) In addition to the information requirements of § 61.07(b)(3), a

(i) Description of waste feed handling and temporary storage.

(ii) Description of process operating conditions.

(iii) Description of the handling and temporary storage of the end product.

(iv) Description of the protocol to be followed when analyzing output materials by transmission electron microscopy.

(3) Performance test protocol, including provisions for obtaining information required under paragraph (b) of this section.

(4) The Administrator may require that a demonstration of the process be performed prior to approval of the application to construct.

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(b) Conduct a start-up performance test. Test results shall include:

(1) A detailed description of the types and quantities of nonasbestos material, RACM, and asbestos-containing waste material processed, *e.g.*, asbestos cement products, friable asbestos insulation, plaster, wood, plastic, wire, etc. Test feed is to include the full range of materials that will be encountered in actual operation of the process.

(2) Results of analyses, using polarized light microscopy, that document the asbestos content of the wastes processed.

(3) Results of analyses, using transmission electron microscopy, that document that the output materials are free of asbestos. Samples for analysis are to be collected as 8-hour composite samples (one 200-gram (7-ounce) sample per hour), beginning with the initial introduction of RACM or asbestos-containing waste material and continuing until the end of the performance test.

(4) A description of operating parameters, such as temperature and residence time, defining the full range over which the process is expected to operate to produce nonasbestos (asbestos-free) materials. Specify the limits for each operating parameter within which the process will produce nonasbestos (asbestos-free) materials.

(5) The length of the test.

(c) During the initial 90 days of operation,

(1) Continuously monitor and log the operating parameters identified during start-up performance tests that are intended to ensure the production of nonasbestos (asbestos-free) output material.

(2) Monitor input materials to ensure that they are consistent with the test feed materials described during start-up performance tests in paragraph (b)(1) of this section.

(3) Collect and analyze samples, taken as 10-day composite samples (one 200-gram (7-ounce) sample collected every 8 hours of operation) of all output material for the presence of asbestos. Composite samples may be for fewer than 10 days. Transmission electron microscopy (TEM) shall be used to analyze the output material for the presence of asbestos. During the initial 90-day period, all output materials must be stored on-site until analysis shows the material to be asbestos-free or disposed of as asbestos-containing waste material according to § 61.150.

(d) After the initial 90 days of operation,

(1) Continuously monitor and record the operating parameters identified during start-up performance testing and any subsequent performance testing. Any output produced during a period of deviation from the range of operating conditions established to ensure the production of nonasbestos (asbestos-free) output materials shall be:

(i) Disposed of as asbestos-containing waste material according to § 61.150, or

(ii) Recycled as waste feed during process operation within the established range of operating conditions, or

(iii) Stored temporarily on-site in a leak-tight container until analyzed for asbestos content. Any product material that is not asbestos-free shall be either disposed of as asbestos-containing waste material or recycled as waste feed to the process.

(2) Collect and analyze monthly composite samples (one 200-gram (7-ounce) sample collected every 8 hours of operation) of the output material. Transmission electron microscopy shall be used to analyze the output material for the presence of asbestos.

(e) Discharge no visible emissions to the outside air from any part of the operation, or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(f) Maintain records on-site and include the following information:

(1) Results of start-up performance testing and all subsequent performance testing, including operating parameters, feed characteristic, and analyses of output materials.

(2) Results of the composite analyses required during the initial 90 days of operation under § 61.155(c).

(3) Results of the monthly composite analyses required under § 61.155(d).

(4) Results of continuous monitoring and logs of process operating parameters required under § 61.155 (c) and (d).

(5) The information on waste shipments received as required in § 61.154(e).

(6) For output materials where no analyses were performed to determine the presence of asbestos, record the name and location of the purchaser or disposal site to which the output materials were sold or deposited, and the date of sale or disposal.

(7) Retain records required by paragraph (f) of this section for at least 2 years.

(g) Submit the following reports to the Administrator:

(1) A report for each analysis of product composite samples performed during the initial 90 days of operation.

(2) A quarterly report, including the following information concerning activities during each consecutive 3-month period:

(i) Results of analyses of monthly product composite samples.

(ii) A description of any deviation from the operating parameters established during performance testing the duration of the deviation, and steps taken to correct the deviation.

(iii) Disposition of any product produced during a period of deviation, including whether it was recycled, disposed of as asbestos-containing waste material, or stored temporarily on-site until analyzed for asbestos content.

(iv) The information on waste disposal activities as required in § 61.154(f).

(h) Nonasbestos (asbestos-free) output material is not subject to any of the provisions of this subpart. Output materials in which asbestos is detected, or output materials produced when the operating parameters deviated from those established during the start-up performance testing, unless shown by TEM analysis to be asbestos-free, shall be considered to be asbestos-containing waste and shall be handled and disposed of according to §§ 61.150 and 61.154 or reprocessed while all of the established operating parameters are being met.

19. Section 61.156 is added to subpart M to read as follows:

§ 61.156 Cross-reference to other asbestos regulations.

In addition to this subpart, the regulations referenced in Table 1 also apply to asbestos and may be applicable to those sources specified in §§ 61.142 through 61.151, 61.154, and 61.155 of this subpart. These cross-references are presented for the reader's information and to promote compliance with the cited regulations.

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20. Section 61.157 is added to subpart M to read as follows:

§ 61.157 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 112(d) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities that will not be delegated to States:

(1) Section 61.149(c)(2)

(2) Section 61.150(a)(4)

(3) Section 61.151(c)

(4) Section 61.152(b)(3)

(5) Section 61.154(d)

(6) Section 61.155(a).

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TABLE 1.—CROSS-REFERENCE TO OTHER ASBESTOS REGULATIONS

Agency	CFR citation	Comment
EPA	40 CFR 763, Subpart E, F	Requires schools to inspect for asbestos and implement response actions and submit asbestos management plans to States. Specifies use of accredited inspectors, air sampling methods, and waste disposal procedures.
	40 CFR 427	Effluent standards for asbestos manufacturing source categories.
	40 CFR 763, Subpart G	Protects public employees performing asbestos abatement work in States not covered by OSHA asbestos standard.
OSHA	29 CFR 1910.1001	Worker protection measures—engineering controls, worker training, labeling, respiratory protection, bagging of waste, 0.2 f/cc permissible exposure level.
	29 CFR 1926.58	Worker protection measures for all construction work involving asbestos, including demolition and renovation—work practices, worker training, bagging of waste, 0.2 f/cc permissible exposure level.
MSHA	30 CFR 56, Subpart D	Specifies exposures limits, engineering controls, and respiratory protection measures for workers in surface mines.
	30 CFR 57, Subpart D	Specifies exposure limits, engineering controls, and respiratory protection measures for workers in underground mines.
DOT	49 CFR 171 and 172	Regulates the transportation of asbestos-containing waste material. Requires waste containment and shipping papers.

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Part IV

Department of Health and Human Services

Food and Drug Administration

21 CFR Part 872 et al.

Medical Devices; Classification of 70 Electromedical Devices; Final Rule

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