UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

204

DATE: MAR 30 1992

SUBJECT: Lenox China HSWA Draft Permit

FROM: Christine J. McCulloch
Assistant Regional Counsel

TO: Andrew Park
Hazardous Waste Facilities Branch

The following statements should reflect our March 6, 1992 review of the Lenox China Draft HSWA permit and my original comments to HWFB in July 1991 concerning this draft permit.

1. Glaze Basin & Slip Basin

In my original comments I indicated that EPA has a mandate to review all units that might be subject to corrective action. In particular, I was concerned that the Glaze and Slip Basins (regulated RCRA units) were not designated SWMU's under the HSWA permit. During our March 6th discussion you clarified this matter; both units are currently being monitored[1] and the data submitted to the state has indicated that there is no contamination of the area due to these units.

You further indicated that though there is no measurable contamination from these units,[2] the draft permit was revised so that the permittee will provide EPA with all data and information on the closure of the Slip Basin. This will hopefully alert EPA to any change in the status of this unit and provide the Agency with an opportunity to re-evaluate this unit if needed. (i.e. the need for corrective action).

2. Definition of SWMU

You indicated that the definition in the permit is used by the Region in all its HSWA permits, though it differs from the definition that appears in the proposed corrective action rule. The definition used by the Region is more "specific" while the proposed definition is more "open". As I explained, the Regional definition could be "limiting" at a future date, but currently poses no problem. It was concluded that the current Regional definition for SWMU will appear in the draft HSWA permit.

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[1]The Slip Basin is in the process of being closed. The Glaze Basin has undergone closure (certified) and is currently subject to ground water monitoring. The state will be issuing a post-closure permit for the Slip Basin.

[2] The state has indicated to HWFB, verbally, that the ground water monitoring data has indicated that there is no ground water contamination due to these two regulated units.

3. Modification Section of Module VII ?

The revised modification section (drafted Summer 1992) has been incorporated into this draft HSWA permit.

4. Module VII Revisions ?

The revised draft HSWA permit did not incorporate ORC comments for Section E of Module VII. As I indicted to you on March 6th the current permit language is under. I drafted proposed language; however, HWFB did not revise the sections at issue. I do not care if HWFB uses my proposed language or not, but a change is needed to the text to clarify the conditions. Please make the change before the permit goes final.

FACT SHEET

Permittee: Lenox China, a Division of Lenox, Incorporated
Tilton Road
Pomona, New Jersey 08240

Facility Location: Lenox China, a Division of Lenox, Incorporated
Tilton Road, Pomona,
Atlantic County, New Jersey 08240

EPA I.D. Number: NJD002325074

BACKGROUND

The Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act ("RCRA") and the Hazardous and Solid Waste Amendments of 1984 ("HSWA"), codified at 42 U.S.C. § 6901 et. seq. ("the Act") empowers, under Section 3005 of the Act, the United States Environmental Protection Agency ("EPA") to establish a permit program for hazardous waste treatment, storage, and disposal ("TSD") facilities.

Under Section 3006 of the Act, 42 U.S.C. § 6926, EPA may, if certain criteria are met, authorize a state to operate a hazardous waste program in lieu of the Federal program. Although the State of New Jersey ("NJ") was granted final authorization to operate its hazardous waste program on February 21, 1985, this authorization specifically excluded state administration of the new requirements and prohibitions imposed by HSWA. By the expressed terms of Section 3006(g) of the Act, 42 U.S.C. § 6926(g), the new HSWA provisions take effect in all states, authorized or unauthorized, simultaneously. Until EPA formally authorizes a state to implement the HSWA provisions, along with the other elements of the state hazardous waste program, EPA will implement the HSWA provisions, including the issuance of full or partial facility permits.

Until EPA authorizes NJ to administer the provisions in HSWA, NJ shall issue the non-HSWA portion of the RCRA permit and EPA will issue the HSWA portion of the permit. Only when both portions are issued, will the applicant be deemed to have a full RCRA permit.

The permit which EPA is proposing constitutes the HSWA portion of the RCRA permit.

FACILITY DESCRIPTION

The facility (Lenox China, a Division of Lenox, Incorporated) is located on Tilton Road, in Pomona, Atlantic County, New Jersey on fifty six (56) acres of land. The facility has been manufacturing since 1954 ceramic dinnerware and giftware. The dinnerware includes fine china and casual dinnerware, and the giftware includes vases, bowls, serving pieces, candy dishes, and special collections. Processes involved in the manufacture of the products are blending of earthen clay and alumino-silicates, molding and plastering, firing, coating and glazing with glass formed from lead compounds, and etching to add patterns and designs.

GENERATION AND MANAGEMENT OF WASTES

The coating and glazing process generates lead-containing wastewater. The wastewater is discharged to the on-site industrial waste treatment plant for treatment. The sludge generated from the industrial waste treatment plant is dewatered and sent off-site for disposal. The treated wastewater is discharged to a surface water course through the point source permitted by the New Jersey Department of Environmental Protection and Energy (NJDEPE) under the New Jersey Pollution Discharge Elimination System (NJPDES)/Discharge to Surface Water (DSW). The industrial waste treatment plant has been upgraded twice. The oldest industrial waste treatment plant (1954-1970) consisted of the Glaze Basin, the Slip Basin, and the Tilton Road Pond. The next industrial waste treatment plant (1970-1987) consisted of the Slip Basin, Equalization Sump, the Clarifier, Vacuum Filter, the Polishing Lagoon, and the Tilton Road Pond. The present industrial waste treatment plant consists of New Sump, the Surge Tank, the Clarifiers, Vacuum Filter, the Polishing Lagoon, and the Tilton Road Pond.

The etching process uses trichloroethylene as a degreaser and generates sludges containing trichloroethylene. The sludge is collected in a drum located in the degreaser sludge pit outside the production process building. Once the drum at the degreaser sludge pit is filled, the drum is removed by a forklift to the drum storage area. Drums containing the sludge are stored in the drum storage area and eventually are sent off-site for disposal.

RCRA REGULATED UNITS AND THEIR STATUS

The Glaze basin and the Slip Basin are RCRA regulated units and are subject to the State-delegated RCRA program. The Glaze Basin and the Slip Basin were closed in 1988 and in 1990 respectively. NJDEPE issued a permit in July 1990 to require post-closure groundwater monitoring for the Glaze Basin. Post-closure care requirements for the Slip Basin will be required by the post-closure permit to be jointly issued by the NJDEPE with this HSWA

permit. The drum storage area was subject to permit requirements but was closed and decontaminated. It is currently being used to store hazardous waste less than 90 days. The waste in the storage area is eventually sent off-site for disposal.

GROUNDWATER

The groundwater underlying parts of the facility is contaminated with trichloroethylene. The investigations conducted by Lenox China show that the groundwater contamination might have been caused by releases from the drum storage area and the degreaser sludge pit. Furthermore, the facility has conducted studies to determine measures available for the remediation of the contaminated groundwater. This HSWA permit and the post-closure permit to be jointly issued by NJDEPE will require, if determined necessary, the Permittee to implement the remedial measures for the contaminated groundwater.

RCRA FACILITY ASSESSMENT SUMMARY

Section 3004(u) of the Act, 42 U.S.C. § 6924(u) and its corresponding regulations published in 40 C.F.R. § 264.101 require corrective action for all releases of hazardous wastes or hazardous constituents from any solid waste management unit ("SWMU"), regardless of when wastes were placed in the unit. The corrective action implementation process includes a RCRA Facility Assessment ("RFA"), a RCRA Facility Investigation ("RFI"), a Corrective Measures Study ("CMS"), and a Corrective Measures Implementation ("CMI") phase.

The RFA for the Pomona, New Jersey Lenox China facility was a two-phase study which included a Preliminary Review ("PR") and a Visual Site Inspection ("VSI"). EPA and NJDEPE completed the PR report in January 1986. A VSI was conducted on January 8, 1986, during which all of the previously discovered SWMUs were observed. Based on the PR and VSI, the SWMUs were characterized as to their release potential and evaluated as to which media could potentially be impacted by such potential releases.

The PR, VSI and other inspections conducted at the site by EPA or NJDEPE were considered in the preparation of the RFA report for Lenox China. The RFA report, completed by EPA with support of NJDEP in March 1989, recommends assessment of potential releases for seven SWMUs and further investigative actions for four SWMUs. The RFA report is available for review at U.S. EPA Region II, Permits Administration Branch, Room 505, 26 Federal Plaza, New York, New York 10278.

HSWA PERMIT

This HSWA permit requires the Permittee to:

1. Determine the nature, extent, direction, and rate of migration of hazardous waste, including hazardous constituents, in soils, groundwater, surface water/sediment, subsurface gas and/or air at any solid waste management unit(s) at the facility regardless of the time waste was placed in such unit, and to develop appropriate corrective action for any such releases;

2. Certify annually that the generation of hazardous waste is minimized to the extent practicable and submit and implement a hazardous waste reduction plan;

3. Comply with the land disposal restrictions;

4. Comply with the organic air emission standards for process vents and equipment leaks in accordance with the HSWA regulations promulgated on July 21, 1990;

5. Comply with the Toxicity Characteristic standards in accordance with the regulations promulgated on March 29, 1990; and

6. Comply with any other applicable statutory or regulatory requirements imposed pursuant to RCRA and HSWA.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984 PERMIT

Permittee: Lenox China, a Division of Lenox, Incorporated
Tilton Road
Pomona, New Jersey 08240

I.D. Number: NJD002325074
Effective Date: Draft
Expiration Date: Draft

This permit is issued by the United States Environmental Protection Agency ("EPA" or "Agency") under authority of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act ("RCRA") of 1976, and the Hazardous and Solid Waste Amendments ("HSWA") of 1984, 42 U.S.C. §§ 6901-6991 (the "Act") and EPA regulations promulgated pursuant thereto, to Lenox China, a Division of Lenox, Incorporated (hereafter called the "Permittee"), to operate a hazardous waste management facility located at Pomona, New Jersey.

In accordance with HSWA, this permit requires the Permittee to:

1. Determine the nature, extent, direction, and rate of migration of hazardous waste, including hazardous constituents, in soils, groundwater, surface water/sediment, subsurface gas and/or air at any solid waste management unit(s) at the facility regardless of the time waste was placed in such unit, and to develop appropriate corrective action for any such releases;

2. Certify annually that the generation of hazardous waste is minimized to the extent practicable, and submit and implement a hazardous waste reduction plan;

3. Comply with the land disposal restrictions;

4. Comply with the organic air emission standards for process vents and equipment leaks in accordance with the HSWA regulations promulgated on July 21, 1990;

5. Comply with the Toxicity Characteristic standards in accordance with the regulations promulgated on March 29, 1990; and

6. Comply with any other applicable statutory or regulatory requirements imposed pursuant to RCRA and HSWA.

This permit, in conjunction with the State post-closure permit to be jointly issued by the New Jersey Department of Environmental Protection and Energy ("NJDEPE" or the "Department") under the New Jersey Pollution Discharge Elimination System (NJPDES)/ Discharge to Groundwater (DGW), constitutes the full RCRA post-closure permit for this facility.

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The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (Module I, pages 1 through 13; Module II, pages 1 through 3; Module III, pages 1 through 28; Module IV, page 1 through 2; Module V, pages 1 through 2; Module VI, page 1; Module VII, page 1, and the following appendices: Appendix A, Appendix B, Appendix C, and Appendix D) and the applicable regulations contained in 40 C.F.R. Parts 124, 260 through 264, 268, and 270 as specified in the permit. Applicable regulations are those which are in effect on the date of issuance of this permit, except as provided in 40 C.F.R. § 124.86(c) for RCRA permits being processed under Subpart E or F of Part 124 (see 40 C.F.R. § 270.32(c)). A permit may be modified, however, to incorporate new regulations pursuant to 40 C.F.R. § 270.41(a)(3) and 40 C.F.R. § 270.32 (c).

This permit is based on the assumption that the information provided in Permittee's applications, and all succeeding revisions and data submissions, is accurate. The Permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the Permittee's misrepresentation of any relevant facts at any time may be grounds for the termination, revocation and reissuance, or modification of this permit (see 40 C.F.R. §§ 270.41, 270.42 and 270.43) and potential enforcement action. The Permittee must inform EPA of any deviation from or changes in the information which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

This permit is effective as of ___Draft___ and shall remain in effect until ___Draft___ unless revoked and reissued, modified or terminated in accordance with 40 C.F.R. §§ 270.41, 270.42 or 270.43, or continued in accordance with 40 C.F.R. § 270.51(a).

_____ _____

Constantine Sidamon-Eristoff Date
Regional Administrator
United States Environmental Protection Agency
Region II

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MODULE I - STANDARD CONDITIONS

A. EFFECT OF PERMIT. This Permit authorizes only the management of hazardous waste expressly described in this Permit and does not authorize any other activities. Compliance with the terms of this Permit constitutes compliance, for purposes of enforcement with Subtitle C ("Hazardous Waste Management") of the Act. Issuance of this Permit does not convey any property rights of any sort, or any exclusive privilege; nor does it authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local laws or regulations. 40 C.F.R. §§ 270.4, 270.30(g). Compliance with the terms of this Permit does not constitute a defense to any action brought under Sections 3013, 3008(h) or 7003 of the Act (42 U.S.C. §§ 6934, 6928(h), and 6973), Sections 106(a), 104, 107 and/or 122 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") of 1980 (42 U.S.C. §§ 9601 et seq.), as amended, or any other law and corresponding regulations governing protection of public health and the environment.

B. PERMIT ACTIONS. This Permit may be modified, revoked and reissued, or terminated for cause as specified in 40 C.F.R. §§ 270.41, 270.42 and 270.43. The filing of a request for a permit modification, revocation and reissuance, termination the notification of planned changes, anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any condition of this Permit. 40 C.F.R. §270.30(f). Review of any application for a permit renewal shall consider improvements in the state of control and measurement technology, as well as changes in applicable regulations.

C. PERMIT CONDITIONS. Pursuant to Section 3005(c)(3) of the Act, 42 U.S.C. § 6925(c)(3), promulgated as regulation 40 C.F.R. § 270.32(b), this Permit contains those terms and conditions the Regional Administrator determines necessary to protect human health and the environment. If not otherwise specified in this Permit, all the requirements of 40 C.F.R. §§ 270.30, 270.31, 270.32 and 270.33 are hereby incorporated into this Permit by reference.

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D. PERMIT SUBMITTALS.

1. Effect of Permit. All plans, reports and schedules required by the terms of this Permit are, upon approval by EPA, except as otherwise noted in this Permit where approval is not required, incorporated by reference into this Permit. Upon incorporation, the provisions of each such document shall be binding upon Permittee and have the same legal force and effect as the requirements of this Permit.

2. Submittal Modifications. Permittee shall submit draft plans and reports required by this Permit to EPA for review and comment. Unless otherwise specified, EPA shall review any plan, report, specification or schedule submitted pursuant to, or required by this Permit, and provide its written approval/disapproval, comments and/or modifications to the Permittee. Unless otherwise specified by EPA, the Permittee shall submit a revised proposal within thirty (30) calendar days of its receipt of EPA's written comments and/or modifications. Any such revised proposal submitted by the Permittee shall incorporate EPA's comments and/or modifications. EPA will then approve the revised proposal or modify the proposal and approve it with any such modifications. The revised proposal, as approved by EPA, shall become final. All final approvals shall be given to the Permittee in writing.

E. SEVERABILITY. The provisions of this Permit are severable, and if any provision of this Permit or the application of any provision of this Permit to any circumstance is stayed or held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby. 40 C.F.R. § 124.16(a).

F. DUTIES AND REQUIREMENTS.

1. Duty to Comply. The Permittee shall comply with all conditions of this Permit, except that the Permittee need not comply with the conditions of this Permit to the extent and for the duration such noncompliance is authorized in an emergency permit (see 40 C.F.R. § 270.61). Any noncompliance with this Permit, except under the terms of an emergency permit, constitutes a violation of the Act and is grounds for: 1) an enforcement action; 2) permit termination, revocation and reissuance, modification; or 3) denial of a permit renewal application. 40 C.F.R. § 270.30(a).

2. Duty to Reapply. If the Permittee wishes to continue an activity regulated by this Permit after the expiration date of this Permit, the Permittee shall submit a complete application for a new permit at least one hundred and eighty (180) days before this Permit expires, unless the Regional Administrator grants permission for a later date which is not later than the expiration date of the existing permit. 40 C.F.R. §§ 270.10(h) and 270.30(b).

3. Permit Expiration and Continuation. This Permit will be in effect for the time period stated on page i, which must not exceed ten (10) years. Each permit for a land disposal facility shall be reviewed by the Regional Administrator five (5) years after the date of permit issuance or reissuance and shall be modified as necessary, as provided in 40 C.F.R. § 270.41 (40 C.F.R. § 270.50). However, as set forth in 40 C.F.R. § 270.51, as long as EPA is the permit issuing authority for HSWA, this Permit and all conditions herein will remain in effect beyond this Permit's expiration date if the Permittee has submitted a timely, complete application (40 C.F.R. §§ 270.13 through 270.23 and 270.10) and through no fault of the Permittee, the Regional Administrator has not issued a new permit as set forth in 40 C.F.R. § 124.15.

   If the State, at the time of permit renewal, has permitting authority under 40 C.F.R. Part 271 for HSWA, and if the Permittee has submitted a timely and complete application under State law and regulations, the terms and conditions of this Permit continue in force beyond the expiration date of the Permit, but only until the effective date of the State's issuance or denial of a State permit which includes measures pursuant to HSWA.

4. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit. 40 C.F.R. § 270.30(c).

5. Duty to Mitigate. In the event of noncompliance with this Permit, the Permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment. 40 C.F.R. § 270.30(d).

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6. Proper Operation and Maintenance. The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Permit. 40 C.F.R. § 270.30(e).

7. Duty to Provide Information. The Permittee shall furnish to the Regional Administrator, within a reasonable time, any relevant information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittee shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this Permit. 40 C.F.R. §§ 270.30(h) and 264.74(a).

8. Inspection and Entry. The Permittee shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

   a. Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;

   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;

   c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

   d. Sample or monitor, at reasonable times, for the purposes of assuring compliance with this Permit or as otherwise authorized, any substances or parameters at any location.

   40 C.F.R. §§ 270.30(i)(1-4) and 264.74(a).

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9. Monitoring and Records.

a. Representativeness of Samples and Measurements. Samples and measurements taken for the purpose of monitoring all media shall be representative of the monitored activity. 40 C.F.R. § 270.30(j)(1). The method used to obtain a representative sample of the waste or environmental media to be analyzed must be the appropriate method from Appendix I of 40 C.F.R. Part 261 or an equivalent method approved by the Regional Administrator. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (EPA Publication SW-846, as currently amended), or an equivalent method approved by the Regional Administrator. 40 C.F.R. §§ 260.21 and 270.6.

b. Quality Assurance Program. The Permittee shall conduct a quality assurance program to ensure that the monitoring data are technically accurate and statistically valid. The quality assurance program shall be in accordance with Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (EPA Publication SW-846, as currently amended) and other requirements specified in this Permit and approved by EPA. 40 C.F.R. §§ 270.30(e) and 270.6.

c. Minimum QA/QC Submittals. The minimum Quality Assurance/Quality Control data and information that shall be delivered with all sample analyses required by this Permit are tabulated in Appendix D of this Permit.

d. Retention of Records. The Permittee shall retain, for the effective term of this Permit, all records and data used to complete the application for this Permit. 40 C.F.R. §§ 270.10(i) and 270.30(j)(2).

The Permittee shall also retain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and for disposal facilities for the post-closure care period as well. 40 C.F.R. § 270.30(j)(2).

In addition the Permittee shall also retain records of all other media monitoring, if required, including calibration and maintenance records and all original strip chart recordings for continuous air monitoring instrumentation, copies of all reports and records required by this Permit, and the certification required by 40 C.F.R. § 264.73(b)(9), for the life of the facility. 40 C.F.R. § 270.30(j)(2). These periods may be extended by requests of the Regional Administrator at any time and are automatically extended during the course of unresolved enforcement action regarding the facility.

Records to be kept for the active life of the facility include only raw data (i.e., laboratory and field measurements) results. QA/QC data validation records need only be kept for the effective term of this Permit.

e. Contents of Monitoring Records. Records for monitoring information shall include:

i. The date, exact place, and time of sampling or measurements;

ii. The individual(s) who performed the sampling or measurements;

iii. The date(s) analyses were performed;

iv. The individual(s) who performed the analyses;

v. The sampling techniques or methods used;

vi. The analytical techniques or methods used; and

vii. The results of such analyses.

40 C.F.R. § 270.30(j).

f. Monitoring Reports. Monitoring results must be reported at the intervals specified elsewhere in this Permit. 40 C.F.R. § 270.30(l)(4).

10. Reporting Planned Changes. The Permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility. 40 C.F.R. § 270.30(l)(1).

11. Anticipated Noncompliance. The Permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with this Permit's requirements. This notice must include a description of all incidents of noncompliance reasonably expected to result from the proposed changes. 40 C.F.R. § 270.30(l)(2).

12. Transfer of Permit. This Permit is not transferable to any person unless notice has been given to the Regional Administrator and this Permit has been modified, or revoked and reissued, or a modification made to identify the new permittee and to incorporate such other requirements as may be necessary. 40 C.F.R. §§ 270.30(l)(3) and 270.40.

13. Compliance Schedules. Reports of compliance or noncompliance with or any progress reports on, interim and/or final requirements contained in any compliance schedule of this Permit shall be submitted no later than fourteen (14) calendar days following each schedule date. 40 C.F.R. §§ 270.30 (l)(5) and 270.33(a)(3).

    The Permittee shall comply with all parts of the Compliance Schedule included in Appendix C of this Permit.

14. Immediate Reporting of Releases.

    a. Whenever there is an imminent or actual emergency situation, the emergency coordinator as designated in the contingency plan (or a designee when the emergency coordinator is on call) must immediately:

        i. Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

        ii. Notify appropriate State or local agencies with designated response roles if their help is needed.

        40 C.F.R. §264.56(a)(1-2).

    b. If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, the coordinator must report the findings as follows:

i. If the coordinator's assessment indicates that evacuation of local areas may be advisable, she/he must immediately notify appropriate local authorities. She/he must be available to help appropriate officials decide whether local areas should be evacuated; and

ii. The coordinator must immediately notify either the government official designated as the on-scene coordinator for that geographical area in the applicable regional contingency plan or the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include:

(1) Name and telephone number of reporter;

(2) Name and address of facility;

(3) Time and type of incident (e.g., release, fire);

(4) Name and quantity of material(s) involved, to the extent known;

(5) The extent of injuries, if any; and

(6) The possible hazards to human health, or the environment, outside the facility.

40 C.F.R. § 264.56(d).

15. Twenty-four Hour Reporting.

a. The Permittee shall orally report to the Regional Administrator any noncompliance with this Permit which may endanger health or the environment within 24 hours from the time the Permittee becomes aware of the circumstances, including:

i. Information concerning the release of any hazardous waste, including hazardous constituents, that may cause an endangerment to public drinking water supply sources;

ii. Any information of a release or discharge of hazardous waste, including hazardous constituents, or a fire or explosion at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence

and its cause shall include:

(1) Name, address, and telephone number of the owner or operator;

(2) Name, address, and telephone number of the facility;

(3) Date, time, and type of incident;

(4) Name and quantity of material(s) involved;

(5) The extent of injuries, if any;

(6) An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and

(7) Estimated quantity and disposition of recovered material that resulted from the incident.

40 C.F.R. § 270.30(l)(6)(i-ii).

b. A written submission shall also be provided to the Regional Administrator within five (5) calendar days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times; and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Permittee need not comply with the 5-day written notice requirement if the Regional Administrator waives that requirement in favor of a written report within fifteen (15) calendar days of the time the Permittee becomes aware of the circumstances. 40 C.F.R. § 270.30(l)(6)(iii).

16. Additional Noncompliance Reporting. The Permittee shall report all instances of noncompliance not required to be reported under Module I, Conditions F.9.f, F.13 or F.15. Such additional noncompliance shall be reported at the time monitoring and noncompliance reports are submitted. The reports shall contain the information listed in Module I, Condition F.15, and all other relevant information. 40 C.F.R. §

270.30(1)(10).

17. Other Information. Whenever the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Regional Administrator, the Permittee shall promptly submit such new or correct facts or information to the Regional Administrator. 40 C.F.R. § 270.30(1)(11).

G. DOCUMENTS TO BE MAINTAINED AT THE FACILITY. The Permittee shall maintain at the facility all documents required by this Permit, and amendments, revisions and modifications to these documents.

H. REPORTS, NOTIFICATIONS AND SUBMISSIONS TO THE REGIONAL ADMINISTRATOR. All reports, notifications or other submittals required by this Permit are to be submitted to the Regional Administrator unless otherwise directed in this Permit and sent certified mail or given to:

Two (2) copies:

United States Environmental Protection Agency
Air and Waste Management Division
Hazardous Waste Facilities Branch
Region II
26 Federal Plaza
New York, New York 10278

Copies shall also be sent to the following addresses:

One (1) copy:

United States Environmental Protection Agency
Office of Policy and Management
Permits Administration Branch
Region II
26 Federal Plaza
New York, New York 10278

One (1) copy:

New Jersey Department of Environmental Protection
Hazardous Waste Regulation Element
Bureau of Hazardous Waste Engineering
33 Arctic Parkway
CN-028
Trenton, New Jersey 08624

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One (1) copy:

New Jersey Department of Environmental Protection
Ground Water Quality Element
Bureau of Groundwater Pollution Abatement
401 East State Street
Cn-029
Trenton, New Jersey 08625

I. SIGNATORY REQUIREMENTS. All reports, or information submitted to the Regional Administrator shall be signed and certified in accordance with 40 C.F.R. §§270.11. 40 C.F.R. § 270.30(k).

J. CONFIDENTIAL INFORMATION. The Permittee may claim confidential any information required to be submitted by this Permit in accordance with 40 C.F.R. § 270.12 and 40 C.F.R. Part 2, Subpart B.

K. PERMIT MODIFICATION. This Permit may be modified as allowed under 40 C.F.R. §§ 270.41 and 270.42, or as specified in Conditions E.9 and E.10 of Module III of this Permit. Modifications to this Permit may be made by the Regional Administrator for cause in accordance with 40 C.F.R. § 270.41. Modifications to this Permit may also be requested by the Permittee as is provided for in 40 C.F.R. § 270.42.

L. DEFINITIONS. For the purpose of this Permit, terms used herein shall have the same meaning as those set forth in 40 C.F.R. Parts 260 through 270, unless this Permit specifically states otherwise; where terms are not otherwise defined, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

1. Action Levels. For purposes of this Permit, action levels are hazardous constituent concentrations that are protective of human health or the environment. Where available, action levels are based on appropriate promulgated standards established for a specific environmental medium. When such promulgated standards are not available, action levels are media specific, hazardous constituent concentrations derived from non-promulgated human health-based levels and environmental -based levels. An action level may be set at the background level for a hazardous constituent for which data are inadequate to set a human health or environmental health-based level.

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2. Area of Concern (AOC). Pursuant to the authority granted by 40 C.F.R. § 270.32(b)(2), an area of concern is hereby defined for purposes of this permit to mean an area at the facility or an off-site area, which is not at this time known to be a solid waste management unit (SWMU), where hazardous waste and/or hazardous constituents are present or are suspected to be present as a result of a release from the facility. The term shall include area(s) of potential or suspected contamination as well as actual contamination. Such area(s) may require study and a determination of what, if any corrective action may be necessary. All permit references to, and conditions for SWMUs shall also apply to areas of concern.

3. EPA. The United States Environmental Protection Agency.

4. Facility. All contiguous land, structures, other appurtenances, and improvements on the land used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments or combination of them). For the purposes of implementing Corrective Action "Facility" means all contiguous property under the control of the owner or operator seeking a permit under Subtitle C of RCRA.

5. Hazardous Constituents. Those constituents identified in Appendix VIII of 40 CFR Part 261, or any constituent identified in Appendix IX of 40 CFR Part 264.

6. Hazardous Waste. For the purposes of Corrective Action and SWMUs, hazardous waste means a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. The term hazardous waste includes hazardous constituents as defined above and hazardous waste listed and identified in 40 C.F.R. § 261.3.

7. Regional Administrator. The Regional Administrator of the United States Environmental Protection Agency for Region II, his designee or authorized representative.

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8. Release. For purposes of this Permit release includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents), of any hazardous waste, including hazardous constituent, unless expressly authorized under the terms of this Permit.

9. Solid Waste Management Unit (SWMU). A SWMU includes any discernible waste management unit from which solid and/or hazardous waste, including hazardous constituents, have migrated or may migrate, irrespective of whether the unit was intended for the management of hazardous or solid wastes as those terms are defined in § 1004(5) and (27) of RCRA, 42 U.S.C. § 6903(5) and (27) and in 40 C.F.R. §§ 261.2 and 261.3. These units include, but are not limited to: landfills, surface impoundments, waste piles, land treatment units, tanks, elementary neutralization units, transfer stations, container storage areas, incinerators, injection wells, recycling units, and closed and abandoned units. Certain areas associated with production processes which have become contaminated as a result of routine, and systematic releases of wastes, or hazardous constituents from wastes, are also considered SWMUs. All permit references to, and conditions for SWMUs shall also apply to AOCs.

M. DISPUTE RESOLUTION. The Permittee shall use its best efforts to informally and in good faith resolve all disputes or differences of opinion. If, however, disputes arise concerning submissions required under this Permit, including, but not limited to, implementation of any plans, approval of documents, scheduling of any of the work, selection, performance or completion of any corrective action, or any other obligation required under this Permit, the Permittee shall notify EPA immediately of such disputes and, within thirty (30) calendar days of notification, the Permittee shall submit a written statement to the EPA, that argues its position. The written argument shall set forth the Permittee's specific points of contention; the Permittee's position and reason for its position; and any additional matters that the Permittee considers necessary or relevant for the EPA's determination. If the dispute cannot be resolved informally within sixty (60) calendar days of EPA receipt of the written argument, EPA will provide the Permittee its decision on the dispute which shall be incorporated into this Permit.

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MODULE II - FACILITY DESCRIPTION

A. GENERAL DESCRIPTION

The facility (Lenox China, a Division of Lenox, Incorporated) is located on Tilton Road, in Pomona, Atlantic County, New Jersey on fifty six (56) acres of land. The facility has been manufacturing since 1954 ceramic dinnerware and giftware. The dinnerware includes fine china and casual dinnerware, and the giftware includes vases, bowls, serving pieces, candy dishes, and special collections. Processes involved in the manufacture of the products are blending of earthen clay and alumino-silicates, molding and plastering, firing, coating and glazing with glass formed from lead compounds, and etching to add patterns and designs.

B. GENERATION AND MANAGEMENT OF WASTES

The coating and glazing process generates lead-containing wastewater. The wastewater is discharged to the on-site industrial waste treatment plant for treatment. The sludge generated from the industrial waste treatment plant is dewatered and sent off-site for disposal. The treated wastewater is discharged to a surface water course through the point source permitted by the New Jersey Department of Environmental Protection and Energy (NJDEPE) under the New Jersey Pollution Discharge Elimination System (NJPDES)/Discharge to Surface Water (DSW). The industrial waste treatment plant has been upgraded twice. The oldest industrial waste treatment plant (1954-1970) consisted of the Glaze Basin, the Slip Basin, and the Tilton Road Pond. The next industrial waste treatment plant (1970-1987) consisted of the Slip Basin, Equalization Sump, the Clarifier, Vacuum Filter, the Polishing Lagoon, and the Tilton Road Pond. The present industrial waste treatment plant consists of New Sump, the Surge Tank, the Clarifiers, Vacuum Filter, the Polishing Lagoon, and the Tilton Road Pond.

The etching process uses trichloroethylene as a degreaser and generates sludges containing trichloroethylene. The sludge is collected in a drum located in the degreaser sludge pit outside the production process building. Once the drum at the degreaser sludge pit is filled, the drum is removed by a forklift to the drum storage area. Drums containing the sludge are stored in the drum storage area and eventually are sent off-site for disposal.

C. RCRA REGULATED UNITS AND THEIR STATUS

The Glaze Basin and the Slip Basin are RCRA regulated units and are subject to the State-delegated RCRA program. The Glaze Basin and the Slip Basin were closed in 1988 and in 1990 respectively. NJDEPE issued a permit in July 1990 to require post-closure groundwater monitoring for the Glaze Basin. Post-closure care

requirements for the Slip Basin will be required by the State post-closure permit to be jointly issued with this HSWA permit. The drum storage area was subject to permit requirements but was closed and decontaminated. It is currently being used to store hazardous waste less than 90 days. The waste in the storage area is eventually sent off-site for disposal.

D. GROUNDWATER

The groundwater underlying parts of the facility is contaminated with trichloroethylene. The investigations conducted by Lenox China show that the groundwater contamination might have been caused by releases from the drum storage area and the degreaser sludge pit. Furthermore, the facility has conducted studies to determine measures available for the remediation of the contaminated groundwater. This HSWA permit, with a State post-closure permit to be issued jointly by NJDEP for the Slip Basin, will require, if determined necessarey, the Permittee to implement the remedial measures for the contaminated groundwater.

E. RCRA FACILITY ASSESSMENT SUMMARY

Section 3004(u) of the Act, 42 U.S.C. § 6924(u) and its corresponding regulations published in 40 C.F.R. § 264.101 require corrective action for all releases of hazardous wastes or hazardous constituents from any solid waste management unit ("SWMU"), regardless of when wastes were placed in the unit. The corrective action implementation process includes a RCRA Facility Assessment ("RFA"), a RCRA Facility Investigation ("RFI"), a Corrective Measures Study ("CMS"), and a Corrective Measures Implementation ("CMI") phase.

The RFA for the Pomona, New Jersey Lenox China facility was a two-phase study which included a Preliminary Review ("PR") and a Visual Site Inspection ("VSI"). EPA and NJDEP completed the PR report in January 1986. A VSI was conducted on January 8, 1986, during which all of the previously discovered SWMUs were observed. Based on the PR and VSI, the SWMUs were characterized as to their release potential and evaluated as to which media could potentially be impacted by such potential releases.

The PR, VSI and other inspections conducted at the site by EPA or NJDEP were considered in the preparation of the RFA report for Lenox China. The RFA report, completed by EPA with support of NJDEP in March 1989, recommends assessment of potential releases for seven SWMUs and further investigative actions for four SWMUs. The RFA report is available for review at U.S. EPA Region II, Permits Administration Branch, Room 505, 26 Federal Plaza, New York, New York 10278.

F. PERMIT STATUS

In February 1985, NJDEP was authorized by EPA to implement the State hazardous waste RCRA program in lieu of the EPA's RCRA program. However, the State has not been delegated the program required by HSWA. Therefore, this HSWA permit, in conjunction with the post-closure permit to be issued by NJDEP, will constitute the full RCRA post-closure permit for the facility.

The State post-closure permit, to be jointly issued with this HSWA permit, requires post-closure care for the Slip Basin and groundwater monitoring. In addition, the State permit will also require implementation of a corrective action program similar to the one required by this HSWA permit.

G. HSWA PERMIT

This HSWA permit requires the Permittee to:

1. Determine the nature, extent, direction, and rate of migration of hazardous waste, including hazardous constituents, in soils, groundwater, surface water/sediment, subsurface gas and/or air at any solid waste management unit(s) at the facility regardless of the time waste was placed in such unit, and to develop appropriate corrective action for any such releases;

2. Certify annually that the generation of hazardous waste is minimized to the extent practicable and submit and implement a hazardous waste reduction plan;

3. Comply with the land disposal restrictions;

4. Comply with the organic air emission standards for process vents and equipment leaks in accordance with the HSWA regulations promulgated on July 21, 1990;

5. Comply with the Toxicity Characteristic standards in accordance with the regulations promulgated on March 29, 1990; and

6. Comply with any other applicable statutory or regulatory requirements imposed pursuant to RCRA and HSWA.

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MODULE III - CORRECTIVE ACTION REQUIREMENTS FOR SOLID WASTE MANAGEMENT UNITS

A. APPLICABILITY

1. Statute and Regulations. Section 3004(u) of the Act, 42 U.S.C. § 6924(u), and its corresponding regulations published in 40 C.F.R. § 264.101 require corrective action for all releases of hazardous wastes, including hazardous constituents, from any solid waste management unit ("SWMU") at a storage, treatment or disposal facility seeking a permit, regardless of the time at which waste was placed in such unit. Section 3004(v) of the Act, 42 U.S.C. § 6924(v) requires that corrective action be taken beyond the facility boundary where necessary to protect human health and the environment. Pursuant to Section 3005(c) of the Act, 42 U.S.C. § 6925(c), and its corresponding regulations published in 40 C.F.R. § 270.32(b)(2), the Regional Administrator may impose terms and conditions as the Administrator determines necessary to protect human health and the environment.

2. Summary of Corrective Action Process. Corrective action implementation authorized by Section 3004(u) of the Act, 42 U.S.C. § 6924(u) includes: (a) the RCRA Facility Assessment ("RFA"); (b) the RCRA Facility Investigation ("RFI"); and (c) the Corrective Measures ("CM"). The RFA is a three phase process that includes: (a) the Preliminary Review ("PR"); (b) the Visual Site Inspection ("VSI"); and (c) the Sampling Visit ("SV"). The PR is a review of all available information on the individual SWMU(s). During the PR, and in subsequent phases of the RFA, all of the media (i.e., soil, groundwater, surface water/sediment, air and subsurface gas) that could potentially be impacted by the release(s) of hazardous wastes, including hazardous constituents, are evaluated. Based on this review, the SWMUs are characterized as to their release potentials.

   Following the PR, a VSI is conducted during which all of the SWMUs, either previously or newly discovered, are observed. While performing this reconnaissance, any signs of spills or leakage, stained soil, stressed vegetation, unit deterioration, or any other conditions that may be indicative of a release are assessed. By means of these observations and the findings of the PR, EPA may require the facility to conduct a Sampling Visit at the areas where releases are suspected.

The SV can involve any or all of the previously described media at any given SWMU. For those units where releases are clearly demonstrated in the PR and/or VSI, the SV can be avoided leaving the unit(s) to be addressed in the RFI.

The RFA includes preparing the RFA report. This report includes the findings of the various RFA activities and recommendations for further action at those units with demonstrated releases of hazardous wastes, including hazardous constituents. In some cases, where an immediate threat to human health or the environment exists, interim corrective measures may be required.

If the RFA concludes that there is a need for further investigative work, the Permittee shall be required to pursue phase two of corrective action, an RFI. The purpose of the RFI is to determine the nature, extent, direction, and rate of migration of hazardous wastes, including hazardous constituents, in soils, groundwater, surface water/sediment, subsurface gas and/or air. Based on these multimedia analyses, the types and concentrations of contaminants present, the boundaries of any contamination (e.g., plumes), and the rate and direction of contaminant movement can be determined in each of the impacted media. Sufficient data shall be generated during the RFI to allow proper assessment of corrective measure alternatives. This may require bench and/or pilot studies to be implemented as part of the RFI. Once all these analyses are reviewed, a RFI report is prepared that provides a summation of the data and recommendations for any needed corrective measures.

The culmination of the Corrective Action Program is Corrective Measures ("CM"). The initial stage of the Corrective Measures phase is the preparation of a Corrective Measures Study ("CMS"). A CMS may be required if concentrations of hazardous constituents in an aquifer, in surface water/sediment, in soils, or in air exceed their action levels for any contaminated medium. Such a study may also be required if individual concentrations of hazardous constituents are at or below action levels, but still may pose a threat to human health or the environment due to site specific exposure conditions. The CMS will address alternative corrective measure strategies that are technologically feasible and reliable and which effectively mitigate and minimize damage to, and provides adequate protection of, human health and the environment. The Permittee will develop the site-specific CMS using target cleanup levels chosen by the Regional

Administrator to be protective of human health and the environment. Where available, they may be promulgated health-based standards, such as Maximum Contaminant Levels ("MCLs") established under the Safe Drinking Water Act. Where promulgated standards are not available, EPA may use other health-based levels, based on Risk-Specific Doses ("RSD") for carcinogens, and Reference Doses ("RfD") for systemic toxicants, or concentration levels protective of the environment, that have undergone scientific review. The CMS report should provide a discussion of the alternative corrective measure strategies studied, addressing technical, institutional, public health, and environmental issues, and develop the conceptual engineering for the alternative action selected by the facility. The CMS may not require extensive evaluation of a number of remedial alternatives where a solution is straight forward or if few solutions exist. Such situations could require the Permittee to submit a highly focused CMS.

Following completion of the CMS, the Regional Administrator will select the corrective measure(s) from the corrective measures evaluated in the CMS. The Regional Administrator will then initiate a permit modification for the selected corrective measure(s). Subsequent to the permit modification, the owner or operator of the facility will be required to demonstrate financial assurance for completing the approved corrective measure(s).

Permit modification for the approved corrective measure(s) will initiate the final stage of corrective measures, Corrective Measures Implementation ("CMI"). The CMI will address the final design, construction, operation, maintenance, and monitoring of the corrective measure or measures selected.

3. Solid Waste Management Units. The conditions of this Module apply to:

   a. All the SWMUs listed in this Module individually or in combinations;

   b. Any additional SWMUs identified during the course of groundwater monitoring, field investigations, environmental audits or other means as described in Module Condition C. below; and

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c. The following SWMUs identified by the RFA report dated March 1989. The descriptions below of the SWMUs and recommended actions to be required under the RFI are taken from the report:

SWMU		Media to be Investigated				
Name	Type*	GW*	Soil	SW/S*	Air	SS/G*
1. Degreaser Sludge Pit	S	Yes	Yes	No	No	No
2. Sludge Disposal Area	LD	Yes	Yes	No	No	No
3. Waste Pile	LD	Yes	Yes	No	No	No
4. Polishing Lagoon	LD	SWMU Assessment Necessary				
5. Tilton Road Pond	LD	SWMU Assessment Necessary				
6. Underground Effluent Transfer Pipe		SWMU Assessment Necessary				
7. Equalization Sump	Tank	SWMU Assessment Necessary				
8. Piping		SWMU Assessment Necessary				
9. Underground Storage Tanks	Tank	SWMU Assessment Necessary				
10. Glaze Basin	LD	RCRA Regulated Unit				
11. Slip Basin	LD	RCRA Regulated Unit				
12. Drum Storage Area	S	RCRA Regulated Unit				
		Yes	Yes	No	No	No
Area of Concern						
13. Area between Monitoring Well #10 and Aloe Street	LD	SWMU Assessment Necessary				

*GW:Groundwater;SW/S:Surface Water/Sediment;SS/G:Subsurface Gas
LD:Land Disposal;S:Storage

i. A first phase RFI (SWMU Assessment) is required for SWMU #4 through #9 and Area of Concern #13. The purpose of the first phase RFI is to confirm any releases from these SWMUs. The first phase RFI differs from a full RFI in the extent and degree of investigations required. Its purpose is for confirmatory sampling, to identify if releases have occurred. The Permittee shall follow Conditions C.3, C.4, C.5, and C.6 of this Module for the first phase RFI.

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ii. A full RFI is required for SWMU #1 through #3 and SWMU #12. The purpose of the full RFI is to determine the nature, rate, direction, and extent of migration of hazardous waste, including or hazardous constituents. The Permittee shall follow Conditions E.1, E.2, and E.3 of this Module for the full RFI.

iii. SWMUs #10 and #11 are RCRA-regulated units. These units were closed and the closure certifications were submitted. Currently, groundwater is being monitored and will continue to be monitored through a post-closure care period. Within thirty (30) calendar days of the effective date of this Permit, the Permittee shall provide EPA with all groundwater data available for these units, and shall continue to provide EPA with a copy of groundwater data which is required by the State NJPDES/DGW permits. EPA may require additional action, if deemed necessary.

B. STANDARD CONDITIONS FOR CORRECTIVE ACTION

1. Work Plans. All work plans submitted pursuant to this Module shall include:

   a. Quality Assurance/Quality Control protocols to ensure that data generated is valid and supported by documented procedures;

   b. Other plans, specifications and protocols, as applicable;

   c. A schedule for starting specific tasks, completing the work and submitting progress and final reports; and

   d. Plans for the treatment, storage, discharge or disposal of wastes to be generated by activities described therein.

2. Monitoring and Records. Requirements for monitoring and records shall be in accordance with Permit Condition F.9 of Module I of this Permit.

3. Health/Safety Plans. The Permittee shall develop, according to applicable Federal, State and local requirements, and submit to the Regional Administrator, health and safety plans that will be implemented to ensure that the health and safety of project personnel,

plant personnel and the general public are protected. These plans are not subject to approval by the Regional Administrator.

4. Guidance Documents. When preparing the submissions described in this Module, the Permittee shall follow applicable guidance documents issued by EPA and the New Jersey Department of Environmental Protection in a manner reflecting reasonable technical considerations.

5. Prior Submittals. The Permittee may have already submitted portions of information, plans, or reports required by this Permit Module and its Appendices to the Regional Administrator pursuant to the terms of previous applications, consent orders, or plans. For those items the Permittee contends were submitted to the Regional Administrator, the Permittee may cite the specific document(s) and page(s) it believes adequately addresses each of the individual items requested by this Permit Module and its Appendices. The references, by document(s) and page(s), shall be placed in the appropriate sections of the submittals that require the referenced information and data. If the Regional Administrator, after a file search, determines that it does not possess any of the referenced information, plans, or reports that the Permittee claims were previously submitted, the Regional Administrator will notify the Permittee and the Permittee shall submit the referenced documents within the time frame specified within the notification.

6. Interim Corrective Measures.

   a. If at any time it is determined by the Regional Administrator that a release or, based on site-specific circumstances, a threatened release of hazardous waste, including hazardous constituents, from a SWMU, or a combination of SWMUs, poses a threat to human health or the environment, or that such condition jeopardizes the Permittee's ability to comply with any governmental permit, the Permittee shall submit a draft interim corrective measures study to the Regional Administrator for approval within thirty (30) calendar days of notice of such a determination. This study shall consider, among other relevant factors, the character, the extent, direction, the rate of release, the proximity to population, the exposure pathways, the effects of delayed action, and the evaluations of appropriate interim corrective measures. Upon approval of the study by the Regional Administrator, the Permittee shall

implement the required interim corrective measures as specified by the Regional Administrator. Nothing herein shall preclude the Permittee from taking immediate action to address the conditions described herein and promptly notifying the Regional Administrator.

b. In the event the Permittee discovers a release or, based on site-specific circumstances, a threatened release of hazardous wastes, including hazardous constituents, from a SWMU, or a combination of SWMUs, that poses a threat to human health or the environment, the Permittee shall identify interim corrective measures to mitigate this threat. The Permittee shall immediately summarize the nature and magnitude of the actual or potential threat and nature of the interim measures being considered and notify the Regional Administrator. Within thirty (30) calendar days of notifying the Regional Administrator, the Permittee shall submit to the Regional Administrator, for approval, an interim corrective measures work plan for the interim measures. The Permittee shall implement the measures specified by the Regional Administrator. Nothing herein shall preclude the Permittee from taking immediate action to address the conditions described herein and promptly notifying the Regional Administrator.

c. The following factors may be considered by the Regional Administrator in determining the need for interim corrective measures:

i. Time required to develop and implement a final corrective measure;

ii. Actual and potential exposure of human and environmental receptors;

iii. Actual and potential contamination of drinking water supplies and sensitive ecosystems;

iv. The potential for further degradation of any impacted medium;

v. Presence of hazardous waste, including hazardous constituents, in containers that may pose a threat of release;

vi. Presence and concentration of hazardous waste, including hazardous constituents, in

soils that have the potential to migrate to ground water or surface water;

vii. Weather conditions that may affect the current levels of contamination;

viii. Risks of fire, explosion, or potential exposure to hazardous waste, including hazardous constituents, as a result of an accident or failure of container or handling system; and

ix. Other situations that may pose threats to human health and the environment.

7. Determination of No Further Action

a. Based on the results of the RFI for a particular SWMU, or combination of SWMUs, and other relevant information, the Permittee may submit an application to the Regional Administrator for a Class III permit modification under 40 C.F.R. § 270.42(c) to terminate the subsequent corrective action requirements of this Module. This permit modification application must contain information demonstrating that there are no releases of hazardous wastes, including hazardous constituents, from such SWMUs that pose a threat to human health or the environment, as well as information required in 40 C.F.R. § 270.42(c), which incorporates by reference 40 C.F.R. §§ 270.13 through 270.21, 270.62, and 270.63.

If, based upon review of the Permittee's request for a permit modification, the results of the RFI, and other information, including comments received during the sixty (60) calendar day public comment period required for Class III permit modifications, the Regional Administrator determines that the release(s) or the suspected release(s) investigated either are non-existent or do not pose a threat to human health or the environment, the Regional Administrator may grant the requested modification.

b. A determination of no further action shall not preclude the Regional Administrator from implementing the following actions:

i. Modifying this Permit at a later date to require the Permittee to perform such investigations as necessary to comply with

the requirements of this Permit Module and its Appendices if new information or subsequent analysis indicates that there are, or are likely to be, releases from SWMUs that may pose a threat to human health or the environment; and

ii. Requiring continued or periodic monitoring of air, soil, groundwater, surface water/sediment or subsurface gas, if necessary to protect human health and the environment, when site-specific circumstances indicate that release(s) of hazardous waste, including hazardous constituents, are likely to occur from any SWMU.

8. Reporting.

a. The Permittee shall submit, to the Regional Administrator, signed progress reports, as specified in approved work plans pursuant to this Permit, of all activities (i.e., SWMU Assessment, Interim Measures, RCRA Facility Investigation, Corrective Measures Study) conducted pursuant to the provisions of the Corrective Action Schedule of Compliance, beginning no later than thirty (30) calendar days after the Permittee is first required to begin implementation of any requirement herein. These reports shall contain:

i. A description of the work completed during the reporting period;

ii. Summaries of all findings made during the reporting period, including summaries of laboratory data;

iii. Summaries of all changes made during the reporting period;

iv. Summaries of all contacts made with representatives of the local community and public interest groups during the reporting period;

v. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems;

vi. Changes in personnel conducting or managing the corrective action activities during the reporting period;

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vii. Projected work for the next reporting period; and

viii. Copies of daily reports, inspection reports, laboratory/monitoring data, etc., generated during the reporting period.

b. Upon request, copies of other relevant reports and data not identified in Condition B.8.a of this Module shall be made available to the Regional Administrator.

c. The Regional Administrator may require the Permittee to conduct new or more extensive assessments, investigations, or studies, based upon information provided in the progress reports referred to in Condition B.8.a of this Module above, or upon other supporting information.

d. All plans and schedules required by the conditions of this Permit Module and Appendix C of this Permit are, upon approval of the Regional Administrator, incorporated into this Permit by reference and become an enforceable part of this Permit. Any noncompliance with such approved plans and schedules shall be termed noncompliance with this Permit. Extensions of the due dates for submittals may be granted by the Regional Administrator in accordance with the permit modification processes under 40 C.F.R. § 270.41.

9. Compliance with Governmental Requirements. During investigative activities, interim corrective measures, and final corrective measures (including, but not limited to, equipment decommissioning, excavation and unit demolition) required under this Module, the Permittee shall ensure that the transportation, treatment, storage, discharge, and disposal of all contaminated materials generated as a result of such activities (including, but not limited to, soils, sediments, liquids, tanks, pipes, pumps, rubble, debris, and structural materials) are performed in an environmentally sound manner pursuant to all applicable Federal, State and local requirements and that is protective of public health and the environment. Nothing in this Module shall be construed to require the Permittee to proceed in a manner which is in violation of any such requirements.

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10. Notifications.

a. Notification of Groundwater Contamination. If at any time the Permittee discovers that hazardous constituents in groundwater that may have been released from a solid waste management unit at the facility have migrated or are migrating to areas beyond the facility boundary in concentrations that exceed action levels, the Permittee shall, within fifteen (15) calendar days of discovery, provide written notice to the Regional Administrator and any person who owns or resides on the land which overlies the contaminated groundwater.

b. Notification of Air Contamination. If at any time the Permittee discovers that hazardous constituents in air that may have been released from a solid waste management unit at the facility have or are migrating to areas beyond the facility boundary in concentrations that exceed action levels and that residences or other places at which continuous, long-term exposure to such constituents might occur are located within such areas, the Permittee shall, within fifteen (15) calendar days of such discovery:

i. Provide written notification to the Regional Administrator; and

ii. Initiate any actions that may be necessary to provide notice to all individuals who have or may have been subject to such exposure.

c. Notification of Residual Contamination. If hazardous wastes or hazardous constituents in solid waste management units, or which have been released from solid waste management units, will remain in or on the land, including groundwater, after the term of the permit has expired, the Regional Administrator may require the Permittee to record, in accordance with State law, a notation in the deed to the facility property or in some other instrument which is normally examined during titled search that will, in perpetuity, notify any potential purchaser of the property of the types, concentrations, and locations of such hazardous wastes or hazardous constituents. The Regional Administrator may require such notice as part of the corrective measures selection process.

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C. ASSESSMENT OF NEWLY IDENTIFIED SOLID WASTE MANAGEMENT UNITS (SWMUS).

1. Notification. The Permittee shall notify the Regional Administrator, in writing, of any additional SWMUs not listed in this Module, which are identified during the course of groundwater monitoring, field investigations, environmental audits, or other means within fifteen (15) calendar days of discovery.

2. SWMU Assessment Report. Within thirty (30) calendar days after notifying of the Regional Administrator, the Permittee shall submit a SWMU Assessment Report. This Report must provide, at a minimum, the following information for each newly identified SWMU:

   a. Type of unit;

   b. Location of each unit on a topographic map of appropriate scale;

   c. Dimensions, capacities and structural description of the unit (supply available engineering drawings);

   d. Function of unit;

   e. Dates that the unit was operated;

   f. Description of the wastes that were placed or spilled at the unit;

   g. Description of any known releases from the unit (to include groundwater data, soil analyses, air monitoring data, and/or surface water/sediment data);

   h. The results of any sampling and analysis required for the purpose of determining whether releases of hazardous waste, including hazardous constituents, have occurred, are occurring, or are likely to occur from the unit; and

   i. Whether this unit, individually or in combination with other units listed in Module Condition A.3. of this Module is a significant source of contaminant release.

3. SWMU Sampling and Analysis Plan. Within thirty (30) calendar days after submittal of the SWMU Assessment Report required in Condition C.2 of this Module, the permittee shall submit a Plan in accordance with most

recent version of the NYSDEC RCRA Quality Assurance Project Plan Guidance, for any sampling and analysis of ground water, land surface and subsurface strata, surface waters/sediment or air, as necessary to determine whether a release of hazardous waste, including hazardous constituents, from such unit(s) has occurred, is likely to have occurred, or is likely to occur. The SWMU Sampling and Analysis Plan must demonstrate that the sampling and analysis program, if applicable, is capable of yielding representative samples and must include parameters sufficient to identify migration of hazardous waste, including hazardous constituents, from the newly-discovered SWMU(s) to the environment.

4. Subsequent Assessment Actions. Following submission of the SWMU Assessment Sampling and Analysis Plan set forth in Condition C.3. of this Module, subsequent activities for the Plan shall proceed in accordance with the following schedule:

   a. Meeting between the Permittee, the Agency and the Department to discuss Plan comments, as appropriate.

   b. Submission of a revised Plan to the Regional Administrator within thirty (30) calendar days of the above-described meeting. (If the Regional Administrator determines that the above referenced meeting is not necessary, the Permittee shall submit a revised Plan to the Regional Administrator, according to a schedule specified by the Agency, not to exceed forty-five (45) calendar days after Permittee's receipt of Plan comments from the Regional Administrator.); and

   c. Begin implementation of the Plan within thirty (30) days following written approval from the Regional Administrator for the Plan.

5. SWMU Sampling and Analysis Report. Within thirty (30) calendar days of receipt by the Permittee of validated analytical data generated under the approved SWMU Sampling and Analysis Plan, the Permittee shall submit a SWMU Sampling and Analysis Report to the Regional Administrator. The Report shall follow reporting requirements in the approved Plan and describe all results obtained from the implementation of the approved Plan.

6. Assessment Conclusions. Based on the results of the SWMU Sampling and Analysis Report, the Regional Administrator shall determine the need for further investigations at specific unit(s) covered in either the SWMU Assessment Report or the SWMU Sampling and Analysis Report. If the Regional Administrator determines that such investigations are needed, the Regional Administrator shall by written notification require the Permittee to prepare and submit for approval a RCRA Facility Investigation Work Plan in accordance with Condition E.1 et. seq. of this Module.

D. NOTIFICATION REQUIREMENTS FOR NEWLY-DISCOVERED RELEASES AT SWMUS

The Permittee shall notify the Regional Administrator, in writing, of any release(s) of hazardous waste, including hazardous constituents, discovered during the course of ground-water monitoring, field investigation, environmental auditing, or other activities no later than fifteen (15) calendar days after discovery. Such newly-discovered releases may be from newly-identified units, from units for which, based on the findings of the RFA, the Regional Administrator had previously determined that no further investigation was necessary, or from units investigated as part of an RFI. Based on the information provided in the notification the Regional Administrator shall determine the need for further investigation of the release(s). If the Regional Administrator determines that such investigations are needed, the Regional Administrator shall, by written notification, require the Permittee to prepare and submit for approval a RCRA Facility Investigation Work Plan in accordance with Condition E.1 et. seq. of this Module.

E. CORRECTIVE ACTION REQUIREMENTS

1. RCRA Facility Investigation ("RFI") Work Plan

a. For the previously-identified SWMUs listed in Condition A.3 of this Module, within ninety (90) calendar days of the effective date of this Permit, the Permittee shall submit to the Regional Administrator, for approval a RCRA Facility Investigation Task I Report or Current Conditions required by Task I of the RFI Scope of Work included in this Permit as Appendix A. In the event that there are newly-discovered SWMUs, a Task I Report shall be submitted for approval within ninety (90) calendar days after the written notification by the Regional Administrator that an RFI is required pursuant to Conditions C.6 and/or D of this Module.

b. For the previously-identified SWMUs listed in Condition A.3 of this Module, within ninety (90) calendar days of the effective date of this Permit, the Permittee shall submit to the Regional Administrator for approval a RCRA Facility Investigation Task II Report on the Pre-Investigation Evaluation of Corrective Measures Technologies required by RFI Scope of Work included in this Permit as Appendix A. In the event that there are newly-discovered SWMUs, a Task II Report shall be submitted for approval within ninety (90) calendar days after the written notification by the Regional Administrator that an RFI is required pursuant to Condition C.6 and/or D of this Module.

c. For the previously-identified SWMUs listed in Condition A.3 of this Module, within one hundred and fifty (150) calendar days after the effective date of this Permit, the Permittee shall submit for approval a RFI Work Plan to the Regional Administrator to address those units, releases of hazardous waste, including hazardous constituents, and media of concern which require the further investigations. In the event that there are newly-discovered SWMUs, a RFI Work Plan shall be submitted within ninety (90) calendar days after written notification by the Regional Administrator that an RFI is required pursuant to Conditions C.6 and/or D of this Module.

i. The Work Plan shall describe the objectives of the investigation and the overall technical and analytical approach to completing all actions necessary to characterize the nature, direction, rate, movement, and concentration of releases of hazardous waste, including hazardous constituents, from specific SWMUs or groups of SWMUs, and their actual or potential receptors. The Work Plan shall detail all proposed activities and procedures to be conducted at the facility and/or off-site, the schedule for implementing and completing such investigations, the qualifications of personnel performing or directing the investigations, including contractor personnel, and the overall management of the RFI.

ii. The Work Plan shall discuss sampling, data collection strategy, methods of sample

analysis, as well as quality assurance and data management procedures, including formats for documenting and tracking data and other results of investigations, and health and safety procedures.

iii. The Work Plan must, at a minimum, address all necessary activities or include descriptions to meet the requirements specified in Tasks III through Task V of the Scope of Work for a RCRA Facility Investigation included in this Permit as Appendix A.

iv. The Permittee may determine that any of the items required by Tasks III through V of the Scope of Work in Appendix A of this Permit have already been submitted or completed, and therefore, the items are not necessary for completing the RFI of this Permit. The Permittee shall request, within thirty (30) calendar days of the effective date of this Permit, and/or within thirty (30) calendar days of any notification by the Regional Administrator that an RFI is required, that the Administrator review for approval the Permittee's determination. At the time of the request, the Permittee must provide the following information: (1) description of the items and/or summary of findings; (2) description of investigations addressing the items, documents/ reports of the investigations with dates, and summary of the findings; and (3) copies of the documents/reports.

Upon EPA's approval of any previously performed items, the Permittee may delete these from the RFI Work Plan. However, upon EPA's disapproval of items, all activities necessary for the items must be included in the RFI Work Plan.

d. Following submission of the RFI Work Plan set forth in Condition E.1.c of this Module, subsequent activities for the Plan shall proceed in accordance with the following schedule:

i. Meeting between the Permittee, the Agency and the Department to discuss Plan comments, as appropriate.

ii. Submission of a revised Plan to the Regional Administrator, for approval, within thirty (30) calendar days of the above-described meeting. (If the Regional Administrator determines that the above referenced meeting is not necessary, the Permittee shall submit a revised Plan to the Regional Administrator, according to a schedule specified by the Agency, not to exceed sixty (60) calendar days after Permittee's receipt of Plan comments from the Regional Administrator.)

e. The Regional Administrator shall review, for approval as part of the RFI Work Plan, any plans developed pursuant to Condition C.6 of this Module, addressing further investigations of newly-identified SWMUs, or Condition D of this Module, addressing newly-discovered releases from SWMUs. The Regional Administrator shall modify the Schedule of Compliance according to the permit modification procedures under 40 C.F.R. § 270.41, to incorporate these units and releases into the RFI Workplan.

2. RCRA Facility Investigation Work Plan Implementation. No later than thirty (30) calendar days after notification by the Regional Administrator approving the RFI Workplan, the Permittee shall begin implementation of the RFI according to the schedules specified in the RFI Workplan. The RFI shall be conducted in accordance with the approved RFI Workplan.

3. RCRA Facility Investigation Final Report and Summary Report

a. Within sixty (60) calendar days of receipt by the Permittee of validated analytical data generated under the approved RFI Work Plans, the Permittee shall submit, to the Regional Administrator, RFI Final and Summary Reports, Task VII of the Scope of Work for RFI in Appendix A of this Permit. The RFI Final Report must contain adequate information to support further corrective action decisions at the facility, should such actions be necessary. The RFI Final Report shall describe the procedures, methods, and results of all facility investigations of SWMUs and their releases, including information on the type and extent of contamination at the facility, sources and migration pathways, and actual or potential receptors. It shall also present all information gathered under the approved RFI Work Plan. The

RFI final report will include a comparison of media specific hazardous constituents with their corresponding action levels. The RFI Summary Report shall describe more briefly the procedures, methods, and results of the RFI.

b. Following submission of the Reports set forth in Condition E.3.a of this Module, subsequent activities for the Reports shall proceed in accordance with the following schedule:

   i. Meeting between the Permittee, the Agency and the Department to discuss Report comments, as appropriate.

   ii. Submission of a revised Report to the Regional Administrator within forty-five (45) calendar days of the above-described meeting. (If the Regional Administrator determines that the above referenced meeting is not necessary, the Permittee shall submit a revised Report to the Regional Administrator, according to a schedule specified by the Agency, not to exceed sixty (60) calendar days after Permittee's receipt of Report comments from the Regional Administrator.)

c. After the Regional Administrator approves the RFI Final Report and Summary Report, the Permittee shall mail the approved Summary Report to all individuals on the facility mailing list established pursuant to 40 C.F.R. § 124.10(c)(1), within thirty (30) calendar days of receipt of approval.

d. A report summarizing the testing program required by Task VI of the Scope of Work for RFI in Appendix A to this Permit shall be submitted, as a separate document, at the same time as the RFI Final Report.

4. Current Interim Corrective Measures

a. Within thirty (30) calendar days of the effective date of this Permit, the Permittee shall submit to EPA and NJDEPE all documents including, but not limited to, investigation reports and raw data which are associated with the trichloroethylene-contaminated groundwater. After review of these documents, the Regional Adminstrator may require the Permittee to implement interim corrective measures.

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b. Within thirty (30) days after the Regional Administrator's determination of a need of the interim corrective measures, the Permittee must submit to the EPA and NJDEPE documents establishing financial assurance for conducting the interim remedial measures. The Permittee must continue to demonstrate financial assurance unless otherwise notified by EPA.

5. Corrective Measures Study ("CMS") Plan

a. Should a CMS be required, the Regional Administrator shall notify the Permittee in writing. This notice shall identify the hazardous constituent(s) which have exceeded action levels as well as those which have been determined to threaten human health and the environment given site specific exposure conditions or due to additive exposure risk. The notification shall specify target cleanup levels for hazardous constituents detected in each medium of concern, and may also specify corrective measure alternatives to be evaluated by the Permittee during the CMS.

b. The Regional Administrator may require a Corrective Measures Study ("CMS") under the following conditions:

i. If the concentrations of hazardous constituents in groundwater, surface water/sediment, soil, or air exceed their corresponding individual action levels;

ii. If the concentrations of hazardous constituents in groundwater, surface water/sediment, soil, or air do not exceed their corresponding individual action levels, but additive exposure risk due to the presence of multiple constituents is not protective of human health; or

iii. If the concentrations of hazardous constituents in groundwater, surface water/sediment, soil, or air do not exceed corresponding individual action levels, but still pose a threat to human health or the environment, given site-specific exposure conditions.

c. The CMS will be considered complete upon completion of Tasks I through IV of the Appendix B

of this Permit. Within sixty (60) calendar days after the notification required by Condition E.5.a of this Module, the Permittee shall complete Task I and submit to EPA a Task I report and documents, if any, relevant to other Tasks.

d. The Permittee shall submit CMS Plan to the Regional Administrator within ninety (90) calendar days after the notification required by Condition E.5.a of this Module.

i. The CMS Plan shall provide:

(1) A description of the general approach to investigating and evaluating potential corrective measures;

(2) A definition of the overall objectives of the study;

(3) The specific plans for evaluating corrective measures to ensure compliance with corrective measure standards;

(4) The schedule for conducting the study; and

(5) The proposed format for the presentation of information.

ii. The CMS Plan must address, at a minimum, all necessary activities to complete Tasks II and III of Appendix B of this Permit.

e. Following submission of the CMS Plan set forth in Condition E.5.d of this Module, subsequent activities for the Plan shall proceed in accordance with the following schedule:

i. Meeting between the Permittee, the Agency and the Department to discuss Plan comments, as appropriate.

ii. Submission of a revised Plan to the Regional Administrator within thirty (30) calendar days of the above-described meeting. (If the Regional Administrator determines that the above referenced meeting is not necessary, the Permittee shall submit a revised Plan to the Regional Administrator, according to a schedule specified by the Agency, not to exceed forty-five (45) calendar days after

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Permittee's receipt of Plan comments from the Regional Administrator.)

6. Corrective Measures Study Implementation No later than thirty (30) calendar days after the Permittee has received written approval from the Regional Administrator for the CMS Plan, the Permittee shall begin to implement the CMS according to the schedules specified in the CMS Plan. The CMS shall be conducted in accordance with the approved plan submitted pursuant to Condition E.5 of this Module.

7. Corrective Measures Study Final Report

a. Within forty-five (45) calendar days after the completion of the CMS, the Permittee shall submit a CMS Final Report (Task IV of Appendix B of this Permit). The CMS Final Report shall:

i. Summarize the results of the investigations and, if applicable, of any bench-scale or pilot tests conducted;

ii. Provide a detailed description of the corrective measures evaluated and include an evaluation of how each corrective measure alternative meet the standards set forth in Condition E.8.a of this Module;

iii. Present all information gathered under the approved CMS Plan; and

iv. Contain any additional information to support the Regional Administrator in the corrective measure selection decision-making process, described under Condition E.8. of this Module.

b. The CMS Final Report (Task IV of Appendix B of this Permit) must address, at a minimum, all items necessary to demonstrate completion of Task II and III required by the CMS Scope of Work included in Appendix B of this Permit.

c. Following submission of the CMS Report set forth in Module Condition E.7.a, subsequent activities for the Report shall proceed in accordance with the following schedule:

i. Meeting between the Permittee, the Agency, and the Department to discuss the Report comments, as appropriate.

ii. Submission of a revised Report to the Regional Administrator within thirty (30) days of the above-described meeting. (If the Regional Administrator determines that the above referenced meeting is not necessary, the Permittee shall submit a revised Report to the Regional Administrator, according to a schedule specified by the Agency, not to exceed forty-five (45) calendar days after Permittee's receipt of Report comments from the Regional Administrator.)

d. As specified under Condition E.5.a of this Module, based on preliminary results and the CMS Final Report, the Regional Administrator may require the Permittee to evaluate additional corrective measures or particular elements of one or more proposed corrective measures.

8. Corrective Measures Selection

a. Based on the results of the documents submitted under Condition E.3 of this Module for the RFI, under Condition E.7 of this Module for the CMS, and any further evaluations of additional corrective measures under this study, the Regional Administrator shall select a corrective measures that, at a minimum, will meet the following standards:

i. Be protective of human health and the environment;

ii. Attain media cleanup standards selected by the Regional Administrator during the corrective measures selection process;

iii. Control the source(s) of release(s) so as to reduce or eliminate, to the maximum extent practicable, further releases of hazardous waste, including hazardous constituents, that might pose a threat to human health and the environment; and

iv. Meet all applicable waste management requirements.

b. In selecting the corrective measure(s) which meets the standards for remedies established under Module Condition E.8.a, the Regional Administrator shall consider the following evaluation factors, as appropriate:

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i. Long-term reliability and effectiveness. Any potential corrective measure(s) may be assessed for the long-term reliability and effectiveness it affords, along with the degree of certainty that the corrective measure(s) will prove successful. Factors that shall be considered in this evaluation include:

(1) Magnitude of residual risks in terms of amounts and concentrations of hazardous waste, including hazardous constituents, remaining following implementation of a corrective measure(s), considering the persistence, toxicity, mobility and potential to bioaccumulate of such hazardous wastes, including hazardous constituents;

(2) The type and degree of long-term management required, including monitoring and operation and maintenance;

(3) Potential for exposure of humans and environmental receptors to remaining hazardous wastes, including hazardous constituents, considering the potential threat to human health and the environment associated with excavation, transportation, redisposal or containment;

(4) Long-term reliability of the engineering and institutional controls, including uncertainties associated with land disposal of untreated hazardous wastes, including hazardous constituents, and their residuals; and

(5) Potential need for replacement of the corrective measure(s).

ii. Reduction of toxicity, mobility, or volume. A potential remedy(s) may be assessed as to the degree to which it employs treatment that reduces toxicity, mobility or volume of hazardous wastes, including hazardous constituents. Factors that shall be considered in such assessments include:

(1) The treatment processes the corrective measure(s) employs and materials it would treat;

(2) The amount of hazardous wastes, including hazardous constituents, that would be destroyed or treated;

(3) The degree to which the treatment is irreversible;

(4) The residuals that will remain following treatment, considering the persistence, toxicity, mobility and propensity to bioaccumulate of such hazardous wastes, including hazardous constituents; and

(5) All concentration levels of hazardous waste, including hazardous constituents, in each medium that corrective measure(s) must achieve to be protective of human health and the environment.

iii. The short-term effectiveness of a potential corrective measure(s) may be assessed considering the following:

(1) Magnitude of reduction of existing risks;

(2) Short-term risks that might be posed to the community, workers, or the environment during implementation of such a corrective measure(s), including potential threats to human health and the environment associated with excavation, transportation, and redisposal or containment; and

(3) Time until full protection is achieved.

iv. Implementability. The ease or difficulty of implementing a potential corrective measure(s) may be assessed by considering the following types of factors:

(1) Degree of difficulty associated with constructing the technology;

(2) Expected operational reliability of the technologies;

(3) Need to coordinate with and obtain necessary approvals and permits from other agencies;

(4) Availability of necessary equipment and specialists;

(5) Available capacity and location of needed treatment, storage, disposal services; and

(6) Requirements for removal, decontamination, closure, or post-closure of units, equipment, devices or structures that will be used to implement the corrective measure(s).

v. Cost. The types of costs that may be assessed, including the following:

(1) Capital costs;

(2) Operational and maintenance costs;

(3) Net present value of capital and operation and maintenance costs; and

(4) Potential future corrective action costs

9. Permit Modification for Corrective Measure(s)

a. Based on the information the Permittee submits in the RFI Final and Summary Reports, under Condition E.3 of this Module; the CMS Final Report, under Condition E.7 of this Module; and other information: the Regional Administrator will select a corrective measure(s) and initiate a permit modification to this Permit, pursuant to 40 C.F.R. § 270.41. The modification will specify the selected corrective measure(s) and include, at a minimum, the following:

i. Description of all technical features of the corrective measure(s) that are necessary for achieving the standards for corrective measure(s) established under Condition E.8.a of this Module, including length of time for which compliance must be demonstrated at specified points of compliance;

ii. All media cleanup standards for hazardous constituents, selected by the Regional Administrator, that the corrective measure(s) must achieve to be protective of human health and the environment;

iii. All requirements for achieving compliance with these cleanup standards;

iv. All requirements for complying with the standards for management of wastes;

v. Requirements for removal, decontamination, closure, or post-closure of units, equipment, devices or structures that will be used to implement the corrective measure(s);

vi. A schedule for initiating and completing all major technical features and milestones of the corrective measure(s); and

vii. Requirements for submission of reports and other information.

b. Within thirty (30) calendar days after this Permit has been modified, the Permittee shall demonstrate in writing to the Regional Administrator that financial assurance for completing the approved corrective measure(s).

10. Modification of the Compliance Schedule

a. Upon prior request of the Permittee, the Regional Administrator may extend a compliance deadline set forth in this Appendix by a period not to exceed ninety (90) days. Subsequent compliance deadlines that are determined by a deadline for which an extension under Condition III.E.10.a has been granted, shall automatically be adjusted accordingly. The cumulative effect of more than one extension granted under Condition III.E.10.a shall not exceed one hundred and eighty (180) days.

b. If at any time the Permittee determines that the Compliance Schedule provided for in Appendic C of this Permit (as modified pursuant to Condition III.E.10.a), cannot be met, the Permittee must:

i. Notify the Regional Administrator in writing within fifteen (15) calendar days of such determination; and

ii. Provide an explanation why the Compliance Schedule cannot be met.

c. If the Permittee submits a notification and explanation pursuant to Condition III.E.10.b, above, or if at any time the Regional Administrator determines that the Compliance Schedule provided for in Appendix C of this Permit (as modified by Condition III.E.10.a) cannot be met, the Regional Administrator shall notify the Permittee and all persons on the facility mailing list in writing of the modifications to the Compliance Schedule deemed necessary by the Regional Administrator. Such notice will:

i. Describe the exact change(s) to be made to the permit conditions;

ii. Provide an explanation of why the modification is needed;

iii. Provide notification that supporting documentation or data may be available for inspection at the Regional office; and

iv. Specify the data on which the modification will become effective.

d. Any modification to the Compliance Schedule provided for in Appendix C of this Permit (as modified by Condition III.E.10.a), initiated pursuant to this Condition III.E.10.b shall become effective no less than fifteen (15) days after the notification required pursuant to Condition III.E.10.c has been provided.

e. Modification to the Compliance Schedule provided for in Appendix C of this Permit pursuant to this Condition III.E.10 does not constitute a reissuance of this Permit.

11. Corrective Action Through Post-Closure.

a. On the basis of the approved Closure Plans the Glaze Basin and the Slip Basin were physically closed. During closure the waste in the Glaze Basin was removed and sent off-site for disposal, but the soil contaminated with metals around the Glaze Basin remains left on-site. During the closure of the Slip Basin, the bottom of the unit was raised above the groundwater table and was covered with a geomembrane liner. The waste in

the Slip Basin was consolidated into this upgraded unit and was then capped. A RCRA interim status groundwater monitoring program indicated that low levels of hazardous constituents have been detected in the groundwater downgradient of the closed units. The Post-Closure Care Conditions of the New Jersey Pollution Discharge Elimination System (NJPDES)/ Discharge to Groundwater (DGW) Permit addresses the post-closure care requirements for the Glaze Basin. The Post-Closure permit to be issued by NJDEPE jointly with this HSWA permit, will address the post-closure care requirements for the Slip Basin, including the post-closure groundwater compliance monitoring program. In addition, the Post-Closure permit will require RFI and CMS for the SWMUs identified in Condition A.3.c of this Module and remedial action, if determined necessary. The Permittee shall submit to the Regional Administrator groundwater monitoring data required by the Post-Closure permits of NJDEPE.

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MODULE IV - WASTE MINIMIZATION

A. SUBMITTAL REQUIREMENTS. Pursuant to 40 C.F.R. § 264.73(b)(9), and Section 3005(h) of the Act, 42 U.S.C. § 6925(h), the Permittee must submit to the Regional Administrator, at least annually, a waste minimization report by the owner or operator. This report and all accompanying documentation will be submitted by July 1 of each year after the effective date of this Permit.

B. WASTE MINIMIZATION REPORT. The Permittee must certify that:

1. A program is in place to reduce the volume and toxicity of hazardous waste generated to the degree determined by the Permittee to be economically practicable; and

2. The proposed method of treatment, storage or disposal is that practicable method currently available to the Permittee which minimizes the present and future threat to human health and the environment.

C. HAZARDOUS WASTE REDUCTION PLAN (HWRP). The Permittee shall submit a HWRP by July 1 of the first year following permit issuance. The HWRP shall be updated at least biennially to reflect changes in the HWRP, and submitted by July 1 of that year. The HWRP shall include at a minimum, the following information:

1. Identify amounts and types of all acute hazardous waste generated by waste stream.

2. Identify amounts and types of non-acute hazardous waste by waste stream for streams greater than five (5) tons and,

3. Identify at least 90% of all non-acute hazardous waste generated at the facility.

4. Describe source of generation and waste management method for each waste stream.

5. Provide list of technically feasible and economically practicable waste reduction measures.

6. Provide a program plan and schedule for implementing technically feasible and economically practicable waste reduction over time.

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The following guidance documents should be used in developing the HWRP:

Waste Minimization Opportunity Assessment Manual, EPA/625/7-88/003, July 1988. Available through: EPA, Office of Research and Development, Cincinnati, Ohio 45268, tel. 513/569-7562 or NTIS, 5285 Port Royal Road, Springfield, VA 22161, tel. 703/487-4600.

Region II HWRP Requirements.
Available through EPA Region II, Hazardous Waste Facilities Branch, Andrew Bellina, tel. 212/264-0505.

New York State Waste Reduction Guidance Manual
March 1989.

New York State Waste Reduction Guidance Manual Supplement, December 1990. Available through the New York State Department of Environmental Conservation, Bureau of Pollution Prevention, 50 Wolf Road, Albany, New York 12233-7253, tel. 518/485-8400.

D. IMPLEMENTATION OF WASTE REDUCTION TECHNIQUES.
The Permittee shall implement the feasible waste reduction techniques in accordance with the schedule in the HWRP.

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MODULE V - LAND DISPOSAL RESTRICTIONS

A. BACKGROUND. HSWA prohibits the continued land disposal of untreated hazardous wastes beyond specified dates, "unless the Administrator determines that the prohibition ... is not required in order to protect human health and the environment for as long as the wastes remain hazardous..." (Sections 3004(d)(1), (e)(1), (g)(5) of the Act, 42 U.S.C. § 6924(d)(1), (e)(1), (g)(5).

Pursuant to 40 C.F.R. § 264.13(a)(1), before an owner or operator treats, stores, or disposes of any hazardous waste, he must obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum, this analysis must contain all the information which must be known to treat, store or dispose of the waste in accordance with the requirements of 40 C.F.R. Parts 264 and 268 or with the conditions of a permit issued under 40 C.F.R. Parts 270 and 124.

The Permittee shall comply with the waste analysis, notification, certification, and recordkeeping requirements of 40 C.F.R. § 268.7 whenever generating, treating, or managing a restricted waste.

B. STORAGE OF RESTRICTED WASTES. The Permittee may store such wastes to which the land disposal prohibition applies for up to one year unless the Agency can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal. 40 C.F.R. § 267.50(b).

The Permittee may store wastes to which the land disposal prohibition applies beyond one year; however, the Permittee bears the burden of proving that such storage was solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal. 40 C.F.R. § 268.50(c).

C. LAND DISPOSAL OF RESTRICTED WASTES. The land disposal of restricted waste is prohibited unless the applicable treatment standard is met, or the waste is exempt under 40 C.F.R. § 268.1(c).

D. RESTRICTION DATES. The above restrictions become effective and are phased in for specific hazardous wastes over a period which began November 8, 1986.

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The Permittee is required to comply with the restrictions and applicable dates which are specified in 40 C.F.R. Part 268 for all hazardous waste regulated under this Permit.

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MODULE VI - ORGANIC AIR EMISSION STANDARDS FOR PROCESS VENTS AND EQUIPMENT LEAKS

A. BACKGROUND. Under the authority of Section 3004(n) of the Act, 42 U.S.C. § 6924(n), on June 21, 1990, EPA promulgated standards for the monitoring and control of organic air emissions from hazardous waste treatment, storage and disposal facilities requiring a permit under Subtitle C of RCRA. These standards became effective on December 21, 1990.

B. COMPLIANCE SCHEDULE. The Permittee shall comply with 40 C.F.R. Part 264 Subpart AA - Air Emission Standards for Process Vents - and Part 264 Subpart BB - Air Emission Standards for Equipment Leaks, as applicable. The Permittee will be required to submit supporting documentation to demonstrate compliance with these regulations.

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MODULE VII - TOXICITY CHARACTERISTICS

A. BACKGROUND. Under the authority of Section 3001(g) and 3001(h) of the Solid Waste Disposal Act (the "Act"), as amended by the Resource Conservation and Recovery Act (RCRA) and the Hazardous and Solid Waste Amendments of 1984 (HSWA), 42 U.S.C. §§ 6920(g) and 6920(h), on March 29, 1990, EPA promulgated an improved leaching procedure to better predict leaching and an expansion of the Toxicity Characteristic (TC) listing to include additional toxicants for regulatory control under Subtitle C of the Act. These standards bacame effective September 25, 1990. (See 55 Federal Register 11788 (March 29, 1990).)

B. APPLICABILITY. The Permittee shall comply with 40 C.F.R. Part 261, as applicable.

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APPENDIX A

SCOPE OF WORK FOR A RCRA FACILITY INVESTIGATION

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Appendix A

SCOPE OF WORK FOR A RCRA FACILITY INVESTIGATION (RFI) AT LENOX CHINA, A DIVISION OF LENOX, INCORPORATED POMONA, NEW JERSEY

I. PURPOSE

The purpose of this RCRA Facility Investigation is to determine the nature, rate, direction and extent of releases of hazardous waste, including hazardous constituents, from solid waste management units and other source areas at the facility including areas off-site impacted by the release(s) from the facility, and to gather all necessary data to support the Corrective Measures Study. The Permittee shall furnish all personnel, materials, and services necessary for, or incidental to, performing the RCRA remedial investigation.

II. SCOPE

The RCRA Facility Investigation consists of seven tasks:

Task I: Description of Current Conditions

- A. Facility Background
- B. Nature and Extent of Contamination
- C. Implementation of Interim Measures

Task II: Pre-Investigation Evaluation of Corrective Measure Technologies

Task III: RFI Management Plans

- A. Project Management Plan
- B. Data Collection Quality Assurance Plan
- C. Data Management Plan
- D. Health and Safety Plan
- E. Community Relations Plan

Task IV: Facility Investigation

- A. Environmental Setting
- B. Source Characterization
- C. Contamination Characterization
- D. Potential Receptor Identification

Task V: Investigation Analysis

- A. Data Analysis
- B. Protection Standards

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Task VI: Laboratory and Bench-Scale Studies

Task VII: Reports

A. Progress
B. Draft and Final

III. TASK I: DESCRIPTION OF CURRENT CONDITIONS

The Permittee shall submit for EPA approval a report providing the background information pertinent to the facility, contamination and interim measures as set forth below. The data gathered during any previous investigations or inspections and other relevant data shall be included. The report must include, at a minimum, the following information:

A. Facility Background

The Permittee's report shall summarize the regional location, pertinent boundary features, general facility physiography, hydrogeology, and historical use of the facility for the treatment, storage or disposal of solid and hazardous waste. The Permittee's report shall include:

1. Map(s) depicting the following:

   a. General geographic location;

   b. Property lines, with the owners of all adjacent property clearly indicated;

   c. Topography and surface drainage (with a contour interval of two (2) feet and a scale of 1 inch = 100 feet) depicting all waterways, wetlands, floodplains, water features, drainage patterns, and surface-water containment areas;

   d. All tanks, buildings, utilities, paved areas, easements, rights-of-way, and other features;

   e. All solid or hazardous waste treatment, storage or disposal areas active after November 19, 1980;

   f. All known past solid or hazardous waste treatment, storage or disposal areas regardless of whether they were active on November 19, 1980;

g. All known past and present product and waste underground tanks or piping;

h. Surrounding land uses (residential, commercial, agricultural, recreational); and

i. The location of all production and groundwater monitoring wells. These wells shall be clearly labeled and ground and top of casing elevations and construction details included (these elevations and details may be included as an attachment).

All maps shall be consistent with the requirements set forth in 40 CFR 270.14 and be of sufficient detail and accuracy to locate and report all current and future work performed at the site;

2. A history and description of ownership and operation, solid and hazardous waste generation, treatment, storage and disposal activities at the facility;

3. Approximate dates or periods of past product and waste spills, identification of the materials spilled, the amount spilled, the location where spilled, and a description of the response actions conducted (local, state, or federal response units or private parties), including any inspection reports or technical reports generated as a result of the response; and

4. A summary of past permits requested and/or received, any enforcement actions and their subsequent responses and a list of documents and studies prepared for the facility.

B. <u>Nature and Extent of Contamination</u>

1. The Permittee's report shall summarize all possible source areas of contamination. This, at a minimum, should include all regulated units, solid waste management units, spill areas, and other suspected source areas of contamination. For each area, the Permittee shall identify the following:

a. Location of unit/area (which shall be depicted on a facility map);

b. Quantities of solid and hazardous wastes;

c. Hazardous waste or constituents, to the extent known; and

d. Identification of areas where additional information is necessary.

2. The Permittee shall prepare an assessment and description of the existing degree and extent of contamination. This should include:

a. Available monitoring data and qualitative information on locations and levels of contamination at the facility;

b. All potential migration pathways including information on geology, petrology, hydrogeology, physiography, hydrology, water quality, meteorology, and air quality; and

c. The potential impact(s) on human health and the environment, including demography, groundwater and surface-water use, and land use.

C. Implementation of Interim Measures

The Permittee's report shall document interim measures which were or are being undertaken at the facility. This shall include:

1. Objectives of the interim measures: how the measure is mitigating a potential threat to human health and the environment and/or is consistent with and integrated into any long term solution at the facility;

2. Design, construction, operation, and maintenance requirements;

3. Schedules for design, construction and monitoring; and

4. Schedule for progress reports.

IV. TASK II: PRE-INVESTIGATION EVALUATION OF CORRECTIVE MEASURE TECHNOLOGIES

The Permittee shall submit a report that identifies the potential corrective measure technologies that may be used on-site or off-site for the containment, treatment, remediation, and/or disposal of contamination. This report shall also identify any field data that needs to be

collected in the facility investigation to facilitate the evaluation and selection of the final corrective measure or measures (e.g., compatibility of waste and construction materials, information to evaluate effectiveness, treatability of wastes, etc.).

V. TASK III: RFI MANAGEMENT PLANS

The Permittee shall submit RFI Management Plans. These Plans shall be followed during the implementation of RFI, and will be part of the RFI Workplan. During the RFI, these Management Plans may be necessary for revisions depending on the detail of information collected to accommodate the facility specific situation. The RFI Management Plans include the following:

A. Project Management Plan

The Permittee shall prepare a Project Management Plan which will include a discussion of the technical approach, schedules, budget, and personnel. The Project Management Plan will also include a description of qualifications of personnel performing or directing the RFI, including contractor personnel. This plan shall also document the overall management approach to the RCRA Facility Investigation.

B. Data Collection Quality Assurance Plan

The Permittee shall prepare a plan to document all monitoring procedures: sampling, field measurements, and sample analysis performed during the investigation to characterize the environmental setting, source, and contamination, so as to ensure that all information, data and resulting decisions are technically sound, statistically valid, and properly documented.

1. Data Collection Strategy

The strategy section of the Data Collection Quality Assurance Plan shall include but not be limited to the following:

a. Description of the intended uses for the data, and the necessary level of precision and accuracy for these intended uses;

b. Description of methods and procedures to be used to assess the precision, accuracy and completeness of the measurement data;

c. Description of the rationale used to assure that the data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition or an environmental condition. Examples of factors which shall be considered and discussed include:

   i. Environmental conditions at the time of sampling;

   ii. Number of sampling points;

   iii. Representativeness of selected media; and

   iv. Representativeness of selected analytical parameters.

d. Description of the measures to be taken to assure that the following data sets can be compared to each other:

   i. RFI data generated by the Permittee over some time period;

   ii. RFI data generated by an outside laboratory or consultant versus data generated by the Permittee;

   iii. Data generated by separate consultants or laboratories; and

   iv. Data generated by an outside consultant or laboratory over some time period.

e. Details relating to the schedule and information to be provided in quality assurance reports. The reports should include but not be limited to:

   i. Periodic assessment of measurement data accuracy, precision, and completeness;

   ii. Results of performance audits;

   iii. Results of system audits;

   iv. Significant quality assurance problems and recommended solutions; and

v. Resolutions of previously stated problems.

2. Sampling

The Sampling section of the Data Collection Quality Assurance Plan shall discuss:

a. Selecting appropriate sampling locations, depths, etc.;

b. Providing a statistically sufficient number of sampling sites;

c. Measuring all necessary ancillary data;

d. Determining conditions under which sampling should be conducted;

e. Determining which media are to be sampled (e.g., groundwater, air, soil, sediment, etc.);

f. Determining which parameters are to be measured and where;

g. Selecting the frequency of sampling and length of sampling period;

h. Selecting the types of sample (e.g., composites vs. grabs) and number of samples to be collected;

i. Measures to be taken to prevent contamination of the sampling equipment and cross contamination between sampling points;

j. Documenting field sampling operations and procedures, including;

i. Documentation of procedures for preparation of reagents or supplies which become an integral part of the sample (e.g., filters, and adsorbing reagents);

ii. Procedures and forms for recording the exact location and specific considerations associated with sample acquisition;

iii. Documentation of specific sample preservation method;

iv. Calibration of field devices;

v. Collection of replicate samples;

vi. Submission of field-biased blanks, where appropriate;

vii. Potential interferences present at the facility;

viii. Construction materials and techniques, associated with monitoring wells and piezometers;

ix. Field equipment listing and sample containers;

x. Sampling order; and

xi. Decontamination procedures.

k. Selecting appropriate sample containers;

l. Sample preservation; and

m. Chain-of-custody, including:

i. Standardized field tracking reporting forms to establish sample custody in the field prior to and during shipment; and

ii. Pre-prepared sample labels containing all information necessary for effective sample tracking.

3. Field Measurements

The Field Measurements section of the Data Collection Quality Assurance Plan shall discuss:

a. Selecting appropriate field measurement locations, depths, etc.;

b. Providing a statistically sufficient number of field measurements;

c. Measuring all necessary ancillary data;

d. Determining conditions under which field measurements should be conducted;

e. Determining which media are to be addressed by appropriate field measurements (e.g., groundwater, air, soil, sediment, etc.);

f. Determining which parameters are to be measured and where;

g. Selecting the frequency of field measurement and length of field measurements period; and

h. Documenting field measurement operations and procedures, including:

   i. Procedures and forms for recording raw data and the exact location, time, and facility-specific considerations associated with the data acquisition;

   ii. Calibration of field devices;

   iii. Collection of replicate measurements;

   iv. Submission of field-biased blanks, where appropriate;

   v. Potential interferences present at the facility;

   vi. Construction materials and techniques associated with monitoring wells and piezometers used to collect field data;

   vii. Field equipment listing;

   viii. Order in which field measurements were made; and

   ix. Decontamination procedures.

4. Sample Analysis

The Sample Analysis section of the Data Collection Quality Assurance Plan shall specify the following:

a. Chain-of-custody procedures, including:

   i. Identification of a responsible party to act as sample custodian at the laboratory facility authorized to sign for incoming field samples, obtain documents of shipment, and verify the data entered onto the sample custody records;

   ii. Provision for a laboratory sample custody log consisting of serially numbered standard lab-tracking report sheets; and

   iii. Specification of laboratory sample custody procedures for sample handling, storage, and dispersement for analysis.

b. Sample storage procedures and storage times;

c. Sample preparation methods;

d. Analytical procedures, including:

   i. Scope and application of the procedure;

   ii. Sample matrix;

   iii. Potential interferences;

   iv. Precision and accuracy of the methodology; and

   v. Method detection limits.

e. Calibration procedures and frequency;

f. Data reduction, validation and reporting;

g. Internal quality control checks, laboratory performance and systems audits and frequency, including:

   i. Method blank(s);

   ii. Laboratory control sample(s);

   iii. Calibration check sample(s);

   iv. Replicate sample(s);

v. Matrix-spiked sample(s);

vi. "Blind" quality control sample(s);

vii. Control charts;

viii. Surrogate samples;

ix. Zero and span gases; and

x. Reagent quality control checks.

h. Preventive maintenance procedures and schedules;

i. Corrective action (for laboratory problems); and

j. Turnaround time.

C. Data Management Plan

The Permittee shall develop and initiate a Data Management Plan to document and track investigation data and results. This plan shall identify and set up data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The plan shall also provide the format to be used to present the raw data and conclusions of the investigation.

1. Data Record

The data record shall include the following:

a. Unique sample or field measurement code;

b. Sampling or field measurement location and sample or measurement type;

c. Sampling or field measurement raw data;

d. Laboratory analysis ID number;

e. Property or component measured; and

f. Result of analysis (e.g., concentration).

2. Tabular Displays

The following data shall be presented in tabular displays:

a. Unsorted (raw) data;

b. Results for each medium, or for each constituent monitored;

c. Data reduction for statistical analysis;

d. Sorting of data by potential stratification factors (e.g., location, soil layer, topography); and

e. Summary data.

3. Graphical Displays

The following data shall be presented in graphical formats (e.g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transacts, three dimensional graphs, etc.):

a. Display sampling location and sampling grid;

b. Indicate boundaries of sampling area, and areas where more data are required;

c. Display levels of contamination at each sampling location;

d.. Display geographical extent of contamination;

e. Display contamination levels, averages, and maxima;

f. Illustrate changes in concentration in relation to distance from the source, time, depth or other parameters; and

g. Indicate features affecting intramedia transport and show potential receptors.

D. <u>Health and Safety Plan</u>

The Permittee shall prepare a facility Health and Safety Plan.

1. Major elements of the Health and Safety Plan shall include:

a. Facility description including availability of resources such as roads, water supply, electricity and telephone service;

b. Describe the known hazards and evaluate the risks associated with the incident and with each activity conducted;

c. List key personnel and alternates responsible for site safety, response operations, and for protection of public health;

d. Delineate work areas;

e. Describe levels of protection to be worn by personnel in work areas;

f. Establish procedures to control site access;

g. Describe decontamination procedures for personnel and equipment;

h. Establish site emergency procedures;

i. Address emergency medical care for injuries and toxicological problems;

j. Describe requirements for an environmental surveillance program;

k. Specify any routine and special training required for responders; and

l. Establish procedures for protecting workers from weather-related problems.

2. The Facility Health and Safety Plan shall be consistent with:

a. NIOSH Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (1985);

b. EPA Order 1440.1 - Respiratory Protection;

c. EPA Order 1440.3 - Health and Safety Requirements for Employees engaged in Field Activities;

d. Facility Contingency Plan;

e. EPA Standard Operating Safety Guide (1984);

f. OSHA regulations particularly in 29 CFR 1910 and 1926;

g. State, local, and other federal agency (e.g., DOD, DOE) regulations; and

h. Other EPA guidance as provided.

E. Community Relations Plan

The Permittee shall prepare a plan, for the dissemination of information to the public regarding investigation activities and results.

VI. TASK IV: FACILITY INVESTIGATION

The Permittee shall conduct those investigations necessary to: characterize the facility (Environmental Setting); define the source (Source Characterization); define the degree and extent of contamination (Contamination Characterization); and identify actual or potential receptors.

The investigations should result in data of adequate technical quality to support the development and evaluation of the corrective measure alternative or alternatives during the Corrective Measures Study ("CMS").

The site investigation activities shall follow the plans set forth in Task III. All sampling and analyses shall be conducted in accordance with the Data Collection Quality Assurance Plan. All sampling locations shall be documented in a log and identified on a detailed site map.

A. Environmental Setting

The Permittee shall collect information to supplement and verify existing information on the environmental setting at the facility. The Permittee shall characterize the following:

1. Hydrogeology

The Permittee shall conduct a program to evaluate hydrogeologic conditions at the facility. This program shall provide the following information:

a. A description of the regional and facility specific geologic and hydrogeologic characteristics affecting groundwater flow beneath the facility, including:

i. Regional and facility specific stratigraphy: description of strata including strike and dip, identification of stratigraphic contacts;

ii. Structural geology: description of local and regional structural features (e.g., folding, faulting, tilting, jointing, etc.);

iii. Depositional history;

iv. Identification and characterization of areas and amounts of recharge and discharge;

v. Regional and facility specific groundwater flow patterns; and

vi. Characterize seasonal variations in the groundwater flow regime.

b. An analysis of any topographic features that might influence the groundwater flow system. (Note: Stereographic analysis of aerial photographs may aid in this analysis).

c. Based on field data, test, and cores, a representative and accurate classification and description of the hydrogeologic units which may be part of the migration pathways at the facility (i.e., the aquifers and any intervening saturated and unsaturated units), including:

i. Hydraulic conductivity and porosity (total and effective);

ii. Lithology, grain size, sorting, degree of cementation;

iii. An interpretation of hydraulic interconnections between saturated zones; and

iv. The attenuation capacity and mechanisms of the natural earth materials (e.g., ion exchange capacity, organic carbon content, mineral content etc.).

d. Based on field studies and cores, structural geology, and hydrogeologic cross sections showing the extent (depth, thickness, lateral extent) of hydrogeologic units which may be part of the migration pathways identifying:

   i. Sand and gravel deposits in unconsolidated deposits;

   ii. Zones of fracturing or channeling in consolidated or unconsolidated deposits;

   iii. Zones of higher permeability or low permeability that might direct and restrict the flow of contaminants;

   iv. The uppermost aquifer: geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs; and

   v. Water-bearing zones above the first confining layer that may serve as a pathway for contaminant migration including perched zones of saturation.

e. Based on data obtained from groundwater monitoring wells and piezometers installed upgradient and downgradient of the potential contaminant source, a representative description of water level or fluid pressure monitoring including:

   i. Water-level contour and/or potentiometric maps;

   ii. Hydrologic cross sections showing vertical gradients;

   iii. The flow system, including the vertical and horizontal components of flow; and

   iv. Any temporal changes in hydraulic gradients, for example, due to tidal or seasonal influences.

f. A description of manmade influences that may affect the hydrogeology of the site, identifying:

i. Active and inactive local water-supply and production wells with an approximate schedule of pumping; and

ii. Manmade hydraulic structures (pipelines, french drains, ditches, unlined ponds, septic tanks, NPDES outfalls, retention areas, etc.).

2. Soils

The Permittee shall conduct a program to characterize the soil and rock units above the water table in the vicinity of the contaminant release(s). Such characterization shall include but not be limited to, the following information:

a. SCS soil classification;

b. Surface soil distribution;

c. Soil profile, including ASTM classification of soils;

d. Transacts of soil stratigraphy;

e. Hydraulic conductivity (saturated and unsaturated);

f. Relative permeability;

g. Bulk density;

h. Porosity;

i. Soil sorptive capacity;

j. Cation exchange capacity (CEC);

k. Soil organic content;

l. Soil pH;

m. Particle size distribution;

n. Depth of water table;

o. Moisture content;

p. Effect of stratification on unsaturated flow;

q. Infiltration

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r. Evapotranspiration;

s. Storage capacity;

t. Vertical flow rate; and

u. Mineral content.

3. Surface Water and Sediment

The Permittee shall conduct a program to characterize the surface water bodies in the vicinity of the facility. Such characterization shall include, but not be limited to, the following activities and information:

a. Description of the temporal and permanent surface-water bodies including:

i. For lakes and estuaries: location, elevation, surface area, inflow, outflow, depth, temperature stratification, and volume;

ii. For impoundments: location, elevation, surface area, depth, volume, freeboard, and purpose of impoundment;

iii. For streams, ditches, drains, swamps and channels: location, elevation, flow, velocity, depth, width, seasonal fluctuations, and flooding tendencies (i.e., 100 year event);

iv. Drainage patterns; and

v. Evapotranspiration.

b. Description of the chemistry of the natural surface water and sediments. This includes determining the pH, total dissolved solids, total suspended solids, biological oxygen demand, alkalinity, conductivity, dissolved oxygen profiles, nutrients (NH_3, NO_3^-/NO_2^-, PO_4^{-3}), chemical oxygen demand, total organic carbon, specific contaminant concentrations, etc.

c. Description of sediment characteristics including:

i. Deposition area;

ii. Thickness profile; and

iii. Physical and chemical parameters (e.g., grain size, density, organic carbon content, ion exchange capacity, pH, etc.)

B. Source Characterization

The Permittee shall collect analytical data to completely characterize the wastes and the areas where wastes have been placed, collected or removed including: type; quantity; physical form; disposition (contain- ment or nature of deposits); and facility characteristics affecting release (e.g., facility security, and engineered barriers). This shall include quantification of the following specific characteristics at each source area:

1. Unit/Disposal Area characteristics:

a. Location of unit/disposal area;

b. Type of unit/disposal area;

c. Design features;

d. Operating practices (past and present.;

e. Period of operation;

f. Age of unit/disposal area;

g. General physical conditions; and

h. Method used to close the unit/disposal area.

2. Waste Characteristics:

a. Type of waste placed in the unit;

i. Hazardous classification (e.g., flammable, reactive, corrosive, oxidizing, or reducing agent);

ii. Quantity; and

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iii. Chemical composition.

b. Physical and chemical characteristics;

i. Physical form (solid, liquid, gas);

ii. Physical description (e.g., powder, oily sludge);

iii. Temperature;

iv. pH;

v. General chemical class (e.g., acid, base, solvent);

vi. Molecular weight;

vii. Density;

viii. Boiling point;

ix. Viscosity;

x. Solubility in water;

xi. Cohesiveness of the waste;

xii. Vapor pressure.

xiii. Flash point

c. Migration and dispersal characteristics of the waste;

i. Sorption;

ii. Biodegradability, bioconcentration, biotransformation;

iii. Photodegradation rates;

iv. Hydrolysis rates; and

v. Chemical transformations.

The Permittee shall document the procedures used in making the above determinations.

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C. Contamination Characterization

The Permittee shall collect analytical data on groundwater, soils, and/or surface water/sediment contamination in the vicinity of the facility. This data shall be sufficient to define the extent, origin, direction, and rate of movement of contaminant plumes. Data shall include time and location of sampling, media sampled, concentrations found, and conditions during sampling, and the identity of the individuals performing the sampling and analysis. The Permittee shall address the following types of contamination at the facility:

1. Groundwater Contamination

The Permittee shall conduct a groundwater investigation to characterize any plumes of contamination at the facility. This investigation shall, at a minimum, provide the following information:

a. A description of the horizontal and vertical extent of any immiscible or dissolved plume(s) originating from the facility;

b. The horizontal and vertical direction of contamination movement;

c. The velocity of contaminant movement;

d. The horizontal and vertical concentration profiles of chemical contaminants;

e. An evaluation of factors influencing the plume movement; and

f. An extrapolation of future contaminant movement.

The Permittee shall document the procedures used in making the above determinations (e.g., well design, well construction, geophysics, modeling, etc.).

2. Soil Contamination

The Permittee shall conduct an investigation to characterize the contamination of the soil above the water table in the vicinity of the contaminant release(s). The investigation shall include the following information:

a. A description of the vertical and horizontal extent of contami-nation.

b. A description of contaminant and soil chemical properties within the contaminant source area and plume. This includes contaminant solubility, specification, adsorption, leachability, exchange capacity, biodegradability, hydrolysis, photolysis, oxidation, and other factors that might affect contaminant migration and transformation.

c. Specific contaminant concentrations.

d. The velocity and direction of contaminant movement.

e. An extrapolation of future contaminant movement.

The Permittee shall document the procedures used in making the above determinations.

3. Surface-Water and Sediment Contamination

The Permittee shall conduct a surface-water and sediment investigation to characterize potential contamination in surface-water bodies and sediments resulting from the contaminant release(s) by the facility. The investigation shall include, but not be limited to, the following information:

a. A description of the horizontal and vertical extent of any immiscible or dissolved plume(s) originating from the facility, and the extent of contamination in underlying sediments;

b. The horizontal and vertical direction of contaminant movement;

c. The contaminant velocity;

d. An evaluation of the physical, biological and chemical factors influencing contaminant movement;

e. An extrapolation of future contaminant movement; and

f. A description of the chemistry of the contaminated surface waters and sediments. This includes determining the pH, total dissolved solids, specific contaminant concentrations, etc.;

The Permittee shall document the procedures used in making the above determinations.

D. Potential Receptors

The Permittee shall collect data describing the human populations and environmental systems that are susceptible to contaminant exposure from the facility. Chemical analysis of biological samples may be needed. Data on observable effects in ecosystems may also be obtained. The following characteristics shall be identified:

1. Local uses and possible future uses of groundwater:

   a. Type of use (e.g., drinking water source: municipal or residential, agricultural, domestic/non-potable, and industrial); and

   b. Location of groundwater users including wells and discharge areas.

2. Local uses and possible future uses of surface waters draining the facility:

   a. Domestic and municipal (e.g., potable and lawn/gardening watering);

   b. Recreational (e.g., swimming, fishing);

   c. Agricultural;

   d. Industrial; and

   e. Environmental (e.g., fish and wildlife propagation).

3. Human use of or access to the facility and adjacent lands, including but not limited to:

   a. Recreation;

   b. Hunting;

   c. Residential;

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d. Commercial;

e. Zoning; and

f. Relationship between population locations and prevailing wind direction.

4. A description of the biota in surface water bodies on, adjacent to, or affected by the facility.

5. A description of the ecology overlying and adjacent to the facility.

6. A demographic profile of the people who use or have access to the facility and adjacent land, including, but not limited to: age; sex; and sensitive subgroups.

7. A description of any endangered or threatened species near the facility.

VII. TASK V: INVESTIGATION ANALYSIS

The Permittee shall prepare an analysis and summary of all facility investi-gations and their results. The objective of this task shall be to ensure that the investigation data are sufficient in quality (e.g., quality assurance procedures have been followed) and quantity to describe the nature and extent of contamination, potential threat to human health and/ or the environment, and to support the Corrective Measures Study.

A. Data Analysis

The Permittee shall analyze all facility investigation data outlined in Task IV and prepare a report on the type and extent of contamination at the facility including sources and migration pathways. The report shall describe the extent of contamination (qualitative/quantitative) in relation to background levels indicative for the area.

B. Protection Standards

The Permittee shall identify all relevant and applicable standards for the protection of human health and the environment (e.g., National Ambient Air Quality Standards, federally-approved water quality standards, etc.).

VIII. TASK VI: LABORATORY AND BENCH-SCALE STUDIES

The Permittee shall conduct laboratory and/or bench scale studies to determine the applicability of a corrective measure technology or technologies to facility conditions. The Permittee shall analyze the technologies, based on literature review, vendor contracts, and past experience to determine the testing requirements.

The Permittee shall develop a testing plan identifying the types(s) and goal(s) of the study(s), the level of effort needed, and the procedures to be used for data management and interpretation.

Upon completion of the testing, the Permittee shall evaluate the testing results to assess the technology or technologies with respect to the site-specific questions identified in the test plan.

The Permittee shall prepare a report summarizing the testing program and its results, both positive and negative.

IX. TASK VII: REPORTS

A. Progress

The Permittee shall provide the EPA with signed, quarterly progress reports as required by Condition B.8.a of Module III of this permit.

B. Draft and Final

The Permittee shall prepare a RCRA Facility Investigation ("RFI") Report as required by Condition E.3 of Module III of this Permit. The RFI Report shall present all information gathered under the approved RFI Workplan.

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APPENDIX B
SCOPE OF WORK FOR
A CORRECTIVE MEASURE STUDY

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Appendix B

SCOPE OF WORK FOR A CORRECTIVE MEASURE STUDY AT LENOX CHINA, A DIVISION OF LENOX, INCORPORATED POMONA, NEW JERSEY

I. PURPOSE

The purpose of this Corrective Measure Study (CMS) is to develop and evaluate the corrective action alternative or alternatives and to recommend the corrective measure or measures to be taken. The Permittee will furnish the personnel, materials, and services necessary to prepare the corrective measure study, except as otherwise specified.

II. SCOPE

The Corrective Measure Study consists of four tasks:

Task I: Identification and Development of the Corrective Measure Alternative or Alternatives

- A. Description of Current Situation
- B. Establishment of Corrective Action Objectives
- C. Screening of Corrective Measures Technologies
- D. Identification of the Corrective Measure Alternative or Alternatives

Task II: Evaluation of the Corrective Measure Alternative or Alternatives

- A. Technical/Environmental/Human Health/Institutional
- B. Cost Estimate

Task III: Justification and Recommendation of the Corrective Measure or Measures

- A. Technical
- B. Environmental
- C. Human Health

Task IV: Reports

- A. Progress
- B. Final

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III. TASK I: IDENTIFICATION AND DEVELOPMENT OF THE CORRECTIVE ACTION ALTERNATIVE OR ALTERNATIVES

Based on the results of the RCRA Facility Investigation and consideration of the identified Preliminary Corrective Measure Technologies (Task II of Appendix A of this Permit), the Permittee shall identify, screen, and develop the alternative or alternatives for removal, containment, treatment and/or other remediation of the contamination based on the objectives established for the corrective action.

A. Description of Current Situation

The Permittee shall submit an update to the information describing the current situation at the facility and the known nature and extent of the contamination as documented by the RCRA Facility Investigation Report. The Permittee shall provide an update to information presented in Task I of the RFI to the Agency regarding previous response activities and any interim measures which have or are being implemented at the facility. The Permittee shall also make a facility-specific statement of the purpose for the response, based on the results of the RCRA Facility Investigation ("RFI"). The statement of purpose should identify the actual or potential exposure pathways that should be addressed by corrective measures.

B. Establishment of Corrective Action Objectives

The Permittee, in conjunction with EPA, shall establish site specific objectives for the corrective action. These objectives shall be based on public health and environmental criteria, information gathered during the RFI, EPA guidance, and the requirements of any applicable federal statutes. At a minimum, all corrective actions concerning groundwater releases from regulated units must be consistent with, and as stringent as, those required under 40 CFR §264.100.

C. Screening of Corrective Measure Technologies

The Permittee shall review the results of the RFI and reassess the technologies specified in Task II and identify additional technologies which are applicable at the facility. The Permittee shall screen the preliminary corrective measure technologies identified in Task II of the RFI and any supplemental technologies

to eliminate those that may prove infeasible to implement, that rely on technologies unlikely to perform satisfactorily or reliably, or that do not achieve the corrective measure objective within a reasonable time period. This screening process focuses on eliminating those technologies which have severe limitations for a given set of waste and site-specific conditions. The screening step may also eliminate technologies based on inherent technology limitations. Site, waste, and technology characteristics which are used to screen inapplicable technologies are described in more detail below:

1. Site Characteristics

   Site data should be reviewed to identify conditions that may limit or promote the use of certain technologies. Technologies whose use is clearly precluded by site characteristics should be eliminated from further consideration;

2. Waste Characteristics

   Identification of waste characteristics that limit the effectiveness or feasibility of technologies is an important part of the screening process. Technologies clearly limited by these waste characteristics should be eliminated from consideration. Waste characteristics particularly affect the feasibility of in-situ methods, direct treatment methods, and land disposal (on/off-site); and

3. Technology Limitations

   During the screening process, the level of technology development,performance record, and inherent construction, operation, and maintenance problems should be identified for each technology considered. Technologies that are unreliable, perform poorly, or are not fully demonstrated may be eliminated in the screening process. For example, certain treatment methods have been developed to a point where they can be implemented in the field without extensive technology transfer or development.

D. Identification of the Corrective Measure Alternative or Alternatives

The Permittee shall develop the corrective measure alternative or alternatives based on the corrective action objectives and analysis of the Preliminary Corrective Measure Technologies, as presented in Task II of the RFI and as supplemented following the preparation of the RFI Final Report. The Permittee shall rely on engineering practice to determine which of the previously identified technologies appear most suitable for the site. Technologies can be combined to form the overall corrective action alternative or alternatives. The alternative or alternatives developed should represent a workable number of option(s) that each appear to adequately address all site problems and corrective action objectives. Each alternative may consist of an individual technology or a combination of technologies. The Permittee shall document the reasons for excluding technologies, identified in Task II, as supplemented in the development of the alternative or alternatives.

IV. TASK II: EVALUATION OF THE CORRECTIVE MEASURE ALTERNATIVE OR ALTERNATIVES

The Permittee shall describe each corrective measure alternative that passes through the Initial Screening in Task I of this appendix and evaluate each corrective measure alternative and its components. The evaluation shall be based on technical, environmental, human health and institutional concerns. The Permittee shall also develop cost estimates of each corrective measure.

A. Technical/Environmental/Human Health/Institutional

The Permittee shall provide a description of each corrective measure alternative which includes but is not limited to the following: preliminary process flow sheets; preliminary sizing and type of construction for buildings and structures; and rough quantities of utilities required. The Permittee shall evaluate each alternative in the four following areas:

1. Technical

The Permittee shall evaluate each corrective measure alternative based on performance, reliability, implementability and safety.

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a. The Permittee shall evaluate performance based on the effectiveness and useful life of the corrective measure:

   i. Effectiveness shall be evaluated in terms of the ability to perform intended functions, such as containment, diversion, removal, destruction, or treatment. The effectiveness of each corrective measure shall be determined either through design specifications or by performance evaluation. Any specific waste or site characteristics which could potentially impede effectiveness shall be considered. The evaluation should also consider the effectiveness of combinations of technologies; and

   ii. Useful life is defined as the length of time the level of effectiveness can be maintained. Most corrective measure technologies, with the exception of destruction, deteriorate with time. Often, deterioration can be slowed through proper system operation and maintenance, but the technology eventually may require replacement. Each corrective measure shall be evaluated in terms of the projected service lives of its component technologies. Resource availability in the future life of the technology, as well as appropriateness of the technologies, must be considered in estimating the useful life of the project.

b. The Permittee shall provide information on there liability of each corrective measure including their operation and maintenance requirements and their demonstrated reliability:

   i. Operation and maintenance requirements include the frequency and complexity of necessary operation and maintenance. Technologies requiring frequent or complex operation and maintenance activities should be regarded as less reliable than technologies requiring

little or straight forward operation and maintenance. The availability of labor and materials to meet these requirements shall also be considered; and

ii. Demonstrated and expected reliability is a way of measuring the risk and effect of failure. The Permittee should evaluate whether the technologies have been used effectively under analogous conditions; whether the combination of technologies have been used together effectively; whether failure of any one technology has an immediate impact on receptors; and whether the corrective measure has the flexibility to deal with uncontrollable changes at the site.

c. The Permittee shall describe the implementability of each corrective measure including the relative ease of installation (constructability) and the time required to achieve a given level of response:

i. Constructability is determined by conditions both internal and external to the facility conditions and include such items as location of underground utilities, depth to water table, heterogeneity of subsurface materials, and location of the facility (i.e., remote location vs. a congested urban area). The Permittee shall evaluate what measures can be taken to facilitate construction under these conditions. External factors which affect implementation include the need for special permits or agreements, equipment availability, and the location of suitable off-site treatment or disposal facilities; and

ii. Time has two components that shall be addressed: (1) the time it takes to implement a corrective measure and (2) the time it takes to actually see beneficial results. Beneficial results are defined as the reduction of contaminants to some acceptable, pre-established level.

d. The Permittee shall evaluate each corrective measure alternative with regard to safety. This evaluation shall include threats to the safety of nearby communities and environments as well as those to workers during implementation. Among the factors to consider are fire, explosion, and exposure to hazardous substances.

2. Environmental

The Permittee shall perform an Environmental Assessment for each alternative. The Environmental Assessment shall focus on the facility conditions and pathways of contamination actually addressed by each alternative. The Environmental Assessment for each alternative will include, at a minimum, an evaluation of: the short and long term beneficial and adverse effects of the response alternative; any adverse effects on environmentally sensitive areas; and an analysis of measures to mitigate adverse effects.

3. Human Health

The Permittee shall assess each alternative in terms of the extent to which it mitigates short and long term potential exposure to any residual contamination and protects human health both during and after implementation the corrective measure. The assessment will describe the levels and characterizations of contaminants on-site, potential exposure routes, and potentially affected populations. Each alternative will be evaluated to determine the level of exposure to contaminants and the reduction over time. For management of mitigation measures, the relative reduction of impact will be determined by comparing residual levels of each alternative with existing criteria, standards, or guidelines acceptable to EPA.

4. Institutional

The Permittee shall assess relevant institutional needs for each alternative. Specifically, the effects of Federal, State, and local environmental and public health standards, regulations, guidance, advisories, ordinances, or community relations on the design, operation, and timing of each alternative.

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B. Cost Estimate

The Permittee shall develop an estimate of the cost of each corrective measure alternative (and for each phase or segment of the alternative). The cost estimate shall include both capital, operation and maintenance costs.

1. Capital costs consist of direct (construction) and indirect (nonconstruction and overhead) costs.

   a. Direct capital costs include:

      i. Construction costs: Costs of materials, labor (including fringe benefits and worker's compensation), and equipment required to install the corrective measure.

      ii. Equipment costs: Costs of treatment, containment, disposal and/or service equipment necessary to implement the action; these materials remain until the corrective action is complete;

   b. Indirect capital costs include:

      i. Engineering expenses: Costs of administration, design,construction supervision, drafting, and testing of corrective measure alternatives;

      ii. Legal fees and license or permit costs: Administrative and technical costs necessary to obtain licenses and permits for installation and operation;

      iii. Startup and shakedown costs: Costs incurred during corrective measure startup; and

      iv. Contingency allowances: Funds to cover costs resulting from unforeseen circumstances, such as adverse weather conditions, strikes, and inadequate facility characterization.

2. Operation and maintenance costs are post-construction costs necessary to ensure continued effectiveness of a corrective measure. The Permittee shall consider the following operation and maintenance cost components:

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a. Operating labor costs: Wages, salaries, training, overhead, and fringe benefits associated with the labor needed for post-construction operations;

b. Maintenance materials and labor costs: Costs for labor, parts, and other resources required for routine maintenance of facilities and equipment;

c. Auxiliary materials and energy: Costs of such items as chemicals and electricity for treatment plant operations, water and sewer service, and fuel;

d. Purchased services: Sampling costs, laboratory fees, and professional fees for which the need can be predicted;

e. Disposal and treatment costs: Costs of transporting, treating,and disposing of waste materials, such as treatment plant residues, generated during operations;

f. Administrative costs: Costs associated with administration of corrective measure operation and maintenance not included under other categories;

g. Insurance, taxes, and licensing costs: Costs of such items as liability and sudden accidental insurance; real estate taxes on purchased land or rights-of-way; licensing fees for certain technologies; and permit renewal and reporting costs;

h. Maintenance reserve and contingency funds: Annual payments into escrow funds to cover (1) costs of anticipated replacement or rebuilding of equipment and (2) any large unanticipated operation and maintenance costs; and

i. Other costs: Items that do not fit any of the above categories.

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V. TASK III: JUSTIFICATION AND RECOMMENDATION OF THE CORRECTIVE MEASURE OR MEASURES

The Permittee shall justify and recommend a corrective measure alternative using technical, human health, and environmental criteria. This recommendation shall include summary tables which allow the alternative or alternatives to be understood easily. Tradeoffs among health risks, environmental effects, and other pertinent factors shall be highlighted. The EPA will select the corrective measure alternative or alternatives to be implemented based on the results of Tasks II and III of this appendix. At a minimum, the following criteria will be used to justify the final corrective measure or measures.

A. Technical

1. Performance - corrective measure or measures which are most effective at performing their intended functions and maintaining the performance over extended periods of time will be given preference;

2. Reliability - corrective measure or measures which do not require frequent or complex operation and maintenance activities and that have proven effective under waste and facility conditions similar to those anticipated will be given preference;

3. Implementability - corrective measure or measures which can be constructed and operated to reduce levels of contamination to attain or exceed applicable standards in the shortest period of time will be preferred; and

4. Safety - corrective measure or measures which pose the least threat to the safety of nearby residents and environments as well as workers during implementation will be preferred.

B. Human Health

The corrective measure or measures must comply with existing EPA criteria, standards, or guidelines for the protection of human health. Corrective measures which provide the minimum level of exposure to contaminants and the maximum reduction in exposure with time are preferred.

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C. Environmental

The corrective measure or measures posing the least adverse impact (or greatest improvement) over the shortest period of time on the environment will be favored.

VI. TASK IV:REPORTS

A. Progress

The Permittee shall provide the EPA with signed, progress reports as required by Condition B.8.a of Module III of this Permit.

B. Corrective Measures Study ("CMS") Final Report

The Permittee shall prepare a CMS Final Report as required by Condition E.7 of Module III of this Permit. The CMS Final Report shall include all information gathered under the approved CMS Workplan. The CMS Final Report shall at a minimum include:

1. A description of the facility;

   a. Site topographic map & preliminary layouts.

2. A summary of the corrective measure or measures;

   a. Description of the corrective measure or measures and rationale for selection;

   b. Performance expectations;

   c. Preliminary design criteria and rationale;

   d. General operation and maintenance requirements; and

   e. Long-term monitoring requirements.

3. A summary of the RCRA Facility Investigation and impact on the selected corrective measure or measures;

   a. Field studies (groundwater, surface-water, soil, air); and

   b. Laboratory studies (bench scale, pick scale).

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4. Design and Implementation Precautions;

   a. Special technical problems;

   b. Additional engineering data required;

   c. Permits and regulatory requirements;

   d. Access, easements, right-of-way;

   e. Health and safety requirements; and

   f. Community relations activities.

5. Cost Estimates and Schedules;

   a. Capital cost estimate;

   b. Operation and maintenance cost estimate; and

   c. Project schedule (design, construction, operation).

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APPENDIX C

COMPLIANCE SCHEDULE

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APPENDIX C

COMPLIANCE SCHEDULE
AT
LENOX CHINA, A DIVISION OF LENOX, INCORPORATED
POMONA, NEW JERSEY

I. Compliance Schedule For Interim Corrective Measures.

A. Pursuant to Module III Condition B.6.a, Permittee shall submit for approval an interim corrective measures study within thirty (30) calendar days following the date of the notification by the Regional Administrator requiring implementation of interim corrective measures.

B. Pursuant to Module III Condition B.6.b, Permittee shall submit for approval an interim corrective measures work plan within thirty (30) calendar days after notifying the Regional Administrator of the actual or potential threat to human health or the environment.

II. Compliance Schedule For Reporting.

A. Pursuant to Module III Condition B.8.a, Permittee shall submit signed progress reports of all activities conducted in accordance with the provisions of this Permit Module, beginning no later than thirty (30) calendar days after the Permittee is first required to begin implementation of any such requirement.

III. Compliance Schedule for Notification

A. Pursuant to Module III Condition B.10.a, Permittee within fifteen (15) calendar days; after discovering facility releases of hazardous constituents in groundwater exceeding action levels have migrated off-site, shall notify the Regional Administrative and off-site owners or residents on land overlying such contamination.

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B. Pursuant to Module III Condition B.10.b, Permittee within fifteen (15) calendar days; after discovering facility releases of hazardous constituents in air have or are migrated off-site, exceeding action levels, shall notify the Regional Administrator and off-site individuals subject to such long term exposure.

IV. Compliance Schedule For Assessment of Newly Identified SWMUs.

A. Pursuant to Module III Condition C.1, Permittee shall notify the Regional Administrator, in writing, of any additional SWMU(s) within fifteen (15) calendar days after discovery.

B. Pursuant to Module III Condition C.2, Permittee shall submit a SWMU Assessment Report within thirty (30) calendar days after notifying the Regional Administrator of any additional SWMU(s).

C. Pursuant to Module III Condition C.3, Permittee shall submit for approval a SWMU Sampling and Analysis Plan within thirty (30) calendar days after submittal of the SWMU Assessment Report.

D. Pursuant to Module III Condition C.4.b, Permittee shall submit for approval revisions of the SWMU Sampling and Analysis Plan within thirty (30) calendar days after meeting with the Agency to discuss Plan comments, or within forty-five (45) calendar days after Permittee's receipt of Plan comments when no meeting is scheduled.

E. Pursuant to Module III Condition C.4.c, Permittee shall begin to implement the SWMU Sampling and Analysis Plan within thirty (30) calendar days following written approval of the Plan.

F. Pursuant to Module III Condition C.5, Permittee shall submit a SWMU Sampling and Analysis Report within thirty (30) calendar days of receipt by the Permittee of validated analytical data generated under the approved SWMU Sampling and Analysis Plan.

V. Compliance Schedule and Notification Requirements For Newly-Discovered Releases At SWMUs.

A. Pursuant to Module III Condition D, Permittee shall notify the Regional Administrator, in writing, of any newly-discovered releases at SWMUs, no later than fifteen (15) calendar days after such discovery.

VI. Compliance Schedule For RCRA Facility Investigation ("RFI") Work Plan.

A. Pursuant to Module III Condition E.1.a, Permittee shall submit for approval a RFI Task I Report for the SWMU(s) identified in Module Condition A.3.c, within ninety (90) calendar days after the effective date of this Permit, if applicable, and within ninety (90) calendar days after written notification that an RFI is required pursuant to Conditions C.6 and/or D of Module III.

B. Pursuant to Module III Condition E.1.b, Permittee shall submit for approval a RFI Task II Report for the SWMU(s) identified in Module Condition A.3.c, within ninety (90) calendar days after the effective date of this Permit, if applicable, and within ninety (90) calendar days after written notification that an RFI is required pursuant to Condition C.6 and/or D of Module III.

C. Pursuant to Module III Condition E.1.c, Permittee shall submit for approval a RFI Work Plan for the SWMU(s) identified in Module Condition A.3.c within one-hundred and fifty (150) calendar days after the effective date of this Permit, if applicable, and within ninety (90) calendar days after written notification that an RFI is required pursuant to Condition C.6 and/or D of Module III.

D. Pursuant to Module III Condition E.1.c.iv Permittee may request, within thirty (30) calendar days of the effective date of this Permit, EPA to review for approval the Permittee's determination that any items required by Task III through V of the Scope of Work in Appendix A have been submitted or completed.

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E. Pursuant to Module III Condition E.1.d.ii, Permittee shall submit for approval revisions to the RFI Work Plan within thirty (30) calendar days after meeting with the Agency to discuss Plan comments, or within forty-five (45) calendar days after Permittee's receipt of Plan comments when no meeting is scheduled.

VII. Compliance Schedule For RFI Work Plan Implementation.

A. Pursuant to Module III Condition E.2, Permittee shall begin to implement the RFI Work Plan within thirty (30) calendar days following written approval of the Plan.

VIII. Compliance Schedule For RFI Final Report And Summary Report.

A. Pursuant to Module III Condition E.3.a, Permittee shall submit for approval the RFI Final and Summary Reports within sixty (60) calendar days of receipt by the Permittee of validated analytical data generated under an approved work plan.

B. Pursuant to Module III Condition E.3.b.ii, Permittee shall submit for approval revisions to the RFI-Final and Summary Reports within forty-five (45) calendar days after meeting with the Regional Administrator to discuss Report comments or within forty-five (45) calendar days after Permittee's receipt of Report comments when no meeting is scheduled.

C. Pursuant to Module III Condition E.3.c, Permittee shall mail the approved Summary Report to all individuals on the facility mailing list within thirty (30) calendar days of receipt of Report approval.

IX. Compliance Schedule For Current Interim Corrective Measures.

A. Pursuant to Module III Condition E.4.a, Permittee shall submit all documents including, but not limited to, investigation reports and raw data which are asociated with the trichloroethylene-contaminated groundwater within thirty (30) calendar days of the effective date of this Permit.

B. Pursuant to Module III Condition E.4.b, Permittee shall submit within thirty (30) calendar days after the Regional Administrator's determination of a need of the interim corrective measures, documents establishing financial assurance for conducting interim corrective measures required by the Regional Administrator pursuant to Module III Condition E.4.a.

X. Compliance Schedule For Corrective Measures Study ("CMS") Scope of Work.

A. Pursuant to Module III Condition E.5.c, Permittee shall submit a Task I Report and documents within sixty (60) calendar days after the written notification by the Regional Administrator for a CMS.

B. Pursuant to Module III Condition E.5.d, Permittee shall submit for approval a CMS Plan within ninety (90) calendar days after the written notification by the Regional Administrator for a CMS.

C. Pursuant to Module III Condition E.5.e.ii, Permittee shall submit for approval revisions to the CMS Plan within thirty (30) calendar days after meeting with the Agency to discuss Plan comments, or within forty-five (45) calendar days after Permittee's receipt of Plan comments when no meeting is scheduled.

XI. Compliance Schedule For CMS Implementation.

A. Pursuant to Module III Condition E.6, Permittee shall begin to implement the CMS Plan within thirty (30) calendar days following written approval of the Plan.

XII. Compliance Schedule For CMS Final Report.

A. Pursuant to Module III Condition E.7.a, Permittee shall submit for approval a CMS Final Report within forty-five (45) days after completion of the CMS.

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B. Pursuant to Module III Condition E.7.c.ii, Permittee shall submit for approval revisions to the CMS Final Report within thirty (30) calendar days after meeting with the Agency to discuss Report comments, or within forty-five (45) calendar days after Permittee's receipt of report comments, when no meeting is scheduled.

XIII. Compliance Schedule For Financial Assurance.

A. Pursuant to Module III Condition E.9.b, Permittee shall demonstrate financial assurance for completing the approved corrective measure(s) within thirty (30) calendar days after this Permit has been modified.

XIV. Modification of the Compliance Schedules.

A. Pursuant to Module III Condition E.10.a.i, Permittee shall submit proposed modifications of any Compliance Schedule within fifteen (15) calendar days of determining that a schedule cannot be met.

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APPENDIX D

COMPONENTS REQUIRED FOR RCRA ANALYTICAL DATA SUBMITTED TO UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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APPENDIX D

COMPONENTS REQUIRED FOR RCRA ANALYTICAL DATA SUBMITTED TO UNITED STATES ENVIRONMENTAL PROTECTION AGENCY* AT LENOX CHINA, A DIVISION OF LENOX, INCORPORATED POMONA, NEW JERSEY

A Report Narrative should accompany each submission, summarizing the contents, data and QA/QC results and all relevant circumstances of the work.

A. Parameter requested.

B. Sample Number or Numbers, Matrix, and:

1. Date and time collected;
2. Date extracted and/or digested;
3. Date and time analyzed; and
4. Chain of custody report and/or form, including confirmation of unbroken chain of custody, intact sample packaging and container seals and adequate temperature and/or other preservation.

C. Results [b,e,f,]

1. Sample results;
2. Duplicate;
3. Blanks;[a]
4. Matrix spike; matrix spike duplicate; blank spike; and
5. Surrogate recoveries, if applicable.

D. Supporting QA/QC[b]

1. Methodology;
2. Method detection limits, instrument detection limits[c]
3. Linear curves;
4. Percent solids for soils, sludges, sediments, and where otherwise applicable;
5. Calculations[d];
6. Cleanup procedures;
7. Data validation procedures, results, and completed data validation checklists; and
8. Documentation which illustrates how blank water is determined to be analyte-free.

In addition to submitting the above, all sample data and its QA/QC data as specified in SW-846, 3rd edition, Chapter 1, must be maintained accessible to USEPA either in hard copy or on magnetic tape or disk (computer data files). The data, if

requested by USEPA, should be formatted as described in SW-846, 3rd edition, Chapter 1. This requirement may be changed in the future to mandate computer data files, accessible to USEPA on request. This does not obviate the requirement to do the QA/QC specified in each individual EPA-approved method.

* Components for RCRA submissions for non-contract Lab Protocols. If CLP, then CLP deliverables are required, unless otherwise stated in the approved plan.

a The data should include all blanks (trip, equipment rinse, method and instrument blanks) as specified in the sampling and analysis plan, guidance and regulation.

b Supporting QA/QC should be specific to the RCRA samples analyzed.

c Every effort practicable must be made to achieve detection limits below regulatory limits and comparable to or better than the Practical Quantification Limits specified in the EPA-approved methods. In no case, will reporting limits above the specified PQL's be accepted without extensive and complete documentation to USEPA.

d These may not need to be submitted if adequate QA/QC summaries validating the data, including calibration control charts, correlation coefficients, etc. The Report Narrative should describe the data validation and explain discrepancies. The supporting data should be provided to USEPA upon request, without restriction. Calibration data must include date and time of analysis.

e Frequencies of blanks, duplicates, spikes, surrogates, calibrations, standard reference materials, etc., should be as stated in the approved sampling and analysis plan, the approved analytical methods and the SW-846 3rd edition, Chapter 1, requirements. If there are any perceived conflicts, these should be resolved with USEPA in advance of sampling.

f Spiking for metals, organics or other parameters must be done before sample preparation (i.e. before digestions, extractions etc.) unless otherwise stated in the approved plan. Furnace Analysis for metals will still require post-digestion spikes on all samples analyzed by this technique.

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State of New Jersey
Department of Environmental Protection and Energy
Division of Publicly Funded Site Remediation
CN 413
Trenton, NJ 08625-0413
Tel. # 609-984-2902
Fax. # 609-633-2360

Scott A. Weiner
Commissioner

Anthony J. Farro
Director

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Stephen F. Lichtenstein
Lenox Inc.
100 Lenox Drive
Lawrenceville, NJ 08648-2394

OCT 29 1992

Re: Issuance of Final Major Modification of NJPDES-DGW Permit No. NJ0070343 For Lenox China, Pomona, Atlantic County.

Dear Mr. Lichtenstein:

Enclosed is a final major modification of the New Jersey Pollutant Discharge Elimination System (NJPDES) Discharge to Ground Water Permit issued pursuant to N.J.A.C. 7:14A-1 et seq.

The purpose of this draft permit is to implement a RCRA Facility Investigation (RFI), post-closure of two surface impoundments known as the glaze basin and the slip basin, corrective action for remediation of trichloroethylene (TCE) in the ground water, regulation of two non-hazardous infiltration-percolation lagoons known as the polishing basin and Tilton Road Pond and to monitor ground water quality at the facility.

This final NJPDES permit is being issued concurrently with the United States Environmental Protection Agency (USEPA)-Region II's final Hazardous and Solid Waste Amendments (HSWA) permit. The HSWA permit is issued under the authority of the Resource Conservation and Recovery Act (RCRA), (42 U.S.C. Section 6901 et seq.) as amended by the Hazardous and Solid Waste Amendments of 1984.

Within 30 calendar days following your receipt of this permit under N.J.A.C. 7:14A-8.6, you may submit a request to the Assistant Director for an adjudicatory hearing to reconsider or contest the conditions of this permit. Regulations regarding the format and requirements for requesting an adjudicatory hearing

is outlined in N.J.A.C. 7:14A-8.9 through 8.13. The request should be sent to:

Assistant Director
Ground Water Quality Management Element
Division of Publicly Funded Site Remediation
New Jersey Department of Environmental Protection and Energy
CN-029
Trenton, New Jersey 08625

Applications for renewal of this permit must be submitted at least 180 days prior to expiration of this permit pursuant to N.J.A.C. 7:14A-2.1(f)5.

If you have any questions concerning this permit, please contact Daryl Clark at (609) 292-8427.

Sincerely,

Irene Kropp, Chief
Bureau of Ground Water
Pollution Abatement

Enclosures
GWQM378

Response to Comments

The Department has received comments on the Draft Major Modification to the NJPDES-DGW permit that was public noticed on June 11, 1992. Comments were received by the Department from the permittee, Lenox China. The following is a summary of comments received and the Department's response to each comment.

General Comment: Lenox's general comment was in regard to the Department's and USEPA's joint issuance of the NJPDES-DGW permit and the USEPA's HSWA permit to the facility. Lenox requested that a paragraph be added to both permits which would allow Lenox to submit only a single document in situations where both the NJPDES-DGW permit and the HSWA permit require the submittal of similar documents within similar time frames. This would reduce or eliminate the duplication of documents and reports.

Response: The Department agrees that similar documents required by the NJDEPE and USEPA within similar time frames need not be duplicated if they contain information that satisfies the requirements of both the Department and USEPA. The Department has added a paragraph in the Fact Sheet which addresses this concern.

Comment: (Fact Sheet) Lenox requested that the facility description be corrected to state that ceramic giftware is also manufactured at the facility in addition to ceramic dinnerware.

Response: The Department has incorporated the correction into the permit.

Comment: (Fact Sheet) Lenox stated that they had been informed by the Pinelands Commission that the ditch which receives the facility's wastewater, non-contact cooling water and stormwater discharges into the Jack Pudding Branch of Babcock Swamp, not Babcock Creek.

Response: The Department has incorporated the correction into the permit.

Comment: (Fact Sheet) Lenox requested that underground storage tanks be removed as SWMUs from the permit. Lenox stated that they had submitted information to the Department on October 8, 1987 regarding removal of the tanks. Lenox believes this information properly documented that clean closure was effected.

Response: The Department reviewed the October 1987 documents concerning removal of the tanks and confirmed that proper removal and clean closure were achieved. The reference to the underground storage tanks remains in the Fact Sheet, but a sentence will be added to the description stating that the tanks were properly removed and are no longer considered SWMUs.

Comment: (Part IV General Conditions for Infiltration-Percolation Lagoons) Lenox requested that their infiltration-percolation lagoons, known as the Polishing Basin and Tilton Road Pond, be exempted from the requirement of fencing or access restriction. The Polishing Basin is undergoing closure and the Tilton road Pond contains non-hazardous wastewater.

Response: The Department will not require fencing of the Polishing Basin since it is currently undergoing closure. The Department acknowledges that the Tilton Road Pond is a non-hazardous wastewater lagoon and is not considered a chemical hazard. However, due to the close proximity of this lagoon to a public road, the Tilton Road Pond does represent a potential physical hazard. In addition, Lenox China is a hazardous waste facility, and in accordance with N.J.A.C. 7:26-9.4(h) of the NJDEPE Hazardous Waste Regulations, any hazardous waste facility shall have barriers which completely surround active portions of the facility to control and monitor entry.

Comment: (Part VI RCRA Facility Investigation) Lenox requested that the references to underground storage tanks as SWMUs and the requirements for an investigation of these tanks be removed from the permit.

Response: The Department has kept the reference to the underground storage tanks in Part VI of the permit but has added a note stating that removal and clean closure of the tanks was achieved in 1987. All requirements for an investigation of the tanks has been removed from the permit.

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FACT SHEET

FOR NJPDES DISCHARGE TO GROUND WATER PERMIT

NAME AND ADDRESS OF APPLICANT:

Lenox, Inc.
100 Lenox Drive
Lawrenceville, NJ 08648

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Lenox China, a division of Lenox Incorporated
Tilton Road
Atlantic County
Pomona, New Jersey 08240

DESCRIPTION OF FACILITY:

Lenox China, a division of Lenox Incorporated, is located in a rural area on the outskirts of the Town of Pomona in southeastern New Jersey. The facility manufactures ceramic dinnerware and giftware. The manufacturing process includes the progressive dewatering of clay solution (slip) to form the shape of the ceramic pieces. The pieces are then kiln fired, coated with a leaded glaze mixture, and then refired. Process wastes include waste solvent sludge, which is drummed and taken off site for incineration, clay solution waste (slip) and glaze waste (fritted lead compounds).

RECEIVING WATERS/HYDROGEOLOGY:

The ground waters of the State. Discharge is to the Miocene Age Cohansey Sand and Kirkwood Formation. The Cohansey Sand consists of irregularly bedded unconsolidated sand and gravel which contain varying percentages of clay and silt. Discontinuous clay layers are also present. Underlying the Cohansey Sand is the Kirkwood Formation, which is made up of dense, diatomaceous clay units and coarse, unconsolidated sands. Three principal aquifers, known as the Upper Cohansey, Lower Cohansey and Lower Kirkwood, underlie the facility and comprise the Cohansey-Kirkwood Aquifer System. Depth to ground water is shallow across the site, ranging from approximately 3 to 10 feet below the ground surface. Ground water flow direction is generally north-northeast.

DESCRIPTION OF DISCHARGE:

A documented release of trichloroethylene (TCE) to the ground water has occurred at the Lenox China facility and the contaminated ground water has migrated offsite of Lenox property.

Investigations conducted by Lenox indicate the presence of two TCE plumes which probably originated from two different source areas. The sources of the TCE are believed to be an antecedent degreaser sump and drum storage pad (i.e. both which are no longer in existence). As part of the corrective measures implementation, this permit authorizes a discharge of treated ground water back to the ground via injection trenches. Part of the treated ground water may also be used for non-contact cooling in plant operations. This water would then be discharged to the ground via injection trenches. Lenox also plans to use part of the treated ground water for non-industrial sanitary purposes. This water would be sent to the local sanitary wastewater treatment plant. Lenox also intends to use part of the treated water for on-site spray irrigation and for spray irrigation of an adjacent property. Approval of the offsite irrigation is contingent upon Lenox submitting to the Department copies of all legal agreements made with the adjacent property owner(s).

In addition to the TCE discharge, the potential for additional contamination exists as a result of past and present activities at the Lenox China facility. A total of twelve (12) Solid Waste Management Units (SWMUs) were identified by USEPA as a result of a RCRA Facility Assessment (RFA). The following is a list and description of the SWMUs and Area of Concern (AOC).

SWMUs Identified at Lenox China Facility

1) Degreaser Sludge Pit
The degreaser sludge pit is located outside of the northeast portion of the manufacturing building. TCE sludge from a degreaser located inside of the building flows through a pipe and is collected in 30 gallon drums at the pit. This area was near the site of a previous degreaser sludge pit. The former degreaser sludge pit is suspected of being the source of one of the TCE plumes at the site.

2) Sludge Disposal Area
Waste sludge containing lead was dredged from the slip basin and placed in an area northeast of the basin. The sludge disposal area is approximately 200 feet by 200 feet. In 1975, this area was paved with asphalt and is now used as a parking area.

3) Waste Pile
During excavation of the glaze basin in 1988, a seam in the west wall of the basin, approximately 15 feet long and 6 to 12 inches thick, containing a white, clayey material was discovered. The material tested high for lead concentration and has the appearance of glaze waste material. Lenox suspects the material may be the remnants of an antecedent basin used to store glaze waste.

4) Polishing Lagoon
A non-hazardous waste lagoon that is part of the facility waste treatment system is used for temporary storage of non-hazardous wastewater generated by plant activities. It is rectangular and measures approximately 60 feet by 90 feet and has an average depth of 6 feet. The estimated capacity of the basin is 110,000 gallons. The polishing basin received wastewater pumped from the slip basin until use of that basin was discontinued in 1987. The Polishing Basin is currently undergoing procedures for closure.

5) Tilton Road Pond
This is a non-hazardous temporary storage lagoon that has an estimated capacity of 125,000 gallons. It receives treated wastewater from the polishing basin and is monitored for biological and chemical quality. Wastewater from the Tilton Road Pond is released into a culvert which runs under Tilton Road and into a storm water ditch. The ditch discharges the wastewater into the Jack Pudding Branch of Babcock Swamp.

6) Underground Effluent Transfer Pipe
This unit consists of approximately 200 feet of steel piping that was used to transfer liquid from the glaze basin to the slip basin. Eighty feet of the pipe nearest to the slip basin has been removed.

7) Equalization Sump
Process wastewater from manufacturing areas was directed to this sump prior to treatment. The sump was made of reinforced concrete and its dimensions were approximately 8 feet by 12 feet and 6 feet in depth. It had an estimated capacity of 3,600 gallons. The sump was taken out of service in 1988. It was subsequently used to recycle plaster water. The sump was then cleaned, emptied and removed. The area where the sump was located has been graded and covered with crushed stones.

8) Piping
This includes all piping used in the wastewater treatment facility at Lenox China.

9) Underground Storage Tanks
Two underground storage tanks, located behind the main manufacturing building, were removed in July 1987. They included an 8,200 gallon capacity tank with No. 2 home heating oil and a 2,000 gallon tank containing unleaded gasoline. Both tanks were removed and clean closed in accordance with NJDEPE regulations. The tanks are no longer designated as SWMUs.

10) Glaze Basin
This is a RCRA regulated hazardous waste lagoon which was closed in July 1990 in accordance with applicable regulations. This lagoon was used to store waste glaze

material consisting of clay, lead carbonate and lead glass. The total volume of waste deposited in the lagoon was approximately 1,200 cubic yards. During closure, most of the waste was removed, but a small amount of residual waste remains along the bottom and the north sidewall.

11) Slip Basin
This RCRA regulated hazardous waste lagoon was closed in September 1990. This lagoon was used to store clay waste material from 1954 to 1970 and process wastewater containing clay, lead carbonate, frit (low solubility lead compounds in glass form) and silica from 1970 to 1981. From 1981 to 1987, the lagoon received small amounts of process wastewater and was used for surge capacity for the wastewater treatment plant. The total volume of the lagoon was 7,100 cubic yards. The slip basin was closed by raising the waste material above the seasonal high water table, stabilizing the waste material in situ and capping.

12) Drum Storage Area
This RCRA regulated unit consists of an impermeable concrete and asphalt paved area designed to store 30 gallon drums of TCE waste sludge. The storage area drains to a sump pit that is designed to collect spilled material and pump it back into containers. The Drum Storage Area underwent RCRA closure in 1990 and now only stores hazardous waste for less than ninety (90) days. This area is also the site of a previous TCE drum storage area. The previous drum storage area is suspected of being the source of one of the TCE plumes at the Lenox China site.

Area Of Concern (AOC)

1) Area Between Monitoring Well #10 and Aloe Street
This area was not identified in the RFA. Drilling operations at this location revealed the presence of discolored surficial soils. Subsequent investigations conducted by Lenox found that slip waste had been deposited in this area.

DESCRIPTION OF PERMIT

The New Jersey Department of Environmental Protection and Energy (NJDEPE) intends to issue a New Jersey Pollutant Discharge Elimination System/Discharge to Ground Water (NJPDES/DGW) Permit for the purpose of:

- Monitoring ground water quality at the facility.
- Regulating operation of the two infiltration/percolation lagoons known as the polishing basin and Tilton Road Pond.
- Investigating waste management areas at the facility and

determining the nature and extent of contamination caused by any past or current discharges.

- Developing and implementing any necessary interim remedial measures at any time during the investigation.
- Determining and evaluating the nature, source and extent of trichloroethylene (TCE) contamination at the site.
- Developing and implementing the necessary corrective measures to remediate the TCE contamination.
- Implementing post-closure of the RCRA regulated surface impoundments known as the slip basin and the glaze basin.

It is the intent of the Department that this permit be consistent with any federal or state-issued HSWA permit, and this permit is to be interpreted or modified as may be necessary to assure consistency between this permit and any such HSWA permit. However, this permit may contain additional requirements not included in the HSWA permit such as long term ground water or discharge monitoring.

If the NJPDES-DGW permit and the USEPA HSWA permit both require the submission of similar documents within the same time frames, the Department will not require a duplication of documents but will accept a single submission provided that the submitted document satisfies all of the requirements stated in the NJPDES-DGW permit.

Lenox China is an existing facility and implementation of the NJPDES requirements are the enforcement mechanism by which existing pollutant discharges are brought into conformance with laws, regulations and standards. The pollution control requirements are those conditions necessary to restrict the discharges of pollutants and protect the public health and the environment.

PERMIT CONDITIONS

The NJPDES-DGW permit has requirements listed in the attached sections regarding General Conditions, Interim Remedial Measures, RCRA Facility Investigation, Detection and Effluent Monitoring Programs, Corrective Measures Study, Corrective Measure Implementation and Post Closure Requirements.

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New Jersey Pollutant Discharge Elimination System

The New Jersey Department of Environmental Protection and Energy hereby restricts and controls the discharge of pollutants to waters of the State from the subject facility/activity in accordance with applicable laws and regulations. The permittee is responsible for complying with all terms and conditions of this authorization and agrees to said terms and conditions as a requirement for the construction, installation, modification or operation of any facility for the collection, treatment or discharge of any pollutant to waters of the State.

PERMIT NUMBER NJ0070343

FINAL

Permittee

LENOX CHINA INC
A DIVISION OF LENOX INCORP
TILTON ROAD
POMONA NJ 08240

Co-Permittee

Property Owner

LENOX INCORPORATED
100 LENOX DRIVE
LAWRENCEVILLE NJ 08648

Location of Activity

LENOX CHINA
A DIVISION OF LENOX INCORP
TILTON ROAD
POMONA NJ 08240

Current Authorization Covered By This Approval And Previous Authorization	Issuance Date	Effective Date	Expiration Date
I :INFILT/PERC LAGOON-INDUSTRIAL	07/01/1990	08/01/1990	07/31/1995
K :UNDERGROUND INJECT(UIC)INDUST	11/01/1992	12/01/1992	07/31/1995

By Authority of:

DEPE AUTHORIZATION

Arnold Schiffman P.G., Assistant Director
Ground Water Quality Management Element

(Terms, conditions and provisions attached hereto)

State of New Jersey Department of Environmental Protection and Energy

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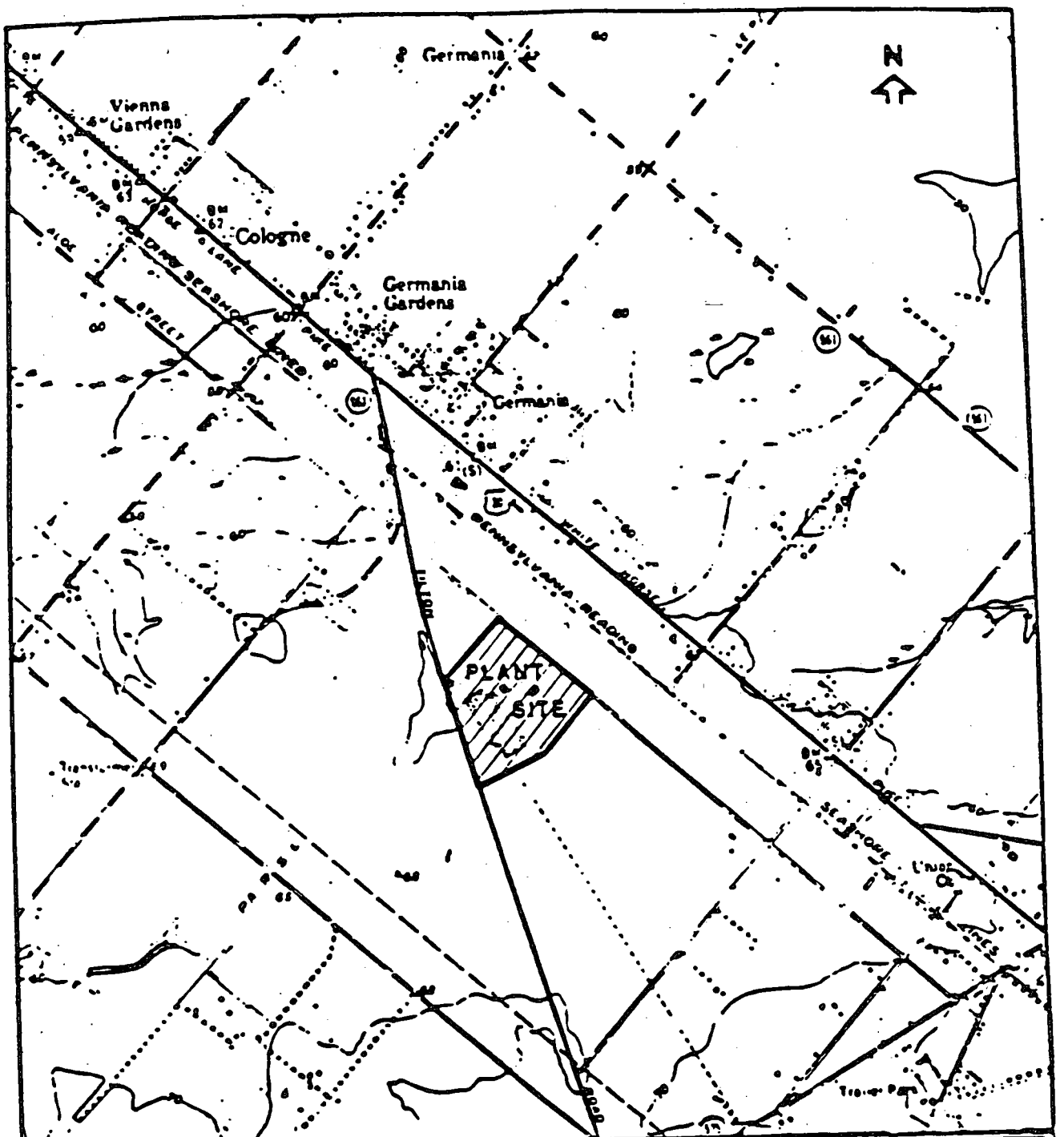


LOCATION OF LENOX CHINA INC. PLANT SITE

LENOX CHINA INC.
Pomona, New Jersey

Geraghty & Miller, Inc	E WERTH	SCALE 1:2000	FIGURE 1
	E WILSON	DATE DEC 1982	
	E WERTH		

State of New Jersey
Department of Environmental Protection and Energy
Division of Publicly Funded Site Remediation

GENERAL CONDITIONS FOR ALL NJPDES-DGW PERMITS

The New Jersey Pollutant Discharge Elimination System (NJPDES) regulations (N.J.A.C. 7:14A-1 et seq.) as authorized by the New Jersey Water Pollution Control Act (N.J.S.A. 58:10A et seq.) identify requirements for all Discharge to Ground Water Permits. Information concerning these general permit requirements may be found in the following sections of the NJPDES regulations:

Permit Requirement	Citation
General Information	Subchapter 1
General Requirements for the NJPDES Permit	Subchapter 2
Additional Requirements for an Industrial Waste Management Facility	Subchapter 4
Additional Requirements for Underground Injection Control Program	Subchapter 5
Additional Requirements for Discharges to Ground Water (DGW)	Subchapter 6
Procedures for Decision Making	Subchapter 7
Public Comments and Public Notice	Subchapter 8
Filing Requirements for NJPDES Permits	Subchapter 10
Public Access to Information and Requirements for Departmental Determination of Confidentiality	Subchapter 11

PERMITS and DISPUTE RESOLUTION

A. Within 90 calendar days after the Effective Date of the Permit, or upon becoming subject to applicable permitting requirements, which ever is later, the permittee shall apply for all necessary Federal, State, and local permits or permit renewals for existing activities, and where applicable, former activities (i.e. activities that require but do not already have a current, unexpired permit), or for which a renewal application has already been filed in accordance with the requirements of N.J.A.C. 7:14A-1 et seq., N.J.A.C. 7:26-1 et seq., and N.J.A.C. 7:27-8, and other applicable statutes and regulations. Permitted or regulated activities may include, but are not limited to, discharge to surface water bodies; discharge to domestic treatment plants; treatment works approvals; discharges to the air; discharges to lagoons, surface impoundment, cesspools, septic systems, landfills; existing hazardous waste underground storage tanks; land application of contaminated materials, and any activities listed in the specific requirements section of the Interim Remedial Measures part of this permit. For NJPDES permits, a renewal application must be submitted at least 180 days prior to the current permit's expiration date.

B. The permittee shall submit complete applications for all Federal, State, and local permits required to carry out the obligations of this Permit. An example of such a permit would be a discharge to surface water proposed and approved as part of an interim remedial measure.

C. This Permit shall not relieve the permittee from obtaining and complying with all applicable statutes and regulations while carrying out the obligations imposed by this permit.

D. This Permit shall not preclude the Department from requiring that the permittee apply for any permit or permit modification issued by the Department under the authority of the Water Pollution Control Act, N.J.S.A. 58-10A-1 et seq., the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq., and/or any other statutory authority for the matters covered herein. The terms and conditions of this Permit shall not be pre-empted by the terms and conditions of any such permit that is more stringent than the terms and conditions of this Permit.

E. The permittee shall use its best efforts to informally and in good faith resolve all disputes or differences of opinion. If however, disputes arise concerning submissions required under this permit, including, but not limited to, implementation of workplans, approval documents, scheduling of any work, selection, performance or completion of any

corrective action or any other obligation required under this permit, the permittee shall notify the Bureau of Ground Water Pollution Abatement (BGWPA) immediately of such disputes and within thirty days of notification submit a written statement to the BGWPA that argues its position. The written argument shall set forth the permittee's specific points of contention; position and reason for its position; and any additional matters that the permittee considers necessary or relevant for the BGWPA's determination. If the dispute cannot be resolved informally within 60 days of receipt of the written argument, the BGWPA will provide the Permittee its decision on the dispute. This decision shall be considered either an existing permit requirement or it shall be incorporated into the permit by either minor or major modification, whichever is appropriate pursuant to specific pemrit conditions and N.J.A.C. 7:14A-2.12 and 2.14.

DETECTION AND CORRECTIVE ACTION
GROUND WATER MONITORING REQUIREMENTS AND STANDARDS

1. The locations of existing ground water monitor wells required to be sampled or monitored are shown on Figure 2, Part III-DGW, Page 11 of 11.

2. The permittee shall provide the Bureau of Ground Water Pollution Abatement with a minimum of two weeks notification prior to the installation of any ground water monitor wells at the site.

3. The owner or operator shall inspect each ground water monitor well on a monthly basis for structural integrity and/or damage. The permittee shall maintain a complete inspection record indicating dates of inspection, inspector's name, and conditions observed. These records shall be made available to the Department upon request. Failure to maintain or submit records upon request shall be a violation of the conditions of this permit.

4. The permittee is required to take any and all reasonable steps necessary to protect the structural integrity of monitoring or recovery wells, treatment systems, or any other potentially harmful or easily damaged equipment on the site and to limit public access by constructing fences, barricades, or any other structures or means necessary to restrict access to the equipment. These structures must be maintained to restrict access.

5. On property on which hazardous waste remains after closure, the owner or operator will not use the property in any way which will disturb the integrity of the containment and well monitoring system in accordance with N.J.A.C. 7:26-9.9 (e).

6. If the monitor wells are damaged or are otherwise rendered inadequate for their intended purpose, the Bureau of Ground Water Pollution Abatement shall be notified within five (5) days of discovery in writing indicating:

   a. Which wells were damaged or rendered inadequate for their intended use.

   b. The cause and extent of damage or the reason for the inadequacy.

   c. If the sampling schedule as required in this permit will not be met or if the results of the sampling may be non-representative.

   d. The date that the well will again be operational. Damaged wells must be replaced or repaired within 60 days after

the damage has occurred, or (for offsite wells which must be replaced) as soon thereafter as all necessary access, permission or authorization to install a new well is obtained. If any of the following situations have occurred, redeveloped or replacement wells must be sampled not prior to 14 days after development but no later than 28 days after installation:

Situation 1: Wells have been damaged in a way that affected the quality of previously taken ground water samples.

Situation 2: Due to damage to a well a regularly scheduled sampling event has been missed.

Note: Wells in situation 1 above that do not have to be redeveloped (only purged) must be sampled within five days of the discovery of the damage. If the next regularly scheduled sampling for the well(s) is within 21 days of the last day that the well(s) should be sampled under 1 or 2 above, only the regular sampling event is required.

e. The next date that the well will be sampled;

A replacement well must meet the construction requirements established by the Department. A valid New Jersey well permit is required prior to the installation of the replacement well. Failure to follow these procedures is a violation of this permit and may subject the permittee to the provisions of N.J.S.A. 58:10A-10.

7. Satisfactory ground water wells are defined in Section 6.13 of the NJPDES regulations and shall be subject to Departmental approval. If ground water monitoring wells do not meet these standards, they must be replaced with new wells meeting Departmental standards.

8. A Ground Water Monitor Well Certification (Forms A and B) shall be completed within 30 days for each existing well and, for each proposed ground water monitor well, within 30 days of the installation of the ground water monitor well. Information for each well must be shown on a separate form.

9. For an existing well, if information required on the Ground Water Monitoring Certification (Forms A and B) cannot be determined or the ground water monitoring well is not adequately constructed to meet the requirements of this permit, the Department reserves the right to require the replacement of that well. Criteria to be used by the Department in judging the adequacy of a well will be related to the ability of the well to provide a representative ground water sample from the portion of the aquifer which the Department requires to be sampled. Any replacement well

must be installed, if possible, within a 10 foot radius of the existing well. Otherwise, the replacement well location must be approved by the Department. Inadequate or damaged existing wells must be properly sealed pursuant to N.J.A.C. 58:4A-4.1. Instructions regarding sealing may be obtained by contacting the Bureau of Water Allocation at (609) 984-6831.

10. As a precaution against cross contamination (in addition to complete decontamination of purging and sampling equipment pursuant to Department requirements), monitoring wells must be sampled, to the extent possible, in order of least to most contaminated unless dedicated purging and sampling equipment are used for all wells.

11. The permittee shall complete the enclosed reporting forms and also "Monitoring Report - Transmittal Sheet" (Form T-VWX-014) which are included as a part of this permit (Appendix G). Permittee must fill out, sign and submit Form T-VWX-014. The signature on Form T-VWX-014 must be an original each time it is submitted. Failure to submit sampling data on the forms required on the "Monitoring Report - Transmittal Sheet" shall be considered by the Department to be a violation of the permit sampling requirements and may subject the permittee to civil and administrative penalties pursuant to N.J.S.A. 58:10A-10. It shall be the permittee's responsibility to maintain an adequate supply of the required report forms.

Discharge Monitoring Report (DMR) forms shall be sent to:

Department of Environmental Protection and Energy
Wastewater Facilities Regulation Element
Bureau of Information Systems
CN-029
Trenton, NJ 08625

Attention: Discharge Monitoring Reports

Monitoring Well report forms shall be sent to:

Department of Environmental Protection and Energy
Ground Water Quality Management Element
Bureau of Aquifer Protection
CN-413
Trenton, NJ 08625

Attention: Monitoring Well Reports

12. All samples are to be analyzed by a New Jersey Certified Laboratory. The detection limits to be achieved for inorganic parameters and cyanide shall be less than the ground water protection standards. The laboratory must

follow the Quality Assurance/Quality Control (QA/QC) procedures of the Division of Publicly Funded Site Remediation (DPFSR) QA/QC package. A list of the analytical methodologies used must be retained by the permittee and submitted upon request of the Department. For each reporting period, the permittee shall submit a copy of the laboratory's analysis report, "Monitoring Report-Transmittal Sheet" (Form T-VWX-014), a list of the monitoring wells and the measured ground water elevations, and a report with the applicable items in N.J.A.C. 7:14A-2.5(a)14 to:

Department of Environmental Protection and Energy
Division of Publicly Funded Site Remediation
Ground Water Quality Management Element
Bureau of Ground Water Pollution Abatement
CN-029
Trenton, NJ 08625

Attention: Daryl Clark

In addition to the reporting forms referenced above, the permittee shall present analytical results in a summarized, tabular form.

13. Appendix I (Quality Assurance/Quality Control (QA/QC) Package) shall be completed and submitted for each sampling event. This shall include sections A, B, C and the applicable portions of section D.

14. The point of compliance for this permit is the vertical surface located at the hydraulically downgradient extent of the facility's waste management areas. The waste management areas are those areas within an imaginary line circumscribing all regulated units and present or past discharge areas. It shall be assumed that the monitoring wells monitor ground water quality at the point of compliance.

15. The ground water protection standards for the constituents listed in the following tables are (1) the Ground Water Quality Standards, and (2) ground water clean up criteria. These ground water standards are based on the NJPDES Regulations, N.J.A.C. 7:14A-1 et seq., the Hazardous Waste Regulations, N.J.A.C. 7:26-8.16 et seq., and the Ground Water Quality Standards, N.J.A.C. 7:9-6 et seq. These ground water protection standards shall not be construed as effluent limitations which are defined under N.J.S.A. 58:10A-3f of amendments to the New Jersey Water Pollution Control Act.

16. If a ground water protection standard, as defined above, is exceeded for parameters and wells other than those already included in the corrective action program, the permittee must notify the Assistant Director, Ground Water Quality

Management Element, CN-029, Trenton, NJ 08625 in writing by certified mail within seven days of the permittee's receipt of the analytical results.

17. For the Detection Monitoring Program of this permit, within 45 days of the receipt of analytical results that indicate that a ground water protection standard has been exceeded at a compliance point for a second sampling and analysis event, or upon written notification by the Department, the permittee shall submit to the address in Condition 12 for review and approval a compliance monitoring program which, at a minimum, includes the following:

    a) additional sampling and data analysis which clearly indicate whether contamination has entered ground water.

    b) identification, to the extent possible, of all sources of discharges to ground water (e.g. leaking underground tank, damaged surface impoundment, failed septic system, etc.) and plans to immediately remediate or eliminate, to the extent possible, the sources of discharges to ground water within the permittee's control, as they are revealed in the course of investigation;

    c) additional monitoring wells, if necessary, to delineate the horizontal and vertical extent of ground water contamination;

    d) applicable portions of N.J.A.C. 7:14A-6.15(j).

    e) a reasonable timetable for implementation of the plan.

    Upon notification by the Department, or upon receipt by the Department of the compliance monitoring program, the Department will recalculate permit fees based on the criteria set forth in N.J.A.C. 7:14A-1.8.

18. If the Department determines that new information justifies additional requirements to the compliance monitoring plan, or the implementation of a revised corrective action program, as defined in N.J.A.C. 7:14A-6.15(k), the Department shall notify the permittee that such a plan is required and will prepare a draft major modification for public notice to include new conditions (cf. N.J.A.C. 7:14A-2.12).

19. The permittee must follow the approved Ground Water Sampling and Analysis Plan (GWSAP). Lenox shall begin to implement the ground water sampling and analysis plan within 30 days of the effective date of this permit.

Total Dissolved Solids (TDS) (5)*	-	ppm	FebMayAugNov	grab	AprJulyOctJan
Dissolved Oxygen	-	ppm	FebMayAugNov	grab	AprJulyOctJan

NOTES:

See the notes at the end of Table 2.

21. The permittee shall sample a total of 9 ground water monitor wells, including MW- 1, -3, -4, -6, -7, -8, -9, -10 and -15 according to the schedule in Table 2 below. Monitoring wells 1, 7, and 8 will be used to monitor the Polishing Basin and Tilton Road Pond and are part of a detection monitoring program. For wells where a parameter in Table 2 corresponds to a parameter in Table 1, only one analysis is required for that parameter during a given sampling month. The requirement to sample and analyze for volatile organic compounds only applies to monitoring wells 1, 3, 6, 9, 10 and 15. Sampling and analysis for total volatile organic compounds will be reported annually, but the Department is establishing ground water protection levels only for trichloroethylene and its breakdown products, which will be sampled and analyzed for quarterly; this is part of a corrective action monitoring program. The piezometer (P5) shall be monitored for water level elevations only, according to the schedule given in Table 2. All ground water elevations <u>must</u> be determined prior to evacuation and sampling of the wells. Sampling procedures will follow those outlined in Conditions 19 and 20 above.

22. The permittee shall perform a statistical analysis of all the parameters listed in Table 2 (Part III-DGW) below except volatile organics for each well. The arithmetic mean and variance of the samples will be calculated and compared with the initial background values of upgradient well MW-1. The Department may eliminate parameters or reduce monitoring frequency for parameters if the permittee can demonstrate a statistical basis for such action. Comparisons must be performed using a statistical test approved by the Department or as specified in N.J.A.C. 7:14A-6.15(i). The statistical analyses will be performed after each sampling period.

<u>TABLE 2</u>
<u>Sitewide Detection and Corrective Action Monitoring</u>

PARAMETER	GROUND WATER(6)* PROTECTION STANDARD	SAMPLING MONTH	SAMPLE TYPE	REPORTING MONTH (4)*
Elevation of top of monitor well casing (to be determined once but reported as indicated)		FebMayAugNov	N/A	AprJulyOctJan

Elevation of original ground level (to be determined once but reported as indicated)		FebMayAugNov	N/A	AprJulyOctJan
Depth to Water Table from top of casing prior to sampling		FebMayAugNov	N/A	AprJulyOctJan
Depth to Water Table from original ground level prior to sampling		FebMayAugNov	N/A	AprJulyOctJan
Ammonia-Nitrogen (5)*	- ppm	FebMayAugNov	grab(1)*	AprJulyOctJan
Color	none	FebMayAugNov	grab	AprJulyOctJan
Iron (5)*	- ppm	FebMayAugNov	grab	AprJulyOctJan
Lead & Compounds	0.05 ppm	FebMayAugNov	grab	AprJulyOctJan
Manganese (5)*	- ppm	FebMayAugNov	grab	AprJulyOctJan
Zinc	5 ppm	FebMayAugNov	grab	AprJulyOctJan
Odor	none	FebMayAugNov		AprJulyOctJan
pH (3)*	4-9 SU	FebMayAugNov	grab	AprJulyOctJan
Sodium (5)*	- ppm	FebMayAugNov	grab	AprJulyOctJan
Sulfate (5)*	- ppm	FebMayAugNov	grab	AprJulyOctJan
Total Dissolved Solids (TDS) (5)*	- ppm	FebMayAugNov	grab	AprJulyOctJan
Total Organic Carbon (TOC)	- ppm	FebMayAugNov	grab	AprJulyOctJan
Dissolved Oxygen	- ppm	FebMayAugNov	grab	AprJulyOctJan
Total Volatile Organics (by GC/MS) (2)*		Feb	grab	Apr
Trichloroethylene	1 ppb	FebMayAugNov	grab	AprJulyOctJan
1,1-Dichloroethylene	2 ppb	FebMayAugNov	grab	AprJulyOctJan
cis-1,2-Dichloroethylene	10 ppb	FebMayAugNov	grab	AprJulyOctJan
trans-1,2-Dichloroethylene	100 ppb	FebMayAugNov	grab	AprJulyOctJan
Vinyl chloride	5 ppb	FebMayAugNov	grab	AprJulyOctJan

NOTES:

(1)*

"Grab" means an individual sample of at least 100 milliliters collected over a period not exceeding 15 minutes.

20. The permittee shall sample a total of 6 ground water monitor wells, including upgradient well MW-1 and downgradient wells MW -3, -4, -6, -9, -10 according to the schedule in Table 1 below. These wells are the designated RCRA wells for the glaze basin and the slip basin. All ground water elevations must be determined prior to evacuation and sampling of the wells. Sampling of the wells shall be performed according to the methodology specified in Section 6.12 of the NJPDES regulations and the approved November 1990 Ground Water Sampling and Analysis Plan. A chain of custody record for each sample shall be maintained at the facility and may be requested and/or examined by the Department. The permittee or his/her agent shall evacuate the ground water monitoring wells according to the procedures identified in Section 6.12 of the NJPDES regulations no more than four hours prior to sample collection. These requirements are part of a detection monitoring program.

TABLE 1
Slip and Glaze Basin Detection Monitoring

PARAMETER	GROUND WATER(6)* PROTECTION STANDARD	SAMPLING MONTH	SAMPLE TYPE	REPORTING MONTH
Elevation of top of monitor well casing (to be determined once but reported as indicated)		FebMayAugNov	N/A	AprJulyOctJan
Elevation of original ground level (to be determined once but reported as indicated)		FebMayAugNov	N/A	AprJulyOctJan
Depth to Water Table from top of casing prior to sampling		FebMayAugNov	N/A	AprJulyOctJan
Depth to Water Table from original ground level prior to sampling		FebMayAugNov	N/A	AprJulyOctJan
Ammonia-Nitrogen (5)*	- ppm	FebMayAugNov	grab(1)*	AprJulyOctJan
Color	none	FebMayAugNov	grab	AprJulyOctJan
Lead & Compounds	0.05 ppm	FebMayAugNov	grab	AprJulyOctJan
Zinc & Compounds	5 ppm	FebMayAugNov	grab	AprJulyOctJan
pH (3)*	4-9 SU	FebMayAugNov	grab	AprJulyOctJan
Sodium (5)*	- ppm	FebMayAugNov	grab	AprJulyOctJan
Sulfate (5)*	- ppm	FebMayAugNov	grab	AprJulyOctJan

(2)*

A. The method detection limits specified in 40 CFR Part 136- Methods 624 and/or 502.2 shall be achieved, and the quality assurance and quality control methodologies specified in 40 CFR Part 136 shall be utilized. In the event that a laboratory cannot achieve the required detection limit, the permittee must be able to document why these limits cannot be achieved (e.g. the specific instrument limitations). Alternate quantitation limits are subject to Departmental approval. Any alternate quantitation limit must be the lowest level that can be reliably achieved within the limits of precision and accuracy specified in 40 CFR Part 136. Documentation of these quality assurance and quality control measures, including the results of field, trip and method blanks, must be submitted within 30 days of a written request from the Department.

B. After the first round of sampling, permittee may propose another analytical methodology for Departmental approval.

C. The standards for these compounds are <u>ground water clean-up criteria</u>. These clean-up criteria must be achieved as described in Part VIII-DGW-I, Corrective Measures Implementation.

(3)*

The parameter pH is to be field determined.

(4)*

The data required to be reported by Tables 1 and 2 should be submitted in one combined report package for each reporting month.

(5)*

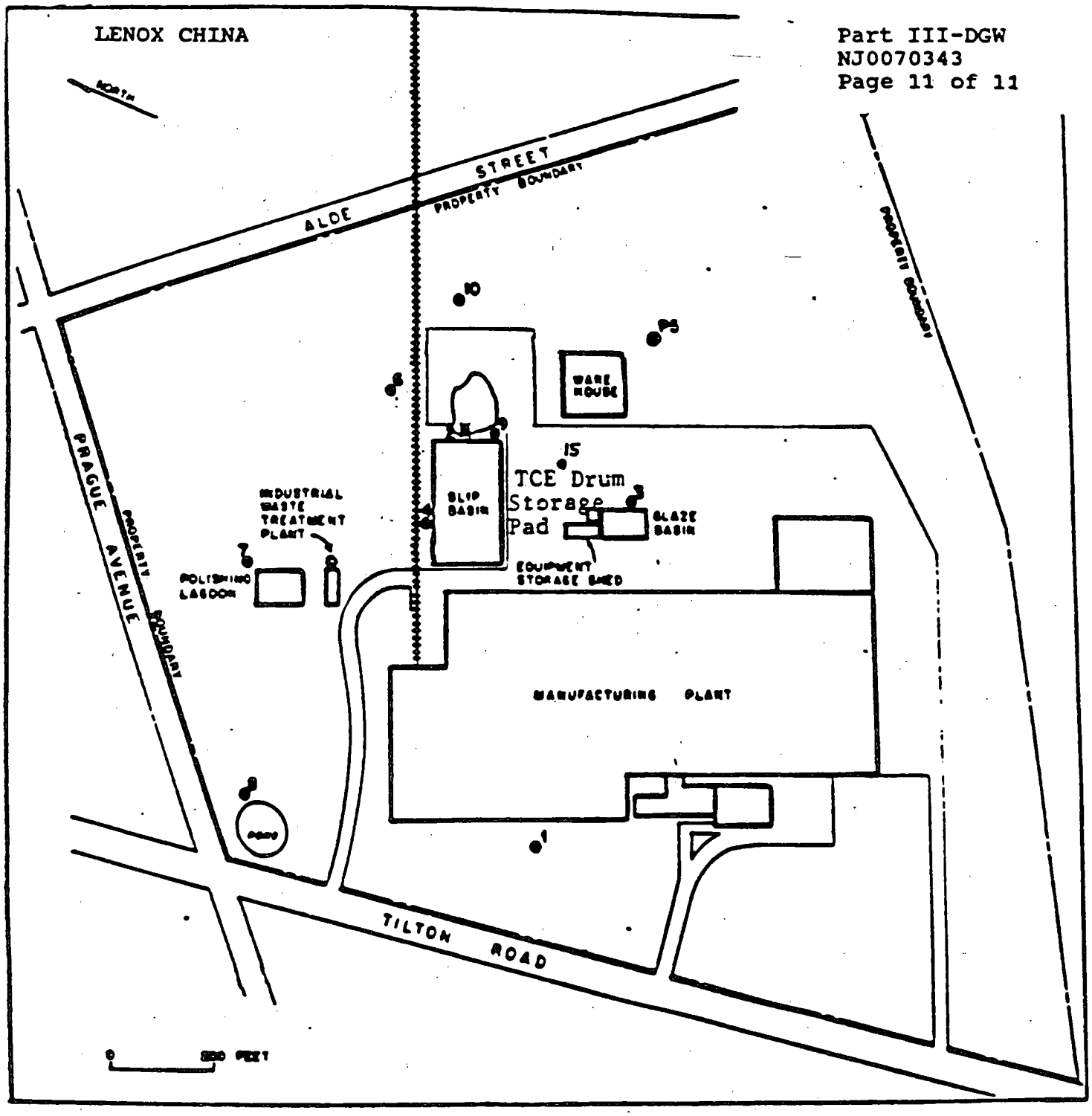
Ground water protection standards will not be set for these parameters at this time. Monitoring only is required. For wells 7 and 8, standards could be set in the future following the Department's final decision regarding the report submitted by Lenox entitled "Justification of Alternative Ground-Water Standards for Lenox China". Any such standards would be incorporated into this permit as a major modification pursuant to N.J.A.C. 7:14A-2.12 and N.J.A.C. 7:14A-8.1(a)1. For the RCRA wells listed in Condition 20 above, Lenox must perform the statistical analysis required by Condition 22 above and demonstrate that the concentrations of these parameters are decreasing over the life of this permit.

(6)*

If, subsequent to the effective date of this permit, the Department promulgates clean-up standards different from these standards, the permittee may petition the Department to modify these standards accordingly.

23. The data required to be reported by Tables 1 and 2 should be submitted in one combined report package for each reporting month.

24. Any exceedences for volatile organic compounds (VOCs) from monitoring wells which presently monitor the TCE plume or plumes shall not be violations of the conditions of this permit while remediation of the plume(s) by Lenox is in progress.



EXPLANATION

- MONITORING WELL
- PIEZOMETER
- ABANDONED MONITORING WELL
- WASTE TREATMENT/ STORAGE AREAS

FIGURE 2

FACILITY MAP

Lenox China, Pomona, New Jersey

WASTEWATER EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Wastewater samples shall be taken from the infiltration/percolation lagoons known as the Polishing Basin and Tilton Road Pond according to the schedule in Table 3 below.

2. All sampling will be performed according to the methodology specified in the Department's Field Procedures Manual for Water Data Acquisition.

3. Effluent Discharge Monitoring Report Forms will be sent from the Department to the Permittee. These forms must be completed for each lagoon and submitted to the address given in Condition Eleven, Part III-DGW, page 3 of 10. A copy of these forms should be sent to the address in Condition Twelve, Part III-DGW, pages 3 and 4 of 10. The form must be submitted at the same time and frequency as the ground water monitoring reports.

TABLE 3

PARAMETER	DISCHARGE LIMITATIONS	SAMPLING MONTH	SAMPLING TYPE	REPORTING MONTH
Temperature, Water	(1)*	FebMayAugNov	grab	AprJulyOctJan
Chemical Oxygen Demand (COD)	(1)*	FebMayAugNov	grab	AprJulyOctJan
pH	5-9 SU	FebMayAugNov	grab	AprJulyOctJan
Total Suspended Solids (TSS)	(1)*	FebMayAugNov	grab	AprJulyOctJan
Nitrate-Nitrogen	10 mg/l	FebMayAugNov	grab	AprJulyOctJan
Phosphorus, Total	(1)*	FebMayAugNov	grab	AprJulyOctJan
Total Organic Carbon (TOC)	(1)*	FebMayAugNov	grab	AprJulyOctJan
Chromium, Total	0.05 mg/l	FebMayAugNov	grab	AprJulyOctJan
Lead, Total	0.05 mg/l	FebMayAugNov	grab	AprJulyOctJan
Manganese	0.05 mg/l	FebMayAugNov	grab	AprJulyOctJan

Flow, in gpd	(1)*	continuous	continuous	AprJulyOctJan
Total Dissolved Solids (TDS)	(1)*	FebMayAugNov	grab	AprJulyOctJan
Dissolved Oxygen	(1)*	FebMayAugNov	grab	AprJulyOctJan
Specific Conductance	(1)*	FebMayAugNov	grab	AprJulyOctJan
Sodium	(1)*	FebMayAugNov	grab	AprJulyOctJan

NOTES:

(1)*
Only monitoring is required for the DGW. Limitations may be required by the applicable DSW permit.

4. A Toxicity Characteristic Leaching Procedure (TCLP) or a Department approved replacement for this method must be performed on an annual basis on the sludge within the polishing basin and Tilton Road Pond. The test shall be performed on a composite sample and will include the contaminants listed in N.J.A.C. 7:26-8.12.

ADDITIONAL GENERAL CONDITIONS FOR INDUSTRIAL DISCHARGES BY INFILTRATION-PERCOLATION LAGOONS

I. Construction Requirements

A. All Infiltration-Percolation Lagoons

1. Any new Infiltration-percolation lagoon(s) shall be designed, constructed, maintained and operated to prevent overtopping and sidewall failure.

2. All lagoons shall be fenced or otherwise have access restricted.

II. Operation and Maintenance

A. General Requirements

1. The permittee shall perform an inspection of all visible portions of the lagoon(s) on at least a monthly basis and after storms to:

   a. Ensure that the foundation, banks and dikes are structurally sound;

   b. Detect evidence of any deterioration, malfunctions or other improper operation of the overtopping control system;

   c. Detect erosion, undermining or other signs of deterioration in dikes, banks, foundations or other containment devices.

2. The permittee must comply with N.J.A.C 7:14A-2.5(a)12. when reporting noncompliance.

3. Prior to removal and disposal of any sludge from a lagoon, the permittee shall, at his own expense, perform a TCLP (or other tests required by the Department) by a New Jersey certified laboratory. Results shall be sent to the Bureau of Hazardous Waste Regulation Classification and Technical Assistance [phone (609) 292-8341] to determine the classification of the sludge. Based on these results, the permittee shall dispose of the sludge in a manner approved by the Department.

4. If a lagoon is repaired or if it has been inactive (minimum of 6 months), the permittee shall obtain a certification from a New Jersey licensed Professional Engineer that the lagoon will withstand the physical and chemical stresses of the resumed operation.

B. Contingency Requirements

1. Within six (6) months of the effective date of the permit, the permittee shall develop a worst-case emergency repair plan which shall be submitted for Departmental approval. The plan shall include, at a minimum, provisions for the collapse or overrun of a bank or berm, failure of the foundation, or other reasonably foreseeable events that might necessitate removal of the contents of the lagoon(s). A detailed description shall be given of the methods by which the contents of the lagoon(s) will be emptied and disposed. This plan, upon Department approval, shall be kept at the facility at all times and a copy of the plan will be forwarded to the local township engineer.

2. When a lagoon must be removed from service because of the potential for structural collapse or overtopping, the permittee shall 1) cease all discharges to the lagoon 2) take all necessary steps to prevent any catastropic failure 3) notify the Department wihin two hours of discovery by telephone at (609) 292-7172 and 4) give the Department written notification within seven (7) days. If the problem cannot be stopped within 24 hours after detection, the applicable portions of the worst-case contingency plan shall be implemented.

3. Any lagoon that has been removed from service in accordance with the requirements of this section may not be restored to service unless the portion of the lagoon which was failing is repaired.

   a. If the lagoon was removed from service due to actual or imminent bank or sidewall failure, a New Jersey licensed Professional Engineer shall certify the structural integrity of the bank and sidewall prior to the redirection of flow to the lagoon.

   b. The Department reserves the right to inspect a lagoon at any time during the repairs. If, in the judgment of the Department, the original lagoon system or portions of the system were insufficient or inadequate, the permittee shall install a new upgraded system subsequent to approval by the Department.

   c. If a lagoon is to be removed from service, the permittee shall submit a closure and post-closure plan to the Department for approval, detailing the steps to be taken to remove and dispose of the contents of the lagoon (if necessary), the schedule for closure, and any post-closure care and monitoring if necessary

C. Closure Requirements

1. The permittee shall, no later than 180 days prior to the expected closure of a lagoon, submit to the Department a Closure/Post-Closure Plan. The plan shall identify all necessary closure and post-closure activities that will be conducted during the closure and post-closure periods. The Department will approve or modify the plan through a major modification pursuant to N.J.A.C. 7:14A-2.12 and 8.1 etc.

INTERIM REMEDIAL MEASURES

Interim remedial measures must be designed to mitigate environmental problems that pose an imminent threat to human health and/or the environment. Interim remedial measures may also be required by the Department in order to prevent the movement of pollutants off-site from the facility or to mitigate any contamination which may have already moved off-site. Interim remedial measures should be designed to be consistent with and/or integrated into final corrective measures for the facility whenever possible. The Department shall decide if and when interim remedial measures are required in accordance with the requirements of this permit.

I. SUBMITTAL AND IMPLEMENTATION REQUIREMENTS

A. If at any time the Department determines that newly acquired information indicates that contamination from past or present activities at the Permittee's facility poses an imminent threat to human health or the environment and is moving off-site, the Permittee shall be required to implement one or more of the following:

1. Interim remedial measures as directed by the Department to be implemented by the Permittee within a Department specified time frame and consistent with Appendix A, or;

2. Within 30 calendar days of discovery of the threat to human health and/or the environment or notification from the Department, the Permittee must submit a proposal for interim remedial measures in accordance with Appendix A. The proposal for interim remedial measures will be approved and/or modified by the Department and implemented within a Department specified time frame.

RCRA FACILITY INVESTIGATION

Pursuant to the intent and specific requirements of the New Jersey Pollutant Discharge Elimination System (NJPDES) regulations N.J.A.C. 7:14A-1.1 et seq. [see 1.1, 1.2, 1.7, 2.1(f), 6.1(a)1-3,5,6,(b), and 6.15(d)2], the RCRA Facility Investigation (RFI) must be designed to: characterize the facility; define the sources of contamination; define the degree and extent of contamination; and, identify actual or potential receptors of pollutants at, emanating from, or that have emanated from the facility. Also, the RFI shall result in data of adequate technical quality to support the development and evaluation of the corrective measures alternative(s) during the Corrective Measures Study (CMS) and a Detection Monitoring Program. It is the intent of the Department that this permit be consistent with any federal or state-issued HSWA permit, and this permit is to be interpreted or modified as may be necessary to assure consistency between this permit and any such HSWA permit.

Based on the approved RFI Report, data, information, and recommendations, the Department will determine whether a Corrective Measures Study must be performed to develop and evaluate remedial alternatives for all impacted media. In addition, the RFI Report must recommend which Solid Waste Management Units (SWMUs) or other Areas of Concern (AOC) should be included in the Detection Monitoring Program, or if any Interim Remedial Measures (IRMs) are needed to mitigate any environmental problems that pose an imminent danger to human health or the environment.

The area(s) that should be included in an Interim Remedial Measure, a Corrective Measures Study, and/or a Detection Monitoring Program shall be included in the Department's letter approving the RFI Report. In addition, the Department will issue preliminary clean-up criteria for development of a CMS for each impacted medium as part of this notification. The Department shall develop the preliminary clean-up criteria based on N.J.A.C. 7:14A-6.15, N.J.A.C. 7:9-5 and 6, N.J.A.C. 7:26-1 et seq., available Departmental guidance, and applicable Federal regulations.

Lenox China has already partially completed its RFI and should reference all previously completed reports or work plans in the appropriate documents discussed below and/or in Appendix B or C. Any reports or submissions required herein that the permittee had previously submitted prior to the effective date of this permit need not be submitted again. However, addendums or modifications to such reports could be required if needed to meet permit requirements.

I. SUBMITTAL AND IMPLEMENTATION REQUIREMENTS

A. Within 90 calendar days after the effective date of this permit, the Permittee shall submit to the Department a Facility Background Report in accordance with the requirements set forth in Appendix B.II, attached hereto and made a part hereof. The Department shall review the Report for accuracy and completeness as specified in Appendix B and specific requirements, below, and shall notify the Permittee in writing of any deficiencies or if any additional information is required. The Permittee shall revise the Report to conform to the Department's comments within 60 calendar days of receipt of said comments, and resubmit the report to the Department.

B. Within 150 calendar days after the effective date of this permit, the Permittee shall submit to the Department a detailed Draft RCRA Facility Investigation Work Plan, (hereinafter the "RFI Work Plan") in accordance with Section III of the scope of work set forth in Appendices B and D, which are attached hereto and made a part hereof. The Permittee must follow the plans developed in accordance with Appendix C (as discussed in the following paragraph) while implementing the RFI Work Plan. In addition, the Draft RFI Work Plan must include all conditions that may be contained in the RFI Specific Requirements section of this part of the permit. The RFI Work Plan may contain separate phases of investigative work.

C. Within 120 calendar days after the effective date of this permit, the Permittee shall submit to the Department detailed draft versions of the Project Management Plan, the Data Collection Quality Assurance Plan, the Data Management Plan, and the Health and Safety Plan in accordance with the Scope of Work set forth in Appendix C, which is attached hereto and made a part hereof.

D. Within 60 calendar days after receipt of the Department's written comments on the Draft RFI Work Plan and the supporting Appendix C plans, the Permittee shall modify these draft plans to conform to the Department's comments and shall submit the modified plans to the Department. The determination as to whether or not the modified plans, as resubmitted, conform to the Department's comments shall be made solely by the Department. The Department's comments will be strictly limited to require consistency with the Scope of Work in Appendices B and C, and the specific requirements, listed below. The permittee may request a meeting with the Department within 21 days of receipt of comments to discuss and resolve any questions or issues raised by the Department's comments on the draft work plan. The permittee shall have either 60 days, as stated above, or until 30 days after such meeting to submit the modified plans.

E. Upon receipt of the Department's written approval of the revised RFI Work Plan and the Appendix C supporting plans, the Permittee shall conduct the RFI in accordance with these approved plans and the schedules therein. The permittee may request a meeting with the Department to discuss and resolve any questions or issues raised while conducting the investigation.

F. The Permittee shall submit to the Department a draft RCRA Facility Investigation Report (hereinafter "RFI Report") in accordance with the Data Management Plan (Appendix C), Condition IV of Appendix B, and the RFI Work Plan and the schedule therein.

G. If upon review of the draft RFI Report or at any time after the issuance of this permit the Department determines that additional investigation is required (e.g., new SWMUs or AOCs or new releases at existing SWMUs or AOCs are identified), the Permittee shall conduct additional RFI work as directed by the Department, consistent with Appendix B and submit a second draft RFI Report. The finding of new SWMUs or AOCs must be reported to the Department in writing within 15 calendar days of their discovery. The permittee may request a meeting within 21 days of receipt of the Department's comments to discuss and resolve any questions or issues that are raised by the Department's requirement to conduct additional RFI work.

H. Within 60 calendar days after receipt of the Department's written comments on the draft or second draft RFI Report (if applicable pursuant to the preceding paragraph), the Permittee must modify the report to conform to the Department's comments and resubmit the modified RFI Report to the Department. The determination as to whether or not the modified or final RFI Report, as resubmitted, conforms to the Department's comments shall be made solely by the Department in writing. The Department's comments will be strictly limited to require consistency with the Scope of Work in Appendices B and C, and the specific requirements, listed below. The permittee may request a meeting with the Department within 21 days of receipt of comments to discuss and resolve any questions or issues raised by the Department's comments on the draft or second draft RFI report. The permittee shall have either the 60 days, as stated above, or until 30 days after such meeting to submit the modified report.

II. SPECIFIC REQUIREMENTS

These specific conditions are written to supplement Appendix B. Each section below (unless otherwise stated) corresponds to a section of Appendix B and includes additional detailed conditions that <u>must</u> be included in the RFI Work Plan. To the extent that

any requirements herein were previously completed, or any documents or reports required to be submitted were previously submitted, the permittee is not required to reperform such requirements or resubmit such documents or reports.

A. Requirements of RCRA Facility Investigation (RFI):

1. As part of the RFI, the permittee must have determined the impact of past and present production and disposal activities on the soil and ground water at the Lenox China facility. The permittee must have proposed sampling plans and/or submitted reports that adequately assessed the nature and extent of contamination (if any) of the following areas of concern where waste and/or products were managed and other discharges to ground water have occurred or provide justification that the areas have not been impacted by past activities. For all SWMUs, the requirements of the RFI as outlined in Appendix B, Part I, must be fulfilled and it must be determined if the units listed below should be included in an Interim Remedial Measure, Corrective Measures Study, Detection Monitoring Program or if further investigation is necessary.

   a. The following Solid Waste Management Units (SWMUs) were identified at the Lenox China Facility.

      1. Degreaser Sludge Pit
      2. Sludge Disposal Area
      3. Waste Pile
      4. Polishing Lagoon
      5. Tilton Road Pond
      6. Underground Effluent Transfer Pipe
      7. Equalization Sump
      8. Wastewater Treatment Piping
      * 9. Underground Storage Tanks
      *10. Glaze Basin
      *11. Slip Basin
      *12. Drum Storage Area

NOTE: *

The underground storage tanks were removed in 1987 and clean closure was achieved in accordance with NJDEPE requirements. The tanks are no longer considered SWMUs. The glaze basin, slip basin and drum storage area were RCRA regulated units. Both the glaze and slip basins were closed in 1990 and both basins are subject to post-closure requirements. The Drum Storage Area was closed in August of 1990.

   b. The following Area Of Concern (AOC) was identified at the Lenox China Site:

- Area Between Well #10 and Aloe Street

2. The permittee must determine the hydrogeology and background soil and ground water quality at the site.

B. Contents of Facility Background Report

1. The Facility Background Report must, to the best of Lenox China's knowledge, include all activities, past and present, that have or may have caused a release or discharge, such as the production, transport, storage, disposal, treatment, spill and discharge of products and waste, including estimates of volume, location and dates of these activities. The permittee must use Appendix B, Part II as guidance. The Facility Background Report should reference the compendium of reports entitled Supplemental Information Solid Waste Management Units Lenox China, Pomona, New Jersey, dated September 1990 and other previous investigative work as meeting part of the RFI requirements. Specifically, the following items must be included:

   a. The origin and past operating history of the Waste Pile (SWMU #3) must be determined.

   b. Referencing the trichloroethylene (TCE) investigation and remediation Report and/or providing new information on the sources of TCE contamination.

C. Contents of RCRA Facility Investigation (RFI) Work Plan

1. The permittee must propose the sample locations and amount of samples needed to define the background soil and sediment quality.

   a. Lenox must conduct a soil investigation in those areas where past discharges have occurred and where suspected or potential contamination is possible. These areas are listed below.

      1. Degreaser Sludge Pit
      2. Waste Pile
      3. Polishing Lagoon
      4. Tilton Road Pond
      5. Underground Effluent Transfer Pipe
      6. Equalization Sump
      7. Wastewater Treatment Pipe
      8. Drum Storage Area

2. Unless already addressed in the Facility Background Report, a minimum of four soil borings are required at

each area listed above. (If appropriate, one boring may serve to help characterize more than one area.) Additional borings will be required if the minimum amount is not sufficient to allow an accurate delineation of the vertical or horizontal extent of contamination.

a. For the effluent transfer pipe and wastewater facility piping, at least one sample should be located in the area of the filling and discharge pipe(s) or opening(s) if the location(s) is/are known.

b. In accordance with N.J.A.C. 7:26-9.9(e), Lenox should avoid, if possible, disturbing the northern portion of glaze basin cap during the investigation of the waste pile.

c. Soil borings which are greater than 25 feet deep or which intersect the water table require NJDEPE well permits. After the samples are taken, all holes must be sealed by a licensed New Jersey well driller certified to seal borings.

3. The permittee must conduct an investigation to determine the impact of SMWUs on the ground water and to define background ground water quality and site-wide hydrogeology. Ground water monitoring and sampling points must be capable of accurately defining the horizontal and vertical extent of contamination that may be at the site, emanating from the site and/or emanating from each SWMU.

a. Ground water samples and/or ground water elevations, as applicable, will be taken from the following onsite wells and piezometers:

Wells MW-1, MW-3, MW-4, MW-6, MW-7, MW-8, MW-9, MW-10, MW-15 (samples)

Piezometers P-5, P-18, P-21 (elevations)

b. Lenox must conduct an investigation to attempt to determine the origin of the zinc which has been detected in Monitoring well #3.

c. Lenox shall install one monitoring well. It will be located on the northeastern edge of the property down gradient of the degreaser sump. This well will be screened in the Upper Cohansey aquifer. Monitor well specifications are given in Appendix D.

4. All soil and sludge samples in areas where past discharges have occurred must be analyzed for lead, zinc volatile organic compounds and any other specific hazardous compounds that are known to have been contained

within any past discharges. In addition, the permittee must also propose the parameters to be analyzed for that will sufficiently quantify the impact of the discharge(s). The Department will evaluate this proposal in terms of the criteria set forth in N.J.A.C. 7:14A-6.15(d)2i.1-9 and ii.1-10. The permittee will be notified in writing of the Department's decision on the proposed alternate analyses.

Ground water samples will be sampled and analyzed in accordance with Table 2 of the Detection and Corrective Action Ground Water Monitoring Requirements and Standards, Part III-DGW section of this permit. Ground water sampling and analyses for additional parameters may be required based on results of soil and sludge sampling.

D. Contents of RCRA Facility Investigation (RFI) Report

1. Lenox shall prepare a comprehensive analysis and summary of the results derived from the RCRA Facility Investigation, and make recommendations for any additional investigations as required by Appendix B, Section IV.

2. The RFI Report must document that the data produced by the investigation are sufficient in quality and quantity to fully describe the nature and extent of contamination, potential threat to human health and/or the environment, and to support any Interim Remedial Measures, Corrective Measures, and/or Detection Monitoring Program.

DETECTION MONITORING PROGRAM

The New Jersey Pollutant Discharge Elimination System (NJPDES) Discharge to Ground Water (DGW) Detection Monitoring Program, developed from the RCRA Facility Investigation (RFI) Report, must be designed to monitor the impact or potential impact of a unit or area on the ground waters of the state of New Jersey over an extended period. A Detection Monitoring Program must also be designed to determine the effectiveness of past or on-going closure or corrective measures, except ground water remediation, and monitor for leaks or failures of hazardous-chemical or waste-containment units. The Permittee is required to propose a Detection Monitoring Program which includes all units or areas which are an actual discharge or pose a potential for discharge to ground water but do not, at this time, have to be included in a ground water remediation program proposed in the CMS or that are not already included in the existing Detecting Monitoring Program of Part III of this permit. Proposed changes to the existing Detection Monitoring Program can also be submitted at this time.

To the extent that any of the following requirements were previously performed by the permittee or documents and reports were previously submitted by the permittee to the Department prior to the effective date of this permit, such tasks need not be repeated and such documents and reports need not be resubmitted. However, if any such documents do not meet the permit requirements, addendums or revisions to the documents will be required. Lenox must identify which previously submitted reports meet permit submittal requirements at the time which these submittal are due.

I. SUBMITTAL AND IMPLEMENTATION REQUIREMENTS

A. Within sixty (60) calendar days following the Department's final approval of the RCRA Facility Investigation (RFI) Report, the Permittee shall submit to the Department a draft Detection Monitoring Program in accordance with the requirements set forth in N.J.A.C. 7:14A-6.15(i) and Appendix E, attached hereto and made part hereof. The Department will review the proposal for completeness and shall notify the Permittee, in writing, of any deficiencies or if additional information is required.

B. Within thirty (30) calendar days after the receipt of the Department's written comments on the draft Detection Monitoring Program proposal, the Permittee should modify the draft proposal to conform to the Department's comments and submit the final proposal to the Department. The determination as to whether or not the final proposal, as resubmitted, conforms to the Department's comments shall be

made solely by the Department. The Department's comments will strictly be limited to accomplishing compliance with the requirements of N.J.A.C. 7:14A-6.15 and Appendix E.

If the final proposal conforms to the Department's comments and/or qualifies as a minor modification (see N.J.A.C. 7:14A-2.14), the Department will approve and require implementation of the proposal through a letter. If the final proposal does not conform to the Department's comments, the Department may issue a major modification (see N.J.A.C. 7:14A-2.12) of this permit to require implementation of a modified version of the proposal.

CORRECTIVE MEASURES STUDY

The Permittee has already partially completed the requirements of this part of this permit. As part of the final approval of the RCRA Facility Investigation (RFI) Report, the Department will notify the Permittee, in writing, whether or not an additional Corrective Measures Study (CMS) must be undertaken as a requirement of this permit. The Department will use the results of the RCRA Facility Investigation as the basis for requiring such a Corrective Measures Study and the specific area(s) that need corrective measures. In the Corrective Measures Study, the Permittee must identify, screen, evaluate, and develop the alternative or alternatives capable of removal, containment, and/or other remediation of all significantly (as defined by the Department based on applicable regulations and standards) polluted media. All alternatives must be evaluated based on technical, environmental, human health, and institutional concerns. The Permittee's preferred alternative must be identified and justified and its conceptual design developed. The Corrective Measures Study must also include a proposal for ground water monitoring to determine and/or verify the effectiveness of the preferred alternative. The permittee may petition the Department to impose Alternate Concentration Limits [ACLs] consistent with applicable regulatory requirements.

Based on the results of the approved CMS, the Department shall select a remedial alternative that will (1) be protective of human health and the environment; (2) meet the minimum protection standards that the remedy must achieve in order to be protective of human health and the environment; (3) control the source(s) of the release(s) of contaminants so as to reduce or eliminate, further releases that might pose a threat to human health or the environment; and, (4) meet all applicable promulgated waste management standards.

In conformance with N.J.A.C. 7:14A-2.12, the Department shall prepare a Major Modification to this permit requiring the implementation of any selected corrective measure(s) and establishing media protection standards in accordance with applicable regulations. Issuance of the Major Modification of this permit shall follow the procedures outlined under N.J.A.C. 7:14A-7 and 8.

To the extent that any of the requirements in this Part have already been performed by the permittee or any of the documents and reports required in this Part were previously submitted by the Permittee prior to the effective date of this permit, such tasks need not be repeated and such documents or reports need not be resubmitted. However, addendums or modifications to such reports or documents could be required if needed to meet permit requirements.

I. SUBMITTAL AND IMPLEMENTATION REQUIREMENTS

A. Within ninety (90) calendar days after receipt of the Department's written final approval of the RFI Report and determination that some form of corrective action is needed, the Permittee shall submit to the Department a draft Corrective Measures Study Work Plan (hereinafter, "CMS Work Plan") in accordance with the scope of the work set forth in Appendix F which is attached hereto and made a part hereof.

B. Within thirty (30) calendar days after receipt of the Department's written comments on the draft CMS Work Plan, the Permittee shall modify the draft CMS Work Plan to conform to the Department's comments and shall submit the modified CMS Work Plan to the Department. The determination as to whether or not the modified CMS Work Plan, as resubmitted, conforms to the Department's comments shall be made solely by the Department. The Department's comments shall be strictly limited to require consistency with Appendix F. The permittee, upon receipt of the Department's comments, may, within 14 days, request a meeting with the Department to discuss and resolve any questions or issues raised by the Department's comments on the work plan. The permittee shall have 21 days after such meeting to resubmit the draft work plan.

C. Upon receipt of the revised CMS Work Plan the Department shall approve and/or modify the Work Plan. This approval and/or approval with modification shall be given in writing. Upon receipt of the Department's written final approval of the CMS Work Plan, the permittee shall conduct the corrective measures study in accordance with the approved CMS Work Plan and the schedule therein. The permittee, upon receipt of the Work Plan approval may, within 21 days, request a meeting with the Department to discuss and resolve any questions or issues raised by the Department's modifications to the work plan. The schedule applicable to such work plan shall be amended to extend the deadlines therein by 30 days following the date of such a meeting.

D. The Permittee shall submit to the Department a draft Corrective Measures Study Report (hereinafter "CMS Report") in accordance with Condition III of Appendix F and the approved CMS Work Plan and the schedule therein.

E. Within forty-five (45) calendar days after receipt of the Department's written comments on the draft CMS Report, the Permittee shall modify the draft CMS Report to conform to the Department's comments and shall submit the modified CMS Report to the Department. The determination as to whether or not the modified CMS Report, as resubmitted, conforms to the Department's comments shall be made solely by the Department in writing. Within 21 days, the permittee may request a meeting with the Department to discuss and resolve

any questions or issues raised by the Department's comments, in which case the deadline for the permittee's submittal of the modified Report shall be extended 30 days after the date of such a meeting. The Department's comments will be strictly limited to require consistency with Appendix F.

II. SPECIFIC CONDITIONS

A. The permittee has conducted and completed a Corrective Measure Study for the remediation of trichloroethylene (TCE) contaminated ground water at the Lenox China facility in Pomona. The report, dated August 1990, was received and approved by the Department and is entitled "Summary Report of the Investigation of Trichloroethylene in Ground Water and Proposed Ground Water Remedial System". A revised report, dated November 1991 and entitled "Addendum To Summary Report of the Investigation of Trichloroethylene in Ground Water and Proposed Ground Water Remedial System", was submitted to the Department and contains revisions to the TCE ground water remediation system and the TCE ground water monitoring program. The revisions to the design of the TCE ground water remediation system have been approved by the Department. The TCE ground water monitoring program, as stated in the revised November 1991 Summary Report has not been approved. The Department will send a comment letter to the permittee that will address the ground water monitoring program for the TCE contamination. Upon approval of a ground water monitoring program for the TCE contamination, the Department will notify the permittee in writing.

CORRECTIVE MEASURES IMPLEMENTATION

The "Ground Water Remediation Design Report", dated August 1990, and the revised design report entitled "Addendum to August 1990 Groundwater Remediation Design Report", dated October 1991, in addition to the reports entitled "Groundwater Recharge Pilot Study Report, Lenox China Facility, Pomona, New Jersey" dated August 1991 and "Technical Specifications, Ground Water Remediation System", dated September 1991 are hereby approved by the Department with the following additional conditions and requirements. This ground water corrective action program must comply with the requirements of N.J.A.C. 7:14A-6.15(k) and 5.1 et seq.

The Corrective Measures Plan prepared by Eder Associates entitled "Addendum to August 1990 Groundwater Remediation Design Report" recommends the use of injection trenches as part of the TCE ground water remediation program. This program consists of ground water recovery by extraction wells, treatment by granular activated carbon and discharge of the treated water back to the ground by way of injection trenches. A May 14, 1992 letter submitted by Lenox requested that part of the treated ground water be used for non-contact cooling in plant operations prior to being discharged to the injection trenches. The letter also requested that part of the treated ground water be diverted for non-industrial sanitary uses. This water would then be sent to a sanitary wastewater treatment plant. Lenox also intends to use part of the treated ground water for on-site spray irrigation and for offsite spray irrigation of an adjacent property. Approval of the offsite irrigation is contingent upon Lenox submitting to the Department copies of all legal agreements between Lenox and the adjacent property owner(s). The construction and use of injection trenches for this purpose must follow the guidelines for Underground Injection Control (UIC). (See Section X below.)

I. The applicable list of hazardous constituents and their ground water protection standards are given in Part III-DGW Table 2, pages 7 and 8 of 11. These are the ground water clean-up standards for the remediation of the volatile organics contamination. If subsequent to the effective date of this permit, new or revised clean-up standards are promulgated by the Department, the permittee may petition the Department to modify these standards accordingly.

II. The point of compliance is defined in Part III-DGW Condition 14, page 4 of 10.

III. Pursuant to N.J.A.C. 7:14A-6.15(k)5 and 6:

A. The compliance period for Lenox's corrective action program extends as long as necessary to achieve

compliance with the ground water protection standards for volatile organics listed in Part III-DGW Table 2, pages 7 and 8 of 11;

B. Hydraulic controls and recovery of contaminated ground water must be obtained and maintained for the entire plume of contamination exceeding the ground water protection standards established in Part III-DGW, Table 2. Hydraulic control and recovery of ground water may be terminated if concentrations in the ground water are below the ground water protection standards for two consecutive quarterly rounds of sampling for all monitoring wells included in the corrective action program; and

C. The Compliance Period and corrective action ground water monitoring shall continue until the owner/operator can demonstrate that the ground water protection standards of Part III-DGW, Table 2 have not been exceeded for a period of three years after corrective action measures (i.e. hydraulic control and recovery of ground water) have ceased or that any such exceedence is attributable to offsite or background conditions. If the ground water protection standard is exceeded within this time frame, necessary parts of the corrective action process shall be re-activated unless such exceedence is attributable to offsite or background conditions. In making this demonstration, the ground water protection standards shall be monitored at all corrective action program monitoring wells or as otherwise determined by the Department.

IV. Effluent samples shall be taken according to the schedule in Table 4. A sample of recovered ground water prior to treatment should be taken annually in order to evaluate treatment system performance and changes in recovered ground water over time. The first sample should be taken in the first quarterly sampling month listed below after the "start up" month for the ground water treatment system. Subsequent annual samples should be taken in May. These samples should be analyzed for the same parameters listed in Table 4. Data from analyses of any additional samples of this type that the permittee takes must be submitted to the Bureau of Ground Water Pollution Abatement (BGWPA) at the same time as the quarterly data is submitted pursuant to N.J.A.C. 7:14A-2.5(a)12vi.

A. All sampling will be performed according to the methodology specified in the Department's <u>Field Procedures Manual for Water Data Acquisition</u>.

B. Effluent Discharge Monitoring Report Forms will be sent from the Department to the Permittee. These forms must be completed and submitted to the first address

given in Condition Eleven, Part III-DGW, page 3 of 11. Copies of these forms should be sent to the address in Condition Twelve, Part III-DGW, pages 3 and 4 of 11. The forms must be submitted at the same time and frequency as the ground water monitoring reports.

C. The established limits in Table 4 shall be met at the sampling point following treatment in the granular activated carbon treatment system prior to distribution to the injection system. If the discharge limit is exceeded at any time, injection of treated water shall cease immediately and shall not commence without approval of the Department. Ceasing the discharge shall not be used as a defense against violation of permit discharge concentration limits or completion of the ground water decontamination.

TABLE 4
Corrective Measures Effluent Sampling:
Injection Trenches and Spray Irrigation

PARAMETER	EFFLUENT LIMITATIONS	SAMPLING MONTH	SAMPLING TYPE	REPORTING MONTH
pH	(1)*	FebMayAugNov	grab	AprJulOctJan
Total Suspended Solids (TSS)	(1)*	FebMayAugNov	grab	AprJulOctJan
Iron	(1)*	FebMayAugNov	grab	AprJulOctJan
Flow, in gpd	(1)*	FebMayAugNov	continuous	AprJulOctJan
Total Dissolved Solids (TDS)	(1)*	FebMayAugNov	grab	AprJulOctJan
Trichloroethylene	10 ppb	FebMayAugNov	grab	AprJulOctJan
1,1-Dichloroethylene	10 ppb	FebMayAugNov	grab	AprJulOctJan
cis-1,2-Dichloroethylene	10 ppb	FebMayAugNov	grab	AprJulOctJan
trans-1,2-Dichloroethylene	100 ppb	FebMayAugNov	grab	AprJulOctJan
Vinyl Chloride	10 ppb	FebMayAugNov	grab	AprJulOctJan

NOTES:

(1)*
Monitoring only is required. No DGW limits have been set at this time. Effluent limits could be set in the future if monitoring data indicate it is necessary.

(2)*
"Grab" means an individual sample of at least 100 milliliters collected over a period not exceeding 15 minutes.

V. The permittee shall also submit quarterly, along with Effluent Discharge Monitoring Report forms, a report to the BGWPA including, for each month in the reporting period, total volume of ground water withdrawn, total volume of treated ground water injected and any upsets or malfunctions in the recovery, treatment or injection systems that may have occurred during the months in that quarter.

VI. The permittee shall submit ground water elevation contour maps quarterly for the entire facility based on water levels obtained during quarterly sampling.

VII. The permittee must submit a report semi-annually which evaluates the effectiveness of the approved corrective action system.

VIII. If the Department determines that the ground water corrective action system is not capable of meeting the requirements of this permit, the permittee must submit a plan within 45 days of the Departmental notification which must include but is not limited to the following:

a. The proposed location, depth and construction of the additional wells necessary to meet the permit requirements.

b. The rationale for the proposed locations.

All wells required pursuant to this condition must be installed within 60 days of NJDEPE written approval.

IX. The Corrective Action outlined in the approved plan shall be initiated as soon as is reasonably possible.

X. The permittee must comply with all applicable requirements of N.J.A.C. 7:14A-5.1. The following program, General Conditions for the Underground Injection Control (UIC) of Class V wells are specified based on those requirements.

A. Construction Requirements

1. Construction of Injection System

a) The injection system must be constructed in accordance with the plans submitted.

b) The area of review for the injection fields shall be determined in accordance with

N.J.A.C. 7:14A-5.13(a)1-3. The ground water recovery system must be considered in making this determination.

B. Operation and Maintenance

1. General Requirements

a) The permittee must obtain a well drilling permit before constructing any well. Applications for well permits can be obtained from:

Water Supply Element
CN-029
Trenton, New Jersey 08625

b) The permittee is required to submit inventory information regarding the well(s) to the Department when an application is made for a Class V well drilling permit. This information must consist of the following:

- well drilling permit number
- facility name and location
- name and address of legal contact
- ownership of facility
- owner of property where well is installed
- nature and type of injection well(s)
- operating status of injection well(s)

2. Pursuant to N.J.A.C. 7:14A-5.7(b), the Department required the permittee to obtain this UIC/NJPDES permit for Class V injection wells. The protection of the underground sources of drinking water require that the injection system be regulated by requirements for corrective action, monitoring and reporting and operation. Pursuant to N.J.A.C. 7:14A-5.9, the following conditions apply:

a) The permittee does not need to comply with the provisions of the UIC permit if noncompliance is authorized under a temporary emergency permit

b) The permittee shall retain all monitoring records and all records concerning the nature and composition of injected fluids until five (5) years after completion of any plugging and abandonment procedures.

c) New injection wells may not commence injection until construction is complete and the

permittee has submitted well completion reports and the Department has inspected or otherwise reviewed the new injection wells and finds them in compliance with permit conditions.

C. Contingency Requirements

1. Pursuant to N.J.A.C. 7:14A-5.9(a)4, the permittee is required to report to the Department the following conditions within 2 hours:

   a) Any monitoring or other information which indicate that contaminants may endanger a potable supply well.

   b) Any noncompliance with permit conditions or a malfunction of the injection system that may cause contaminated fluid migration to a potable supply well.

2. Pursuant to N.J.A.C. 7:14A-5.9(a)5, the permittee is required to report to the Department the following conditions within 24 hours:

   a) Any monitoring or information which indicate that a contaminant may cause endangerment to an underground source of drinking water.

   b) Any noncompliance with permit conditions or a malfunction of the injection system that may cause fluid migration into or between underground sources of drinking water.

3. Pursuant to N.J.A.C. 7:14A-5.4, no UIC authorization will be allowed if a Class V well causes or allows movement of fluids containing any contaminants into underground sources of drinking water and if the presence of the contaminants may cause a violation of any primary drinking water standards under N.J.A.C. 7:10-5, ground water quality standards under N.J.A.C. 7:9-6 or which may adversely affect the health of humans. If at any time the Department learns that Class V wells are causing violations as stated above, the Department shall:

   a) Order the permittee to take such action as is necessary to prevent or stop the violation; and/or

   b) Take enforcement action.

D. Plugging and Abandonment

1. The permittee shall notify the Department at least 180 days before the conversion or abandonment of the well. Along with this notice, the permittee shall submit a plugging and abandonment plan which will follow the requirements of N.J.S.A 58:4A-4.1 et seq and N.J.A.C. 7:9-9 (sealing of abandoned wells) where applicable.

SPECIAL CONDITIONS FOR POST-CLOSURE OF THE RCRA REGULATED LAGOONS

I. Glaze Basin

A. Post-closure care of the glaze basin has been approved by the Department following completion of the closure of the glaze basin in July 1990. The permittee shall implement the approved post-closure plan entitled "Post-closure Plan - Glaze Basin, Lenox China, Pomona, New Jersey" dated October 1988, with the clarifications and conditions listed below.

B. In accordance with N.J.A.C. 7:26-9.9(m), Lenox submitted a survey plat to the Department and local zoning authority that details the location and size of the closed area with respect to permanent, surveyed benchmarks. The plat was prepared and certified by a professional land surveyor. This survey plat was received by the Department on May 24, 1990.

C. In accordance with N.J.A.C. 7:26-9.9 (e), the permittee will not use the portion of the closed glaze basin along the north wall where hazardous waste and residual contaminated subsoil remains in any way which will disturb the integrity and function of the cap and well monitoring systems.

D. Lenox shall regularly maintain and inspect monthly the paved cap to ensure the structural integrity and make repairs as needed. Inspection of the cap and the well system will be conducted on a monthly basis. The inspection reports will be filed quarterly and will summarize the following information:

1. The condition of the final cap.

2. The condition of all ground water monitoring equipment.

3. Any maintenance required during the post-closure period in order to comply with post-closure monitoring.

E. Ground water sampling, analysis and reporting will follow all applicable guidelines and requirements of Part III-DGW section of this permit entitled <u>Detection and Corrective Action Ground Water Monitoring Requirements and Standards</u>.

F. Post-closure maintenance and well monitoring shall continue for 30 years after closure. The time period for post-closure care may be shortened or extended by the Department in accordance with N.J.A.C. 7:26-9.9(c).

II. Slip Basin

A. Post-closure care of the slip basin has been approved by the Department following the completion of closure of the slip basin in September 1990. The permittee shall implement the approved post-closure plan with the conditions and clarifications listed below.

B. In accordance with N.J.A.C. 7:26-9.9(e), the permittee may not use any portion of the closed slip basin in any way that will disturb the integrity and function of the cap and ground water monitoring system in this area.

C. Lenox shall regularly maintain and inspect the final cover to ensure soil erosion control and structural integrity. Lenox will also ensure that the appropriate vegetation for the soil and climate is grown and maintained on the cap on a year round basis. Inspection reports will be filed quarterly and will summarize the following information:

1) The integrity of the cap.

2) The condition of the ground water monitoring wells for the closed basin.

3) Any maintenance and repairs required during the post-closure period in order to comply with post-closure care and monitoring.

D. Ground water sampling, analysis and reporting will follow all applicable guidelines and requirements as listed in the section of this permit entitled <u>Detection and Corrective Action Ground Water Monitoring Requirements and Standards</u>.

E. Post-closure requirements and well monitoring shall continue for thirty (30) years after closure of the basin. The time period for post-closure may be shortened or extended by the Department in accordance with N.J.A.C. 7:26-9.9(c).

APPENDIX A
INTERIM REMEDIAL MEASURES: SCOPE OF WORK

I. Requirements of Interim Remedial Measures

A. The Permittee must document and assess the effectiveness of all existing remedial measures that are currently being implemented at the site that address soil, ground water or surface water remedial actions. A report must be prepared and submitted to address the following issues:

1. effectiveness to adequately protect human health and the environment and consistency with and integration into any long term solutions at the facility;

2. the nature and extent of the pollution at and/or emanating from the site which the existing remedial action is designed to remediate;

3. compliance with applicable numeric and narrative state and federal regulations, including surface water and ground water quality standards pursuant to N.J.A.C. 7:14A-1 et seq., 7:9-5, & 7:9-6 and other regulations adopted by the Department;

4. comparison with background or ambient conditions;

5. source controls;

6. schedules for design, construction, and monitoring;

7. design, construction, operation, and maintenance requirements;

8. schedules for progress reports.

B. Determine, in as much detail as possible, all interim remedial measures that the company is to take immediately, such as:

1. providing a fence or other security measure; to restrict public aces or otherwise ensure the structural integrity of monitoring and remediation equipment;

2. securing spilled or damaged drums/containers, tanks, lagoons, or surface impoundments that have

discharged hazardous substances; or are not contained or constructed pursuant to applicable regulations;

3. controlling run-off and/or run-on;

4. covering or removing waste piles;

5. providing water treatment, bottled water, or extension of water lines if determined to be necessary to protect human health;

6. sampling of private potable wells under local health department or NJDEPE supervision if required and appropriate;

7. begin or increase pumping and proper disposal of contaminated ground water;

8. upgrade existing treatment facilities if they do not currently provide adequate treatment to meet operating or discharge standards;

9. retrofit leaking lagoon or surface impoundment;

10. eliminate, cap or cover solid waste management unit or any contamination source;

11. construct a slurry wall;

12. construct a leachate and/or effluent collection system;

13. comply with all local, state, and federal health and safety monitoring and reporting requirements applicable to activities regulated by this permit.

II. Contents of Interim Remedial Measures Work Plan

A. A detailed list of requirements for the interim remedial measures plan pursuant to section I.B. above,

B. A detailed schedule for all interim remedial measures required by this permit and in this Scope of Work, including a time schedule for:

1. submission of any necessary permit applications;

2. start and ending of all field activities;

3. submission of progress and interim remedial measure performance evaluation reports; and

4. implementation of approved interim measures.

C. A detailed engineering design for each required interim remedial measure including but not limited to:

1. a description of appropriate new or additional containment, treatment and/or disposal technologies;

2. a description of special engineering considerations required to upgrade existing facilities;

3. a description of operation, maintenance and monitoring requirements of each interim remedial measure;

4. off-site disposal needs and transportation plans;

5. additional temporary or permanent storage requirements;

6. safety requirements for interim remedial measures;

7. a list of all Federal, State, and local permits required for each measure;

8. a review of each measure to ensure compliance with applicable statutes and regulations;

9. a description of the ability of each measure to be phased into individual operable units; and,

10. a discussion of any limits or constraints each measure may place on final remedial alternatives and steps taken to minimize these limits or constraints.

D. A detailed performance evaluation program for all proposed interim measures.

APPENDIX B
RCRA FACILITY INVESTIGATION: SCOPE OF WORK

I. Requirements of RCRA Facility Investigation

A. Fully characterize all waste and other materials which are, or may be, the source(s) of pollution at the site;

B. Fully determine the nature, type, and physical states of soil, surface water, and/or ground water pollution at and/or emanating from solid waste management units and/or other potential contaminant source areas at the site;

C. Fully determine the horizontal and vertical extent of soil, surface water, and ground-water pollution at and/or emanating from solid waste management units and/or other potential contaminant source areas at the site;

D. Fully determine migration paths of pollutants through soil, ground water, surface water and sediment;

E. Fully determine impact of the pollution on human health and the environment; and,

F. Collect, present, and discuss all data necessary to adequately support the development of a corrective measures study and the selection of a remedial action alternative that will remediate the adverse impacts of the pollution on human health and the environment.

II. Contents of Facility Background Report

A. A complete site history including:

1. A history and description, including dates, of all known uses and activities on the site (including solid and hazardous waste generation, treatment, storage, and disposal activities), both past and present;

2. A list of all known materials used and products made, past and present, including all pertinent dates; and,

3. A description (including location) of all known past and present possible source areas of contamination at the facility, including, at a

minimum, all hazardous and solid waste management units, spill or disposal areas, and other known or suspected pollution source areas. At a minimum, for each waste management unit or other possible source area, identify the following:

a. dates of operation;

b. identification of wastes/substances stored, treated, or disposed of;

c. unit/area dimensions;

d. design and construction information, including materials of construction;

e. quantity of wastes/substances stored, treated, or disposed of;

f. plant coordinate location; and,

g. locations where additional information is necessary (this information must be collected in accordance with Section III.B.2. below);

4. Historical site plans and facility as-built construction drawings available to or in the facility's possession;

5. Aerial photographs of the site in the facility's possession or available to the facility;

6. A quantitative site water budget describing current water management practices, including: input, use, distribution and discharge; Evaluation of precipitation and evapotranspiration is not needed but any active or passive stormwater management should be included.(Also should include approximate quantities for imput use and discharge where values are readily available.)

7. Map(s) depicting the following:

a. general geographic location;

b. property lines, with the present owners of all adjacent property clearly indicated;

c. topography and surface drainage (with a contour interval of 10 feet and a scale of 1 inch = 400 feet) depicting all waterways, wetlands, floodplains, known drainage patterns, and surface water containment areas;

d. tanks, treatment or major production equipment, buildings, utilities, paved areas, easements, right-of-ways, and other features;

e. all known hazardous waste treatment, storage, or disposal areas active after November 19, 1980;

f. all known past and all present solid or hazardous waste treatment, storage, or disposal areas regardless of whether they were active on November 19, 1980;

g. all known past and present product and waste underground tanks, piping, or other underground facilities;

h. surrounding land uses (e.g. industrial, residential, commercial, agricultural, recreational); and,

i. the location of all known production wells, public and private potable wells, and ground water monitoring wells on-site and within a 1/2 mile radius of the site. These wells shall be clearly labeled with ground and top of casing elevations and construction details included if known (these elevations and details may be included as an attachment if available from public records).

All maps shall be of sufficient detail and accuracy to locate and report all current and future work performed at the site;

8. Approximate dates or periods of past product and waste spills, identification of the materials spilled, amounts spilled, locations where spilled, and a description of the response actions conducted (local, state, or federal response units or private parties), including any inspection reports or technical reports generated as a result of the response.

9. All existing environmental data relevant to the site, including a summary, review and evaluation.

III. Contents of RCRA Facility Investigation Work Plan

IMPORTANT NOTE: All of the following items shall be in the RFI Work Plan. If any of the items have previously been submitted or completed, it shall be so stated in the RFI Work Plan. For

these previously submitted items, the following shall be in the RFI Work Plan:

-description of items submitted and/or summary of investigation completed;

-date(s) of submission or completion; and,

-any known changes or new information developed since submission or completion.

The Department will determine the extent to which prior submissions or completions may satisfy specific items required by this Scope of Work.

A. A Statement of requirements for the remedial investigation pursuant to Section I., above.

B. Field Sampling Plan

1. Environmental Setting

The Permittee shall collect information to supplement and verify existing information on the environmental setting at the facility. The following shall serve as a guide to assist the permittee in identifying the items that may require characterization during the RFI and in the development of the Corrective Measures Study.

a. Hydrogeology

1) A description of the regional and facility-specific geologic and hydrogeologic characteristics affecting ground water flow beneath the facility, including:

(a) regional and facility-specific stratigraphy and description of strata including strike and dip, identification of stratigraphic contacts;

(b) description of local and regional structural features (e.g. folding, faulting, tilting, jointing, etc.);

(c) depositional history;

(d) identification and characterization of areas and amounts of recharge and discharge;

(e) regional and facility-specific ground water flow patterns; and,

(f) characterization of seasonal variations in the ground water flow regime.

2) An analysis of any topographic features that might influence the ground water flow system. (Note: stereographic analysis of aerial photographs may aid in this analysis)

3) Based on field data, tests, and cores, a representative and accurate classification and description of the hydrogeologic units which may be part of the migration pathways at the facility (e.g. the aquifers and any intervening saturated and unsaturated units), including:

(a) hydraulic conductivity and porosity (total and effective);

(b) lithology, grain size, sorting, degree of cementation;

(c) an interpretation of hydraulic interconnections between saturated zones;

(d) the attenuation capacity and mechanisms of the natural earth materials (e.g. ion exchange capacity, organic carbon content, mineral content, etc.);

(e) sand and gravel deposits in unconsolidated deposits;

(f) zones of fracturing or channeling in consolidated or unconsolidated deposits;

(g) zones of higher permeability or lower permeability that might direct and/or restrict the flow of contaminants;

(h) the uppermost aquifer: geologic formation, group of formations, or part of a formation capable of

yielding a significant amount of ground water to wells or springs; and,

(i) Water-bearing zones above the first confining layer that may serve as a pathway for contaminant migration including perched zones of saturation.

5) Based on data obtained from ground water monitoring wells and piezometers installed upgradient and downgradient of the potential contaminant source, a representative description of water level or fluid pressure in all significant hydrogeologic units at the site, including:

(a) water level contour and/or potentiometric maps;

(b) hydrologic cross-sections showing vertical gradients;

(c) the flow system, including the vertical and horizontal components of flow, and seepage velocity;

(d) any temporal changes in hydraulic gradients, for example, due to tidal or seasonal influences; and,

(e) background or ambient ground water chemistry.

6) A description of man-made influences that may affect the hydrogeology of the site, identifying:

(a) active and inactive local water supply and production wells with an approximate schedule of pumping; and

(b) man-made hydraulic structures (pipelines, french drains, ditches).

b. Soils

The Permittee shall conduct a program to characterize the soil and rock units above the water table at the site. Such characterization shall include, but not be

limited to, consideration of the following information:

1) SCS soil classification;

2) Surface soil distribution;

3) Soil profile, including ASTM classification of soils;

4) Transects of soil stratigraphy;

5) Hydraulic conductivity (saturated and unsaturated);

6) Relative permeability;

7) Bulk density;

8) Porosity;

9) Soil attenuation capacity;

10) Cation exchange capacity;

11) Soil organic content;

12) Soil pH;

13) Particle size distribution (i.e. texture);

14) Depth to water table;

15) Moisture content;

16) Effect of stratification and structure on unsaturated and saturated flow;

17) Infiltration;

18) Evapotranspiration;

19) Storage capacity;

20) Vertical flow rate; and,

21) Mineral content.

c. Surface Water and Sediment

The Permittee shall conduct a program to characterize the surface water bodies within 1/2 miles of the facility. Such

characterization shall include, but not be limited to, consideration of the following activities and information:

1) Description of the temporal and permanent surface water bodies including:

   (a) for lakes and estuaries: location, elevation, surface area, inflow, outflow, depth, temperature, stratification, and volume;

   (b) for streams, ditches, drains, swamps, and channels: location, elevation, flow, velocity, depth, width, seasonal fluctuations, and flooding tendencies (e.g. 100 year event);

   (c) drainage patterns; and,

   (d) evapotranspiration.

2) Description of the chemistry of the natural surface water and sediments. This shall include determining the pH, total dissolved solids, total suspended solids, biological oxygen demand, alkalinity, conductivity, dissolved oxygen profiles, nutrients (NH_3, NO_3^-/NO_2^-, PO_4^{-3}), chemical oxygen demand, total organic carbon, specific contaminant concentrations, etc.

3) Description of sediment characteristics including:

   (a) deposition area;

   (b) thickness profile; and,

   (c) physical and chemical parameters (e.g. grain size, density, organic carbon content, exchange capacity, pH, etc.,)

2. Characterization of Contaminated Areas

The Permittee shall conduct those investigations necessary to define the source, degree, and extent of contamination, and identify actual or potential receptors. The Technical Enforcement Guidance Document (TEGD), the RFI Guidance Manual, the Field Procedures Manual for Water Data

Acquisition, the NJDEP-DHWM draft ECRA Sampling Plan Guide, and the NJDEP-DHSM Field Sampling Procedures Manual (February 1988) are to be used as guidance in designing these investigations.

a. Source Characterization

The Permittee shall collect analytical data to completely characterize the wastes and the areas where wastes have been placed, collected, or removed including: type, quantity, physical form, disposition (containment or nature of deposits); and facility characteristics affecting release (e.g. facility security, and engineered barriers). This shall include quantification of the following specific characteristics for each source area:

1) Unit/Disposal Area Characteristics:

(a) location of unit/disposal area;

(b) type of unit/disposal area;

(c) design features;

(d) operating practices (past and present);

(e) period of operation;

(f) age of unit/disposal area;

(g) general physical conditions; and,

(h) method used to close the unit/disposal area.

2) Waste Characteristics:

Specify number, type, and frequency of samples required to accurately characterize all solid waste presently located in tanks, drums, lagoons/impoundments, piles, or otherwise at the site. This characterization effort must be able to define the following as applicable to the specific waste type;

(a) Type of waste placed in the unit;

i) hazardous classification (e.g. listed or characteristic);

ii) quantity; and,

iii) chemical composition.

(b) Physical and chemical characteristics

i) physical form (solid, liquid, gas);

ii) physical description (e.g. powder, oily sludge);

iii) temperature;

iv) pH;

v) general chemical class (e.g. acid, base, solvent);

vi) octanol/water partition coefficient;

vii) density;

viii) boiling point;

ix) viscosity;

x) solubility in water;

xi) vapor pressure; and,

xii) flash point.

(c) Migration, transformation, and dispersal characteristics of the waste:

i) mobility/attenuation;

ii) biodegradability, bioconcentration, biotransformation; and,

iii) chemical transformations.

3) Explain the type of data which will be collected, justification for collection, and intentions for use of the data;

4) Specify location (on site map) and depths of proposed soil borings, test pits and other sampling points;

5) Specify investigation procedures in accordance with the following:

(a) obtain drilling permits for all soil borings pursuant to N.J.A.C. 58:4A-14 (includes all borings that intersect a water table and all borings that are greater than 25 feet deep);

(b) obtain all soil borings under supervision of a qualified geologist, and, where a well permit is required, also under direct supervision of a New Jersey licensed well driller;

(c) decontaminate soil boring and sampling equipment between individual samples and borings according to the approved decontamination procedures contained in the approved Data Collection/Quality Assurance Plan (Appendix C);

(d) classify waste as required by and according to N.J.A.C. 7:26-et seq. and any other applicable state statutes and regulations;

(e) use field instrument (PID, FID) to analyze soil samples in the field;

(f) analyze waste samples to quantify and determine type of pollutants, by methods specified in the approved Data Collection/Quality Assurance Plan (Appendix C); and

(g) permanently seal all soil borings that required well permits using a New Jersey licensed well driller certified to seal wells.

b. Soil Investigation

1) Specify number, type, and frequency of samples required to accurately define the horizontal and vertical extent of

soil pollution at and/or emanating from each solid waste management unit and the site;

2) Explain the type of data which will be collected, justification for collection and intentions for use of the data;

3) Specify location (on-site map) and depths of proposed soil borings, test pits, and other sampling points;

4) Specify investigation procedures in accordance with the following:

(a) obtain drilling permits for all soil borings pursuant to N.J.A.C. 58:A-14 (includes all borings that intersect a water table and all borings that are greater than 25 feet deep);

(b) obtain all soil borings under supervision of a qualified geologist, and where a well permit is required, also under direct supervision of a New Jersey licensed well driller;

(c) decontaminate soil boring and sampling equipment between individual samples and borings according to the approved decontamination procedures contained in the approved Data Collection/Quality Assurance Plan (Appendix C);

(d) classify soil according to the USDA classification system;

(e) analyze particle size in laboratory on representative samples to confirm field identification;

(f) use field instruments (PID, FID) to analyze soil samples in the field;

(g) analyze soil samples to quantify and determine type of pollutants, by methods specified in the approved Data Collection Quality Assurance Plan (Appendix C);

(h) determine contaminant and soil chemical properties (i.e. contaminant solubility, speciation, adsorption, leachability, exchange capacity, biodegradability, oxidation, hydrolysis, photolysis, and other factors that might affect contaminant migration and transformation) within each contaminant source area and plume;

(i) determine the approximate rate and direction of contaminant movement in the vicinity of the contaminant release;

(j) extrapolate future contaminant movement;

(k) permanently seal all soil borings that required a well permit using a NJ licensed well driller certified to seal wells; and,

(l) permanently seal all other borings so that they do not act as conduits for liquid migration.

5) Determine Subsurface Gas Contamination:

(a) If applicable, the Permittee shall conduct an investigation to characterize gases emitted from subsurface contaminant sources. This investigation shall include the following information:

i) a description of the horizontal and vertical extent of subsurface gas migration;

ii) the chemical composition of the gases being emitted;

iii) the rate, amount, and density of the gases being emitted; and,

iv) horizontal and vertical concentration profiles of the subsurface gases emitted.

(b) The Permittee shall document the procedures used in making the above determinations.

c. Ground Water and Potable Well Investigation:

1) Specify number, locations (on map) and designs of existing and proposed piezometers, monitor wells, private potable wells and production wells on the site and within at least a 1/2 mile radius of the site (Public supply wells within a one-mile radius of the site should be included);

2) Specify number, type and frequency of ground-water monitoring and potable well samples and other sampling points required to accurately define the horizontal and vertical extent of ground-water pollution (dissolved or immiscible) at and/or emanating from the site;

3) Explain the type of data which will be collected, justification for collection, and intentions for use of the data. At a minimum this data and information gathered from the Environmental Setting characterization should be used to provide the following information:

(a) the horizontal and vertical direction of contaminant movement;

(b) the velocity of contaminant movement;

(c) the horizontal and vertical concentration profiles of contaminants in the plume;

(d) an evaluation of factors influencing the plume movement; and,

(e) an extrapolation of future contaminant movement.

4) Specify frequency of synoptic static water level measurements;

5) Specify investigation procedures in accordance with the following:

(a) have a qualified hydrogeologist with substantial experience in ground-

water pollution investigations oversee all site activities;

(b) obtain well drilling permits pursuant to N.J.S.A. 58:4A-14;

(c) drill all wells under the direct supervision of a New Jersey licensed well driller and a qualified hydrogeologist; and,

(d) install wells in accordance with the monitor well specifications in Appendix D and any specific requirements listed in Part IV of this permit;

IMPORTANT NOTE: Improperly constructed monitor wells can compound a pollution problem. Therefore, particular attention shall be given to the details of the these specifications. The Department has the authority to shut down a drilling operation which is not adhering to the approved procedures. Data derived from improperly constructed wells shall not be accepted by the Department.

(e) collect split spoon samples during drilling through the overburden according to ASTM Standard Penetration Methods, ASTM D1586-67, at five-foot intervals, at changes in soil strata, and at all zones which show obvious signs of pollution; with a specific number of drilling locations including continuous split spoon samples to fully define subsurface stratigraphy;

(f) collect sufficient rock core, according to ASTM Diamond Core Drilling Methods, ASTM 2113-70, during the drilling of bedrock monitor wells to obtain a thorough understanding of fracture patterns beneath the site;

(g) descriptions of the core(s) must be written using current descriptive geological terminology. This would include consideration of the following: composition, texture

(grain size, shape, sorting, packing, and color), and structure (joints, fractures) of each identified unit. Descriptions such as "dense hard rock" or "soft weathered shale" are not acceptable;

(h) retain all soil and rock samples for future reference and/or analysis;

(i) complete geophysical surveys and/or ground-water modeling as appropriate for the site;

(j) complete sufficient aquifer testing to adequately define aquifer characteristics and develop recovery well design for aquifer restoration;

(k) decontaminate drilling and sampling equipment after each drilling and sampling event according to the decontamination procedures specified in the approved Data Collection Quality Assurance (DCQA) Plan (Appendix C);

(l) survey all well casings to the nearest hundredth (0.01) foot above mean sea level and horizontally to an accuracy of one-tenth of a second latitude and longitude by a New Jersey licensed land surveyor;

(m) collect all ground water and other samples pursuant to N.J.A.C. 7:14A-6.12 and the procedures specified in the approved DCQA Plan (Appendix C);

(n) well samples shall not be collected within 14 calendar days of installation and development of the well;

(o) analyze ground water samples to quantify and determine type of pollutants, by methods specified in the approved Data Collection Quality Assurance Plan (Appendix C); and,

(p) permanently seal any wells that are improperly constructed, are compounding a pollution problem, or are no longer serving any purpose, pursuant to N.J.S.A. 58:4A-4.1 et

seq. and using a licensed well driller certified to seal wells.

6) Certain monitoring locations may require clusters of wells to sample distinct depth intervals, while other locations will require only a single well. The Permittee shall install as many single and cluster wells, in as many locations as necessary (both upgradient and downgradient of all known and potential contaminant source areas) to effectively investigate and monitor all water producing zones beneath or surrounding the site that may have been contaminated by discharges from the facility, and to meet the requirements of c.3) in the above section.

d. Surface Water and Sediment Investigation:

1) Specify number and type of samples required to accurately determine the horizontal and vertical extent of surface water and sediment pollution (dissolved or immiscible) at and/or emanating from the site;

2) Specify location (on site map) of surface water and sediment sampling points;

3) Explain the type of data which will be collected, justification for collection, and intentions for use of the data. At a minimum this data and information gathered pursuant to the Environmental Setting characterization should be used to provide the following information:

(a) the horizontal and vertical direction of contaminant movement;

(b) the contaminant velocity;

(c) an evaluation of the physical, biological, and chemical factors influencing contaminant movement; and,

(d) an extrapolation of future contaminant movement.

4) Specify EPA analytical procedures, including test parameters, for surface water and sediment analyses; and,

5) Specify investigation procedures in accordance with the following:

(a) collect and analyze surface water and sediment samples to determine the presence of pollutants in the surface water and sediment according to the approved sampling plan, and,

(b) decontaminate sampling equipment between sampling events according to the decontamination procedures specified in the approved DCQA Plan.

e. Potential Receptors:

The Permittee shall collect data describing the human populations and environmental systems that are susceptible to contaminant exposure from the facility. Chemical analyses of biological samples may be needed. The following characteristics shall be identified:

1) Local uses and possible future uses of ground water:

(a) type of use (e.g. drinking water source: municipal or residential, agricultural, domestic/non-potable, and industrial); and,

(b) location of ground water users including wells and discharge area.

2) Local uses and possible future uses of surface waters draining the facility:

(a) domestic and municipal (e.g. potable and lawn/garden watering);

(b) recreational (e.g. swimming, fishing);

(c) agricultural and industrial; and,

(d) environmental (e.g. fish and wildlife propagation).

3) Human use of, or access to the facility and adjacent lands, including but not limited to:

(a) recreation and hunting;

(b) residential and commercial;

(c) zoning;

(d) employees on site not covered by Health and Safety Plan and its medical surveillance program; and,

(e) relationship between population locations and prevailing wind direction.

4) A description of the biota in surface water bodies within, adjacent to, or impacted by the facility;

5) A description of the possible effects on ecosystems as a result of discharges from the facility;

6) A demographic profile of the people who use or have access to the facility and adjacent land, including, but not limited to: age; sex; and sensitive subgroups; and,

7) A description of any endangered or threatened species near the facility. The Permittee must contact the Natural Heritage program at (609) 984-0097 to initiate this investigation.

IV. Contents of RCRA Facility Investigation Report

The Permittee shall prepare an analysis and summary of all facility investigations and their results. The report shall document that the investigation data are sufficient in quality (e.g. quality assurance procedures have been followed) and quantity to describe the nature and extent of contamination, potential threat to human health and/or the environment, and to support the Corrective Measures Study and/or the Detection Monitoring Program.

A. Presentation of Data:

The Permittee shall analyze all facility investigation data outlined in the approved RFI Workplan and prepare

a report on the type and extent of contamination at the facility including sources and migration pathways. The report shall describe the extent of contamination (qualitative/quantitative) in relation to background levels indicative for the area. Data to be submitted shall include, at a minimum, the following:

1. Results of all analyses on data sheets supplied by the Department, laboratory data sheets and the required quality assurance documentation;

2. Summary table(s) of all analyses;

3. Stratigraphic logs including grain size and field instrument readings detected during drilling for each soil boring and monitor well;

4. As-built construction diagrams for each soil boring and monitor well;

5. Well casing elevations to the nearest hundredth (0.01) foot above mean sea level, taken at the top of casing with locking cap removed;

6. Depth to ground water to the nearest hundreth (0.01) foot above mean sea level, taken at the top of well casing prior to sampling with cap removal; and,

7. All support data including graphs, equations, references, raw data, etc.

B. Maps:

1. Sampling location map(s);

   a. monitor well, production or potable well locations and casing elevations;

   b. sample collection locations; and,

   c. soil boring locations.

2. Soil quality contour map(s) and cross section(s);

3. Ground-water elevation contour maps for each aquifer on multiple dates;

4. Ground-water quality contour map(s) and cross section(s); and,

5. Bedrock contour map.

C. Discussion of Data:

1. Waste characterization, including degree of hazard and probable quantities of waste, by type;

2. Description of site/regional hydrogeology and its relation to migration of pollutants;

3. Direction and rate of ground-water flow in the aquifer(s), both horizontally and vertically;

4. Classification of aquifers directly beneath the site and/or likely to be impacted by site activities; and of surface water bodies present on-site or likely to be impacted by discharges (direct or indirect) from the site. Classifications shall be based on applicable portions of N.J.A.C. 7:9-6;

5. Levels of soil, surface water and ground-water pollution as compared with applicable standards pursuant to N.J.A.C. 7:14A-1 et seq., 7:9-5, 7:9-6, and/or other applicable promulgated standards, or background levels where pertinent;

6. Extent of soil, surface water and ground-water pollution both on and off-site;

7. Pollutant behavior, stability, biological and chemical degradation, mobility and any other relevant factors pertinent to the investigation;

8. Projected rate(s) of pollution movement;

9. Identification of all known pollution sources; and,

10. Identification of critical pollutants.

D. Assessment of Impact of Pollution on Human Health and the Environment:

1. Identification of human receptors in the paths of pollutants and specific routes to target organs (e.g. liver);

2. Identification of the receiving media and/or ecological groups and migration pathways of critical pollutants;

3. Toxicology of each critical pollutant (acute and chronic toxicity for short- and long-term exposure, carcinogenicity, mutagenicity, teratogenicity, synergistic and/or antagonistic

associations, aquatic toxicity, ecological impacts on flora and fauna, etc.);

4. Migration potential and environmental fate of each critical pollutant in site-specific terms (e.g., attenuation, dispersion and biodegradation are factors in the ground-water pathway); and,

5. Evaluation of potential for biomagnification and/or bioaccumulation of critical pollutants in the food chain.

E. Recommendations for Additional Investigations:

The Permittee should include recommendations for additional investigation(s) involving:

1. waste;
2. soil;
3. ground water;
4. surface water and sediment; and,
5. air

APPENDIX C
RFI SUPPORTING PLANS: SCOPE OF WORK

I. PROJECT MANAGEMENT PLAN

A. The Permittee shall prepare a Project Management Plan which will include a discussion of the schedules and estimated budget for required activities. The Project Management Plan will also include a description of qualifications of personnel performing or directing the RCRA Facility Investigation (RFI), including contractor personnel. This plan shall also document the overall management approach to the RCRA Facility Investigation.

B. The Permittee shall be required to submit a detailed schedule for all RCRA facility investigation activities set forth in this Permit and in this Scope of Work including:

1. Dates for submission of any required permit applications;

2. Schedules for start and ending of all field investigations;

3. Proposed schedule for submission of all reports; and,

4. Identification of all key personnel, including contractor personnel, who will participate in the remedial investigation, and a description of their qualifications and responsibilities. This should include an identification of one individual designated to perform as overall project manager.

II. DATA COLLECTION QUALITY ASSURANCE PLAN:

The Data Collection Quality Assurance (DCQA) Plan shall document all monitoring procedures: sampling, field measurements, and sample analysis performed during the investigation to characterize the environmental setting, contamination source(s), and migration of pollutants, so as to ensure that all information, data and resulting decisions are technically sound, statistically valid, and properly documented. The Permittee is referred to the TEGD and the RFI Guidance Manuals, and the NJDEP - DHWM Field Sampling Procedures Manual (February 1988) for assistance with preparation of the various Sections of this DCQA Plan.

A. Data Collection Strategy:

The strategy section of the Data Collection Quality Assurance (DCQA) Plan shall include, but not be limited to, the following:

1. Description of the intended uses for the data, and the necessary level of precision and accuracy for these intended uses;

2. Description of methods and procedures to be used to assess the precision, accuracy and completeness of the measurement data;

3. Description of the rationale used to assure that the data accurately and precisely represent characteristics of a population, parameter variations at a sampling point, a process condition, or an environmental condition. Examples of factors which shall be considered and discussed include:

   a. Environmental conditions at the time of sampling;

   b. Number of sampling points;

   c. Representativeness of selected media; and,

   d. Representativeness of selected analytical parameters.

4. Description of the measures to be taken to assure that the same procedures are followed throughout the RFI regardless of who generates the data; and,

5. Details relating to the schedule and information to be provided in quality assurance reports. The reports should include, but not be limited to:

   a. Periodic assessment of measurement data accuracy, precision, and completeness;

   b. Results of performance audits;

   c. Results of system audits;

   d. Significant quality assurance problems and recommended solutions; and,

   e. Resolutions of previously stated problems.

B. Sampling

The sampling section of the DCQA Plan shall, at a minimum, address the following:

1. Selecting appropriate sample containers;

2. Sample preservation;

3. Chain-of-custody, including:

   a. standardized field tracking reporting forms to establish sample custody in the field prior to shipment; and,

   b. pre-prepared sample labels containing all information necessary for effective sample tracking.

4. Documenting field sampling operations and procedures, including:

   a. documentation of procedures for preparation of reagents or supplies which become an integral part of the sample (e.g. filters and adsorbing reagents);

   b. procedures and forms for recording the exact location and specific considerations associated with sample acquisition;

   c. documentation of specific sample preservation method;

   d. calibration of field devices;

   e. collection of replicate samples;

   f. submission of field-biased blanks, where appropriate;

   g. potential interferences (e.g., sampling matrix);

   h. construction materials and installation techniques of monitoring wells and piezometers;

   i. field equipment listing and sample containers;

   j. sampling order; and,

   k. decontamination procedures.

C. Field Measurements:

The field measurements section of the Data Collection Quality Assurance Plan shall discuss:

1. Selecting appropriate field measurement locations, depths, etc.;

2. Measuring all necessary ancillary data (i.e. wind direction, temperature, etc.);

3. Determining conditions under which field measurements should be conducted;

4. Determining which media are to be addressed by appropriate field measurements (e.g. ground water, air, soil, sediment, etc.);

5. Determining which parameters are to be measured and where;

6. Selecting the frequency of field measurement and length of field measurement periods; and,

7. Documenting field measurement operations and procedures including:

   a. procedures and forms for recording raw data and the exact location, time, and facility-specific considerations associated with the data acquisition;

   b. calibration of field devices;

   c. collection of replicate measurements;

   d. submission of field-biased blanks, where appropriate;

   e. potential interferences present at the facility;

   f. field equipment listing;

   g. order in which field measurements were made; and,

   h. decontamination procedures.

D. Sample Analysis:

The sample analysis section of the Data Collection Quality Assurance Plan shall specify the following:

1. Chain-of-custody procedures, including:

   a. identification of a responsible party to act as sample custodian at the laboratory facility authorized to sign for incoming field samples, obtain documents of shipment, and verify the data entered onto the sample custody records;

   b. provision for a laboratory sample custody log consisting of serially-numbered standard lab-tracking report sheets; and,

   c. specification of laboratory sample custody procedures for sample handling, storage, and dispersement for analysis.

2. Sample storage and holding times;

3. Sample preparation methods;

4. Analytical procedures, including:

   a. scope and application of the procedure

   b. sample matrix;

   c. potential interferences (e.g., sampling matrix);

   d. precision and accuracy of the methodology; and,

   e. method detection limits.

5. Calibration procedures and frequency;

6. Data reduction, validation, and reporting;

7. Internal quality control checks, laboratory performance, and systems audits and frequency, including:

   a. method blank(s);

   b. laboratory control sample(s);

   c. calibration check sample(s);

   d. replicate sample(s);

   e. matrix-spiked sample(s);

f. "blind" quality control sample(s);

g. control charts;

h. surrogate samples;

i. zero and span gases; and,

j. reagent quality control checks.

*NOTE: The Department reserves the right to conduct a performance audit of any laboratory selected by the Permittee, and to disapprove the use of any laboratory selected by the Permittee for a failure to meet quality control criteria.

8. Preventive maintenance procedures and schedules;

9. Corrective action (for laboratory problems); and,

10. Turnaround time.

E. Data Deliverable Requirements:

The data deliverable section of the Quality Assurance Plan shall discuss and justify the use of the attached QA/QC data deliverable package as opposed to the Tier I data deliverable package at different sampling events throughout the RFI.

III. DATA MANAGEMENT PLAN

The Permittee shall develop and initiate a Data Management Plan to document and track investigation data and results. This Plan shall identify and set up data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The plan shall also provide the format to be used to present the raw data and conclusions of the investigation.

A. Data Record:

The data record shall include the following:

1. Unique sample or field measurement code;

2. Sampling or field measurement location and sample or measurement type;

3. Sampling or field measurement raw data;

4. Laboratory analysis ID number;

5. Property or component measured; and,

6. Result of analysis (e.g., concentration).

B. Tabular Displays:

The following data shall be presented in tabular displays:

1. Unsorted (raw) data;

2. Results for each medium, or for each constituent monitored;

3. Data reduction for statistical analysis;

4. Sorting of data by potential stratification factors (e.g. location, soil layer, topography); and,

5. Summary data.

C. Graphical Displays:

The following data shall be presented in graphical formats (e.g. bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transects, three dimensional graphs, etc.):

1. sampling location and sampling grid;

2. boundaries of sampling area, and areas where more data are required;

3. levels of contamination at each sampling location;

4. geographical extent of contamination;

5. contamination levels, averages, and maxima;

6. changes in concentration in relation to distance from the source, time, depth, or other parameters;

7. features affecting intramedia transport; and,

8. potential receptors.

IV. HEALTH AND SAFETY PLAN

A Health and Safety Plan shall be developed and implemented for the site investigation and remedial activities. The purpose of this plan is to minimize the risk of personnel injury, illness, and potential environmental impairment during these activities.

The safety plan must be periodically reviewed to be kept current and technically correct.

A. The Health and Safety Plan shall be consistent with:

1. NIOSH Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities;

2. EPA Order 1440.1 - Respiratory Protection;

3. EPA Order 1440.3 - Health and Safety Requirements for Employees engaged in field activities;

4. Facility Contingency Plan;

5. EPA Standard Operating Safety Guide (1984);

6. OSHA regulations particularly in 29 CFR 1910 and 1926;

7. State, local, and other federal agency (e.g., DOT, DOE) regulations; and,

8. Other state or federal guidance as provided.

B. The Health and Safety Plan shall include:

1. Facility description including availability of resources such as roads, water supply, electricity and telephone service;

2. Description of known hazards and evaluation of the risks associated with each activity conducted;

3. List of key personnel and alternates responsible for site safety and public health;

4. Delineation of work areas (e.g., exclusion zone, contamination reduction zone, and support zone), boundaries, size of zones, distance between zones, and access control points into each zone;

5. Description of levels of protection to be worn by personnel in work areas and criteria for selecting the proper level of protection;

6. Procedures to control site access by unauthorized personnel;

7. Programs for periodic air monitoring, medical surveillance for on-site personnel, and environmental sampling;

8. Consideration of weather and other conditions which may affect the health and safety of personnel during site investigations and remedial activities;

9. Specify any routine and special training for field personnel;

10. Description of decontamination procedures for personnel and equipment;

11. Site emergency procedures, for example, escape routes, signals for evacuating work parties, emergency communications (internal and external) procedures for fire and/or explosions, etc.; and,

12. Determine location of, and make arrangements with, the nearest medical facility (and medical life squad unit) for emergency medical care for routine-type injuries and toxicological problems. Telephone numbers of emergency medical facilities and personnel should be included in the Health and Safety Plan.

APPENDIX D
MONITOR WELL SPECIFICATIONS AND CERTIFICATION FORMS

THIS FORM MUST BE COMPLETED BY THE PERMITTEE AND/OR SURVEYOR

MONITORING WELL CERTIFICATION-FORM B-LOCATION CERTIFICATION

Name of Permittee:
Name of Facility:
Location:
NJPDES Number: NJ00 or ECRA Case Number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number: __ __-__ __ __ __ __-__
This number must be permanently affixed to the well casing.

Longitude (to nearest second): West_____

Latitude (to nearest second): North_____
Elevation of Top of Inner Casing (cap off) (one-hundredth of a foot): _____

Source of elevation datum (benchmark, etc.) and elevation (If an alternate datum has been approved by the Department, identify here and give approximated elevation): Source:_____ Elev.:_____

Owners Well Number (As shown on application or plans): _____

Elevations are to be determined by double run, three wire leveling methods using balanced sights, commencing from a well marked and described point. This beginning point shall either be derived from Federal or State benchmarks if not more than 1000 feet from the site or, if the Department has approved an alternate datum, based on an assumed datum of 100. Tolerances should meet third order standards, which are 0.05 ft x $(\text{mile})^{1/2}$. For sections less than 0.1 mile, let miles = 0.1.

AUTHENTICATION

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

_____
PROFESSIONAL LAND SURVEYOR'S SIGNATURE

SEAL

_____
PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

_____
PROFESSIONAL LAND SURVEYOR'S LICENSE #

MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee:
Name of Facility:
Location:
NJPDES Permit No.: NJ00 or ECRA case No.:

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation: _____
Owner's Well Number (As shown on the application or plans): _____
Well Completion Date: _____
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot): _____
Total Depth of Well to the nearest 1/2 foot: _____
Depth to Top of Screen From Top of Casing (one-hundredth of a foot): _____
Screen Length (or length of open hole) in feet: _____
Screen or Slot Size: _____
Screen or Slot Material: _____
Casing Material: (PVC, Steel or Other-Specify): _____
Casing Diameter (inches): _____
Static Water Level From Top of Casing at the Time of Installation (one-hundredth of a foot): _____
Yield (gallons per minute): _____
Development Technique (specify) _____
Length of Time Well is Developed/ Pumped or Bailed: _____ Hours _____ Minutes
Lithologic Log: Attach

Authentication

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

_____ Name (Type or Print)

_____ Signature

_____ Certification or License No.

Seal

_____
Certification by Executive Officer or Duly Authorized Representative

_____ Name (Type or Print)

_____ Signature

_____ Title

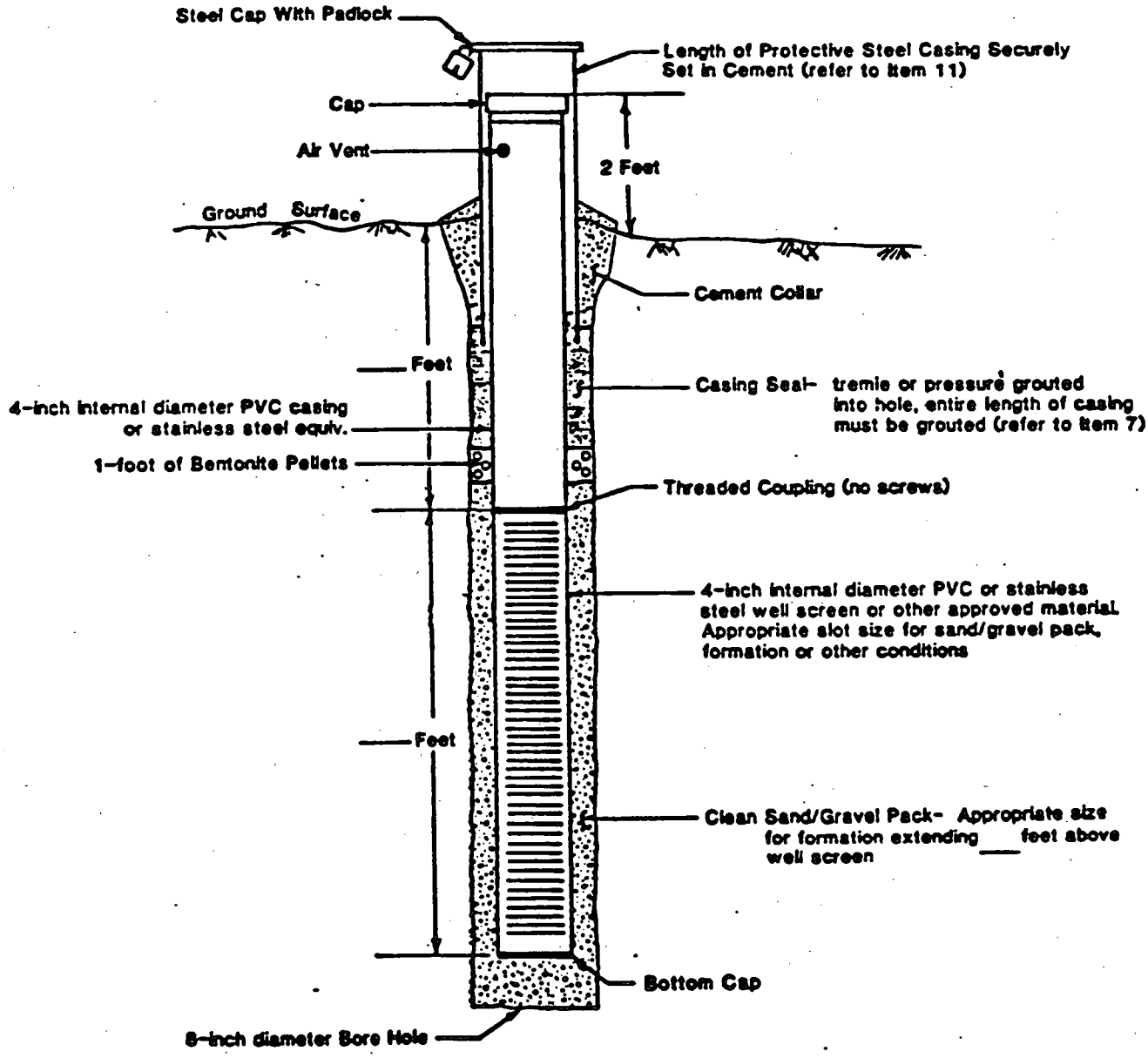
_____ Date

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
MONITOR WELL SPECIFICATIONS FOR UNCONSOLIDATED FORMATIONS

SITE NAME : _____

LOCATION : _____

DATE : _____



NJGS Revised 9-87

rev. 9/87

MONITORING WELL CONSTRUCTION AND GROUTING SPECIFICATIONS FOR UNCONSOLIDATED FORMATIONS

1. Notification to the NJDEP is required two weeks prior to drilling.
2. State well permits are required for each monitoring well constructed by the driller. The well permit tag must be permanently affixed to each monitoring well.
3. Copies of the site specific well specifications must be maintained at the drilling site by the driller.
4. The monitoring well must be installed by a New Jersey licensed well driller.
5. Monitoring well design must conform with NJAC 7:9-7, 8, and 9.
6. The borehole diameter must be a minimum of 4 inches greater than the casing diameter.
7. Acceptable grouting materials are:

   Neat Cement - 6 gallons of water per 94 pound bag of cement.

   Bentonite - 1 gallon of water per 1.5 pounds of bentonite.

   Cement-Bentonite - 8 gallons of water to 5 pounds of bentonite dry mixed per 94 pound bag of cement.

   Cement-Bentonite - 10 gallons of water per 8 pounds of bentonite water-mixed with a 94 pound bag of cement.

   Non-expandable cement - 7.5 gallons of water per 1/2 teaspoon of aluminum hydroxide mixed with 4 pounds of bentonite and 94 pounds of cement.

   Non-expandable cement - 7 gallons of water per 1/2 teaspoon of aluminum hydroxide mixed with 94 pounds of cement (Type I or Type II).
8. Potable water must be used for mixing grouting materials and drilling fluids.
9. Only threaded joints are acceptable as couplings.
10. The driller must maintain an accurate written log of all materials encountered, record construction details for each well, and record the depth of water bearing zones. This information must be submitted to the Bureau of Water Allocation as required by N.J.S.A. 58:4A.
11. A length of protective steel casing with a locking cap must be securely set in cement around the well casing. Flush mount monitoring wells are acceptable provided they have manholes, locking caps, and seals to prevent leakage of surface water into the well.
12. Top of each well casing (excluding cap) must be surveyed to the nearest 0.01 foot by a New Jersey licensed surveyor. The survey point must be marked on each well.
13. Wells must be developed to a turbidity-free discharge.
14. Modifications to designs are allowed only with NJDEP approval.

Additional requirements (if checked):

Split spoon samples ( ) _____

Borehole geophysical logs ( ) _____

Top of screen set _____ feet above/below water table

Dedicated bailer (sampler) in well ( )

Other ( ) _____

_____

_____

_____

Notice is hereby given of the following:

Review by the Department of well locations and depths is limited solely to review for compliance with the law and Department rules.

The Department does not review well locations or depths to ascertain the presence of, nor the potential for, damage to any pipeline, cable, or other structures.

The permittee (applicant) is solely responsible for the safety and adequacy of the design and construction of monitoring well(s) required by the Department.

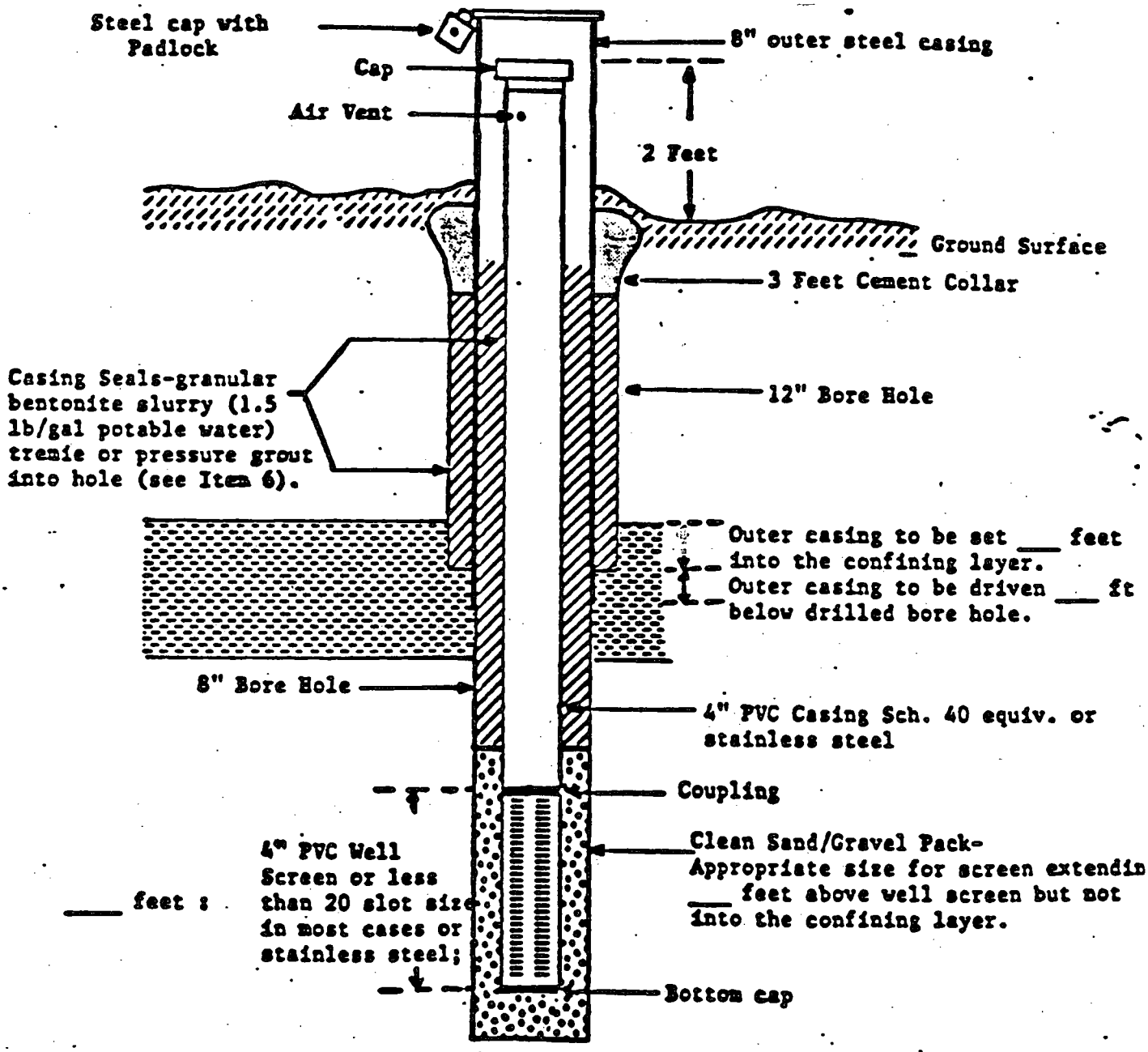
The permittee (applicant) is solely responsible for any harm or damage to person or property which results from the construction or maintenance of any well; this provision is not intended to relieve third parties of any liabilities or responsibilities which are legally theirs.

New Jersey Department of Environmental Protection
Unconsolidated Monitor Well Specifications
For Confined Aquifers

Site Name: _____

Location: _____

Date: _____



REQUIREMENTS:

- Notification to the NJDEP is required two (2) weeks prior to drilling.
- State well permits are required for each monitor well constructed by the driller. Report "use of well" on well permit application. Permit numbers must be permanently affixed to each monitor well.

All bore holes must be a minimum of four (4) inches greater in diameter than the immediate casing it surrounds.
Wells must be gravel packed unless noted otherwise in Additional Requirement 7, and under no circumstances is the gravel pack to penetrate a confining layer.
Approved high grade sodium base, well sealant type, granular bentonite must be used to seal all casings. Casing sealant, drilling fluids and cement must be mixed with potable water.
The bore hole for the outer steel casing is to be drilled and the casing driven, grouted and allowed to set prior to drilling through any confining layer.
The grout for the inner PVC cased well must extend to the ground surface.
The cement collar should be installed one (1) hour after the inner casing seal has been emplaced and not while the outer casing seal is setting.
All wells must be developed upon completion for a minimum of one (1) hour or to yield a turbid free discharge.
The driller must maintain an accurate written log of all materials encountered in each hole, record all construction details for each well, the static water levels, and any tidal fluctuations (where applicable). This information must be submitted to the Office of Water Allocation as required by N.J.S.A. 58:4A.
If low level organic compounds are to be sampled for, only threaded or press joints (no glue joints) are acceptable for PVC.
The top of the inner PVC casing (excluding cap) must be surveyed to the nearest hundreth foot (0.01) by a licensed surveyor. The inner casing must be permanently marked at the point surveyed. The well should be numbered clearly on the outer casing. A detailed site map with the well locations and casing elevations must be submitted to _____.

NOTICE IS HEREBY GIVEN OF THE FOLLOWING:

a. Review by the Department of well locations and depths is limited solely to review for compliance with the law and Department rules;
b. The Department does not review well locations or depths to ascertain the presence of, nor the potential for, damage to any pipeline, cable or other structure;
c. The permittee (applicant) is solely responsible for safety and adequacy of the design and construction of wells required to be constructed by the Department;
d. The permittee (applicant) is solely responsible for any harm or damage to person or property which results from the construction or maintenance of any well; this provision is not intended to relieve third parties of any liabilities or responsibilities which are legally theirs.

ADDITIONAL REQUIREMENTS (IF CHECKED):

1. Split Spoon Samples _____
2. Dedicated Bailer (Sampler) in Well(s) _____
3. Threaded or Press Joints _____
4. Five (5) Foot Casing Tailpiece Below Screen _____
5. Centralizers on Screen _____
6. Bore Hole Geophysical Logs _____
7. Other _____

* OTHER MATERIALS, DESIGNS AND CASING DIAMETERS MAY BE USED WITH PRIOR APPROVAL BY THE NJDEP.

APPENDIX E
DETECTION MONITORING PROGRAM

I. Requirements of the Detection Monitoring Program

A. The Permittee must propose which Solid Waste Management Units (SWMUs) and other areas of concern listed in Part VI, Section IIA1a and b, respectively, should be included in a New Jersey Pollutant Discharge Elimination System (NJPDES) Detection Monitoring Program. The Permittee shall also propose which SWMUs and other areas of concern which should not be included in a Detection Monitoring Program, including justifications for this determination. The proposals should be based on the findings of the RCRA Facility Investigation (RFI), which is summarized in the RFI Report, and comments contained within the Department's letter approving the RFI Report.

B. The Permittee must submit an annual Detection Monitoring Program Report, which contains analyses and summaries of the yearly results and statistical testing for each monitored unit in the Detection Monitoring Program. At this time, the Permittee may propose, with appropriate justification, any modifications in the current Detection Monitoring Program. Proposed minor modifications (see N.J.A.C. 7:14A-2.14) to the Detection Monitoring Program can be approved by the Department, in writing, without a major modification (see N.J.A.C. 7:14A-2.12) of the permit.

C. Pursuant to N.J.A.C. 7:14A-6.15(i)7, the Permittee is required to perform statistical analyses on some portion of, or all the data collected in the Detection Monitoring Program to determine the occurrence of any statistically significant increases (or pH decreases) over background levels for waste specific parameters. Based on the findings of the RFI, the Permittee must propose parameters for statistical analysis at each unit in the Detection Monitoring Program, which are indicative of the contaminants within the monitored unit(s).

D. Pursuant to N.J.A.C. 7:14A-6.15(i)8, if the Permittee determines, in accordance with N.J.A.C. 7:14A-6.15(h)8, that a statistically significant increase in the chosen parameters has occurred and has been confirmed in the compliance wells, the Permittee shall comply with the requirements set forth in N.J.A.C. 7:14A-6.15 et seq., which includes, but is not limited to, the following:

1. written notification to the Department within seven (7) days of determination that a NJPDES Discharge to Ground Water (DGW) unit in the Detection Monitoring Program is affecting ground water quality;

2. immediately resample the ground water in all wells surrounding the unit, including background, and determine the concentration of all constituents identified in N.J.A.C. 7:26-8.16 and other permit-limited pollutants which, according to the RFI Report, are present in the ground water;

3. establish a background value for each hazardous constituent identified in N.J.A.C. 7:26-8.16 that has been found at the compliance wells;

4. within forty-five (45) days, submit to the Department an application for a permit modification to establish a Compliance Monitoring Program, meeting the requirements of N.J.A.C. 7:14A-6.15(j). The application must include the following:

    1. the identification and concentration of any N.J.A.C. 7:26-8.16 constituent found in the ground water at each monitoring well; and,

    2. any proposed changes to the ground water monitoring system at the DGW unit, including additional monitoring wells, sampling parameters and sampling frequency, necessary to meet the requirements of N.J.A.C. 7:14A-6.15(j). The determination of whether the changes in the ground water monitoring system, as proposed by the Permittee, meet the requirements of N.J.A.C. 7:14A-6.15(j), shall be made by the Department in writing.

5. within ninety (90) calendar days, submit to the Department an engineering feasibility plan for a Corrective Action Program necessary to meet the requirements of N.J.A.C. 7:14A-6.15(k) and 7:9-6.5(b).

6. if the Permittee determines that a source other than the Discharge to Ground Water (DGW) unit caused the statistically significant increase in an indicator parameter(s), or that the increase resulted from an error in sampling, analysis, or evaluation, the Permittee shall*:

    1. notify the Department in writing within seven (7) days of determining that a statistically

significant increase of an indicator parameter(s) has occurred at the compliance point;

2. within forty-five (45) days, submit a report to the Department which demonstrates that a source other than the DGW unit caused the increase, or that the increase resulted from an error in sampling, analysis, or evaluation;

3. within forty-five (45) days, submit to the Department an application to make any appropriate changes to the ground water monitoring system at the DGW unit; and,

4. continue to monitor at the DGW unit in accordance with the Detection Monitoring Program.

*NOTE: The Permittee is not relieved of the requirement to submit a permit modification application within the same time specified in Appendix E, Section ID4 and 5, above, unless the demonstration successfully shows that a source other than the DGW unit or a procedural error caused the statistically significant increase.

F. Pursuant to N.J.A.C. 7:9-6.4(i) and 7:9-6.6, the Department would not require the Permittee to submit an application for a compliance monitoring program or corrective action program for exceeding ground water protection standards or for the failure of statistical tests that the permittee can demonstrate to be due to natural conditions. In order to make this demonstration, the Permittee must submit a written report to the Department for review and approval. The report must be submitted within thirty (30) calendar days after the due date for the data which resulted in the exceedance of the standard or statistical failure. The Department will issue a written statement on the determination of whether or not the report successfully shows that natural conditions caused the exceedance or failure.

G. Requirements set forth in Appendix B (RFI Scope of Work) and Appendix C (RFI Supporting Plans) must be included within and followed in all phases of the Detection Monitoring Program. This includes, but is not limited to, project management, data management, data collection and quality assurance, and health and safety plans.

II. Contents of DGW Detection Monitoring Program

A. The draft Detection Monitoring Program must include the following:

1. A proposed list of SWMUs and other areas of concern (see Part VI, Section IIA1a and b) that the Permittee believes should be included in a Detection Monitoring Program, and a list of SWMUs and other areas of concern that should not be included in a Detection Monitoring Program, including detailed justifications supporting these decisions;

2. An adequate ground water monitoring system for each unit proposed in the Detection Monitoring Program. At a minimum, the monitoring systems must be capable of:

   a. representing the background ground water quality passing underneath a DGW unit;

   b. immediately detecting a release of pollutants from the DGW unit; and,

   c. determining the direction and rate of ground water movement.

3. Assurance that the data generated in the Detection Monitoring Program are sufficient in quality and quantity to accurately assess the impact of the DGW unit on ground water quality. Proposals for ground water monitoring systems at each DGW unit should, at a minimum, include the following information:

   a. project management, data management, data collection and quality assurance, and health and safety plans (should be adapted from Appendix C, RFI Supporting Plans);

   b. number, location, and characteristics (e.g., length, depth of well screen) of downgradient (compliance) and upgradient (background) wells;

   c. parameters and frequency of sampling; and,

   d. parameters to be used in statistical analysis.

B. Based on the findings of the RCRA Facility Investigation (RFI) Report, the Permittee must propose

specific waste parameters for statistical analysis at each DGW unit, which are indicative of the operations conducted at the specific DGW unit. In addition, the Permittee is required to:

1. determine whether a statistically significant increase at compliance monitoring points (downgradient wells) for each indicator parameter at all DGW units has occurred;

2. develop a "Trigger Value" for each waste indicator parameter, which represents the Limit of Quantification* (LOQ) for that designated compound;

3. report, upon each sampling event, the concentration for each waste indicator parameter and compare it to its Trigger Value in all compliance wells. Waste indicator parameters which are detected in compliance wells at greater concentrations than their Trigger Value must be compared to the background well concentration using the Cochran's Approximation to the Behrens-Fisher Student's t-test as required by N.J.A.C. 7:14A-6.15(h)8i and set forth in Appendix IV of 40 CFR 264. The Permittee is recommended to evaluate other statistical procedures appropriate to the data which may afford a more accurate representation of the ground water quality (see Federal Register v.53, n.196, for additional guidance). In addition, the Permittee may concurrently perform an alternate statistic on the same data. If the Permittee is able to document, with supporting justification, that the accuracy and appropriateness of its statistical methods exceeds that prescribed in this permit, the permit may be modified to incorporate the Permittee's proposed alternate statistic(s). The Department reserves the right to require the use of the CABF Student's t-test for any indicator parameter, based upon the Department's professional opinion that the DGW unit may be affecting ground water quality;

4. establish a background data set of a sufficient data base, defined in N.J.A.C. 7:14A-6.15(h)7 as being a minimum of 16 data points. If a background data set for any waste indictor parameter(s) found in excess of its trigger value does not yet exist, samples may be collected at an accelerated rate of four background samples per month until 16 data points are achieved. In this case, the result of the statistical test must be reported within 60 days of obtaining the necessary

background data set;

5. use a method of signs for the waste indicator parameters detected in compliance wells at concentrations less than the trigger values. The detected values shall be compared to the background concentrations of the indicator parameter using a method of signs (+ for >, - for <) approach as described in RCRA PERMIT WRITER'S MANUAL FOR GROUND WATER PROTECTION (10/4/83). If a background data set for a waste indicator parameter does yet not exist, downgradient concentrations shall be compared using signs (+ or -) to upgradient concentrations reported for the same period; and,

6. submit all analytical results, along with a summary report showing the results of the waste indicator parameters in relation to their Trigger Values and statistical testing for significant increases must be submitted to the Department's Bureau of Ground Water Pollution Abatement for each sampling period, following the schedule set forth in the Detection Monitoring Program.

***NOTE:** The American Chemical Society (ACS) defines the Limit of Quantification (LOQ) and its relationship to the Method Detection Limit (MDL) (ACS, Principal of Environmental Analysis, J. Analytical Chemistry 55:2210-2218, 1983) as the minimum concentration which can be quantified as an unknown in a production laboratory using the stated methods. The MDL from which the "Trigger Value" is obtained is derived from the USEPA published detection limits (40 CFR 136), Method 624 for volatile organic compounds and Method 625 for base/neutral and acid extractable compounds.

C. To insure the integrity of the Detection Monitoring Program, the Permittee is required to:

1. complete the forms required on the "Monitoring Report-Transmittal Sheet" (Form T-VWX-014), which is included as part of this permit and must be submitted as a cover page for the report forms. Failure to submit sampling data on the forms shall be considered a violation of the sampling requirements of this permit and may subject the Permittee to civil and administrative penalties pursuant to N.J.S.A. 58:10A-10. It shall be solely the Permittee's responsibility to maintain an adequate supply of the required report forms. The original copy of the report forms, with the proper signatures on the transmittal sheet, shall be sent to:

a. NJ Department of Environmental Protection and Energy
Ground Water Quality Management Element
Bureau of Aquifer Protection
CN-029
Trenton, NJ 08625-0029
ATTN: Monitoring Well Reports

A complete copy of the entire report, including QA/QC Package, shall be sent to:

b. NJ Department of Environmental Protection and Energy
Ground Water Quality Management Element
Bureau of Ground Water Pollution Abatement
CN-029
Trenton, NJ 08625-0029
ATTN: DARYL CLARK

2. Complete Ground Water Monitor Well Certification (Forms A and B, provided in Appendix D) for each existing and proposed monitoring wells. Information for each well must shown on separate forms and submitted to the two above addresses within forty-five (45) days of installation. For an existing well, if the information required on the Ground Water Certification Forms A and B can not be determined or if any well is not adequately constructed, the Department reserves the right to require the replacement of that well. Criteria to be used by the Department in judging the adequacy of a well will be related to the ability of the well to provide a representative ground water sample from the portion of the aquifer the Department requires to be sampled. Replacement wells must be installed within ten (10) feet of the existing well. Inadequate or damaged wells must be properly sealed pursuant to N.J.A.C. 58:4A-4.1;

3. Inspect each ground water monitoring well on a monthly basis for damage (high traffic areas should be inspected weekly). The Permittee shall maintain a complete inspection record indicating dates of inspection, inspector's name, and conditions observed. These records shall be made available to the Department upon request. Failure to maintain or submit well-inspection records upon request shall be a violation of the conditions of this permit;

4. If any monitoring wells are damaged or otherwise rendered inadequate for their intended purpose, the Bureau of Ground Water Pollution Abatement shall be notified within five (5) days in writing indicating:

a. which wells were damaged or rendered

inadequate for their intended use;

b. the cause and extent of damage or reason for inadequacy;

c. if the sampling schedule as required in this permit will be violated or if the results of the sampling may reasonably become misleading:

d. the date that the well will again be operational. Damaged wells must be replaced or repaired within 60 days after the damage has occurred. If any of the following situations have occurred, redeveloped or replacement wells must be sampled not prior to 14 days after development but no later than 28 days after installation:

Situation 1: Wells have been damaged in a way that affected the quality of previously taken ground water samples.

Situation 2: Due to damage to a well a regularly scheduled sampling event has been missed.

Note: Wells in Situation 1 above that do not have to be redeveloped (only purged) must be sampled within five days of the discovery of the damage. If the next regularily scheduled sampling for the well(s) is within 21 days of the last day the well(s) should be sampled under 1 and 2 above, only the regular sampling event is required.

e. the date that the well will be sampled.

5. take any reasonable steps necessary to limit public access to monitoring or recovery wells, treatment systems, or any other potentially harmful or easily-damaged equipmen on the site by constructing fences, barricades, or any other structures or means necessary to restrict access to the equipment. The Permittee shall maintain the said structures;

6. sample the monitoring wells in order of least to most contaminated unless dedicated purging and sampling equipment are used for all wells: and,

7. submit Quality Assurance/Quality Control Packages and any other monitoring data for each sampling event to the Bureau of Ground Water Pollution Abatement at the address listed above.

III. Contents of Detection Monitoring Program Report

A. The annual Detection Monitoring Program Report must, at a minimum, include the following [at each Discharge to Ground Water (DGW) unit]:

1. an assessment of the adequacy of the ground water monitoring system, including appropriate changes to the existing monitoring program;

2. summary and discussion of the data, including statistical testing and trends;

3. summary table of all waste indicator parameters, associated trigger values, and the concentratiions of the indicator parameters for each sampling event;

4. need for remedial investigations or actions, such as Interim Remedial Measures (IRM), Corrective Measures Study (CMS), Compliance Monitoring, or Corrective Action; and,

5. proposals, with appropriate justifications, for permit modifications. The Department shall evaluate any proposed permit modifications in terms of the criteria set forth in N.J.A.C. 7:14A-6.15(d)2i.(1-9) and ii.(1-10).

B. Guidelines for the presentation, discussion, and assessment of data, outlined in Appendix B, Section IV, Contents of the RCRA Facility Investigation (RFI) Report, should be followed in the annual DGW Detection Monitoring Program Report.

APPENDIX F
CORRECTIVE MEASURES STUDY: SCOPE OF WORK

I. Requirements of Corrective Measures Study

A. Identify and list all potentially viable corrective measure alternatives for the pollution at and/or emanating from the site;

B. Develop alternatives to incorporate corrective measure technologies into a comprehensive, site-specific approach;

C. Describe, evaluate and compare corrective measure alternatives;

D. Develop site specific objectives based on the results of the RCRA Facility Investigation, EPA and NJDEP guidance, and any applicable State and Federal Statutes. Corrective actions concerning ground water releases must be consistent with those required under 40 CFR Part 264.100 and N.J.A.C. 7:14A-6.15. These objectives must include, but are not limited to, site specific versions of the following:

1. Clean up pollution at and/or emanating from the site in as short a time period as possible;

2. Achieve and maintain applicable surface water and ground water quality standards pursuant to N.J.A.C. 7:14A-1 et seq., 7:9-5, 7:9-6, and guidelines established by the Department. The Department will issue site specific Ground Water Protection Standards to be used in development of this CMS. These standards will be included in the Department's final approval of the RFI report;

3. Effectively remediate damage to and provide protection of human health and the environment; and

4. Any additional site specific concerns of the permittee and any listed in the specific requirements section of Part V of this permit.

E. Recommend and justify the most environmentally sound corrective action alternative which will meet the objectives of Section I.D., above, in a timely manner.

II. Contents of Corrective Measures Study Work Plan

A. A statement of the requirements for the corrective measures study pursuant to Section I., above

B. A detailed schedule for all Corrective Measures Study activities. In the approvable version of the CMS Work Plan this schedule may be expressed in terms of number of days after the permittee's receipt of the Department's written approval of the CMS Work Plan. However within a certain number of days after receipt of this approval, the permittee must submit an addendum to the plan stating what the specific due dates for these activities are. The due date for submittal of this addendum will be specified in the Department's final written approval of the CMS Work Plan. At a minimum the scheduled activities must include:

1. Key interim dates in the CMS such as initiation and completion of any field activities, treatability studies, pilot treatment projects, etc.;

2. Dates for submission of all permit applications or local government approvals required for completion of CMS; and

3. Date for submission of CMS report to the Department.

C. A list of all potentially viable corrective measure alternatives to be considered.

D. A presentation of initial screening procedure in accordance with the following:

1. Screen all potentially viable corrective measure alternatives to narrow the list of potential alternatives for further detailed analysis.

2. Initial screening criteria.

a. environmental and human health and safety impacts.

b. eliminate alternatives that may prove infeasible to implement, rely on technologies unlikely to perform satisfactorily or reliably, or that do not achieve the corrective measures objectives within a reasonable time period.

3. All alternatives shall be retained that are capable of permanently remediating all

environmental and human health and safety concerns at and/or emanating from the site within a reasonable time period

E. A presentation of characteristics to be used to describe corrective measure alternatives remaining after initial screening in accordance with the following:

1. Describe appropriate treatment and disposal technologies, as well as any permanent facilities, easements, right of ways, or accesses required;

2. Specify engineering considerations required to implement the alternative (e.g., treatability study, pilot treatment facility, ease of installation, relative sizing and type of construction for buildings and structures, utilities required, locations of underground utilities, etc.);

3. Describe environmental and human health impacts and propose methods for mitigating or eliminating any adverse impacts;

4. Describe operation, maintenance, and monitoring requirements of the completed remedy at least in terms of complexity, frequency, duration, labor, materials needed, etc.;

5. Describe off-site disposal needs and transportation plans;

6. Describe temporary storage requirements;

7. Describe requirements for health and safety plans during remedial implementation (including both on-site and off-site health and safety considerations);

8. Describe how the alternative could be phased into individual operable units, including how various components of the remedy could be implemented individually or in groups, resulting in a functional phase in of the overall remedy;

9. Describe how alternatives(s) could be segmented into areas to allow implementation of differing phases of the alternative;

10. Describe how alternatives could be combined to create more effective alternatives;

11. Describe which Federal, State and local permits would be necessary for each alternative identified and outline the information necessary for the development of each of the permit applications;

12. Describe the time required for implementation, including significant interim dates; and

13. Specify preliminary process flow sheets for each alternative.

F. A detailed discussion of procedures to evaluate and compare the corrective measure alternatives that remain after the initial screening in accordance with the following:

1. Evaluate each alternative in accordance with site specific objectives which are based on the requirements referenced in Section I. D., above, and the following characteristics:

   a. level of cleanup achievable, where cleanup is defined as the reduction of contaminants to some acceptable, pre-established level;

   b. expected time-frame of observable beneficial results and anticipated time needed to achieve cleanup;

   c. feasibility; which at least includes effectiveness, ability to design a monitoring system to demonstrate the effectiveness, useful service life of the corrective measures components, and future availability of resources (ex. labor and materials) required for corrective measure to function;

   d. implementability; which includes at least ease of installation and consideration of the time required to implement an alternative;

   e. reliability; where alternatives requiring complex and frequent operation and maintenance (O&M) activities are considered less reliable than ones with little and straightforward O&M activities;

   f. ability to minimize adverse impacts caused by implementation/operation of alternative (ex. failure of technology or component causing immediate impact to a receptor) and maximize flexibility of corrective measure to deal with uncontrollable changes at the site;

g. ability to minimize off-site impacts caused by implementation/operation of the alternative;

h. usability of ground water after operation/completion of alternative;

i. usability of surface water after operation/completion of alternative;

j. usability of site after operation/completion of alternative;

k. legal constraints, specifically, the effects of Federal, State, and local environmental and public health standards, regulations, guidance, advisories, ordinances, or community relations on design, operation, and timing of each alternative.

2. Compare each alternative in accordance with the requirements and characteristics identified in Section II.F.1. above.

G. Presentation of procedure concerning recommendation and justification of corrective measure alternative in accordance with the following:

1. Based on the detailed evaluation process of II. F above, recommend the most environmentally sound corrective measure alternative which will, in the most timely manner, meet the site specific objectives developed from Section I. D. above;

2. Prepare a detailed justification for recommending the remedial action alternative stating the advantages over other alternatives considered. At a minimum the following criteria must be used to justify the corrective measure or measures which:

a. are most effective at performing their intended functions and maintaining the performance over extended periods of time;

b. do not require frequent or complex operation and maintenance activities and have been proven effective under waste and facility conditions similar to those anticipated at the site;

c. can be constructed and operated to reduce levels of contamination to attain applicable standards in the shortest period of time;

d. pose the least threat to safety of nearby residents and environments as well as workers;

e. comply with existing NJDEP and USEPA criteria, standards, or guidelines for the protection of human health and provide the minimum level of exposure to contaminants and maximum reduction in exposure over the shortest period of time; and

f. pose the least adverse impact (or the greatest improvement) on the environment over the shortest period of time.

3. Prepare a conceptual design of the recommended alternative including:

a. engineering and hydrogeologic approaches;

b. implementation schedules;

c. any special implementation requirements such as pilot studies;

d. applicable design criteria;

e. preliminary site layout(s);

f. operation and maintenance requirements;

g. a description of how the effectiveness of the corrective measure alternative will be demonstrated. For ground water corrective action programs, this must include a ground water monitoring program designed pursuant to N.J.A.C. 7:14A-6.15(k)4.

h. health and safety considerations.

III. Content of Corrective Measures Study Report

A. Brief Description of Facility and RFI results.

1. Include a topographic map of entire site.

B. Detailed discussion of initial screening of corrective measures alternatives according to the approved CMS Work Plan.

C. Detailed description of corrective measure alternatives that remain after initial screening according to the approved CMS Work Plan.

1. Maps showing preliminary locations and layouts of corrective measure alternative components on site.

D. Detailed evaluation and comparison of corrective measures alternatives as required by CMS Work Plan and based on the descriptions presented pursuant to C. above.

1. Table(s) showing comparison of alternatives based on relative times required for implementation and achievement of final cleanup as well as relative probability of meeting numerical cleanup standards for respective media.

E. Recommendation and justification of the most environmentally sound corrective measure alternative which meets the site specific objectives in the most timely manner and according to the approved CMS Work Plan.

F. Conceptual design of recommended corrective measure alternative.

G. Outline of additional information required and/or specific field data needed to complete evaluation.

H. List of all references used in corrective measure study.

FORM VWX-016

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY
DIVISION OF PUBLICLY FUNDED SITE REMEDIATION
GROUND WATER QUALITY MANAGEMENT ELEMENT

GROUND WATER ANALYSIS - VOLATILE ORGANICS REPORT

PLEASE TYPE OR PRINT WITH BALLPOINT PEN

OWNER'S WELL ID NO.

FACILITY NAME: LENOX CHINA

SW ID NO.

LAB NAME

NJPDES NO. NJ 0070343 (2–8)

WELL PERMIT NO. (9–16)

SAMPLE DATE YR. MO. DAY (17–22)

NJ LAB CERT. NO. (23–27)

WOM USE (28)

THE SCHEDULE INDICATED BELOW IS TO BE OBSERVED FROM MO. YR. TO MO. YR.

SUBMIT WITH SIGNED T-VWX-014

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANALYSIS	UNITS	PARAMETER	VALUE	REM
	X											Acrylonitrile	ug/l	34215		
	X											Benzene	ug/l	34030		
	X											Bromoform	ug/l	32104		
	X											Carbon Tetrachloride	ug/l	32102		
	X											Chlorobenzene	ug/l	34301		
	X											Chlorodibromomethane	ug/l	34306		
	X											Chloroform	ug/l	32106		
	X											1,1-Dichloroethane	ug/l	34496		
	X											1,2-Dichloroethane	ug/l	34531		
	X		X			X			X			1,1-Dichloroethylene	ug/l	34501		
	X											1,2-Dichloropropane	ug/l	34541		
	X											Ethylbenzene	ug/l	34371		
	X											Methylene Chloride	ug/l	34423		
	X											1,1,2,2-Tetrachloroethane	ug/l	34516		
	X											Tetrachloroethylene	ug/l	34475		
	X											Toluene	ug/l	34010		
	X											1,1,1-Trichloroethane	ug/l	34506		
	X											1,1,2-Trichloroethane	ug/l	34511		
	X		X			X			X			Trichloroethylene	ug/l	39180		
	X		X			X			X			Vinyl Chloride	ug/l	39175		
	X											Acrolein	ug/l	34210		
	X											Chloroethane	ug/l	34311		
	X											2-Chloroethyl Vinyl Ether	ug/l	34576		
	X											Bromodichloromethane	ug/l	32101		
	X											1,3-trans-Dichloropropene	ug/l	34699		
	X											Methyl Bromide	ug/l	34413		
	X											Methyl Chloride	ug/l	34418		
	X		X			X			X			1,2-trans-Dichloroethene	ug/l	34546		
	X		X			X			X			cis-1,2-Dichloroethylene	ug/l	81574		
	X											1,2-Dichlorobenzene	ug/l	34536		
	X											1,3 Dichlorobenzene	ug/l	34566		

VALUE CODING AND REMARK CODES ON REVERSE

29 33 34 40 41

VWX-016

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY
DIVISION OF PUBLICLY FUNDED SITE REMEDIATION
GROUND WATER QUALITY MANAGEMENT ELEMENT

GROUND WATER ANALYSIS - VOLATILE ORGANICS REPORT

SE TYPE OR PRINT WITH BALLPOINT PEN

OWNER'S WELL ID NO.

ILITY NAME

SW ID NO.

NAME

NJPDES NO. NJ (2–8)

WELL PERMIT NO. (9–16)

SAMPLE DATE YR. MO. DAY (17–22)

NJ LAB CERT.NO. (23–27)

WQM USE (28)

SCHEDULE INDICATED BELOW IS TO BE OBSERVED FROM MO. YR. TO MO. YR.

SUBMIT WITH SIGNED T-VWX-014

SAMPLING MONTHS MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANALYSIS	UNITS	PARAMETER	VALUE	REM
										Acrylonitrile	ug/l	34215		
										Benzene	ug/l	34030		
										Bromoform	ug/l	32104		
										Carbon Tetrachloride	ug/l	32102		
										Chlorobenzene	ug/l	34301		
										Chlorodibromomethane	ug/l	34306		
										Chloroform	ug/l	32106		
										1,1-Dichloroethane	ug/l	34496		
										1,2-Dichloroethane	ug/l	34531		
										1,1-Dichloroethylene	ug/l	34501		
										1,2-Dichloropropane	ug/l	34541		
										Ethylbenzene	ug/l	34371		
										Methylene Chloride	ug/l	34423		
										1,1,2,2-Tetrachloroethane	ug/l	34516		
										Tetrachloroethylene	ug/l	34475		
										Toluene	ug/l	34010		
										1,1,1-Trichloroethane	ug/l	34506		
										1,1,2-Trichloroethane	ug/l	34511		
										Trichloroethylene	ug/l	39180		
										Vinyl Chloride	ug/l	39175		
										Acrolein	ug/l	34210		
										Chloroethane	ug/l	34311		
										2-Chloroethyl Vinyl Ether	ug/l	34576		
										Dibromochloromethane	ug/l	32105		
										1,3-trans-Dichloropropene	ug/l	34699		
										Methyl Bromide	ug/l	34413		
										Methyl Chloride	ug/l	34418		
										1,2-trans-Dichloroethene	ug/l	34546		
										1;2 Dichlorobenzene	ug/l	34536		
										1,3 Dichlorobenzene	ug/l	34566		
										1,4 Dichlorobenzene	ug/l	34571		

29 33 34 40 41

UE CODING AND REMARK CODES ON REVERSE

T-VWX-014

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY
DIVISION OF PUBLICLY FUNDED SITE REMEDIATION
GROUND WATER QUALITY ELEMENT

MONITORING REPORT — TRANSMITTAL SHEET

NJPDES NO.	REPORTING PERIOD MO. YR.		MO. YR.
0 0 7 0 3 4 3		THRU	

PERMITTEE: Name LENOX INCORPORATED

Address 100 LENOX DRIVE

LAWRENCEVILLE NJ 08648-2394

FACILITY: Name LENOX CHINA, A DIVISION OF LENOX INCORPORATED

Address TILTON ROAD

POMONA NJ. 08240 (County) ATLANTIC

Telephone (609) 984-9798

FORMS ATTACHED *(Indicate Quantity of Each)*

SLUDGE REPORTS - SANITARY

☐ T-VWX-007 ☐ T-VWX-008 ☐ T-VWX-009

SLUDGE REPORTS - INDUSTRIAL

☐ T-VWX-010A ☐ T-VWX-010B

WASTEWATER REPORTS

☐ T-VWX-011 ☐ T-VWX-012 ☐ T-VWX-013

GROUNDWATER REPORTS

18 VWX-015(A,B) 9 VWX-016 ☐ VWX-017

NPDES DISCHARGE MONITORING REPORT

☐ EPA FORM 3320-1

OPERATING EXCEPTIONS

	YES	NO
DYE TESTING	☐	☐
TEMPORARY BYPASSING	☐	☐
DISINFECTION INTERRUPTION	☐	☐
MONITORING MALFUNCTIONS	☐	☐
UNITS OUT OF OPERATION	☐	☐
OTHER	☐	☐

(Detail any "Yes" on reverse side in appropriate space.)

NOTE: The "Hours Attended at Plant" on the reverse of this sheet must also be completed.

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

LICENSED OPERATOR

Name *(Printed)* _____

Grade & Registry No. _____

Signature _____

Date _____

PRINCIPAL EXECUTIVE OFFICER or DULY AUTHORIZED REPRESENTATIVE

Name *(Printed)* _____

Title *(Printed)* _____

Signature _____

Date _____

orm VUX-015A
/91

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY
DIVISION OF PUBLICLY FUNDED SITE REMEDIATION
GROUND WATER QUALITY MANAGEMENT ELEMENT

GROUND WATER ANALYSIS - MONITORING WELL REPORT

PLEASE TYPE OR PRINT WITH BALLPOINT PEN

OWNER'S WELL ID NO._____

FACILITY NAME LENOX CHINA	SW ID NO.
LAB NAME	

R	NJPDES NO.	WELL PERMIT NO.	SAMPLE DATE YR. MO. DAY	NJ LAB CERT.NO.	WQM USE
	NJ 0 0 7 0 3 4 3	- -			
1	2 8	9 16	17 22	23 27	28

THE SCHEDULE INDICATED BELOW IS TO BE OBSERVED FROM MO. YR. TO MO. YR.

SUBMIT WITH SIGNED T-VWX-014

SAMPLING MONTHS JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANALYSIS	UNITS	PARAMETER	VALUE	REM
	X			X			X			X		Elev. of top of well casing with cap off (as specified in well completion report)	feet Msl: to nearest 0.01	72110		
	X			X			X			X		Elev. of original ground level (as specified in well completion report)	feet Msl: to nearest 0.01	72009		
	X			X			X			X		Depth to water table from top of casing prior to sampling (with cap off)	feet: to nearest 0.01	82546		
	X			X			X			X		Depth to water table from original ground level prior to sampling	feet: to nearest 0.01	72019		
												Arsenic, Dissolved	ug/l as As	01000		
												Barium, Dissolved	ug/l as Ba	01005		
												Biochemical Oxygen Demand - 5 Day	mg/l	00310		
												Cadmium, Dissolved	ug/l as Cd	01025		
												Chloride, Dissolved	ug/l as Cl	82295		
												Chromium, Dissolved	ug/l as Cr	01030		
												Chromium, Dissolved, Hexavalent	ug/l as Cr	01220		
												Chemical Oxygen Demand (COD), Dissolved	mg/l	00341		
												Coliform Group	n/100 ml	74056		
	X			X			X			X		Color	pt-co	00080		
												Copper, Dissolved	ug/l as Cu	01040		
												Cyanide, Total	mg/l as CN	00720		
												Endrin, Total	ug/l	39390		
												Fluoride, Dissolved	mg/l as F	00950		
												Gross Alpha, Dissolved	pc/l	01503		
												Gross Beta, Dissolved	pc/l	03503		
												Hardness, Total as CaCO3	mg/l	00900		
	X			X			X			X		Iron, Dissolved	mg/l as Fe	01046		
	X			X			X			X		Lead, Dissolved	ug/l as Pb	01049		
												Lindane, Total	ug/l	39782		
	X			X			X			X		Manganese, Dissolved	ug/l	01056		
												Mercury, Dissolved	ug/l	71890		

29 33 34 40 41

VALUE CODING AND REMARK CODES ON REVERSE

rm VWX-0158
91

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY
DIVISION OF PUBLICLY FUNDED SITE REMEDIATION
GROUND WATER QUALITY MANAGEMENT ELEMENT

GROUND WATER ANALYSIS - MONITORING WELL REPORT

EASE TYPE OR PRINT WITH BALLPOINT PEN

ACILITY NAME LENOX CHINA

OWNER'S WELL ID NO.

AB NAME

SW ID NO.

S 1 NJPDES NO. NJ 0 0 7 0 3 4 3 (2–8)

WELL PERMIT NO. (9–16)

SAMPLE DATE YR. NO. DAY (17–22)

NJ LAB CERT. NO. (23–27)

WQM USE (28)

E SCHEDULE INDICATED BELOW IS TO BE OBSERVED FROM MO. YR. TO MO. YR.

SUBMIT WITH SIGNED T-VWX-014

SAMPLING MONTHS FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANALYSIS	UNITS	PARAMETER	VALUE	REM
											Methoxychlor, Total	ug/l	39480		
											Methylene Blue Active Substances	mg/l	38260		
X		X			X				X		Nitrogen, Ammonia, Dissolved NH3+NH4 as N	mg/l as N	00608		
											Nitrogen, Nitrate, Dissolved	mg/l as N	00618		
											Odor	T.O.N.	00085		
X		X			X				X		pH	Stn. Units	00400		
											Phenols, Total Recoverable	ug/l	32730		
											Radium 226, Dissolved	pc/l	09503		
											Radium 228, Dissolved	pc/l	81366		
											Selenium, Dissolved	ug/l	01145		
											Silver, Dissolved	ug/l	01075		
X		X			X				X		Sodium, Dissolved	mg/l	00930		
X		X			X				X		Sulfate, Dissolved (as SO4)	mg/l	00946		
X		X			X				X		Total Dissolved Solids (TDS)	ppm	70300		
X		X			X				X		Total Organic Carbon (TOC)	ppm	60680		
											Total Organic Halogen (TOX)	ug/l	70353		
											Toxaphene	ug/l	39400		
											Turbidity	ntu	00076		
X		X			X				X		Zinc, Dissolved	ug/l	01090		
											2,4-D, Total	ug/l	39730		
											2,4,5-TP, Total	ug/l	39045		
X		X			X				X		Oxygen, Dissolved	ug/l			

UE CODING AND REMARK CODES ON REVERSE

29 33 34 40 41

LEGAL AFFIDAVIT

State of New Jersey,
County of Atlantic, } *ss.*

DORIS D THORNTON *of lawful age, being duly sworn according to law, doth depose and say that I am an employee of THE PRESS of Atlantic City, a newspaper printed and published in Pleasantville in said County and State, and distributed in the following counties: Atlantic, Camden, Cape May, Cumberland, Gloucester and Ocean County and mailed to all parts of the State of New Jersey, the United States and foreign countries and that the notice of which the annexed is a true copy, has been published in said newspaper on* APRIL 23, 1996

Doris D. Thornton

- G-S-0010-NASA -

Sworn to and subscribed before me this

24TH *day of*

APRIL , *19* 96

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION II
290 BROADWAY
NEW YORK, NEW YORK
10007-1866

PUBLIC NOTICE OF INTENT TO ISSUE THE HAZARDOUS AND SOLID WASTE AMEDMENTS (HSWA) PERMIT MODIFICATION

Public Notice: NJD002325074 Date: April 23, 1996

The Director of the Air and Waste Management Division of the U.S. Environmental Protection Agency (EPA) , region II, under the Resource Conservation and Recovery Act (RCRA), (42 U.S.C. 6901 et. seq.), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), has prepared a draft HSWA Permit Modification and proposes to issue a HSWA Permit Modification to Lenox China, a Division of Lenox, Incorporated (Lenox), in Pomona, New Jersey. EPA has determined that this facility is not located within an Environmental Justice (EJ) area.

The 1989 RCRA Facility Assessment (RFA) report prepared by EPA and NJDEP identified 15 Solid Waste Management Units (SWMUs) and/or Areas of Concern (AOCs) and recommended Investigations for 10 SWMUs/AOCs. The 1992 HSWA Permit issued by EPA required Lenox to investigate the SWMUs/AOCs and to implement interim remedial measures as needed. Concurrently, Lenox was investigating its Pomona, New Jersey facility under the New Jersey Pollutant Discharge Elimination System (NJPDES)/Discharge to Groundwater (DPW) Permit. While conducting investigations under the 1992 HSWA Permit and the NJPDES/DGW Permit, one new SWMU was identified. Lenox has completed its investigations and/or interim remedial measures pursuant to the HSWA Permit and NJPDES/DGW Permit. A review of the investigations and other documentation submitted to EPA and the State indicates that corrective measures need to be implemented for Sludge Disposal Area (SWMU #2) and Area Between Monitoring Well #10 and Aloe Street (AOC #13).

In addition, Lenox has been implementing the groundwater remediation program since 1990 for the facility under the NJPDES/DGW Permit for trichloroethylene (TCE) detected in groundwater beneath and near the facility. The site-wide groundwater monitoring has shown that the groundwater remediation program is effective in controlling off-site migration of contaminated groundwater and also in reducing the levels of TCE in groundwater.

The HSWA Permit Modification, if finalized as proposed, would require Lenox to implement engineering and institutional controls and to continue the current groundwater remediation program.

The public is invited to provide comments on the proposed corrective measure alternatives and determinations of "No Further Action" or "Not Required", this Draft HSWA Permit Modification, the accompanying Statement of Basis, or other corrective measure alternatives that may be applicable and appropriate for the facility. The public comment period will begin on April 23, 1996 and will end on June 7, 1996. Comments may be submitted in writing to:

Catherine Baeringer

CATHERINE BAERINGER *Notary Public*

NOTARY PUBLIC OF NEW JERSEY

My Commission Expires JUL. 11, 1999

TF2659501

;AL AFFIDAVIT

of lawful age, being duly sworn according
ıployee of THE PRESS of Atlantic City, a newspaper printed
and State, and distributed in the following counties: Atlantic,
and Ocean County and mailed to all parts of the State of New
s and that the notice of which the annexed is a true copy, has

[illegible] Davis D. Shoreton

REGION II
290 BROADWAY
NEW YORK, NEW YORK
10007-1866

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Andrew Bellina, P.E.
Chief, Hazardous Waste Facilities Branch
U.S. Environmental Protection Agency Region II
290 Broadway, 22nd Floor
New York, New York 10007-1866

The public may also request a public hearing concerning corrective measure alternatives for the facility. Requests for a public hearing may be submitted in writing to the address above by June 7, 1996. requests for a public hearing must state the nature of the issues proposed to be raised at the hearing. If, on the basis of requests made during the public comment period, there is a significant degree of public interest in opposition to this SEP to the Draft HSWA Permit Modification, EPA shall hold a public hearing. Public notice of a hearing shall be given at least thirty (30) days before the hearing.

The administrative record for the facility is available for review at the EPA location stated above any time between 8:30 a.m. to 4:00 p.m. Monday through Friday, except holidays, and also at the New Jersey Department of Environmental Protection, 401 East State Street, Trenton, New Jersey 08625.

After the close of the public comment period, written comments submitted during the public comment period or comments gathered at the public hearing, if held, will be considered by the Director of the Air and Waste Management Division in the formulation of his final decision. EPA will prepare the Final HSWA Permit Modification along with the Final Decision and Response to Comments (FD & RTC), to include the selected final corrective measure alternatives and also to address all written comments and/or any substantive comments gathered at

Notary Public

TF 2658501

204

State of New Jersey
Department of Environmental Protection and Energy
Division of Publicly Funded Site Remediation
CN 413
Trenton, NJ 08625-0413
Tel. # 609-984-2902
Fax. # 609-633-2360

Scott A. Weiner
Commissioner

Anthony J. Farro
Director

Mr. Stephen F. Lichtenstein
Lenox Inc.
100 Lenox Drive
Lawrenceville, NJ 08648-2394

NOV 10 1992

Re: Joint Issuance of USEPA HSWA Permit and NJDEPE NJPDES-DGW Permit For Lenox China Facility, Pomona, Atlantic County.

Dear Mr. Lichtenstein:

The USEPA HSWA permit issued to Lenox China incorrectly lists the effective date and expiration date of the permit as October 29, 1992 and October 29, 1997, respectively. The correct effective date is December 1, 1992 and the correct expiration date is December 1, 1997. These dates have been incorporated into the HSWA permit's Notice of Issuance and Permit Page, which are enclosed for your review.

If you have any questions regarding this letter, please contact Daryl Clark of my staff at (609) 292-8427.

Sincerely,

Irene Kropp

Irene Kropp, Chief
Bureau of Ground Water
Pollution Abatement

Enclosures
GWQM378

c: Andy Park, USEPA
Distribution List (w/o attachments)

New Jersey is an Equal Opportunity Employer
Recycled Paper

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
26 FEDERAL PLAZA
NEW YORK, NEW YORK 10278

NOTICE OF ISSUANCE OF
FINAL HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984 (HSWA) PERMIT
TO LENOX CHINA, A DIVISION OF LENOX, INC., POMONA, NEW JERSEY

The United States Environmental Protection Agency (EPA) Region II has decided to issue a final HSWA permit to the Lenox China, a Division of Lenox, Inc. (Lenox) facility in Pomona, New Jersey. Enclosed is a copy of the final HSWA permit and EPA's Responsiveness Summary. The Responsiveness Summary provides EPA's response to comments received by EPA during the public comment period (June 8, 1992 through July 27, 1992).

Any appeal of this decision must be filed to the USEPA Environmental Appeal Board at the address indicated below:

U.S. Environmental Protection Agency
Office of Administrator
Environmental Appeal Board (A-101)
401 M Street, SW
Room 1145 (West Tower)
Washington, DC 20460

Anyone wishing to appeal the permit decision should refer to the procedures set forth in 40 C.F.R. § 124.19. Within thirty (30) days after the date of this Notice, any person who filed comments on the draft HSWA permit may petition the Environmental Appeal Board to review any condition of the draft HSWA permit. Any person who failed to file comments on the draft HSWA permit may petition for administrative review only to the extent of the changes from the draft to the final HSWA permit.

The thirty (30) day period to request review of this final permit decision shall begin with the service of this Notice. (Note, for those parties receiving this Notice by mail, three (3) additional days will be added to the prescribed thirty (30) day period, as is provided for at 40 C.F.R. § 124.20(d).)

OCT 29 1992
Notice Date

Conrad Simon, Director
Air and Waste Management Division
U. S. Environmental Protection Agency
Region II
26 Federal Plaza
New York, New York 10278

FACT SHEET

Permittee: Lenox China, a Division of Lenox, Incorporated
Tilton Road
Pomona, New Jersey 08240

Facility Location: Lenox China, a Division of Lenox, Incorporated
Tilton Road, Pomona,
Atlantic County, New Jersey 08240

EPA I.D. Number: NJD002325074

BACKGROUND

The Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act ("RCRA") and the Hazardous and Solid Waste Amendments of 1984 ("HSWA"), codified at 42 U.S.C. §§ 6901 et. seq. ("the Act") empowers, under Section 3005 of the Act, the United States Environmental Protection Agency ("EPA") to establish a permit program for hazardous waste treatment, storage, and disposal ("TSD") facilities.

Under Section 3006 of the Act, 42 U.S.C. § 6926, EPA may, if certain criteria are met, authorize a state to operate a hazardous waste program in lieu of the Federal program. Although the State of New Jersey ("NJ") was granted final authorization to operate its hazardous waste program on February 21, 1985, this authorization specifically excluded state administration of the new requirements and prohibitions imposed by HSWA. By the expressed terms of Section 3006(g) of the Act, 42 U.S.C. § 6926(g), the new HSWA provisions take effect in all states, authorized or unauthorized, simultaneously. Thus, until EPA formally authorizes a state to implement the HSWA provisions, along with the other elements of the state hazardous waste program, EPA will implement the HSWA provisions, including the issuance of full or partial facility permits.

Since NJ has not yet been authorized to administer/implement the provisions under HSWA, NJ shall issue the non-HSWA portion of the RCRA permit and EPA will issue the HSWA portion of the permit. Only when both portions are issued, will the applicant be deemed to have a full RCRA permit.

The permit which EPA is proposing constitutes the HSWA portion of the RCRA permit.

FACILITY DESCRIPTION

The facility (Lenox China, a Division of Lenox, Incorporated) is located on Tilton Road, in Pomona, Atlantic County, New Jersey on fifty six (56) acres of land. The facility has been manufacturing since 1954 ceramic dinnerware and giftware. The dinnerware includes fine china and casual dinnerware, and the giftware includes vases, bowls, serving pieces, candy dishes, and special collections. Processes involved in the manufacture of the products are blending of earthen clay and alumino-silicates, molding and plastering, firing, coating and glazing with glass formed from lead compounds, and etching to add patterns and designs.

GENERATION AND MANAGEMENT OF WASTES

The coating and glazing process generates lead-containing wastewater. The principal lead-containing wastewater (glaze-containing wastewater) is segregated from the other remaining wastewaters when these wastewaters are generated from the plant processes. The lead-containing wastewater is dewatered through a filter press. Sludge from the filter press is temporarily stored in a storage bin and eventually sent off-site for further treatment and disposal. The liquid phase from the filter press is stored in two tanks for pH balance before it is sent to the Atlantic County Utilities Authority treatment system, a POTW. All other industrial wastewaters are directed to the main on-site industrial waste treatment plant for treatment. The treated wastewater is discharged to a surface water course through the point source permitted by the New Jersey Department of Environmental Protection and Energy (NJDEPE) under the New Jersey Pollution Discharge Elimination System (NJPDES)/Discharge to Surface Water (DSW). The sludge generated from the industrial waste treatment plant is dewatered and sent off-site for disposal. The industrial waste treatment plant has been upgraded twice. The oldest industrial waste treatment plant (1954-1970) consisted of the Glaze Basin, the Slip Basin, and the Tilton Road Pond. The next industrial waste treatment plant (1970-1987) consisted of the Slip Basin, Equalization Sump, the Clarifier, Vacuum Filter, the Polishing Lagoon, and the Tilton Road Pond. The present industrial waste treatment plant consists of the New Sump, the Surge Tank, the Clarifiers, Vacuum Filter, the Polishing Lagoon, and the Tilton Road Pond.

The etching process uses trichloroethylene as a degreaser and generates sludges containing trichloroethylene. The sludge is collected in a drum located in the degreaser sludge pit outside the production process building. Once the drum at the degreaser sludge pit is filled, the drum is removed by a forklift to the drum storage area. Drums containing the sludge are stored in the drum storage area and eventually are sent off-site for disposal.

RCRA REGULATED UNITS AND THEIR STATUS

The Glaze basin and the Slip Basin are RCRA regulated units and are subject to the State-delegated RCRA program. The Glaze Basin and the Slip Basin were closed in 1988 and in 1990 respectively. NJDEPE issued a permit in July 1990 to require post-closure groundwater monitoring for the Glaze Basin. Post-closure care requirements for the Slip Basin will be required by the post-closure permit to be jointly issued by the NJDEPE with this HSWA permit. The drum storage area was subject to permit requirements but was closed and decontaminated. It is currently being used to store hazardous waste less than 90 days. The waste in the storage area is eventually sent off-site for disposal.

GROUNDWATER

The groundwater underlying parts of the facility is contaminated with trichloroethylene. The investigations conducted by Lenox China show that the groundwater contamination might have been caused by releases from the drum storage area and the degreaser sludge pit. The trichloroethylene remediation system, proposed by the facility and subsequently approved by NJDEPE, is currently in operation. The trichloroethylene remediation system consists of pumping of groundwater, treatment with air stripping, and reinjection of treated groundwater through an injection trench. After review of the remediation system, EPA has concurred with the NJDEPE's approval. The HSWA permit and the post-closure permit to be jointly issued by NJDEPE will require the Permittee to continue the remediation system for contaminated groundwater.

RCRA FACILITY ASSESSMENT SUMMARY

Section 3004(u) of the Act, 42 U.S.C. § 6924(u) and its corresponding regulations published in 40 C.F.R. § 264.101 require corrective action for all releases of hazardous wastes or hazardous constituents from any solid waste management unit ("SWMU"), regardless of when wastes were placed in the unit. The corrective action implementation process includes a RCRA Facility Assessment ("RFA"), a RCRA Facility Investigation ("RFI"), a Corrective Measures Study ("CMS"), and a Corrective Measures Implementation ("CMI") phase.

The RFA for the Pomona, New Jersey Lenox China facility was a two-phase study which included a Preliminary Review ("PR") and a Visual Site Inspection ("VSI"). EPA and NJDEPE completed the PR report in January 1986. A VSI was conducted on January 8, 1986, during which all of the previously discovered SWMUs were observed. Based on the PR and VSI, the SWMUs were characterized as to their release potential and evaluated as to which media could potentially be impacted by such potential releases.

The PR, VSI and other inspections conducted at the site by EPA or NJDEPE were considered in the preparation of the RFA report for Lenox China. The RFA report, completed by EPA with support of NJDEP in March 1989, recommends assessment of potential releases for seven SWMUs and further investigative actions for four SWMUs. The RFA report is available for review at U.S. EPA Region II, Permits Administration Branch, Room 505, 26 Federal Plaza, New York, New York 10278.

HSWA PERMIT

This HSWA permit requires the Permittee to:

1. Determine the nature, extent, direction, and rate of migration of hazardous waste, including hazardous constituents, in soils, groundwater, surface water/sediment, subsurface gas and/or air at any solid waste management unit(s) at the facility regardless of the time waste was placed in such unit, and to develop appropriate corrective action for any such releases;

2. Certify annually that the generation of hazardous waste is minimized to the extent practicable and submit and implement a hazardous waste reduction plan;

3. Comply with the land disposal restrictions;

4. Comply with the organic air emission standards for process vents and equipment leaks in accordance with the HSWA regulations promulgated on July 21, 1990;

5. Comply with the Toxicity Characteristic standards in accordance with the regulations promulgated on March 29, 1990; and

6. Comply with any other applicable statutory or regulatory requirements imposed pursuant to RCRA and HSWA.

COORDINATION BETWEEN EPA AND NJDEPE

The post-closure permit to be jointly issued by NJDEPE with the HSWA permit also requires corrective action at the site, addressing SWMUs and the contaminated groundwater. Since the corrective action requirements in the post-closure permit are similar to those in the HSWA permit, the EPA and the NJDEPE will coordinate to ensure that actions or investigations to be taken by the Permittee address federal and state requirements.

The Permittee may submit identical documents to EPA and NJDEPE to satisfy the HSWA and post-closure permit requirements. Any plans or reports to be submitted pursuant to the HSWA and the post-closure permits will be jointly reviewed and approved by the EPA

and the NJDEPE. Any technical conflicts will be resolved between the agencies before communication with Lenox.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984 PERMIT

Permittee: Lenox China, a Division of
Lenox, Incorporated
Tilton Road
Pomona, New Jersey 08240

I.D. Number: NJD002325074
Effective Date: 12/01/92
Expiration Date: 12/01/97

This permit is issued by the United States Environmental Protection Agency ("EPA" or "Agency") under authority of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act ("RCRA") of 1976, and the Hazardous and Solid Waste Amendments ("HSWA") of 1984, 42 U.S.C. §§ 6901-6991 (the "Act") and EPA regulations promulgated pursuant thereto, to Lenox China, a Division of Lenox, Incorporated (hereafter called the "Permittee"), to operate a hazardous waste management facility located at Pomona, New Jersey.

In accordance with HSWA, this permit requires the Permittee to:

1. Determine the nature, extent, direction, and rate of migration of hazardous waste, including hazardous constituents, in soils, groundwater, surface water/sediment, subsurface gas and/or air at any solid waste management unit(s) at the facility regardless of the time waste was placed in such unit, and to develop appropriate corrective action for any such releases;

2. Certify annually that the generation of hazardous waste is minimized to the extent practicable, and submit and implement a hazardous waste reduction plan;

3. Comply with the land disposal restrictions;

4. Comply with the organic air emission standards for process vents and equipment leaks in accordance with the HSWA regulations promulgated on July 21, 1990;

5. Comply with the Toxicity Characteristic standards in accordance with the regulations promulgated on March 29, 1990; and

6. Comply with any other applicable statutory or regulatory requirements imposed pursuant to RCRA and HSWA.

This permit, in conjunction with the State post-closure permit to be jointly issued by the New Jersey Department of Environmental Protection and Energy ("NJDEPE" or the "Department") under the New Jersey Pollution Discharge Elimination System (NJPDES)/ Discharge to Groundwater (DGW), constitutes the full RCRA post-closure permit for this facility.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (Module I, pages 1 through 13; Module II, pages 1 through 3; Module III, pages 1 through 29; Module IV, page 1 through 2; Module V, pages 1 through 2; Module VI, page 1; Module VII, page 1, and the following appendices: Appendix A, Appendix B, Appendix C, and Appendix D) and the applicable regulations contained in 40 C.F.R. Parts 124, 260 through 264, 268, and 270 as specified in the permit. Applicable regulations are those which are in effect on the date of issuance of this permit, except as provided in 40 C.F.R. § 124.86(c) for RCRA permits being processed under Subpart E or F of Part 124 (see 40 C.F.R. § 270.32(c)). A permit may be modified, however, to incorporate new regulations pursuant to 40 C.F.R. § 270.41(a)(3) and 40 C.F.R. § 270.32 (c).

This permit is based on the assumption that the information provided in Permittee's applications, and all succeeding revisions and data submissions, is accurate. The Permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the Permittee's misrepresentation of any relevant facts at any time may be grounds for the termination, revocation and reissuance, or modification of this permit (see 40 C.F.R. §§ 270.41, 270.42 and 270.43) and potential enforcement action. The Permittee must inform EPA of any deviation from or changes in the information which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

This permit is effective as of 12/01/92 and shall remain in effect until 12/01/97 unless revoked and reissued, modified or terminated in accordance with 40 C.F.R. §§ 270.41, 270.42 or 270.43, or continued in accordance with 40 C.F.R. § 270.51(a).

Conrad Simon, Director
Air and Waste Management Division
U. S. Environmental Protection Agency
Region II

Date 9/21/92

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II

JACOB K. JAVITS FEDERAL BUILDING

NEW YORK, NEW YORK 10278

RESPONSIVENESS SUMMARY
FOR
HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984 PERMIT
FOR LENOX CHINA, A DIVISION OF LENOX, INC.
POMONA, NEW JERSEY
NJD002325074

A. Background

Under the Solid Waste Disposal Act (the "Act"), as amended by the Resource Conservation and Recovery Act ("RCRA") and the Hazardous and Solid Waste Amendments of 1984 ("HSWA"), 42, U.S.C. §§ 6901 et seq., the United States Environmental Protection Agency ("EPA") Region II proposed issuance of a HSWA permit to the Pomona, New Jersey Lenox China facility, a Division of Lenox, Inc. ("Lenox"). The draft HSWA permit includes corrective action requirements for the 15 Solid Waste Management Units ("SWMUs") at the Lenox facility, waste minimization, land disposal restrictions, organic air emission standards for process vents and equipment leaks, toxicity characteristic standards, and other applicable standards under the Act. The HSWA permit, in conjunction with the permit to be jointly issued by the New Jersey Department of Environmental Protection and Energy ("NJDEPE") under the New Jersey Pollutant Discharge Elimination System ("NJPDES")/Discharge to Groundwater ("DGW") program for post-closure care of the RCRA surface impoundments, will constitute a full RCRA post-closure permit for the facility.

The availability of the draft HSWA permit was public noticed on June 11, 1992 in the newspaper Atlantic City Press and radio announced on June 8, 1992. The comment period closed on July 27, 1992.

EPA has received written comments on the draft HSWA permit only from Lenox, Inc. This Responsiveness Summary document provides EPA's response to the comments.

Conrad Simon, Director
Air and Waste Management Division
U. S. Environmental Protection Agency
Region II

9/21/92
Date

PRINTED ON RECYCLED PAPER

B. Comments and Response

(The following comments came in a letter dated July 20, 1992 from Lenox, Inc. EPA's response follows each of the comments.)

1. **Comment** (phrased)

"Lenox believes that where the two Permits requires the production of substantially similar documents within a similar time frame, it will be more efficient and effective to submit a single document to both the USEPA and the NJDEPE. The document would be captioned for both agencies and would meet all of the requirements of each Permit. This single submission of each work item will minimize the need continually to make cross references, facilitate review by both agencies and enable the NJDEPE to communicate more efficiently both agencies' comments to Lenox. It is our understanding that the NJDEPE will be sending the comments for both agencies on each submission as described in the DEPE letter of April 23, 1992 to Lenox (copy attached).

Lenox requests that a separate paragraph be included in each Permit specifically permitting the submission by Lenox of single documents as described in the immediately preceding paragraph. For the USEPA Permit, this paragraph should follow the third (3rd) full paragraph in the Background section on Page 1 of the Fact Sheet. For the NJDEPE DGW Permit, this paragraph should follow the first full paragraph on Page 5 of the Fact Sheet."

Response

EPA agrees that, since both permits - the HSWA permit and the NJPDES/DGW permit - require corrective action at the site, one document will be sufficient to address the requirements of the both permits. Documents submitted pursuant to these permits will be reviewed and approved jointly by the EPA and the NJDEPE, and one comment letter addressing EPA's and NJDEPE's concerns will be sent to the company. A section, Coordination between EPA and NJDEPE, has been added to the Fact Sheet and Module II of the HSWA permit, to reflect this.

2. **Comment** (phrased)

"FACT SHEET, Page 2, GENERATION AND MANAGEMENT OF WASTES: This section should recognize, after the first sentence, the fact that the principal lead-containing wastewater (glaze-containing wastewater) is treated in a separate on-site industrial waste treatment facility and the discharge from this facility has been diverted from the main on-site industrial waste treatment facility to the Atlantic County Utilities Authority treatment system, a POTW. All other industrial wastewaters are directed to the main on-site industrial waste treatment system, which is correctly described in this section."

Response

This comment does not clearly describe how the two categories of the wastewaters are being treated in the wastewater treatment plant. The comment seems to indicate two separate wastewater treatment plants at the facility. During the telephone conversation between Mr. Park of EPA and Mr. Kinkela of Lenox, Inc. on September 3, 1992, Mr. Kinkela indicated that the principal lead-containing wastewater (glaze-containing wastewater) is segregated from the other remaining wastewaters when these wastewaters are generated from the plant processes. The lead-containing wastewater is dewatered through a filter press. Sludge from the filter press is temporarily stored in a storage bin and eventually sent off-site for further treatment and disposal. The liquid phase from the filter press is stored in two tanks for pH balance before it is sent to the Atlantic County Utilities Authority treatment system, a POTW. All other wastewaters are sent to the main wastewater treatment plant. The Fact Sheet and Module II of the HSWA permit have been revised to reflect this.

Based on the information stated above, EPA believes that the two tanks and the filter press associated with the processing of the lead-containing wastewater are SWMUs (see definition in Module I, Condition L.9.) which are subject to the requirements of HSWA. The available information indicates that these SWMUs have containment systems and have been operating for a relative short period of time. These factors and the fact that there are current interim measures managing the groundwater contamination suggests that the potential contribution of these SWMUs to existing contamination, and the risk associated, is minimal.

Thus, the HSWA permit will not require, at this time, any investigation of the specified media (see Module III, Condition A.3.c.). This, of course, does not prohibit the EPA from taking any warranted action or release Lenox, Inc. from any obligation under the permit and/or regulations should new information become available with regard to these two SWMUs.

Lenox, Inc. must submit information with respect to these SWMUs, pursuant to Conditions A.3.c.v and E.1.a of Module III of the HSWA permit.

3. **Comment** (phrased)

"FACT SHEET, Page 3, GROUNDWATER: This section should recognize that a trichloroethylene remediation system, already approved by the New Jersey Department of Environmental Protection and Energy, has been installed and is in operation to remediate the groundwater underlying parts of the facility."

Response

After review of the trichloroethylene remediation system and the NJDEPE's approval, EPA has accepted this comment and furthermore, EPA concurs with the NJDEPE's approval. The Fact Sheet and Module II of the HSWA permit have been revised to reflect this. In addition, Condition A.4 in Module III of the HSWA permit has been added to indicate that EPA concurs with the NJDEPE's approval on the trichloroethylene remediation system.

4. **Comment** (phrased)

"MODULE II-FACILITY DESCRIPTION, Page II-1, GENERATION AND MANAGEMENT OF WASTE: The same clarification denoted in the above Item 1 should be included."

Response

The final HSWA permit reflects this.

5 **Comment** (phrased)

"MODULE III-CORRECTIVE ACTION REQUIREMENTS FOR SOLID WASTE MANAGEMENT UNITS, Page III-4, ITEM A.3.c.9: This SWMU should be eliminated from the Permit in its entirety. Lenox submitted on October 8, 1987 information regarding the removal of the underground storage tanks to the NJDEPE which we believe properly documents that clean closure was effected. A copy of this October 8, 1987 submittal is enclosed with these comments."

Response

EPA agrees with Lenox, Inc., that the removal of the underground storage tanks under the NJDEPE Underground Storage Tank program satisfies the HSWA requirements, and thus, no additional measures are required for the underground storage tanks under the HSWA permit. Therefore, Condition A.3.c of Module III, the final HSWA permit has been revised to indicate that no action is required for underground storage tanks.

However, EPA refuses to eliminate the specified underground storage tanks from the HSWA permit. Eliminating the underground storage tanks from the HSWA permit would indicate that these units were not SWMUs. The tanks have been a potential environmental concern to EPA and the removal action taken by Lenox, Inc., under the State Underground Storage Tank program has adequately addressed this concern. This EPA review and determination must be reflected in the HSWA permit. In addition, Lenox, Inc., should recognize that any new findings, after the issuance of the final HSWA permit, showing that the area of the underground storage tanks is still contaminated, will require the Permittee to comply with all applicable corrective action requirements of the HSWA permit.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
26 FEDERAL PLAZA
NEW YORK, NEW YORK 10278

NOTICE OF ISSUANCE OF FINAL HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984 (HSWA) PERMIT TO LENOX CHINA, A DIVISION OF LENOX, INC., POMONA, NEW JERSEY

The United States Environmental Protection Agency (EPA) Region II has decided to issue a final HSWA permit to the Lenox China, a Division of Lenox, Inc. (Lenox) facility in Pomona, New Jersey. Enclosed is a copy of the final HSWA permit and EPA's Responsiveness Summary. The Responsiveness Summary provides EPA's response to comments received by EPA during the public comment period (June 8, 1992 through July 27, 1992).

Any appeal of this decision must be filed to the USEPA Environmental Appeal Board at the address indicated below:

U.S. Environmental Protection Agency
Office of Administrator
Environmental Appeal Board (A-101)
401 M Street, SW
Room 1145 (West Tower)
Washington, DC 20460

Anyone wishing to appeal the permit decision should refer to the procedures set forth in 40 C.F.R. § 124.19. Within thirty (30) days after the date of this Notice, any person who filed comments on the draft HSWA permit may petition the Environmental Appeal Board to review any condition of the draft HSWA permit. Any person who failed to file comments on the draft HSWA permit may petition for administrative review only to the extent of the changes from the draft to the final HSWA permit.

The thirty (30) day period to request review of this final permit decision shall begin with the service of this Notice. (Note, for those parties receiving this Notice by mail, three (3) additional days will be added to the prescribed thirty (30) day period, as is provided for at 40 C.F.R. § 124.20(d).)

OCT 29 1992
Notice Date

Conrad Simon, Director
Air and Waste Management Division
U. S. Environmental Protection Agency
Region II
26 Federal Plaza
New York, New York 10278

FACT SHEET

Permittee: Lenox China, a Division of Lenox, Incorporated
Tilton Road
Pomona, New Jersey 08240

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RCRA FACILITY ASSESSMENT SUMMARY

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The PR, VSI and other inspections conducted at the site by EPA or NJDEPE were considered in the preparation of the RFA report for Lenox China. The RFA report, completed by EPA with support of NJDEP in March 1989, recommends assessment of potential releases for seven SWMUs and further investigative actions for four SWMUs. The RFA report is available for review at U.S. EPA Region II, Permits Administration Branch, Room 505, 26 Federal Plaza, New York, New York 10278.

HSWA PERMIT

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2. Certify annually that the generation of hazardous waste is minimized to the extent practicable and submit and implement a hazardous waste reduction plan;

3. Comply with the land disposal restrictions;

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The Permittee may submit identical documents to EPA and NJDEPE to satisfy the HSWA and post-closure permit requirements. Any plans or reports to be submitted pursuant to the HSWA and the post-closure permits will be jointly reviewed and approved by the EPA

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II

JACOB K. JAVITS FEDERAL BUILDING

NEW YORK, NEW YORK 10278

RESPONSIVENESS SUMMARY
FOR
HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984 PERMIT
FOR LENOX CHINA, A DIVISION OF LENOX, INC.
POMONA, NEW JERSEY
NJD002325074

A. Background

Under the Solid Waste Disposal Act (the "Act"), as amended by the Resource Conservation and Recovery Act ("RCRA") and the Hazardous and Solid Waste Amendments of 1984 ("HSWA"), 42, U.S.C. §§ 6901 et seq., the United States Environmental Protection Agency ("EPA") Region II proposed issuance of a HSWA permit to the Pomona, New Jersey Lenox China facility, a Division of Lenox, Inc. ("Lenox"). The draft HSWA permit includes corrective action requirements for the 15 Solid Waste Management Units ("SWMUs") at the Lenox facility, waste minimization, land disposal restrictions, organic air emission standards for process vents and equipment leaks, toxicity characteristic standards, and other applicable standards under the Act. The HSWA permit, in conjunction with the permit to be jointly issued by the New Jersey Department of Environmental Protection and Energy ("NJDEPE") under the New Jersey Pollutant Discharge Elimination System ("NJPDES")/Discharge to Groundwater ("DGW") program for post-closure care of the RCRA surface impoundments, will constitute a full RCRA post-closure permit for the facility.

The availability of the draft HSWA permit was public noticed on June 11, 1992 in the newspaper Atlantic City Press and radio announced on June 8, 1992. The comment period closed on July 27, 1992.

EPA has received written comments on the draft HSWA permit only from Lenox, Inc. This Responsiveness Summary document provides EPA's response to the comments.

Conrad Simon, Director
Air and Waste Management Division
U. S. Environmental Protection Agency
Region II

9/21/92
Date

PRINTED ON RECYCLED PAPER

B. Comments and Response

(The following comments came in a letter dated July 20, 1992 from Lenox, Inc. EPA's response follows each of the comments.)

1. **Comment** (phrased)

"Lenox believes that where the two Permits requires the production of substantially similar documents within a similar time frame, it will be more efficient and effective to submit a single document to both the USEPA and the NJDEPE. The document would be captioned for both agencies and would meet all of the requirements of each Permit. This single submission of each work item will minimize the need continually to make cross references, facilitate review by both agencies and enable the NJDEPE to communicate more efficiently both agencies' comments to Lenox. It is our understanding that the NJDEPE will be sending the comments for both agencies on each submission as described in the DEPE letter of April 23, 1992 to Lenox (copy attached).

Lenox requests that a separate paragraph be included in each Permit specifically permitting the submission by Lenox of single documents as described in the immediately preceding paragraph. For the USEPA Permit, this paragraph should follow the third (3rd) full paragraph in the Background section on Page 1 of the Fact Sheet. For the NJDEPE DGW Permit, this paragraph should follow the first full paragraph on Page 5 of the Fact Sheet."

Response

EPA agrees that, since both permits - the HSWA permit and the NJPDES/DGW permit - require corrective action at the site, one document will be sufficient to address the requirements of the both permits. Documents submitted pursuant to these permits will be reviewed and approved jointly by the EPA and the NJDEPE, and one comment letter addressing EPA's and NJDEPE's concerns will be sent to the company. A section, Coordination between EPA and NJDEPE, has been added to the Fact Sheet and Module II of the HSWA permit, to reflect this.

2. **Comment** (phrased)

"FACT SHEET, Page 2, GENERATION AND MANAGEMENT OF WASTES: This section should recognize, after the first sentence, the fact that the principal lead-containing wastewater (glaze-containing wastewater) is treated in a separate on-site industrial waste treatment facility and the discharge from this facility has been diverted from the main on-site industrial waste treatment facility to the Atlantic County Utilities Authority treatment system, a POTW. All other industrial wastewaters are directed to the main on-site industrial waste treatment system, which is correctly described in this section."

Response

This comment does not clearly describe how the two categories of the wastewaters are being treated in the wastewater treatment plant. The comment seems to indicate two separate wastewater treatment plants at the facility. During the telephone conversation between Mr. Park of EPA and Mr. Kinkela of Lenox, Inc. on September 3, 1992, Mr. Kinkela indicated that the principal lead-containing wastewater (glaze-containing wastewater) is segregated from the other remaining wastewaters when these wastewaters are generated from the plant processes. The lead-containing wastewater is dewatered through a filter press. Sludge from the filter press is temporarily stored in a storage bin and eventually sent off-site for further treatment and disposal. The liquid phase from the filter press is stored in two tanks for pH balance before it is sent to the Atlantic County Utilities Authority treatment system, a POTW. All other wastewaters are sent to the main wastewater treatment plant. The Fact Sheet and Module II of the HSWA permit have been revised to reflect this.

Based on the information stated above, EPA believes that the two tanks and the filter press associated with the processing of the lead-containing wastewater are SWMUs (see definition in Module I, Condition L.9.) which are subject to the requirements of HSWA. The available information indicates that these SWMUs have containment systems and have been operating for a relative short period of time. These factors and the fact that there are current interim measures managing the groundwater contamination suggests that the potential contribution of these SWMUs to existing contamination, and the risk associated, is minimal.

Thus, the HSWA permit will not require, at this time, any investigation of the specified media (see Module III, Condition A.3.c.). This, of course, does not prohibit the EPA from taking any warranted action or release Lenox, Inc. from any obligation under the permit and/or regulations should new information become available with regard to these two SWMUs.

Lenox, Inc. must submit information with respect to these SWMUs, pursuant to Conditions A.3.c.v and E.1.a of Module III of the HSWA permit.

3. **Comment** (phrased)

"FACT SHEET, Page 3, GROUNDWATER: This section should recognize that a trichloroethylene remediation system, already approved by the New Jersey Department of Environmental Protection and Energy, has been installed and is in operation to remediate the groundwater underlying parts of the facility."

Response

After review of the trichloroethylene remediation system and the NJDEPE's approval, EPA has accepted this comment and furthermore, EPA concurs with the NJDEPE's approval. The Fact Sheet and Module II of the HSWA permit have been revised to reflect this. In addition, Condition A.4 in Module III of the HSWA permit has been added to indicate that EPA concurs with the NJDEPE's approval on the trichloroethylene remediation system.

4. **Comment** (phrased)

"MODULE II-FACILITY DESCRIPTION, Page II-1, GENERATION AND MANAGEMENT OF WASTE: The same clarification denoted in the above Item 1 should be included."

Response

The final HSWA permit reflects this.

5 **Comment** (phrased)

"MODULE III-CORRECTIVE ACTION REQUIREMENTS FOR SOLID WASTE MANAGEMENT UNITS, Page III-4, ITEM A.3.c.9: This SWMU should be eliminated from the Permit in its entirety. Lenox submitted on October 8, 1987 information regarding the removal of the underground storage tanks to the NJDEPE which we believe properly documents that clean closure was effected. A copy of this October 8, 1987 submittal is enclosed with these comments."

Response

EPA agrees with Lenox, Inc., that the removal of the underground storage tanks under the NJDEPE Underground Storage Tank program satisfies the HSWA requirements, and thus, no additional measures are required for the underground storage tanks under the HSWA permit. Therefore, Condition A.3.c of Module III, the final HSWA permit has been revised to indicate that no action is required for underground storage tanks.

However, EPA refuses to eliminate the specified underground storage tanks from the HSWA permit. Eliminating the underground storage tanks from the HSWA permit would indicate that these units were not SWMUs. The tanks have been a potential environmental concern to EPA and the removal action taken by Lenox, Inc., under the State Underground Storage Tank program has adequately addressed this concern. This EPA review and determination must be reflected in the HSWA permit. In addition, Lenox, Inc., should recognize that any new findings, after the issuance of the final HSWA permit, showing that the area of the underground storage tanks is still contaminated, will require the Permittee to comply with all applicable corrective action requirements of the HSWA permit.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984 PERMIT

Permittee: Lenox China, a Division of
Lenox, Incorporated
Tilton Road
Pomona, New Jersey 08240

I.D. Number: NJD002325074
Effective Date: 10/29/92
Expiration Date: 10/29/97

This permit is issued by the United States Environmental Protection Agency ("EPA" or "Agency") under authority of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act ("RCRA") of 1976, and the Hazardous and Solid Waste Amendments ("HSWA") of 1984, 42 U.S.C. §§ 6901-6991 (the "Act") and EPA regulations promulgated pursuant thereto, to Lenox China, a Division of Lenox, Incorporated (hereafter called the "Permittee"), to operate a hazardous waste management facility located at Pomona, New Jersey.

In accordance with HSWA, this permit requires the Permittee to:

1. Determine the nature, extent, direction, and rate of migration of hazardous waste, including hazardous constituents, in soils, groundwater, surface water/sediment, subsurface gas and/or air at any solid waste management unit(s) at the facility regardless of the time waste was placed in such unit, and to develop appropriate corrective action for any such releases;

2. Certify annually that the generation of hazardous waste is minimized to the extent practicable, and submit and implement a hazardous waste reduction plan;

3. Comply with the land disposal restrictions;

4. Comply with the organic air emission standards for process vents and equipment leaks in accordance with the HSWA regulations promulgated on July 21, 1990;

5. Comply with the Toxicity Characteristic standards in accordance with the regulations promulgated on March 29, 1990; and

6. Comply with any other applicable statutory or regulatory requirements imposed pursuant to RCRA and HSWA.

This permit, in conjunction with the State post-closure permit to be jointly issued by the New Jersey Department of Environmental Protection and Energy ("NJDEPE" or the "Department") under the New Jersey Pollution Discharge Elimination System (NJPDES)/ Discharge to Groundwater (DGW), constitutes the full RCRA post-closure permit for this facility.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (Module I, pages 1 through 13; Module II, pages 1 through 3; Module III, pages 1 through 29; Module IV, page 1 through 2; Module V, pages 1 through 2; Module VI, page 1; Module VII, page 1, and the following appendices: Appendix A, Appendix B, Appendix C, and Appendix D) and the applicable regulations contained in 40 C.F.R. Parts 124, 260 through 264, 268, and 270 as specified in the permit. Applicable regulations are those which are in effect on the date of issuance of this permit, except as provided in 40 C.F.R. § 124.86(c) for RCRA permits being processed under Subpart E or F of Part 124 (see 40 C.F.R. § 270.32(c)). A permit may be modified, however, to incorporate new regulations pursuant to 40 C.F.R. § 270.41(a)(3) and 40 C.F.R. § 270.32 (c).

This permit is based on the assumption that the information provided in Permittee's applications, and all succeeding revisions and data submissions, is accurate. The Permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the Permittee's misrepresentation of any relevant facts at any time may be grounds for the termination, revocation and reissuance, or modification of this permit (see 40 C.F.R. §§ 270.41, 270.42 and 270.43) and potential enforcement action. The Permittee must inform EPA of any deviation from or changes in the information which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

This permit is effective as of 10/29/92 and shall remain in effect until 10/29/97 unless revoked and reissued, modified or terminated in accordance with 40 C.F.R. §§ 270.41, 270.42 or 270.43, or continued in accordance with 40 C.F.R. § 270.51(a).

Conrad Simon, Director
Air and Waste Management Division
U. S. Environmental Protection Agency
Region II

Date 9/21/92

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MODULE I - STANDARD CONDITIONS

A. EFFECT OF PERMIT. This Permit authorizes only the management of hazardous waste expressly described in this Permit and does not authorize any other activities. Compliance with the terms of this Permit constitutes compliance, for purposes of enforcement with Subtitle C ("Hazardous Waste Management") of the Act. Issuance of this Permit does not convey any property rights of any sort, or any exclusive privilege; nor does it authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local laws or regulations. 40 C.F.R. §§ 270.4, 270.30(g). Compliance with the terms of this Permit does not constitute a defense to any action brought under Sections 3013, 3008(h) or 7003 of the Act (42 U.S.C. §§ 6934, 6928(h), and 6973), Sections 106(a), 104, 107 and/or 122 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") of 1980 (42 U.S.C. §§ 9601 et seq.), as amended, or any other law and corresponding regulations governing protection of public health and the environment.

B. PERMIT ACTIONS. This Permit may be modified, revoked and reissued, or terminated for cause as specified in 40 C.F.R. §§ 270.41, 270.42 and 270.43. The filing of a request for a permit modification, revocation and reissuance, termination the notification of planned changes, anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any condition of this Permit. 40 C.F.R. §270.30(f). Review of any application for a permit renewal shall consider improvements in the state of control and measurement technology, as well as changes in applicable regulations.

C. PERMIT CONDITIONS. Pursuant to Section 3005(c)(3) of the Act, 42 U.S.C. § 6925(c)(3), promulgated as regulation 40 C.F.R. § 270.32(b), this Permit contains those terms and conditions the Regional Administrator determines necessary to protect human health and the environment. If not otherwise specified in this Permit, all the requirements of 40 C.F.R. §§ 270.30, 270.31, 270.32 and 270.33 are hereby incorporated into this Permit by reference.

D. PERMIT SUBMITTALS.

1. Effect of Permit. All plans, reports and schedules required by the terms of this Permit are, upon approval by EPA, except as otherwise noted in this Permit where approval is not required, incorporated by reference into this Permit. Upon incorporation, the provisions of each such document shall be binding upon Permittee and have the same legal force and effect as the requirements of this Permit.

2. Submittal Modifications. Permittee shall submit draft plans and reports required by this Permit to EPA for review and comment. Unless otherwise specified, EPA shall review any plan, report, specification or schedule submitted pursuant to, or required by this Permit, and provide its written approval/disapproval, comments and/or modifications to the Permittee. Unless otherwise specified by EPA, the Permittee shall submit a revised proposal within thirty (30) calendar days of its receipt of EPA's written comments and/or modifications. Any such revised proposal submitted by the Permittee shall incorporate EPA's comments and/or modifications. EPA will then approve the revised proposal or modify the proposal and approve it with any such modifications. The revised proposal, as approved by EPA, shall become final. All final approvals shall be given to the Permittee in writing.

E. SEVERABILITY. The provisions of this Permit are severable, and if any provision of this Permit or the application of any provision of this Permit to any circumstance is stayed or held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby. 40 C.F.R. § 124.16(a).

F. DUTIES AND REQUIREMENTS.

1. Duty to Comply. The Permittee shall comply with all conditions of this Permit, except that the Permittee need not comply with the conditions of this Permit to the extent and for the duration such noncompliance is authorized in an emergency permit (see 40 C.F.R. § 270.61). Any noncompliance with this Permit, except under the terms of an emergency permit, constitutes a violation of the Act and is grounds for: 1) an enforcement action; 2) permit termination, revocation and reissuance, modification; or 3) denial of a permit renewal application. 40 C.F.R. § 270.30(a).

2. Duty to Reapply. If the Permittee wishes to continue an activity regulated by this Permit after the expiration date of this Permit, the Permittee shall submit a complete application for a new permit at least one hundred and eighty (180) days before this Permit expires, unless the Regional Administrator grants permission for a later date which is not later than the expiration date of the existing permit. 40 C.F.R. §§ 270.10(h) and 270.30(b).

3. Permit Expiration and Continuation. This Permit will be in effect for the time period stated on page i, which must not exceed ten (10) years. Each permit for a land disposal facility shall be reviewed by the Regional Administrator five (5) years after the date of permit issuance or reissuance and shall be modified as necessary, as provided in 40 C.F.R. § 270.41 (40 C.F.R. § 270.50). However, as set forth in 40 C.F.R. § 270.51, as long as EPA is the permit issuing authority for HSWA, this Permit and all conditions herein will remain in effect beyond this Permit's expiration date if the Permittee has submitted a timely, complete application (40 C.F.R. §§ 270.13 through 270.23 and 270.10) and through no fault of the Permittee, the Regional Administrator has not issued a new permit as set forth in 40 C.F.R. § 124.15.

   If the State, at the time of permit renewal, has permitting authority under 40 C.F.R. Part 271 for HSWA, and if the Permittee has submitted a timely and complete application under State law and regulations, the terms and conditions of this Permit continue in force beyond the expiration date of the Permit, but only until the effective date of the State's issuance or denial of a State permit which includes measures pursuant to HSWA.

4. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit. 40 C.F.R. § 270.30(c).

5. Duty to Mitigate. In the event of noncompliance with this Permit, the Permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment. 40 C.F.R. § 270.30(d).

6. Proper Operation and Maintenance. The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Permit. 40 C.F.R. § 270.30(e).

7. Duty to Provide Information. The Permittee shall furnish to the Regional Administrator, within a reasonable time, any relevant information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittee shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this Permit. 40 C.F.R. §§ 270.30(h) and 264.74(a).

8. Inspection and Entry. The Permittee shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

   a. Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;

   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;

   c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

   d. Sample or monitor, at reasonable times, for the purposes of assuring compliance with this Permit or as otherwise authorized, any substances or parameters at any location.

   40 C.F.R. §§ 270.30(i)(1-4) and 264.74(a).

9. Monitoring and Records.

a. Representativeness of Samples and Measurements. Samples and measurements taken for the purpose of monitoring all media shall be representative of the monitored activity. 40 C.F.R. § 270.30(j)(1). The method used to obtain a representative sample of the waste or environmental media to be analyzed must be the appropriate method from Appendix I of 40 C.F.R. Part 261 or an equivalent method approved by the Regional Administrator. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (EPA Publication SW-846, as currently amended), or an equivalent method approved by the Regional Administrator. 40 C.F.R. §§ 260.21 and 270.6.

b. Quality Assurance Program. The Permittee shall conduct a quality assurance program to ensure that the monitoring data are technically accurate and statistically valid. The quality assurance program shall be in accordance with Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (EPA Publication SW-846, as currently amended) and other requirements specified in this Permit and approved by EPA. 40 C.F.R. §§ 270.30(e) and 270.6.

c. Minimum QA/QC Submittals. The minimum Quality Assurance/Quality Control data and information that shall be delivered with all sample analyses required by this Permit are tabulated in Appendix D of this Permit.

d. Retention of Records. The Permittee shall retain, for the effective term of this Permit, all records and data used to complete the application for this Permit. 40 C.F.R. §§ 270.10(i) and 270.30(j)(2).

The Permittee shall also retain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and for disposal facilities for the post-closure care period as well. 40 C.F.R. § 270.30(j)(2).

In addition the Permittee shall also retain records of all other media monitoring, if required, including calibration and maintenance records and all original strip chart recordings for continuous air monitoring instrumentation, copies of all reports and records required by this Permit, and the certification required by 40 C.F.R. § 264.73(b)(9), for the life of the facility. 40 C.F.R. § 270.30(j)(2). These periods may be extended by requests of the Regional Administrator at any time and are automatically extended during the course of unresolved enforcement action regarding the facility.

Records to be kept for the active life of the facility include only raw data (i.e., laboratory and field measurements) results. QA/QC data validation records need only be kept for the effective term of this Permit.

e. Contents of Monitoring Records. Records for monitoring information shall include:

i. The date, exact place, and time of sampling or measurements;

ii. The individual(s) who performed the sampling or measurements;

iii. The date(s) analyses were performed;

iv. The individual(s) who performed the analyses;

v. The sampling techniques or methods used;

vi. The analytical techniques or methods used; and

vii. The results of such analyses.

40 C.F.R. § 270.30(j).

f. Monitoring Reports. Monitoring results must be reported at the intervals specified elsewhere in this Permit. 40 C.F.R. § 270.30(l)(4).

10. Reporting Planned Changes. The Permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility. 40 C.F.R. § 270.30(l)(1).

11. Anticipated Noncompliance. The Permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with this Permit's requirements. This notice must include a description of all incidents of noncompliance reasonably expected to result from the proposed changes. 40 C.F.R. § 270.30(l)(2).

12. Transfer of Permit. This Permit is not transferable to any person unless notice has been given to the Regional Administrator and this Permit has been modified, or revoked and reissued, or a modification made to identify the new permittee and to incorporate such other requirements as may be necessary. 40 C.F.R. §§ 270.30(l)(3) and 270.40.

13. Compliance Schedules. Reports of compliance or noncompliance with or any progress reports on, interim and/or final requirements contained in any compliance schedule of this Permit shall be submitted no later than fourteen (14) calendar days following each schedule date. 40 C.F.R. §§ 270.30 (l)(5) and 270.33(a)(3).

The Permittee shall comply with all parts of the Compliance Schedule included in Appendix C of this Permit.

14. Immediate Reporting of Releases.

a. Whenever there is an imminent or actual emergency situation, the emergency coordinator as designated in the contingency plan (or a designee when the emergency coordinator is on call) must immediately:

i. Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

ii. Notify appropriate State or local agencies with designated response roles if their help is needed.

40 C.F.R. §264.56(a)(1-2).

b. If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, the coordinator must report the findings as follows:

i. If the coordinator's assessment indicates that evacuation of local areas may be advisable, she/he must immediately notify appropriate local authorities. She/he must be available to help appropriate officials decide whether local areas should be evacuated; and

ii. The coordinator must immediately notify either the government official designated as the on-scene coordinator for that geographical area in the applicable regional contingency plan or the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include:

(1) Name and telephone number of reporter;

(2) Name and address of facility;

(3) Time and type of incident (e.g., release, fire);

(4) Name and quantity of material(s) involved, to the extent known;

(5) The extent of injuries, if any; and

(6) The possible hazards to human health, or the environment, outside the facility.

40 C.F.R. § 264.56(d).

15. Twenty-four Hour Reporting.

a. The Permittee shall orally report to the Regional Administrator any noncompliance with this Permit which may endanger health or the environment within 24 hours from the time the Permittee becomes aware of the circumstances, including:

i. Information concerning the release of any hazardous waste, including hazardous constituents, that may cause an endangerment to public drinking water supply sources;

ii. Any information of a release or discharge of hazardous waste, including hazardous constituents, or a fire or explosion at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence

and its cause shall include:

(1) Name, address, and telephone number of the owner or operator;

(2) Name, address, and telephone number of the facility;

(3) Date, time, and type of incident;

(4) Name and quantity of material(s) involved;

(5) The extent of injuries, if any;

(6) An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and

(7) Estimated quantity and disposition of recovered material that resulted from the incident.

40 C.F.R. § 270.30(l)(6)(i-ii).

b. A written submission shall also be provided to the Regional Administrator within five (5) calendar days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times; and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Permittee need not comply with the 5-day written notice requirement if the Regional Administrator waives that requirement in favor of a written report within fifteen (15) calendar days of the time the Permittee becomes aware of the circumstances. 40 C.F.R. § 270.30(l)(6)(iii).

16. Additional Noncompliance Reporting. The Permittee shall report all instances of noncompliance not required to be reported under Module I, Conditions F.9.f, F.13 or F.15. Such additional noncompliance shall be reported at the time monitoring and noncompliance reports are submitted. The reports shall contain the information listed in Module I, Condition F.15, and all other relevant information. 40 C.F.R. §

270.30(1)(10).

17. Other Information. Whenever the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Regional Administrator, the Permittee shall promptly submit such new or correct facts or information to the Regional Administrator. 40 C.F.R. § 270.30(1)(11).

G. DOCUMENTS TO BE MAINTAINED AT THE FACILITY. The Permittee shall maintain at the facility all documents required by this Permit, and amendments, revisions and modifications to these documents.

H. REPORTS, NOTIFICATIONS AND SUBMISSIONS TO THE REGIONAL ADMINISTRATOR. All reports, notifications or other submittals required by this Permit are to be submitted to the Regional Administrator unless otherwise directed in this Permit and sent certified mail or given to:

Two (2) copies:

United States Environmental Protection Agency
Air and Waste Management Division
Hazardous Waste Facilities Branch
Region II
26 Federal Plaza
New York, New York 10278

Copies shall also be sent to the following addresses:

One (1) copy:

United States Environmental Protection Agency
Office of Policy and Management
Permits Administration Branch
Region II
26 Federal Plaza
New York, New York 10278

One (1) copy:

New Jersey Department of Environmental Protection
Hazardous Waste Regulation Element
Bureau of Hazardous Waste Engineering
33 Arctic Parkway
CN-028
Trenton, New Jersey 08624

One (1) copy:

New Jersey Department of Environmental Protection
Ground Water Quality Element
Bureau of Groundwater Pollution Abatement
401 East State Street
Cn-029
Trenton, New Jersey 08625

I. SIGNATORY REQUIREMENTS. All reports, or information submitted to the Regional Administrator shall be signed and certified in accordance with 40 C.F.R. §§270.11. 40 C.F.R. § 270.30(k).

J. CONFIDENTIAL INFORMATION. The Permittee may claim confidential any information required to be submitted by this Permit in accordance with 40 C.F.R. § 270.12 and 40 C.F.R. Part 2, Subpart B.

K. PERMIT MODIFICATION. This Permit may be modified as allowed under 40 C.F.R. §§ 270.41 and 270.42, or as specified in Conditions E.9 and E.10 of Module III of this Permit. Modifications to this Permit may be made by the Regional Administrator for cause in accordance with 40 C.F.R. § 270.41. Modifications to this Permit may also be requested by the Permittee as is provided for in 40 C.F.R. § 270.42.

L. DEFINITIONS. For the purpose of this Permit, terms used herein shall have the same meaning as those set forth in 40 C.F.R. Parts 260 through 270, unless this Permit specifically states otherwise; where terms are not otherwise defined, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

1. Action Levels. For purposes of this Permit, action levels are hazardous constituent concentrations that are protective of human health or the environment. Where available, action levels are based on appropriate promulgated standards established for a specific environmental medium. When such promulgated standards are not available, action levels are media specific, hazardous constituent concentrations derived from non-promulgated human health-based levels and environmental -based levels. An action level may be set at the background level for a hazardous constituent for which data are inadequate to set a human health or environmental health-based level.

2. Area of Concern (AOC). Pursuant to the authority granted by 40 C.F.R. § 270.32(b)(2), an area of concern is hereby defined for purposes of this permit to mean an area at the facility or an off-site area, which is not at this time known to be a solid waste management unit (SWMU), where hazardous waste and/or hazardous constituents are present or are suspected to be present as a result of a release from the facility. The term shall include area(s) of potential or suspected contamination as well as actual contamination. Such area(s) may require study and a determination of what, if any corrective action may be necessary. All permit references to, and conditions for SWMUs shall also apply to areas of concern.

3. EPA. The United States Environmental Protection Agency.

4. Facility. All contiguous land, structures, other appurtenances, and improvements on the land used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments or combination of them). For the purposes of implementing Corrective Action "Facility" means all contiguous property under the control of the owner or operator seeking a permit under Subtitle C of RCRA.

5. Hazardous Constituents Those constituents identified in Appendix VIII of 40 CFR Part 261, or any constituent identified in Appendix IX of 40 CFR Part 264.

6. Hazardous Waste. For the purposes of Corrective Action and SWMUs, hazardous waste means a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. The term hazardous waste includes hazardous constituents as defined above and hazardous waste listed and identified in 40 C.F.R. § 261.3.

7. Regional Administrator. The Regional Administrator of the United States Environmental Protection Agency for Region II, his designee or authorized representative.

8. Release. For purposes of this Permit release includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents), of any hazardous waste, including hazardous constituent, unless expressly authorized under the terms of this Permit.

9. Solid Waste Management Unit (SWMU). A SWMU includes any discernible waste management unit from which solid and/or hazardous waste, including hazardous constituents, have migrated or may migrate, irrespective of whether the unit was intended for the management of hazardous or solid wastes as those terms are defined in § 1004(5) and (27) of RCRA, 42 U.S.C. § 6903(5) and (27) and in 40 C.F.R. §§ 261.2 and 261.3. These units include, but are not limited to: landfills, surface impoundments, waste piles, land treatment units, tanks, elementary neutralization units, transfer stations, container storage areas, incinerators, injection wells, recycling units, and closed and abandoned units. Certain areas associated with production processes which have become contaminated as a result of routine, and systematic releases of wastes, or hazardous constituents from wastes, are also considered SWMUs. All permit references to, and conditions for SWMUs shall also apply to AOCs.

M. DISPUTE RESOLUTION. The Permittee shall use its best efforts to informally and in good faith resolve all disputes or differences of opinion. If, however, disputes arise concerning submissions required under this Permit, including, but not limited to, implementation of any plans, approval of documents, scheduling of any of the work, selection, performance or completion of any corrective action, or any other obligation required under this Permit, the Permittee shall notify EPA immediately of such disputes and, within thirty (30) calendar days of notification, the Permittee shall submit a written statement to the EPA, that argues its position. The written argument shall set forth the Permittee's specific points of contention; the Permittee's position and reason for its position; and any additional matters that the Permittee considers necessary or relevant for the EPA's determination. If the dispute cannot be resolved informally within sixty (60) calendar days of EPA receipt of the written argument, EPA will provide the Permittee its decision on the dispute which shall be incorporated into this Permit.

MODULE II - FACILITY DESCRIPTION

A. GENERAL DESCRIPTION

The facility (Lenox China, a Division of Lenox, Incorporated) is located on Tilton Road, in Pomona, Atlantic County, New Jersey on fifty six (56) acres of land. The facility has been manufacturing since 1954 ceramic dinnerware and giftware. The dinnerware includes fine china and casual dinnerware, and the giftware includes vases, bowls, serving pieces, candy dishes, and special collections. Processes involved in the manufacture of the products are blending of earthen clay and alumino-silicates, molding and plastering, firing, coating and glazing with glass formed from lead compounds, and etching to add patterns and designs.

B. GENERATION AND MANAGEMENT OF WASTES

The coating and glazing process generates lead-containing wastewater. The principal lead-containing wastewater (glaze-containing wastewater) is segregated from the other remaining wastewaters when these wastewaters are generated from the plant processes. The lead-containing wastewater is dewatered through a filter press. Sludge from the filter press is temporarily stored in a storage bin and eventually sent off-site for further treatment and disposal. The liquid phase from the filter press is stored in two tanks for pH balance before it is sent to the Atlantic County Utilities Authority treatment system, a POTW. All other industrial wastewaters are directed to the main on-site industrial waste treatment plant for treatment. The treated wastewater is discharged to a surface water course through the point source permitted by the New Jersey Department of Environmental Protection and Energy (NJDEPE) under the New Jersey Pollution Discharge Elimination System (NJPDES)/Discharge to Surface Water (DSW). The sludge generated from the industrial waste treatment plant is dewatered and sent off-site for disposal. The industrial waste treatment plant has been upgraded twice. The oldest industrial waste treatment plant (1954-1970) consisted of the Glaze Basin, the Slip Basin, and the Tilton Road Pond. The next industrial waste treatment plant (1970-1987) consisted of the Slip Basin, Equalization Sump, the Clarifier, Vacuum Filter, the Polishing Lagoon, and the Tilton Road Pond. The present industrial waste treatment plant consists of the New Sump, the Surge Tank, the Clarifiers, Vacuum Filter, the Polishing Lagoon, and the Tilton Road Pond.

The etching process uses trichloroethylene as a degreaser and generates sludges containing trichloroethylene. The sludge is collected in a drum located in the degreaser sludge pit outside the production process building. Once the drum at the degreaser sludge pit is filled, the drum is removed by a forklift to the

drum storage area. Drums containing the sludge are stored in the drum storage area and eventually are sent off-site for disposal.

C. RCRA REGULATED UNITS AND THEIR STATUS

The Glaze Basin and the Slip Basin are RCRA regulated units and are subject to the State-delegated RCRA program. The Glaze Basin and the Slip Basin were closed in 1988 and in 1990 respectively. NJDEPE issued a permit in July 1990 to require post-closure groundwater monitoring for the Glaze Basin. Post-closure care requirements for the Slip Basin will be required by the State post-closure permit to be jointly issued with this HSWA permit. The drum storage area was subject to permit requirements but was closed and decontaminated. It is currently being used to store hazardous waste less than 90 days. The waste in the storage area is eventually sent off-site for disposal.

D. GROUNDWATER

The groundwater underlying parts of the facility is contaminated with trichloroethylene. The investigations conducted by Lenox China show that the groundwater contamination might have been caused by releases from the drum storage area and the degreaser sludge pit. The trichloroethylene remediation system, proposed by the facility and subsequently approved by NJDEPE, is currently in operation. The trichloroethylene remediation system consists of pumping of groundwater, treatment with air stripping, and reinjection of treated groundwater through an injection trench. After review of the remediation system, EPA has concurred with the NJDEPE's approval. This HSWA permit, with the NJDEPE post-closure permit to be jointly issued by NJDEPE, will require the Permittee to continue the remediation system for contaminated groundwater.

E. RCRA FACILITY ASSESSMENT SUMMARY

Section 3004(u) of the Act, 42 U.S.C. § 6924(u) and its corresponding regulations published in 40 C.F.R. § 264.101 require corrective action for all releases of hazardous wastes or hazardous constituents from any solid waste management unit ("SWMU"), regardless of when wastes were placed in the unit. The corrective action implementation process includes a RCRA Facility Assessment ("RFA"), a RCRA Facility Investigation ("RFI"), a Corrective Measures Study ("CMS"), and a Corrective Measures Implementation ("CMI") phase.

The RFA for the Pomona, New Jersey Lenox China facility was a two-phase study which included a Preliminary Review ("PR") and a Visual Site Inspection ("VSI"). EPA and NJDEP completed the PR report in January 1986. A VSI was conducted on January 8, 1986, during which all of the previously discovered SWMUs were observed. Based on the PR and VSI, the SWMUs were characterized

as to their release potential and evaluated as to which media could potentially be impacted by such potential releases.

The PR, VSI and other inspections conducted at the site by EPA or NJDEP were considered in the preparation of the RFA report for Lenox China. The RFA report, completed by EPA with support of NJDEP in March 1989, recommends assessment of potential releases for seven SWMUs and further investigative actions for four SWMUs. The RFA report is available for review at U.S. EPA Region II, Permits Administration Branch, Room 505, 26 Federal Plaza, New York, New York 10278.

F. PERMIT STATUS

In February 1985, NJDEP was authorized by EPA to implement the State hazardous waste RCRA program in lieu of the EPA's RCRA program. However, the State has not been delegated the program required by HSWA. Therefore, this HSWA permit, in conjunction with the post-closure permit to be issued by NJDEP, will constitute the full RCRA post-closure permit for the facility.

The State post-closure permit, to be jointly issued with this HSWA permit, requires post-closure care for the Slip Basin and groundwater monitoring. In addition, the State permit will also require implementation of a corrective action program similar to the one required by this HSWA permit.

G. HSWA PERMIT

This HSWA permit requires the Permittee to:

1. Determine the nature, extent, direction, and rate of migration of hazardous waste, including hazardous constituents, in soils, groundwater, surface water/sediment, subsurface gas and/or air at any solid waste management unit(s) at the facility regardless of the time waste was placed in such unit, and to develop appropriate corrective action for any such releases;

2. Certify annually that the generation of hazardous waste is minimized to the extent practicable and submit and implement a hazardous waste reduction plan;

3. Comply with the land disposal restrictions;

4. Comply with the organic air emission standards for process vents and equipment leaks in accordance with the HSWA regulations promulgated on July 21, 1990;

5. Comply with the Toxicity Characteristic standards in accordance with the regulations promulgated on March 29, 1990; and

6. Comply with any other applicable statutory or regulatory requirements imposed pursuant to RCRA and HSWA.

H. COORDINATION BETWEEN EPA AND NJDEPE

The post-closure permit to be jointly issued by NJDEPE with the HSWA permit also requires corrective action at the site, addressing SWMUs and the contaminated groundwater. Since the corrective action requirements in the post-closure permit are similar to those in the HSWA permit, EPA and NJDEPE will coordinate to ensure that actions or investigations to be taken by the Permittee address federal and state requirements.

The Permittee may submit identical documents to EPA and NJDEPE to satisfy the HSWA and post-closure permit requirements. Any plans or reports to be submitted pursuant to the HSWA and the post-closure permits will be jointly reviewed and approved by the EPA and the NJDEPE. Any technical conflicts will be resolved between the agencies before communication with Lenox.

MODULE III - CORRECTIVE ACTION REQUIREMENTS FOR SOLID WASTE MANAGEMENT UNITS

A. APPLICABILITY

1. Statute and Regulations. Section 3004(u) of the Act, 42 U.S.C. § 6924(u), and its corresponding regulations published in 40 C.F.R. § 264.101 require corrective action for all releases of hazardous wastes, including hazardous constituents, from any solid waste management unit ("SWMU") at a storage, treatment or disposal facility seeking a permit, regardless of the time at which waste was placed in such unit. Section 3004(v) of the Act, 42 U.S.C. § 6924(v) requires that corrective action be taken beyond the facility boundary where necessary to protect human health and the environment. Pursuant to Section 3005(c) of the Act, 42 U.S.C. § 6925(c), and its corresponding regulations published in 40 C.F.R. § 270.32(b)(2), the Regional Administrator may impose terms and conditions as the Administrator determines necessary to protect human health and the environment.

2. Summary of Corrective Action Process. Corrective action implementation authorized by Section 3004(u) of the Act, 42 U.S.C. § 6924(u) includes: (a) the RCRA Facility Assessment ("RFA"); (b) the RCRA Facility Investigation ("RFI"); and (c) the Corrective Measures ("CM"). The RFA is a three phase process that includes: (a) the Preliminary Review ("PR"); (b) the Visual Site Inspection ("VSI"); and (c) the Sampling Visit ("SV"). The PR is a review of all available information on the individual SWMU(s). During the PR, and in subsequent phases of the RFA, all of the media (i.e., soil, groundwater, surface water/sediment, air and subsurface gas) that could potentially be impacted by the release(s) of hazardous wastes, including hazardous constituents, are evaluated. Based on this review, the SWMUs are characterized as to their release potentials.

   Following the PR, a VSI is conducted during which all of the SWMUs, either previously or newly discovered, are observed. While performing this reconnaissance, any signs of spills or leakage, stained soil, stressed vegetation, unit deterioration, or any other conditions that may be indicative of a release are assessed. By means of these observations and the findings of the PR, EPA may require the facility to conduct a Sampling Visit at the areas where releases are suspected.

The SV can involve any or all of the previously described media at any given SWMU. For those units where releases are clearly demonstrated in the PR and/or VSI, the SV can be avoided leaving the unit(s) to be addressed in the RFI.

The RFA includes preparing the RFA report. This report includes the findings of the various RFA activities and recommendations for further action at those units with demonstrated releases of hazardous wastes, including hazardous constituents. In some cases, where an immediate threat to human health or the environment exists, interim corrective measures may be required.

If the RFA concludes that there is a need for further investigative work, the Permittee shall be required to pursue phase two of corrective action, an RFI. The purpose of the RFI is to determine the nature, extent, direction, and rate of migration of hazardous wastes, including hazardous constituents, in soils, groundwater, surface water/sediment, subsurface gas and/or air. Based on these multimedia analyses, the types and concentrations of contaminants present, the boundaries of any contamination (e.g., plumes), and the rate and direction of contaminant movement can be determined in each of the impacted media. Sufficient data shall be generated during the RFI to allow proper assessment of corrective measure alternatives. This may require bench and/or pilot studies to be implemented as part of the RFI. Once all these analyses are reviewed, a RFI report is prepared that provides a summation of the data and recommendations for any needed corrective measures.

The culmination of the Corrective Action Program is Corrective Measures ("CM"). The initial stage of the Corrective Measures phase is the preparation of a Corrective Measures Study ("CMS"). A CMS may be required if concentrations of hazardous constituents in an aquifer, in surface water/sediment, in soils, or in air exceed their action levels for any contaminated medium. Such a study may also be required if individual concentrations of hazardous constituents are at or below action levels, but still may pose a threat to human health or the environment due to site specific exposure conditions. The CMS will address alternative corrective measure strategies that are technologically feasible and reliable and which effectively mitigate and minimize damage to, and provides adequate protection of, human health and the environment. The Permittee will develop the site-specific CMS using target cleanup levels chosen by the Regional

Administrator to be protective of human health and the environment. Where available, they may be promulgated health-based standards, such as Maximum Contaminant Levels ("MCLs") established under the Safe Drinking Water Act. Where promulgated standards are not available, EPA may use other health-based levels, based on Risk-Specific Doses ("RSD") for carcinogens, and Reference Doses ("RfD") for systemic toxicants, or concentration levels protective of the environment, that have undergone scientific review. The CMS report should provide a discussion of the alternative corrective measure strategies studied, addressing technical, institutional, public health, and environmental issues, and develop the conceptual engineering for the alternative action selected by the facility. The CMS may not require extensive evaluation of a number of remedial alternatives where a solution is straight forward or if few solutions exist. Such situations could require the Permittee to submit a highly focused CMS.

Following completion of the CMS, the Regional Administrator will select the corrective measure(s) from the corrective measures evaluated in the CMS. The Regional Administrator will then initiate a permit modification for the selected corrective measure(s). Subsequent to the permit modification, the owner or operator of the facility will be required to demonstrate financial assurance for completing the approved corrective measure(s).

Permit modification for the approved corrective measure(s) will initiate the final stage of corrective measures, Corrective Measures Implementation ("CMI"). The CMI will address the final design, construction, operation, maintenance, and monitoring of the corrective measure or measures selected.

3. Solid Waste Management Units. The conditions of this Module apply to:

   a. All the SWMUs listed in this Module individually or in combinations;

   b. Any additional SWMUs identified during the course of groundwater monitoring, field investigations, environmental audits or other means as described in Module Condition C. below; and

   c. The following SWMUs were identified in the RFA report dated March 1989 or added as a result of information obtained during the public comment

period. The descriptions of the SWMUs and recommended actions to be required under the RFI are provided below:

SWMU Name	Type*	Media to be Investigated: GW*	Soil	SW/S*	Air	SS/G*
1. Degreaser Sludge Pit	S	Yes	Yes	No	No	No
2. Sludge Disposal Area	LD	Yes	Yes	No	No	No
3. Waste Pile	LD	Yes	Yes	No	No	No
4. Polishing Lagoon	LD	SWMU Assessment Necessary				
5. Tilton Road Pond	LD	SWMU Assessment Necessary				
6. Underground Effluent Transfer Pipe		SWMU Assessment Necessary				
7. Equalization Sump	Tank	SWMU Assessment Necessary				
8. Piping		SWMU Assessment Necessary				
9. Underground Storage Tanks	Tank	No	No	No	No	No
10. Glaze Basin	LD	RCRA Regulated Unit				
11. Slip Basin	LD	RCRA Regulated Unit				
12. Drum Storage Area	S	RCRA Regulated Unit				
		Yes	Yes	No	No	No
14. Two Tanks (Neutralization)	Tank	Preliminary Information				
15. Filter Press	S	Preliminary Information				
Area of Concern						
13. Area between Monitoring Well #10 and Aloe Street	LD	SWMU Assessment Necessary				

*GW:Groundwater;SW/S:Surface Water/Sediment;SS/G:Subsurface Gas
LD:Land Disposal;S:Storage

i. A first phase RFI (SWMU Assessment) is required for SWMU #4 through #8 and Area of Concern #13. The purpose of the first phase RFI is to confirm any releases from these SWMUs. The first phase RFI differs from a full RFI in the extent and degree of investigations required. Its purpose is for confirmatory sampling, to identify if releases have occurred. The Permittee shall follow Conditions C.3, C.4, C.5, and C.6 of this Module for the first phase RFI.

ii. A full RFI is required for SWMU #1 through #3 and SWMU #12. The purpose of the full RFI is to determine the nature, rate, direction, and extent of migration of hazardous waste, including or hazardous constituents. The Permittee shall follow Conditions E.1, E.2, and E.3 of this Module for the full RFI.

iii. SWMUs #10 and #11 are RCRA-regulated units. These units were closed and the closure certifications were submitted. Currently, groundwater is being monitored and will continue to be monitored through a post-closure care period. Within thirty (30) calendar days of the effective date of this Permit, the Permittee shall provide EPA with all groundwater data available for these units, and shall continue to provide EPA with a copy of groundwater data which is required by the State NJPDES/DGW permits. EPA may require additional action, if deemed necessary.

iv. SWMU #9 was closed under the State Underground Storage Tank program, and therefore, no action is required for this SWMU. However, if new information obtained after the issuance of this HSWA permit shows contamination associated with the SWMU, additional action will be required under this HSWA permit, as deemed necessary.

v. SWMUs #14 and #15 do not require an investigation of any of the specified media at this time. The Permittee is required to submit the information specified in 40 C.F.R. § 270.14(d) for the SWMUs. In addition, the Permittee must state whether the SWMUs, individually or in combination with other units listed in Condition A.3 of this Module is a source of contaminant release. The information will be included in the Task I report, Current Conditions, of RFI as required by Condition E.1.a of this Module. Upon EPA's review of the information, additional action under the permit may be deemed necessary.

4. Prior Submittals. EPA has evaluated the following documents submitted by the Permittee to NJDEPE:

i. EPA approves the documents, "Groundwater

Remediation Design Report" dated August 1990, "Addendum to August 1990 Groundwater Remediation Design Report", dated October 1991, "Groundwater Recharge Pilot Study Report, Lenox China Facility, Pomona, New Jersey" dated August 1991, and "Technical Specifications, Groundwater Remediation System", dated September 1991, by concurring with the Emergency NJPDES-DGW Permit (No. NJ0086487) issued by NJDEPE on November 19, 1991 for the Lenox China facility and the changes to be made in Part VIII-DGW-I of the Major Modification of NJPDES-DGW Permit (No. NJ0070343), which is being jointly issued with this HSWA Permit. In addition, the Permittee will comply with Condition E.4 of this Module.

B. STANDARD CONDITIONS FOR CORRECTIVE ACTION

1. Work Plans. All work plans submitted pursuant to this Module shall include:

   a. Quality Assurance/Quality Control protocols to ensure that data generated is valid and supported by documented procedures;

   b. Other plans, specifications and protocols, as applicable;

   c. A schedule for starting specific tasks, completing the work and submitting progress and final reports; and

   d. Plans for the treatment, storage, discharge or disposal of wastes to be generated by activities described therein.

2. Monitoring and Records. Requirements for monitoring and records shall be in accordance with Permit Condition F.9 of Module I of this Permit.

3. Health/Safety Plans. The Permittee shall develop, according to applicable Federal, State and local requirements, and submit to the Regional Administrator, health and safety plans that will be implemented to ensure that the health and safety of project personnel, plant personnel and the general public are protected. These plans are not subject to approval by the Regional Administrator.

4. Guidance Documents. When preparing the submissions described in this Module, the Permittee shall follow applicable guidance documents issued by EPA and the New

Jersey Department of Environmental Protection in a manner reflecting reasonable technical considerations.

5. Prior Submittals. The Permittee may have already submitted portions of information, plans, or reports required by this Permit Module and its Appendices to the Regional Administrator pursuant to the terms of previous applications, consent orders, or plans. For those items the Permittee contends were submitted to the Regional Administrator, the Permittee may cite the specific document(s) and page(s) it believes adequately addresses each of the individual items requested by this Permit Module and its Appendices. The references, by document(s) and page(s), shall be placed in the appropriate sections of the submittals that require the referenced information and data. If the Regional Administrator, after a file search, determines that it does not possess any of the referenced information, plans, or reports that the Permittee claims were previously submitted, the Regional Administrator will notify the Permittee and the Permittee shall submit the referenced documents within the time frame specified within the notification.

6. Interim Corrective Measures.

   a. If at any time it is determined by the Regional Administrator that a release or, based on site-specific circumstances, a threatened release of hazardous waste, including hazardous constituents, from a SWMU, or a combination of SWMUs, poses a threat to human health or the environment, or that such condition jeopardizes the Permittee's ability to comply with any governmental permit, the Permittee shall submit a draft interim corrective measures study to the Regional Administrator for approval within thirty (30) calendar days of notice of such a determination. This study shall consider, among other relevant factors, the character, the extent, direction, the rate of release, the proximity to population, the exposure pathways, the effects of delayed action, and the evaluations of appropriate interim corrective measures. Upon approval of the study by the Regional Administrator, the Permittee shall implement the required interim corrective measures as specified by the Regional Administrator. Nothing herein shall preclude the Permittee from taking immediate action to address the conditions described herein and promptly notifying the Regional Administrator.

b. In the event the Permittee discovers a release or, based on site-specific circumstances, a threatened release of hazardous wastes, including hazardous constituents, from a SWMU, or a combination of SWMUs, that poses a threat to human health or the environment, the Permittee shall identify interim corrective measures to mitigate this threat. The Permittee shall immediately summarize the nature and magnitude of the actual or potential threat and nature of the interim measures being considered and notify the Regional Administrator. Within thirty (30) calendar days of notifying the Regional Administrator, the Permittee shall submit to the Regional Administrator, for approval, an interim corrective measures work plan for the interim measures. The Permittee shall implement the measures specified by the Regional Administrator. Nothing herein shall preclude the Permittee from taking immediate action to address the conditions described herein and promptly notifying the Regional Administrator.

c. The following factors may be considered by the Regional Administrator in determining the need for interim corrective measures:

i. Time required to develop and implement a final corrective measure;

ii. Actual and potential exposure of human and environmental receptors;

iii. Actual and potential contamination of drinking water supplies and sensitive ecosystems;

iv. The potential for further degradation of any impacted medium;

v. Presence of hazardous waste, including hazardous constituents, in containers that may pose a threat of release;

vi. Presence and concentration of hazardous waste, including hazardous constituents, in soils that have the potential to migrate to ground water or surface water;

vii. Weather conditions that may affect the current levels of contamination;

viii. Risks of fire, explosion, or potential

exposure to hazardous waste, including hazardous constituents, as a result of an accident or failure of container or handling system; and

ix. Other situations that may pose threats to human health and the environment.

7. Determination of No Further Action

a. Based on the results of the RFI for a particular SWMU, or combination of SWMUs, and other relevant information, the Permittee may submit an application to the Regional Administrator for a Class III permit modification under 40 C.F.R. § 270.42(c) to terminate the subsequent corrective action requirements of this Module. This permit modification application must contain information demonstrating that there are no releases of hazardous wastes, including hazardous constituents, from such SWMUs that pose a threat to human health or the environment, as well as information required in 40 C.F.R. § 270.42(c), which incorporates by reference 40 C.F.R. §§ 270.13 through 270.21, 270.62, and 270.63.

If, based upon review of the Permittee's request for a permit modification, the results of the RFI, and other information, including comments received during the sixty (60) calendar day public comment period required for Class III permit modifications, the Regional Administrator determines that the release(s) or the suspected release(s) investigated either are non-existent or do not pose a threat to human health or the environment, the Regional Administrator may grant the requested modification.

b. A determination of no further action shall not preclude the Regional Administrator from implementing the following actions:

i. Modifying this Permit at a later date to require the Permittee to perform such investigations as necessary to comply with the requirements of this Permit Module and its Appendices if new information or subsequent analysis indicates that there are, or are likely to be, releases from SWMUs that may pose a threat to human health or the environment; and

ii. Requiring continued or periodic monitoring of air, soil, groundwater, surface water/sediment or subsurface gas, if necessary to protect human health and the environment, when site-specific circumstances indicate that release(s) of hazardous waste, including hazardous constituents, are likely to occur from any SWMU.

8. Reporting.

a. The Permittee shall submit, to the Regional Administrator, signed progress reports, as specified in approved work plans pursuant to this Permit, of all activities (i.e., SWMU Assessment, Interim Measures, RCRA Facility Investigation, Corrective Measures Study) conducted pursuant to the provisions of the Corrective Action Schedule of Compliance, beginning no later than thirty (30) calendar days after the Permittee is first required to begin implementation of any requirement herein. These reports shall contain:

i. A description of the work completed during the reporting period;

ii. Summaries of all findings made during the reporting period, including summaries of laboratory data;

iii. Summaries of all changes made during the reporting period;

iv. Summaries of all contacts made with representatives of the local community and public interest groups during the reporting period;

v. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems;

vi. Changes in personnel conducting or managing the corrective action activities during the reporting period;

vii. Projected work for the next reporting period; and

viii. Copies of daily reports, inspection reports, laboratory/monitoring data, etc., generated during the reporting period.

b. Upon request, copies of other relevant reports and data not identified in Condition B.8.a of this Module shall be made available to the Regional Administrator.

c. The Regional Administrator may require the Permittee to conduct new or more extensive assessments, investigations, or studies, based upon information provided in the progress reports referred to in Condition B.8.a of this Module above, or upon other supporting information.

d. All plans and schedules required by the conditions of this Permit Module and Appendix C of this Permit are, upon approval of the Regional Administrator, incorporated into this Permit by reference and become an enforceable part of this Permit. Any noncompliance with such approved plans and schedules shall be termed noncompliance with this Permit. Extensions of the due dates for submittals may be granted by the Regional Administrator in accordance with the permit modification processes under 40 C.F.R. § 270.41.

9. Compliance with Governmental Requirements. During investigative activities, interim corrective measures, and final corrective measures (including, but not limited to, equipment decommissioning, excavation and unit demolition) required under this Module, the Permittee shall ensure that the transportation, treatment, storage, discharge, and disposal of all contaminated materials generated as a result of such activities (including, but not limited to, soils, sediments, liquids, tanks; pipes, pumps, rubble, debris, and structural materials) are performed in an environmentally sound manner pursuant to all applicable Federal, State and local requirements and that is protective of public health and the environment. Nothing in this Module shall be construed to require the Permittee to proceed in a manner which is in violation of any such requirements.

10. Notifications.

a. Notification of Groundwater Contamination. If at any time the Permittee discovers that hazardous constituents in groundwater that may have been released from a solid waste management unit at the facility have migrated or are migrating to areas beyond the facility boundary in concentrations that exceed action levels, the Permittee shall, within fifteen (15) calendar days of discovery,

provide written notice to the Regional Administrator and any person who owns or resides on the land which overlies the contaminated groundwater.

b. Notification of Air Contamination. If at any time the Permittee discovers that hazardous constituents in air that may have been released from a solid waste management unit at the facility have or are migrating to areas beyond the facility boundary in concentrations that exceed action levels and that residences or other places at which continuous, long-term exposure to such constituents might occur are located within such areas, the Permittee shall, within fifteen (15) calendar days of such discovery:

i. Provide written notification to the Regional Administrator; and

ii. Initiate any actions that may be necessary to provide notice to all individuals who have or may have been subject to such exposure.

c. Notification of Residual Contamination. If hazardous wastes or hazardous constituents in solid waste management units, or which have been released from solid waste management units, will remain in or on the land, including groundwater, after the term of the permit has expired, the Regional Administrator may require the Permittee to record, in accordance with State law, a notation in the deed to the facility property or in some other instrument which is normally examined during titled search that will, in perpetuity, notify any potential purchaser of the property of the types, concentrations, and locations of such hazardous wastes or hazardous constituents. The Regional Administrator may require such notice as part of the corrective measures selection process.

C. ASSESSMENT OF NEWLY IDENTIFIED SOLID WASTE MANAGEMENT UNITS (SWMUS).

1. Notification. The Permittee shall notify the Regional Administrator, in writing, of any additional SWMUs not listed in this Module, which are identified during the course of groundwater monitoring, field investigations, environmental audits, or other means within fifteen (15) calendar days of discovery.

2. SWMU Assessment Report. Within thirty (30) calendar days after notifying of the Regional Administrator, the Permittee shall submit a SWMU Assessment Report. This Report must provide, at a minimum, the following information for each newly identified SWMU:

a. Type of unit;

b. Location of each unit on a topographic map of appropriate scale;

c. Dimensions, capacities and structural description of the unit (supply available engineering drawings);

d. Function of unit;

e. Dates that the unit was operated;

f. Description of the wastes that were placed or spilled at the unit;

g. Description of any known releases from the unit (to include groundwater data, soil analyses, air monitoring data, and/or surface water/sediment data);

h. The results of any sampling and analysis required for the purpose of determining whether releases of hazardous waste, including hazardous constituents, have occurred, are occurring, or are likely to occur from the unit; and

i. Whether this unit, individually or in combination with other units listed in Module Condition A.3. of this Module is a significant source of contaminant release.

3. SWMU Sampling and Analysis Plan. Within thirty (30) calendar days after submittal of the SWMU Assessment Report required in Condition C.2 of this Module, the permittee shall submit a Plan in accordance with most recent version of the NYSDEC RCRA Quality Assurance Project Plan Guidance, for any sampling and analysis of ground water, land surface and subsurface strata, surface waters/sediment or air, as necessary to determine whether a release of hazardous waste, including hazardous constituents, from such unit(s) has occurred, is likely to have occurred, or is likely to occur. The SWMU Sampling and Analysis Plan must demonstrate that the sampling and analysis program, if applicable, is capable of yielding representative

samples and must include parameters sufficient to identify migration of hazardous waste, including hazardous constituents, from the newly-discovered SWMU(s) to the environment.

4. Subsequent Assessment Actions. Following submission of the SWMU Assessment Sampling and Analysis Plan set forth in Condition C.3. of this Module, subsequent activities for the Plan shall proceed in accordance with the following schedule:

   a. Meeting between the Permittee, the Agency and the Department to discuss Plan comments, as appropriate.

   b. Submission of a revised Plan to the Regional Administrator within thirty (30) calendar days of the above-described meeting. (If the Regional Administrator determines that the above referenced meeting is not necessary, the Permittee shall submit a revised Plan to the Regional Administrator, according to a schedule specified by the Agency, not to exceed forty-five (45) calendar days after Permittee's receipt of Plan comments from the Regional Administrator.); and

   c. Begin implementation of the Plan within thirty (30) days following written approval from the Regional Administrator for the Plan.

5. SWMU Sampling and Analysis Report. Within thirty (30) calendar days of receipt by the Permittee of validated analytical data generated under the approved SWMU Sampling and Analysis Plan, the Permittee shall submit a SWMU Sampling and Analysis Report to the Regional Administrator. The Report shall follow reporting requirements in the approved Plan and describe all results obtained from the implementation of the approved Plan.

6. Assessment Conclusions. Based on the results of the SWMU Sampling and Analysis Report, the Regional Administrator shall determine the need for further investigations at specific unit(s) covered in either the SWMU Assessment Report or the SWMU Sampling and Analysis Report. If the Regional Administrator determines that such investigations are needed, the Regional Administrator shall by written notification require the Permittee to prepare and submit for approval a RCRA Facility Investigation Work Plan in accordance with Condition E.1 et. seq. of this Module.

D. NOTIFICATION REQUIREMENTS FOR NEWLY-DISCOVERED RELEASES AT SWMUS

The Permittee shall notify the Regional Administrator, in writing, of any release(s) of hazardous waste, including hazardous constituents, discovered during the course of ground-water monitoring, field investigation, environmental auditing, or other activities no later than fifteen (15) calendar days after discovery. Such newly-discovered releases may be from newly-identified units, from units for which, based on the findings of the RFA, the Regional Administrator had previously determined that no further investigation was necessary, or from units investigated as part of an RFI. Based on the information provided in the notification the Regional Administrator shall determine the need for further investigation of the release(s). If the Regional Administrator determines that such investigations are needed, the Regional Administrator shall, by written notification, require the Permittee to prepare and submit for approval a RCRA Facility Investigation Work Plan in accordance with Condition E.1 et. seq. of this Module.

E. CORRECTIVE ACTION REQUIREMENTS

1. RCRA Facility Investigation ("RFI") Work Plan

a. For the previously-identified SWMUs listed in Condition A.3 of this Module, within ninety (90) calendar days of the effective date of this Permit, the Permittee shall submit to the Regional Administrator, for approval a RCRA Facility Investigation Task I Report or Current Conditions required by Task I of the RFI Scope of Work included in this Permit as Appendix A. In addition, the report shall also include the information required by Condition A.3.c.v. of this Module. In the event that there are newly-discovered SWMUs, a Task I Report shall be submitted for approval within ninety (90) calendar days after the written notification by the Regional Administrator that an RFI is required pursuant to Conditions C.6 and/or D of this Module.

b. For the previously-identified SWMUs listed in Condition A.3 of this Module, within ninety (90) calendar days of the effective date of this Permit, the Permittee shall submit to the Regional Administrator for approval a RCRA Facility Investigation Task II Report on the Pre-Investigation Evaluation of Corrective Measures Technologies required by RFI Scope of Work

included in this Permit as Appendix A. In the event that there are newly-discovered SWMUs, a Task II Report shall be submitted for approval within ninety (90) calendar days after the written notification by the Regional Administrator that an RFI is required pursuant to Condition C.6 and/or D of this Module.

c. For the previously-identified SWMUs listed in Condition A.3 of this Module, within one hundred and fifty (150) calendar days after the effective date of this Permit, the Permittee shall submit for approval a RFI Work Plan to the Regional Administrator to address those units, releases of hazardous waste, including hazardous constituents, and media of concern which require the further investigations. In the event that there are newly-discovered SWMUs, a RFI Work Plan shall be submitted within ninety (90) calendar days after written notification by the Regional Administrator that an RFI is required pursuant to Conditions C.6 and/or D of this Module.

i. The Work Plan shall describe the objectives of the investigation and the overall technical and analytical approach to completing all actions necessary to characterize the nature, direction, rate, movement, and concentration of releases of hazardous waste, including hazardous constituents, from specific SWMUs or groups of SWMUs, and their actual or potential receptors. The Work Plan shall detail all proposed activities and procedures to be conducted at the facility and/or off-site, the schedule for implementing and completing such investigations, the qualifications of personnel performing or directing the investigations, including contractor personnel, and the overall management of the RFI.

ii. The Work Plan shall discuss sampling, data collection strategy, methods of sample analysis, as well as quality assurance and data management procedures, including formats for documenting and tracking data and other results of investigations, and health and safety procedures.

iii. The Work Plan must, at a minimum, address all necessary activities or include descriptions

to meet the requirements specified in Tasks III through Task V of the Scope of Work for a RCRA Facility Investigation included in this Permit as Appendix A.

iv. The Permittee may determine that any of the items required by Tasks III through V of the Scope of Work in Appendix A of this Permit have already been submitted or completed, and therefore, the items are not necessary for completing the RFI of this Permit. The Permittee shall request, within thirty (30) calendar days of the effective date of this Permit, and/or within thirty (30) calendar days of any notification by the Regional Administrator that an RFI is required, that the Administrator review for approval the Permittee's determination. At the time of the request, the Permittee must provide the following information: (1) description of the items and/or summary of findings; (2) description of investigations addressing the items, documents/ reports of the investigations with dates, and summary of the findings; and (3) copies of the documents/reports.

Upon EPA's approval of any previously performed items, the Permittee may delete these from the RFI Work Plan. However, upon EPA's disapproval of items, alul activities necessary for the items must be included in the RFI Work Plan.

d. Following submission of the RFI Work Plan set forth in Condition E.1.c of this Module, subsequent activities for the Plan shall proceed in accordance with the following schedule:

i. Meeting between the Permittee, the Agency and the Department to discuss Plan comments, as appropriate.

ii. Submission of a revised Plan to the Regional Administrator, for approval, within thirty (30) calendar days of the above-described meeting. (If the Regional Administrator determines that the above referenced meeting is not necessary, the Permittee shall submit a revised Plan to the Regional Administrator, according to a schedule specified by the Agency, not to exceed sixty (60) calendar

days after Permittee's receipt of Plan comments from the Regional Administrator.)

e. The Regional Administrator shall review, for approval as part of the RFI Work Plan, any plans developed pursuant to Condition C.6 of this Module, addressing further investigations of newly-identified SWMUs, or Condition D of this Module, addressing newly-discovered releases from SWMUs. The Regional Administrator shall modify the Schedule of Compliance according to the permit modification procedures under 40 C.F.R. § 270.41, to incorporate these units and releases into the RFI Workplan.

2. RCRA Facility Investigation Work Plan Implementation. No later than thirty (30) calendar days after notification by the Regional Administrator approving the RFI Workplan, the Permittee shall begin implementation of the RFI according to the schedules specified in the RFI Workplan. The RFI shall be conducted in accordance with the approved RFI Workplan.

3. RCRA Facility Investigation Final Report and Summary Report

a. Within sixty (60) calendar days of receipt by the Permittee of validated analytical data generated under the approved RFI Work Plans, the Permittee shall submit, to the Regional Administrator, RFI Final and Summary Reports, Task VII of the Scope of Work for RFI in Appendix A of this Permit. The RFI Final Report must contain adequate information to support further corrective action decisions at the facility, should such actions be necessary. The RFI Final Report shall describe the procedures, methods, and results of all facility investigations of SWMUs and their releases, including information on the type and extent of contamination at the facility, sources and migration pathways, and actual or potential receptors. It shall also present all information gathered under the approved RFI Work Plan. The RFI final report will include a comparison of media specific hazardous constituents with their corresponding action levels. The RFI Summary Report shall describe more briefly the procedures, methods, and results of the RFI.

b. Following submission of the Reports set forth in Condition E.3.a of this Module, subsequent activities for the Reports shall proceed in

accordance with the following schedule:

i. Meeting between the Permittee, the Agency and the Department to discuss Report comments, as appropriate.

ii. Submission of a revised Report to the Regional Administrator within forty-five (45) calendar days of the above-described meeting. (If the Regional Administrator determines that the above referenced meeting is not necessary, the Permittee shall submit a revised Report to the Regional Administrator, according to a schedule specified by the Agency, not to exceed sixty (60) calendar days after Permittee's receipt of Report comments from the Regional Administrator.)

c. After the Regional Administrator approves the RFI Final Report and Summary Report, the Permittee shall mail the approved Summary Report to all individuals on the facility mailing list established pursuant to 40 C.F.R. § 124.10(c)(1), within thirty (30) calendar days of receipt of approval.

d. A report summarizing the testing program required by Task VI of the Scope of Work for RFI in Appendix A to this Permit shall be submitted, as a separate document, at the same time as the RFI Final Report.

4. Current Interim Corrective Measures

a. Within thirty (30) calendar days of the effective date of this Permit, the Permittee shall submit a report to EPA and NJDEPE, describing current conditions of the trichloroethylene-contaminated groundwater remediation program.

b. For the implementation of the trichloroethylene-contaminated groundwater remediation program, the Permittee must adhere to the schedules specified in the documents approved under Condition A.4.i of this Module and also in the NJPDES/DGW permit to be jointly issued with this HSWA permit.

c. Any modifications to the documents approved under Condition A.4.i of this Module, reports, and work plans associated with the groundwater remediation program must also be submitted to EPA for review and approval.

d. Within thirty (30) days after the Regional Administrator's determination of the need of establishing financial assurance for the groundwater remediation program, the Permittee must submit to the EPA and NJDEPE documents establishing financial assurance. The Permittee must continue to demonstrate financial assurance unless otherwise notified by EPA.

5. Corrective Measures Study ("CMS") Plan

a. Should a CMS be required, the Regional Administrator shall notify the Permittee in writing. This notice shall identify the hazardous constituent(s) which have exceeded action levels as well as those which have been determined to threaten human health and the environment given site specific exposure conditions or due to additive exposure risk. The notification shall specify target cleanup levels for hazardous constituents detected in each medium of concern, and may also specify corrective measure alternatives to be evaluated by the Permittee during the CMS.

b. The Regional Administrator may require a Corrective Measures Study ("CMS") under the following conditions:

i. If the concentrations of hazardous constituents in groundwater, surface water/sediment, soil, or air exceed their corresponding individual action levels;

ii. If the concentrations of hazardous constituents in groundwater, surface water/sediment, soil, or air do not exceed their corresponding individual action levels, but additive exposure risk due to the presence of multiple constituents is not protective of human health; or

iii. If the concentrations of hazardous constituents in groundwater, surface water/sediment, soil, or air do not exceed corresponding individual action levels, but still pose a threat to human health or the environment, given site-specific exposure conditions.

c. The CMS will be considered complete upon completion of Tasks I through IV of the Appendix B

of this Permit. Within sixty (60) calendar days after the notification required by Condition E.5.a of this Module, the Permittee shall complete Task I and submit to EPA a Task I report and documents, if any, relevant to other Tasks.

d. The Permittee shall submit CMS Plan to the Regional Administrator within ninety (90) calendar days after the notification required by Condition E.5.a of this Module.

i. The CMS Plan shall provide:

(1) A description of the general approach to investigating and evaluating potential corrective measures;

(2) A definition of the overall objectives of the study;

(3) The specific plans for evaluating corrective measures to ensure compliance with corrective measure standards;

(4) The schedule for conducting the study; and

(5) The proposed format for the presentation of information.

ii. The CMS Plan must address, at a minimum, all necessary activities to complete Tasks II and III of Appendix B of this Permit.

e. Following submission of the CMS Plan set forth in Condition E.5.d of this Module, subsequent activities for the Plan shall proceed in accordance with the following schedule:

i. Meeting between the Permittee, the Agency and the Department to discuss Plan comments, as appropriate.

ii. Submission of a revised Plan to the Regional Administrator within thirty (30) calendar days of the above-described meeting. (If the Regional Administrator determines that the above referenced meeting is not necessary, the Permittee shall submit a revised Plan to the Regional Administrator, according to a schedule specified by the Agency, not to exceed forty-five (45) calendar days after

Permittee's receipt of Plan comments from the Regional Administrator.)

6. Corrective Measures Study Implementation No later than thirty (30) calendar days after the Permittee has received written approval from the Regional Administrator for the CMS Plan, the Permittee shall begin to implement the CMS according to the schedules specified in the CMS Plan. The CMS shall be conducted in accordance with the approved plan submitted pursuant to Condition E.5 of this Module.

7. Corrective Measures Study Final Report

a. Within forty-five (45) calendar days after the completion of the CMS, the Permittee shall submit a CMS Final Report (Task IV of Appendix B of this Permit). The CMS Final Report shall:

i. Summarize the results of the investigations and, if applicable, of any bench-scale or pilot tests conducted;

ii. Provide a detailed description of the corrective measures evaluated and include an evaluation of how each corrective measure alternative meet the standards set forth in Condition E.8.a of this Module;

iii. Present all information gathered under the approved CMS Plan; and

iv. Contain any additional information to support the Regional Administrator in the corrective measure selection decision-making process, described under Condition E.8. of this Module.

b. The CMS Final Report (Task IV of Appendix B of this Permit) must address, at a minimum, all items necessary to demonstrate completion of Task II and III required by the CMS Scope of Work included in Appendix B of this Permit.

c. Following submission of the CMS Report set forth in Module Condition E.7.a, subsequent activities for the Report shall proceed in accordance with the following schedule:

i. Meeting between the Permittee, the Agency, and the Department to discuss the Report comments, as appropriate.

ii. Submission of a revised Report to the Regional Administrator within thirty (30) days of the above-described meeting. (If the Regional Administrator determines that the above referenced meeting is not necessary, the Permittee shall submit a revised Report to the Regional Administrator, according to a schedule specified by the Agency, not to exceed forty-five (45) calendar days after Permittee's receipt of Report comments from the Regional Administrator.)

d. As specified under Condition E.5.a of this Module, based on preliminary results and the CMS Final Report, the Regional Administrator may require the Permittee to evaluate additional corrective measures or particular elements of one or more proposed corrective measures.

8. Corrective Measures Selection

a. Based on the results of the documents submitted under Condition E.3 of this Module for the RFI, under Condition E.7 of this Module for the CMS, and any further evaluations of additional corrective measures under this study, the Regional Administrator shall select a corrective measures that, at a minimum, will meet the following standards:

i. Be protective of human health and the environment;

ii. Attain media cleanup standards selected by the Regional Administrator during the corrective measures selection process;

iii. Control the source(s) of release(s) so as to reduce or eliminate, to the maximum extent practicable, further releases of hazardous waste, including hazardous constituents, that might pose a threat to human health and the environment; and

iv. Meet all applicable waste management requirements.

b. In selecting the corrective measure(s) which meets the standards for remedies established under Module Condition E.8.a, the Regional Administrator shall consider the following evaluation factors, as appropriate:

i. Long-term reliability and effectiveness. Any potential corrective measure(s) may be assessed for the long-term reliability and effectiveness it affords, along with the degree of certainty that the corrective measure(s) will prove successful. Factors that shall be considered in this evaluation include:

(1) Magnitude of residual risks in terms of amounts and concentrations of hazardous waste, including hazardous constituents, remaining following implementation of a corrective measure(s), considering the persistence, toxicity, mobility and potential to bioaccumulate of such hazardous wastes, including hazardous constituents;

(2) The type and degree of long-term management required, including monitoring and operation and maintenance;

(3) Potential for exposure of humans and environmental receptors to remaining hazardous wastes, including hazardous constituents, considering the potential threat to human health and the environment associated with excavation, transportation, redisposal or containment;

(4) Long-term reliability of the engineering and institutional controls, including uncertainties associated with land disposal of untreated hazardous wastes, including hazardous constituents, and their residuals; and

(5) Potential need for replacement of the corrective measure(s).

ii. Reduction of toxicity, mobility, or volume. A potential remedy(s) may be assessed as to the degree to which it employs treatment that reduces toxicity, mobility or volume of hazardous wastes, including hazardous constituents. Factors that shall be considered in such assessments include:

(1) The treatment processes the corrective

measure(s) employs and materials it would treat;

(2) The amount of hazardous wastes, including hazardous constituents, that would be destroyed or treated;

(3) The degree to which the treatment is irreversible;

(4) The residuals that will remain following treatment, considering the persistence, toxicity, mobility and propensity to bioaccumulate of such hazardous wastes, including hazardous constituents; and

(5) All concentration levels of hazardous waste, including hazardous constituents, in each medium that corrective measure(s) must achieve to be protective of human health and the environment.

iii. The short-term effectiveness of a potential corrective measure(s) may be assessed considering the following:

(1) Magnitude of reduction of existing risks;

(2) Short-term risks that might be posed to the community, workers, or the environment during implementation of such a corrective measure(s), including potential threats to human health and the environment associated with excavation, transportation, and redisposal or containment; and

(3) Time until full protection is achieved.

iv. Implementability. The ease or difficulty of implementing a potential corrective measure(s) may be assessed by considering the following types of factors:

(1) Degree of difficulty associated with constructing the technology;

(2) Expected operational reliability of the technologies;

(3) Need to coordinate with and obtain

necessary approvals and permits from other agencies;

(4) Availability of necessary equipment and specialists;

(5) Available capacity and location of needed treatment, storage, disposal services; and

(6) Requirements for removal, decontamination, closure, or post-closure of units, equipment, devices or structures that will be used to implement the corrective measure(s).

v. Cost. The types of costs that may be assessed, including the following:

(1) Capital costs;

(2) Operational and maintenance costs;

(3) Net present value of capital and operation and maintenance costs; and

(4) Potential future corrective action costs.

9. Permit Modification for Corrective Measure(s)

a. Based on the information the Permittee submits in the RFI Final and Summary Reports, under Condition E.3 of this Module; the CMS Final Report, under Condition E.7 of this Module; and other information: the Regional Administrator will select a corrective measure(s) and initiate a permit modification to this Permit, pursuant to 40 C.F.R. § 270.41. The modification will specify the selected corrective measure(s) and include, at a minimum, the following:

i. Description of all technical features of the corrective measure(s) that are necessary for achieving the standards for corrective measure(s) established under Condition E.8.a of this Module, including length of time for which compliance must be demonstrated at specified points of compliance;

ii. All media cleanup standards for hazardous constituents, selected by the Regional

Administrator, that the corrective measure(s) must achieve to be protective of human health and the environment;

iii. All requirements for achieving compliance with these cleanup standards;

iv. All requirements for complying with the standards for management of wastes;

v. Requirements for removal, decontamination, closure, or post-closure of units, equipment, devices or structures that will be used to implement the corrective measure(s);

vi. A schedule for initiating and completing all major technical features and milestones of the corrective measure(s); and

vii. Requirements for submission of reports and other information.

b. Within thirty (30) calendar days after this Permit has been modified, the Permittee shall demonstrate in writing to the Regional Administrator that financial assurance for completing the approved corrective measure(s).

10. Modification of the Compliance Schedule

a. Upon prior request of the Permittee, the Regional Administrator may extend a compliance deadline set forth in this Appendix by a period not to exceed ninety (90) days. Subsequent compliance deadlines that are determined by a deadline for which an extension under Condition III.E.10.a has been granted, shall automatically be adjusted accordingly. The cumulative effect of more than one extension granted under Condition III.E.10.a shall not exceed one hundred and eighty (180) days.

b. If at any time the Permittee determines that the Compliance Schedule provided for in Appendic C of this Permit (as modified pursuant to Condition III.E.10.a), cannot be met, the Permittee must:

i. Notify the Regional Administrator in writing within fifteen (15) calendar days of such determination; and

ii. Provide an explanation why the Compliance

Schedule cannot be met.

c. If the Permittee submits a notification and explanation pursuant to Condition III.E.10.b, above, or if at any time the Regional Administrator determines that the Compliance Schedule provided for in Appendix C of this Permit (as modified by Condition III.E.10.a) cannot be met, the Regional Administrator shall notify the Permittee and all persons on the facility mailing list in writing of the modifications to the Compliance Schedule deemed necessary by the Regional Administrator. Such notice will:

   i. Describe the exact change(s) to be made to the permit conditions;

   ii. Provide an explanation of why the modification is needed;

   iii. Provide notification that supporting documentation or data may be available for inspection at the Regional office; and

   iv. Specify the data on which the modification will become effective.

d. Any modification to the Compliance Schedule provided for in Appendix C of this Permit (as modified by Condition III.E.10.a), initiated pursuant to this Condition III.E.10.b shall become effective no less than fifteen (15) days after the notification required pursuant to Condition III.E.10.c has been provided.

e. Modification to the Compliance Schedule provided for in Appendix C of this Permit pursuant to this Condition III.E.10 does not constitute a reissuance of this Permit.

11. Corrective Action Through Post-Closure.

a. On the basis of the approved Closure Plans the Glaze Basin and the Slip Basin were physically closed. During closure the waste in the Glaze Basin was removed and sent off-site for disposal, but the soil contaminated with metals around the Glaze Basin remains left on-site. During the closure of the Slip Basin, the bottom of the unit was raised above the groundwater table and was covered with a geomembrane liner. The waste in the Slip Basin was consolidated into this upgraded

unit and was then capped. A RCRA interim status groundwater monitoring program indicated that low levels of hazardous constituents have been detected in the groundwater downgradient of the closed units. The Post-Closure Care Conditions of the New Jersey Pollution Discharge Elimination System (NJPDES)/ Discharge to Groundwater (DGW) Permit addresses the post-closure care requirements for the Glaze Basin. The Post-Closure permit to be issued by NJDEPE jointly with this HSWA permit, will address the post-closure care requirements for the Slip Basin, including the post-closure groundwater compliance monitoring program. In addition, the Post-Closure permit will require RFI and CMS for the SWMUs identified in Condition A.3.c of this Module and remedial action, if determined necessary. The Permittee shall submit to the Regional Administrator groundwater monitoring data required by the Post-Closure permits of NJDEPE.

MODULE IV - WASTE MINIMIZATION

A. SUBMITTAL REQUIREMENTS. Pursuant to 40 C.F.R. § 264.73(b)(9), and Section 3005(h) of the Act, 42 U.S.C. § 6925(h), the Permittee must submit to the Regional Administrator, at least annually, a waste minimization report by the owner or operator. This report and all accompanying documentation will be submitted by July 1 of each year after the effective date of this Permit.

B. WASTE MINIMIZATION REPORT. The Permittee must certify that:

1. A program is in place to reduce the volume and toxicity of hazardous waste generated to the degree determined by the Permittee to be economically practicable; and

2. The proposed method of treatment, storage or disposal is that practicable method currently available to the Permittee which minimizes the present and future threat to human health and the environment.

C. HAZARDOUS WASTE REDUCTION PLAN (HWRP). The Permittee shall submit a HWRP by July 1 of the first year following permit issuance. The HWRP shall be updated at least biennially to reflect changes in the HWRP, and submitted by July 1 of that year. The HWRP shall include at a minimum, the following information:

1. Identify amounts and types of all acute hazardous waste generated by waste stream.

2. Identify amounts and types of non-acute hazardous waste by waste stream for streams greater than five (5) tons and,

3. Identify at least 90% of all non-acute hazardous waste generated at the facility.

4. Describe source of generation and waste management method for each waste stream.

5. Provide list of technically feasible and economically practicable waste reduction measures.

6. Provide a program plan and schedule for implementing technically feasible and economically practicable waste reduction over time.

The following guidance documents should be used in developing the HWRP:

Waste Minimization Opportunity Assessment Manual, EPA/625/7-88/003, July 1988. Available through: EPA, Office of Research and Development, Cincinnati, Ohio 45268, tel. 513/569-7562 or NTIS, 5285 Port Royal Road, Springfield, VA 22161, tel. 703/487-4600.

Region II HWRP Requirements. Available through EPA Region II, Hazardous Waste Facilities Branch, Andrew Bellina, tel. 212/264-0505.

New York State Waste Reduction Guidance Manual March 1989.

New York State Waste Reduction Guidance Manual Supplement, December 1990. Available through the New York State Department of Environmental Conservation, Bureau of Pollution Prevention, 50 Wolf Road, Albany, New York 12233-7253, tel. 518/485-8400.

D. IMPLEMENTATION OF WASTE REDUCTION TECHNIQUES. The Permittee shall implement the feasible waste reduction techniques in accordance with the schedule in the HWRP.

MODULE V - LAND DISPOSAL RESTRICTIONS

A. BACKGROUND. HSWA prohibits the continued land disposal of untreated hazardous wastes beyond specified dates, "unless the Administrator determines that the prohibition ... is not required in order to protect human health and the environment for as long as the wastes remain hazardous..." (Sections 3004(d)(1), (e)(1), (g)(5) of the Act, 42 U.S.C. § 6924(d)(1), (e)(1), (g)(5).

Pursuant to 40 C.F.R. § 264.13(a)(1), before an owner or operator treats, stores, or disposes of any hazardous waste, he must obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum, this analysis must contain all the information which must be known to treat, store or dispose of the waste in accordance with the requirements of 40 C.F.R. Parts 264 and 268 or with the conditions of a permit issued under 40 C.F.R. Parts 270 and 124.

The Permittee shall comply with the waste analysis, notification, certification, and recordkeeping requirements of 40 C.F.R. § 268.7 whenever generating, treating, or managing a restricted waste.

B. STORAGE OF RESTRICTED WASTES. The Permittee may store such wastes to which the land disposal prohibition applies for up to one year unless the Agency can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal. 40 C.F.R. § 267.50(b).

The Permittee may store wastes to which the land disposal prohibition applies beyond one year; however, the Permittee bears the burden of proving that such storage was solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal. 40 C.F.R. § 268.50(c).

C. LAND DISPOSAL OF RESTRICTED WASTES. The land disposal of restricted waste is prohibited unless the applicable treatment standard is met, or the waste is exempt under 40 C.F.R. § 268.1(c).

D. RESTRICTION DATES. The above restrictions become effective and are phased in for specific hazardous wastes over a period which began November 8, 1986.

The Permittee is required to comply with the restrictions and applicable dates which are specified in 40 C.F.R. Part 268 for all hazardous waste regulated under this Permit.

MODULE VI - ORGANIC AIR EMISSION STANDARDS FOR PROCESS VENTS AND EQUIPMENT LEAKS

A. BACKGROUND. Under the authority of Section 3004(n) of the Act, 42 U.S.C. § 6924(n), on June 21, 1990, EPA promulgated standards for the monitoring and control of organic air emissions from hazardous waste treatment, storage and disposal facilities requiring a permit under Subtitle C of RCRA. These standards became effective on December 21, 1990.

B. COMPLIANCE SCHEDULE. The Permittee shall comply with 40 C.F.R. Part 264 Subpart AA - Air Emission Standards for Process Vents - and Part 264 Subpart BB - Air Emission Standards for Equipment Leaks, as applicable. The Permittee will be required to submit supporting documentation to demonstrate compliance with these regulations.

APPENDIX A

SCOPE OF WORK FOR A RCRA FACILITY INVESTIGATION

Appendix A

SCOPE OF WORK FOR A RCRA FACILITY INVESTIGATION (RFI) AT LENOX CHINA, A DIVISION OF LENOX, INCORPORATED POMONA, NEW JERSEY

I. PURPOSE

The purpose of this RCRA Facility Investigation is to determine the nature, rate, direction and extent of releases of hazardous waste, including hazardous constituents, from solid waste management units and other source areas at the facility including areas off-site impacted by the release(s) from the facility, and to gather all necessary data to support the Corrective Measures Study. The Permittee shall furnish all personnel, materials, and services necessary for, or incidental to, performing the RCRA remedial investigation.

II. SCOPE

The RCRA Facility Investigation consists of seven tasks:

Task I: Description of Current Conditions

- A. Facility Background
- B. Nature and Extent of Contamination
- C. Implementation of Interim Measures

Task II: Pre-Investigation Evaluation of Corrective Measure Technologies

Task III: RFI Management Plans

- A. Project Management Plan
- B. Data Collection Quality Assurance Plan
- C. Data Management Plan
- D. Health and Safety Plan
- E. Community Relations Plan

Task IV: Facility Investigation

- A. Environmental Setting
- B. Source Characterization
- C. Contamination Characterization
- D. Potential Receptor Identification

Task V: Investigation Analysis

- A. Data Analysis
- B. Protection Standards

Task VI: Laboratory and Bench-Scale Studies

Task VII: Reports

A. Progress
B. Draft and Final

III. TASK I: DESCRIPTION OF CURRENT CONDITIONS

The Permittee shall submit for EPA approval a report providing the background information pertinent to the facility, contamination and interim measures as set forth below. The data gathered during any previous investigations or inspections and other relevant data shall be included. The report must include, at a minimum, the following information:

A. Facility Background

The Permittee's report shall summarize the regional location, pertinent boundary features, general facility physiography, hydrogeology, and historical use of the facility for the treatment, storage or disposal of solid and hazardous waste. The Permittee's report shall include:

1. Map(s) depicting the following:

   a. General geographic location;

   b. Property lines, with the owners of all adjacent property clearly indicated;

   c. Topography and surface drainage (with a contour interval of two (2) feet and a scale of 1 inch = 100 feet) depicting all waterways, wetlands, floodplains, water features, drainage patterns, and surface-water containment areas;

   d. All tanks, buildings, utilities, paved areas, easements, rights-of-way, and other features;

   e. All solid or hazardous waste treatment, storage or disposal areas active after November 19, 1980;

   f. All known past solid or hazardous waste treatment, storage or disposal areas regardless of whether they were active on November 19, 1980;

g. All known past and present product and waste underground tanks or piping;

h. Surrounding land uses (residential, commercial, agricultural, recreational); and

i. The location of all production and groundwater monitoring wells. These wells shall be clearly labeled and ground and top of casing elevations and construction details included (these elevations and details may be included as an attachment).

All maps shall be consistent with the requirements set forth in 40 CFR 270.14 and be of sufficient detail and accuracy to locate and report all current and future work performed at the site;

2. A history and description of ownership and operation, solid and hazardous waste generation, treatment, storage and disposal activities at the facility;

3. Approximate dates or periods of past product and waste spills, identification of the materials spilled, the amount spilled, the location where spilled, and a description of the response actions conducted (local, state, or federal response units or private parties), including any inspection reports or technical reports generated as a result of the response; and

4. A summary of past permits requested and/or received, any enforcement actions and their subsequent responses and a list of documents and studies prepared for the facility.

B. <u>Nature and Extent of Contamination</u>

1. The Permittee's report shall summarize all possible source areas of contamination. This, at a minimum, should include all regulated units, solid waste management units, spill areas, and other suspected source areas of contamination. For each area, the Permittee shall identify the following:

a. Location of unit/area (which shall be depicted on a facility map);

b. Quantities of solid and hazardous wastes;

c. Hazardous waste or constituents, to the extent known; and

d. Identification of areas where additional information is necessary.

2. The Permittee shall prepare an assessment and description of the existing degree and extent of contamination. This should include:

a. Available monitoring data and qualitative information on locations and levels of contamination at the facility;

b. All potential migration pathways including information on geology, petrology, hydrogeology, physiography, hydrology, water quality, meteorology, and air quality; and

c. The potential impact(s) on human health and the environment, including demography, groundwater and surface-water use, and land use.

C. Implementation of Interim Measures

The Permittee's report shall document interim measures which were or are being undertaken at the facility. This shall include:

1. Objectives of the interim measures: how the measure is mitigating a potential threat to human health and the environment and/or is consistent with and integrated into any long term solution at the facility;

2. Design, construction, operation, and maintenance requirements;

3. Schedules for design, construction and monitoring; and

4. Schedule for progress reports.

IV. TASK II: PRE-INVESTIGATION EVALUATION OF CORRECTIVE MEASURE TECHNOLOGIES

The Permittee shall submit a report that identifies the potential corrective measure technologies that may be used on-site or off-site for the containment, treatment, remediation, and/or disposal of contamination. This report shall also identify any field data that needs to be

collected in the facility investigation to facilitate the evaluation and selection of the final corrective measure or measures (e.g., compatibility of waste and construction materials, information to evaluate effectiveness, treatability of wastes, etc.).

V. TASK III: RFI MANAGEMENT PLANS

The Permittee shall submit RFI Management Plans. These Plans shall be followed during the implementation of RFI, and will be part of the RFI Workplan. During the RFI, these Management Plans may be necessary for revisions depending on the detail of information collected to accommodate the facility specific situation. The RFI Management Plans include the following:

A. Project Management Plan

The Permittee shall prepare a Project Management Plan which will include a discussion of the technical approach, schedules, budget, and personnel. The Project Management Plan will also include a description of qualifications of personnel performing or directing the RFI, including contractor personnel. This plan shall also document the overall management approach to the RCRA Facility Investigation.

B. Data Collection Quality Assurance Plan

The Permittee shall prepare a plan to document all monitoring procedures: sampling, field measurements, and sample analysis performed during the investigation to characterize the environmental setting, source, and contamination, so as to ensure that all information, data and resulting decisions are technically sound, statistically valid, and properly documented.

1. Data Collection Strategy

   The strategy section of the Data Collection Quality Assurance Plan shall include but not be limited to the following:

   a. Description of the intended uses for the data, and the necessary level of precision and accuracy for these intended uses;

   b. Description of methods and procedures to be used to assess the precision, accuracy and completeness of the measurement data;

c. Description of the rationale used to assure that the data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition or an environmental condition. Examples of factors which shall be considered and discussed include:

   i. Environmental conditions at the time of sampling;

   ii. Number of sampling points;

   iii. Representativeness of selected media; and

   iv. Representativeness of selected analytical parameters.

d. Description of the measures to be taken to assure that the following data sets can be compared to each other:

   i. RFI data generated by the Permittee over some time period;

   ii. RFI data generated by an outside laboratory or consultant versus data generated by the Permittee;

   iii. Data generated by separate consultants or laboratories; and

   iv. Data generated by an outside consultant or laboratory over some time period.

e. Details relating to the schedule and information to be provided in quality assurance reports. The reports should include but not be limited to:

   i. Periodic assessment of measurement data accuracy, precision, and completeness;

   ii. Results of performance audits;

   iii. Results of system audits;

   iv. Significant quality assurance problems and recommended solutions; and

v. Resolutions of previously stated problems.

2. Sampling

The Sampling section of the Data Collection Quality Assurance Plan shall discuss:

a. Selecting appropriate sampling locations, depths, etc.;

b. Providing a statistically sufficient number of sampling sites;

c. Measuring all necessary ancillary data;

d. Determining conditions under which sampling should be conducted;

e. Determining which media are to be sampled (e.g., groundwater, air, soil, sediment, etc.);

f. Determining which parameters are to be measured and where;

g. Selecting the frequency of sampling and length of sampling period;

h. Selecting the types of sample (e.g., composites vs. grabs) and number of samples to be collected;

i. Measures to be taken to prevent contamination of the sampling equipment and cross contamination between sampling points;

j. Documenting field sampling operations and procedures, including;

i. Documentation of procedures for preparation of reagents or supplies which become an integral part of the sample (e.g., filters, and adsorbing reagents);

ii. Procedures and forms for recording the exact location and specific considerations associated with sample acquisition;

iii. Documentation of specific sample preservation method;

iv. Calibration of field devices;

v. Collection of replicate samples;

vi. Submission of field-biased blanks, where appropriate;

vii. Potential interferences present at the facility;

viii. Construction materials and techniques, associated with monitoring wells and piezometers;

ix. Field equipment listing and sample containers;

x. Sampling order; and

xi. Decontamination procedures.

k. Selecting appropriate sample containers;

l. Sample preservation; and

m. Chain-of-custody, including:

i. Standardized field tracking reporting forms to establish sample custody in the field prior to and during shipment; and

ii. Pre-prepared sample labels containing all information necessary for effective sample tracking.

3. Field Measurements

The Field Measurements section of the Data Collection Quality Assurance Plan shall discuss:

a. Selecting appropriate field measurement locations, depths, etc.;

b. Providing a statistically sufficient number of field measurements;

c. Measuring all necessary ancillary data;

d. Determining conditions under which field measurements should be conducted;

e. Determining which media are to be addressed by appropriate field measurements (e.g., groundwater, air, soil, sediment, etc.);

f. Determining which parameters are to be measured and where;

g. Selecting the frequency of field measurement and length of field measurements period; and

h. Documenting field measurement operations and procedures, including:

   i. Procedures and forms for recording raw data and the exact location, time, and facility-specific considerations associated with the data acquisition;

   ii. Calibration of field devices;

   iii. Collection of replicate measurements;

   iv. Submission of field-biased blanks, where appropriate;

   v. Potential interferences present at the facility;

   vi. Construction materials and techniques associated with monitoring wells and piezometers used to collect field data;

   vii. Field equipment listing;

   viii. Order in which field measurements were made; and

   ix. Decontamination procedures.

4. Sample Analysis

The Sample Analysis section of the Data Collection Quality Assurance Plan shall specify the following:

a. Chain-of-custody procedures, including:

   i. Identification of a responsible party to act as sample custodian at the laboratory facility authorized to sign for incoming field samples, obtain documents of shipment, and verify the data entered onto the sample custody records;

   ii. Provision for a laboratory sample custody log consisting of serially numbered standard lab-tracking report sheets; and

   iii. Specification of laboratory sample custody procedures for sample handling, storage, and dispersement for analysis.

b. Sample storage procedures and storage times;

c. Sample preparation methods;

d. Analytical procedures, including:

   i. Scope and application of the procedure;

   ii. Sample matrix;

   iii. Potential interferences;

   iv. Precision and accuracy of the methodology; and

   v. Method detection limits.

e. Calibration procedures and frequency;

f. Data reduction, validation and reporting;

g. Internal quality control checks, laboratory performance and systems audits and frequency, including:

   i. Method blank(s);

   ii. Laboratory control sample(s);

   iii. Calibration check sample(s);

   iv. Replicate sample(s);

v. Matrix-spiked sample(s);

vi. "Blind" quality control sample(s);

vii. Control charts;

viii. Surrogate samples;

ix. Zero and span gases; and

x. Reagent quality control checks.

h. Preventive maintenance procedures and schedules;

i. Corrective action (for laboratory problems); and

j. Turnaround time.

C. Data Management Plan

The Permittee shall develop and initiate a Data Management Plan to document and track investigation data and results. This plan shall identify and set up data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The plan shall also provide the format to be used to present the raw data and conclusions of the investigation.

1. Data Record

The data record shall include the following:

a. Unique sample or field measurement code;

b. Sampling or field measurement location and sample or measurement type;

c. Sampling or field measurement raw data;

d. Laboratory analysis ID number;

e. Property or component measured; and

f. Result of analysis (e.g., concentration).

2. Tabular Displays

The following data shall be presented in tabular displays:

a. Unsorted (raw) data;

b. Results for each medium, or for each constituent monitored;

c. Data reduction for statistical analysis;

d. Sorting of data by potential stratification factors (e.g., location, soil layer, topography); and

e. Summary data.

3. Graphical Displays

The following data shall be presented in graphical formats (e.g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transacts, three dimensional graphs, etc.):

a. Display sampling location and sampling grid;

b. Indicate boundaries of sampling area, and areas where more data are required;

c. Display levels of contamination at each sampling location;

d. Display geographical extent of contamination;

e. Display contamination levels, averages, and maxima;

f. Illustrate changes in concentration in relation to distance from the source, time, depth or other parameters; and

g. Indicate features affecting intramedia transport and show potential receptors.

D. <u>Health and Safety Plan</u>

The Permittee shall prepare a facility Health and Safety Plan.

1. Major elements of the Health and Safety Plan shall include:

a. Facility description including availability of resources such as roads, water supply, electricity and telephone service;

b. Describe the known hazards and evaluate the risks associated with the incident and with each activity conducted;

c. List key personnel and alternates responsible for site safety, response operations, and for protection of public health;

d. Delineate work areas;

e. Describe levels of protection to be worn by personnel in work areas;

f. Establish procedures to control site access;

g. Describe decontamination procedures for personnel and equipment;

h. Establish site emergency procedures;

i. Address emergency medical care for injuries and toxicological problems;

j. Describe requirements for an environmental surveillance program;

k. Specify any routine and special training required for responders; and

l. Establish procedures for protecting workers from weather-related problems.

2. The Facility Health and Safety Plan shall be consistent with:

a. NIOSH Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (1985);

b. EPA Order 1440.1 - Respiratory Protection;

c. EPA Order 1440.3 - Health and Safety Requirements for Employees engaged in Field Activities;

d. Facility Contingency Plan;

e. EPA Standard Operating Safety Guide (1984);

f. OSHA regulations particularly in 29 CFR 1910 and 1926;

g. State, local, and other federal agency (e.g., DOD, DOE) regulations; and

h. Other EPA guidance as provided.

E. Community Relations Plan

The Permittee shall prepare a plan, for the dissemination of information to the public regarding investigation activities and results.

VI. TASK IV: FACILITY INVESTIGATION

The Permittee shall conduct those investigations necessary to: characterize the facility (Environmental Setting); define the source (Source Characterization); define the degree and extent of contamination (Contamination Characterization); and identify actual or potential receptors.

The investigations should result in data of adequate technical quality to support the development and evaluation of the corrective measure alternative or alternatives during the Corrective Measures Study ("CMS").

The site investigation activities shall follow the plans set forth in Task III. All sampling and analyses shall be conducted in accordance with the Data Collection Quality Assurance Plan. All sampling locations shall be documented in a log and identified on a detailed site map.

A. Environmental Setting

The Permittee shall collect information to supplement and verify existing information on the environmental setting at the facility. The Permittee shall characterize the following:

1. Hydrogeology

The Permittee shall conduct a program to evaluate hydrogeologic conditions at the facility. This program shall provide the following information:

a. A description of the regional and facility specific geologic and hydrogeologic characteristics affecting groundwater flow beneath the facility, including:

i. Regional and facility specific stratigraphy: description of strata including strike and dip, identification of stratigraphic contacts;

ii. Structural geology: description of local and regional structural features (e.g., folding, faulting, tilting, jointing, etc.);

iii. Depositional history;

iv. Identification and characterization of areas and amounts of recharge and discharge;

v. Regional and facility specific groundwater flow patterns; and

vi. Characterize seasonal variations in the groundwater flow regime.

b. An analysis of any topographic features that might influence the groundwater flow system. (Note: Stereographic analysis of aerial photographs may aid in this analysis).

c. Based on field data, test, and cores, a representative and accurate classification and description of the hydrogeologic units which may be part of the migration pathways at the facility (i.e., the aquifers and any intervening saturated and unsaturated units), including:

i. Hydraulic conductivity and porosity (total and effective);

ii. Lithology, grain size, sorting, degree of cementation;

iii. An interpretation of hydraulic interconnections between saturated zones; and

iv. The attenuation capacity and mechanisms of the natural earth materials (e.g., ion exchange capacity, organic carbon content, mineral content etc.).

d. Based on field studies and cores, structural geology, and hydrogeologic cross sections showing the extent (depth, thickness, lateral extent) of hydrogeologic units which may be part of the migration pathways identifying:

   i. Sand and gravel deposits in unconsolidated deposits;

   ii. Zones of fracturing or channeling in consolidated or unconsolidated deposits;

   iii. Zones of higher permeability or low permeability that might direct and restrict the flow of contaminants;

   iv. The uppermost aquifer: geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs; and

   v. Water-bearing zones above the first confining layer that may serve as a pathway for contaminant migration including perched zones of saturation.

e. Based on data obtained from groundwater monitoring wells and piezometers installed upgradient and downgradient of the potential contaminant source, a representative description of water level or fluid pressure monitoring including:

   i. Water-level contour and/or potentiometric maps;

   ii. Hydrologic cross sections showing vertical gradients;

   iii. The flow system, including the vertical and horizontal components of flow; and

   iv. Any temporal changes in hydraulic gradients, for example, due to tidal or seasonal influences.

f. A description of manmade influences that may affect the hydrogeology of the site, identifying:

i. Active and inactive local water-supply and production wells with an approximate schedule of pumping; and

ii. Manmade hydraulic structures (pipelines, french drains, ditches, unlined ponds, septic tanks, NPDES outfalls, retention areas, etc.).

2. Soils

The Permittee shall conduct a program to characterize the soil and rock units above the water table in the vicinity of the contaminant release(s). Such characterization shall include but not be limited to, the following information:

a. SCS soil classification;

b. Surface soil distribution;

c. Soil profile, including ASTM classification of soils;

d. Transacts of soil stratigraphy;

e. Hydraulic conductivity (saturated and unsaturated);

f. Relative permeability;

g. Bulk density;

h. Porosity;

i. Soil sorptive capacity;

j. Cation exchange capacity (CEC);

k. Soil organic content;

l. Soil pH;

m. Particle size distribution;

n. Depth of water table;

o. Moisture content;

p. Effect of stratification on unsaturated flow;

q. Infiltration

r. Evapotranspiration;

s. Storage capacity;

t. Vertical flow rate; and

u. Mineral content.

3. Surface Water and Sediment

The Permittee shall conduct a program to characterize the surface water bodies in the vicinity of the facility. Such characterization shall include, but not be limited to, the following activities and information:

a. Description of the temporal and permanent surface-water bodies including:

i. For lakes and estuaries: location, elevation, surface area, inflow, outflow, depth, temperature stratification, and volume;

ii. For impoundments: location, elevation, surface area, depth, volume, freeboard, and purpose of impoundment;

iii. For streams, ditches, drains, swamps and channels: location, elevation, flow, velocity, depth, width, seasonal fluctuations, and flooding tendencies (i.e., 100 year event);

iv. Drainage patterns; and

v. Evapotranspiration.

b. Description of the chemistry of the natural surface water and sediments. This includes determining the pH, total dissolved solids, total suspended solids, biological oxygen demand, alkalinity, conductivity, dissolved oxygen profiles, nutrients (NH_3, NO_3^-/NO_2^-, PO_4^{-3}), chemical oxygen demand, total organic carbon, specific contaminant concentrations, etc.

c. Description of sediment characteristics including:

i. Deposition area;

ii. Thickness profile; and

iii. Physical and chemical parameters (e.g., grain size, density, organic carbon content, ion exchange capacity, pH, etc.)

B. Source Characterization

The Permittee shall collect analytical data to completely characterize the wastes and the areas where wastes have been placed, collected or removed including: type; quantity; physical form; disposition (contain- ment or nature of deposits); and facility characteristics affecting release (e.g., facility security, and engineered barriers). This shall include quantification of the following specific characteristics at each source area:

1. Unit/Disposal Area characteristics:

a. Location of unit/disposal area;

b. Type of unit/disposal area;

c. Design features;

d. Operating practices (past and present.;

e. Period of operation;

f. Age of unit/disposal area;

g. General physical conditions; and

h. Method used to close the unit/disposal area.

2. Waste Characteristics:

a. Type of waste placed in the unit;

i. Hazardous classification (e.g., flammable, reactive, corrosive, oxidizing, or reducing agent);

ii. Quantity; and

iii. Chemical composition.

b. Physical and chemical characteristics;

i. Physical form (solid, liquid, gas);

ii. Physical description (e.g., powder, oily sludge);

iii. Temperature;

iv. pH;

v. General chemical class (e.g., acid, base, solvent);

vi. Molecular weight;

vii. Density;

viii. Boiling point;

ix. Viscosity;

x. Solubility in water;

xi. Cohesiveness of the waste;

xii. Vapor pressure.

xiii. Flash point

c. Migration and dispersal characteristics of the waste;

i. Sorption;

ii. Biodegradability, bioconcentration, biotransformation;

iii. Photodegradation rates;

iv. Hydrolysis rates; and

v. Chemical transformations.

The Permittee shall document the procedures used in making the above determinations.

C. Contamination Characterization

The Permittee shall collect analytical data on groundwater, soils, and/or surface water/sediment contamination in the vicinity of the facility. This data shall be sufficient to define the extent, origin, direction, and rate of movement of contaminant plumes. Data shall include time and location of sampling, media sampled, concentrations found, and conditions during sampling, and the identity of the individuals performing the sampling and analysis. The Permittee shall address the following types of contamination at the facility:

1. Groundwater Contamination

The Permittee shall conduct a groundwater investigation to characterize any plumes of contamination at the facility. This investigation shall, at a minimum, provide the following information:

a. A description of the horizontal and vertical extent of any immiscible or dissolved plume(s) originating from the facility;

b. The horizontal and vertical direction of contamination movement;

c. The velocity of contaminant movement;

d. The horizontal and vertical concentration profiles of chemical contaminants;

e. An evaluation of factors influencing the plume movement; and

f. An extrapolation of future contaminant movement.

The Permittee shall document the procedures used in making the above determinations (e.g., well design, well construction, geophysics, modeling, etc.).

2. Soil Contamination

The Permittee shall conduct an investigation to characterize the contamination of the soil above the water table in the vicinity of the contaminant release(s). The investigation shall include the following information:

a. A description of the vertical and horizontal extent of contami-nation.

b. A description of contaminant and soil chemical properties within the contaminant source area and plume. This includes contaminant solubility, specification, adsorption, leachability, exchange capacity, biodegradability, hydrolysis, photolysis, oxidation, and other factors that might affect contaminant migration and transformation.

c. Specific contaminant concentrations.

d. The velocity and direction of contaminant movement.

e. An extrapolation of future contaminant movement.

The Permittee shall document the procedures used in making the above determinations.

3. Surface-Water and Sediment Contamination

The Permittee shall conduct a surface-water and sediment investigation to characterize potential contamination in surface-water bodies and sediments resulting from the contaminant release(s) by the facility. The investigation shall include, but not be limited to, the following information:

a. A description of the horizontal and vertical extent of any immiscible or dissolved plume(s) originating from the facility, and the extent of contamination in underlying sediments;

b. The horizontal and vertical direction of contaminant movement;

c. The contaminant velocity;

d. An evaluation of the physical, biological and chemical factors influencing contaminant movement;

e. An extrapolation of future contaminant movement; and

f. A description of the chemistry of the contaminated surface waters and sediments. This includes determining the pH, total dissolved solids, specific contaminant concentrations, etc.;

The Permittee shall document the procedures used in making the above determinations.

D. Potential Receptors

The Permittee shall collect data describing the human populations and environmental systems that are susceptible to contaminant exposure from the facility. Chemical analysis of biological samples may be needed. Data on observable effects in ecosystems may also be obtained. The following characteristics shall be identified:

1. Local uses and possible future uses of groundwater:

   a. Type of use (e.g., drinking water source: municipal or residential, agricultural, domestic/non-potable, and industrial); and

   b. Location of groundwater users including wells and discharge areas.

2. Local uses and possible future uses of surface waters draining the facility:

   a. Domestic and municipal (e.g., potable and lawn/gardening watering);

   b. Recreational (e.g., swimming, fishing);

   c. Agricultural;

   d. Industrial; and

   e. Environmental (e.g., fish and wildlife propagation).

3. Human use of or access to the facility and adjacent lands, including but not limited to:

   a. Recreation;

   b. Hunting;

   c. Residential;

d. Commercial;

e. Zoning; and

f. Relationship between population locations and prevailing wind direction.

4. A description of the biota in surface water bodies on, adjacent to, or affected by the facility.

5. A description of the ecology overlying and adjacent to the facility.

6. A demographic profile of the people who use or have access to the facility and adjacent land, including, but not limited to: age; sex; and sensitive subgroups.

7. A description of any endangered or threatened species near the facility.

VII. TASK V: INVESTIGATION ANALYSIS

The Permittee shall prepare an analysis and summary of all facility investi-gations and their results. The objective of this task shall be to ensure that the investigation data are sufficient in quality (e.g., quality assurance procedures have been followed) and quantity to describe the nature and extent of contamination, potential threat to human health and/ or the environment, and to support the Corrective Measures Study.

A. Data Analysis

The Permittee shall analyze all facility investigation data outlined in Task IV and prepare a report on the type and extent of contamination at the facility including sources and migration pathways. The report shall describe the extent of contamination (qualitative/quantitative) in relation to background levels indicative for the area.

B. Protection Standards

The Permittee shall identify all relevant and applicable standards for the protection of human health and the environment (e.g., National Ambient Air Quality Standards, federally-approved water quality standards, etc.).

VIII. TASK VI: LABORATORY AND BENCH-SCALE STUDIES

The Permittee shall conduct laboratory and/or bench scale studies to determine the applicability of a corrective measure technology or technologies to facility conditions. The Permittee shall analyze the technologies, based on literature review, vendor contracts, and past experience to determine the testing requirements.

The Permittee shall develop a testing plan identifying the types(s) and goal(s) of the study(s), the level of effort needed, and the procedures to be used for data management and interpretation.

Upon completion of the testing, the Permittee shall evaluate the testing results to assess the technology or technologies with respect to the site-specific questions identified in the test plan.

The Permittee shall prepare a report summarizing the testing program and its results, both positive and negative.

IX. TASK VII: REPORTS

A. Progress

The Permittee shall provide the EPA with signed, quarterly progress reports as required by Condition B.8.a of Module III of this permit.

B. Draft and Final

The Permittee shall prepare a RCRA Facility Investigation ("RFI") Report as required by Condition E.3 of Module III of this Permit. The RFI Report shall present all information gathered under the approved RFI Workplan.

APPENDIX B
SCOPE OF WORK FOR
A CORRECTIVE MEASURE STUDY

Appendix B

SCOPE OF WORK FOR A CORRECTIVE MEASURE STUDY AT LENOX CHINA, A DIVISION OF LENOX, INCORPORATED POMONA, NEW JERSEY

I. PURPOSE

The purpose of this Corrective Measure Study (CMS) is to develop and evaluate the corrective action alternative or alternatives and to recommend the corrective measure or measures to be taken. The Permittee will furnish the personnel, materials, and services necessary to prepare the corrective measure study, except as otherwise specified.

II. SCOPE

The Corrective Measure Study consists of four tasks:

Task I: Identification and Development of the Corrective Measure Alternative or Alternatives

- A. Description of Current Situation
- B. Establishment of Corrective Action Objectives
- C. Screening of Corrective Measures Technologies
- D. Identification of the Corrective Measure Alternative or Alternatives

Task II: Evaluation of the Corrective Measure Alternative or Alternatives

- A. Technical/Environmental/Human Health/Institutional
- B. Cost Estimate

Task III: Justification and Recommendation of the Corrective Measure or Measures

- A. Technical
- B. Environmental
- C. Human Health

Task IV: Reports

- A. Progress
- B. Final

III. TASK I: IDENTIFICATION AND DEVELOPMENT OF THE CORRECTIVE ACTION ALTERNATIVE OR ALTERNATIVES

Based on the results of the RCRA Facility Investigation and consideration of the identified Preliminary Corrective Measure Technologies (Task II of Appendix A of this Permit), the Permittee shall identify, screen, and develop the alternative or alternatives for removal, containment, treatment and/or other remediation of the contamination based on the objectives established for the corrective action.

A. Description of Current Situation

The Permittee shall submit an update to the information describing the current situation at the facility and the known nature and extent of the contamination as documented by the RCRA Facility Investigation Report. The Permittee shall provide an update to information presented in Task I of the RFI to the Agency regarding previous response activities and any interim measures which have or are being implemented at the facility. The Permittee shall also make a facility-specific statement of the purpose for the response, based on the results of the RCRA Facility Investigation ("RFI"). The statement of purpose should identify the actual or potential exposure pathways that should be addressed by corrective measures.

B. Establishment of Corrective Action Objectives

The Permittee, in conjunction with EPA, shall establish site specific objectives for the corrective action. These objectives shall be based on public health and environmental criteria, information gathered during the RFI, EPA guidance, and the requirements of any applicable federal statutes. At a minimum, all corrective actions concerning groundwater releases from regulated units must be consistent with, and as stringent as, those required under 40 CFR §264.100.

C. Screening of Corrective Measure Technologies

The Permittee shall review the results of the RFI and reassess the technologies specified in Task II and identify additional technologies which are applicable at the facility. The Permittee shall screen the preliminary corrective measure technologies identified in Task II of the RFI and any supplemental technologies

to eliminate those that may prove infeasible to implement, that rely on technologies unlikely to perform satisfactorily or reliably, or that do not achieve the corrective measure objective within a reasonable time period. This screening process focuses on eliminating those technologies which have severe limitations for a given set of waste and site-specific conditions. The screening step may also eliminate technologies based on inherent technology limitations. Site, waste, and technology characteristics which are used to screen inapplicable technologies are described in more detail below:

1. Site Characteristics

   Site data should be reviewed to identify conditions that may limit or promote the use of certain technologies. Technologies whose use is clearly precluded by site characteristics should be eliminated from further consideration;

2. Waste Characteristics

   Identification of waste characteristics that limit the effectiveness or feasibility of technologies is an important part of the screening process. Technologies clearly limited by these waste characteristics should be eliminated from consideration. Waste characteristics particularly affect the feasibility of in-situ methods, direct treatment methods, and land disposal (on/off-site); and

3. Technology Limitations

   During the screening process, the level of technology development, performance record, and inherent construction, operation, and maintenance problems should be identified for each technology considered. Technologies that are unreliable, perform poorly, or are not fully demonstrated may be eliminated in the screening process. For example, certain treatment methods have been developed to a point where they can be implemented in the field without extensive technology transfer or development.

D. Identification of the Corrective Measure Alternative or Alternatives

The Permittee shall develop the corrective measure alternative or alternatives based on the corrective action objectives and analysis of the Preliminary Corrective Measure Technologies, as presented in Task II of the RFI and as supplemented following the preparation of the RFI Final Report. The Permittee shall rely on engineering practice to determine which of the previously identified technologies appear most suitable for the site. Technologies can be combined to form the overall corrective action alternative or alternatives. The alternative or alternatives developed should represent a workable number of option(s) that each appear to adequately address all site problems and corrective action objectives. Each alternative may consist of an individual technology or a combination of technologies. The Permittee shall document the reasons for excluding technologies, identified in Task II, as supplemented in the development of the alternative or alternatives.

IV. TASK II: EVALUATION OF THE CORRECTIVE MEASURE ALTERNATIVE OR ALTERNATIVES

The Permittee shall describe each corrective measure alternative that passes through the Initial Screening in Task I of this appendix and evaluate each corrective measure alternative and its components. The evaluation shall be based on technical, environmental, human health and institutional concerns. The Permittee shall also develop cost estimates of each corrective measure.

A. Technical/Environmental/Human Health/Institutional

The Permittee shall provide a description of each corrective measure alternative which includes but is not limited to the following: preliminary process flow sheets; preliminary sizing and type of construction for buildings and structures; and rough quantities of utilities required. The Permittee shall evaluate each alternative in the four following areas:

1. Technical

The Permittee shall evaluate each corrective measure alternative based on performance, reliability, implementability and safety.

a. The Permittee shall evaluate performance based on the effectiveness and useful life of the corrective measure:

   i. Effectiveness shall be evaluated in terms of the ability to perform intended functions, such as containment, diversion, removal, destruction, or treatment. The effectiveness of each corrective measure shall be determined either through design specifications or by performance evaluation. Any specific waste or site characteristics which could potentially impede effectiveness shall be considered. The evaluation should also consider the effectiveness of combinations of technologies; and

   ii. Useful life is defined as the length of time the level of effectiveness can be maintained. Most corrective measure technologies, with the exception of destruction, deteriorate with time. Often, deterioration can be slowed through proper system operation and maintenance, but the technology eventually may require replacement. Each corrective measure shall be evaluated in terms of the projected service lives of its component technologies. Resource availability in the future life of the technology, as well as appropriateness of the technologies, must be considered in estimating the useful life of the project.

b. The Permittee shall provide information on there liability of each corrective measure including their operation and maintenance requirements and their demonstrated reliability:

   i. Operation and maintenance requirements include the frequency and complexity of necessary operation and maintenance. Technologies requiring frequent or complex operation and maintenance activities should be regarded as less reliable than technologies requiring

little or straight forward operation and maintenance. The availability of labor and materials to meet these requirements shall also be considered; and

ii. Demonstrated and expected reliability is a way of measuring the risk and effect of failure. The Permittee should evaluate whether the technologies have been used effectively under analogous conditions; whether the combination of technologies have been used together effectively; whether failure of any one technology has an immediate impact on receptors; and whether the corrective measure has the flexibility to deal with uncontrollable changes at the site.

c. The Permittee shall describe the implementability of each corrective measure including the relative ease of installation (constructability) and the time required to achieve a given level of response:

i. Constructability is determined by conditions both internal and external to the facility conditions and include such items as location of underground utilities, depth to water table, heterogeneity of subsurface materials, and location of the facility (i.e., remote location vs. a congested urban area). The Permittee shall evaluate what measures can be taken to facilitate construction under these conditions. External factors which affect implementation include the need for special permits or agreements, equipment availability, and the location of suitable off-site treatment or disposal facilities; and

ii. Time has two components that shall be addressed: (1) the time it takes to implement a corrective measure and (2) the time it takes to actually see beneficial results. Beneficial results are defined as the reduction of contaminants to some acceptable, pre-established level.

d. The Permittee shall evaluate each corrective measure alternative with regard to safety. This evaluation shall include threats to the safety of nearby communities and environments as well as those to workers during implementation. Among the factors to consider are fire, explosion, and exposure to hazardous substances.

2. Environmental

The Permittee shall perform an Environmental Assessment for each alternative. The Environmental Assessment shall focus on the facility conditions and pathways of contamination actually addressed by each alternative. The Environmental Assessment for each alternative will include, at a minimum, an evaluation of: the short and long term beneficial and adverse effects of the response alternative; any adverse effects on environmentally sensitive areas; and an analysis of measures to mitigate adverse effects.

3. Human Health

The Permittee shall assess each alternative in terms of the extent to which it mitigates short and long term potential exposure to any residual contamination and protects human health both during and after implementation the corrective measure. The assessment will describe the levels and characterizations of contaminants on-site, potential exposure routes, and potentially affected populations. Each alternative will be evaluated to determine the level of exposure to contaminants and the reduction over time. For management of mitigation measures, the relative reduction of impact will be determined by comparing residual levels of each alternative with existing criteria, standards, or guidelines acceptable to EPA.

4. Institutional

The Permittee shall assess relevant institutional needs for each alternative. Specifically, the effects of Federal, State, and local environmental and public health standards, regulations, guidance, advisories, ordinances, or community relations on the design, operation, and timing of each alternative.

B. Cost Estimate

The Permittee shall develop an estimate of the cost of each corrective measure alternative (and for each phase or segment of the alternative). The cost estimate shall include both capital, operation and maintenance costs.

1. Capital costs consist of direct (construction) and indirect (nonconstruction and overhead) costs.

   a. Direct capital costs include:

      i. Construction costs: Costs of materials, labor (including fringe benefits and worker's compensation), and equipment required to install the corrective measure.

      ii. Equipment costs: Costs of treatment, containment, disposal and/or service equipment necessary to implement the action; these materials remain until the corrective action is complete;

   b. Indirect capital costs include:

      i. Engineering expenses: Costs of administration, design,construction supervision, drafting, and testing of corrective measure alternatives;

      ii. Legal fees and license or permit costs: Administrative and technical costs necessary to obtain licenses and permits for installation and operation;

      iii. Startup and shakedown costs: Costs incurred during corrective measure startup; and

      iv. Contingency allowances: Funds to cover costs resulting from unforeseen circumstances, such as adverse weather conditions, strikes, and inadequate facility characterization.

2. Operation and maintenance costs are post-construction costs necessary to ensure continued effectiveness of a corrective measure. The Permittee shall consider the following operation and maintenance cost components:

a. Operating labor costs: Wages, salaries, training, overhead, and fringe benefits associated with the labor needed for post-construction operations;

b. Maintenance materials and labor costs: Costs for labor, parts, and other resources required for routine maintenance of facilities and equipment;

c. Auxiliary materials and energy: Costs of such items as chemicals and electricity for treatment plant operations, water and sewer service, and fuel;

d. Purchased services: Sampling costs, laboratory fees, and professional fees for which the need can be predicted;

e. Disposal and treatment costs: Costs of transporting, treating,and disposing of waste materials, such as treatment plant residues, generated during operations;

f. Administrative costs: Costs associated with administration of corrective measure operation and maintenance not included under other categories;

g. Insurance, taxes, and licensing costs: Costs of such items as liability and sudden accidental insurance; real estate taxes on purchased land or rights-of-way; licensing fees for certain technologies; and permit renewal and reporting costs;

h. Maintenance reserve and contingency funds: Annual payments into escrow funds to cover (1) costs of anticipated replacement or rebuilding of equipment and (2) any large unanticipated operation and maintenance costs; and

i. Other costs: Items that do not fit any of the above categories.

V. TASK III: JUSTIFICATION AND RECOMMENDATION OF THE CORRECTIVE MEASURE OR MEASURES

The Permittee shall justify and recommend a corrective measure alternative using technical, human health, and environmental criteria. This recommendation shall include summary tables which allow the alternative or alternatives to be understood easily. Tradeoffs among health risks, environmental effects, and other pertinent factors shall be highlighted. The EPA will select the corrective measure alternative or alternatives to be implemented based on the results of Tasks II and III of this appendix. At a minimum, the following criteria will be used to justify the final corrective measure or measures.

A. Technical

1. Performance - corrective measure or measures which are most effective at performing their intended functions and maintaining the performance over extended periods of time will be given preference;

2. Reliability - corrective measure or measures which do not require frequent or complex operation and maintenance activities and that have proven effective under waste and facility conditions similar to those anticipated will be given preference;

3. Implementability - corrective measure or measures which can be constructed and operated to reduce levels of contamination to attain or exceed applicable standards in the shortest period of time will be preferred; and

4. Safety - corrective measure or measures which pose the least threat to the safety of nearby residents and environments as well as workers during implementation will be preferred.

B. Human Health

The corrective measure or measures must comply with existing EPA criteria, standards, or guidelines for the protection of human health. Corrective measures which provide the minimum level of exposure to contaminants and the maximum reduction in exposure with time are preferred.

C. Environmental

The corrective measure or measures posing the least adverse impact (or greatest improvement) over the shortest period of time on the environment will be favored.

VI. TASK IV:REPORTS

A. Progress

The Permittee shall provide the EPA with signed, progress reports as required by Condition B.8.a of Module III of this Permit.

B. Corrective Measures Study ("CMS") Final Report

The Permittee shall prepare a CMS Final Report as required by Condition E.7 of Module III of this Permit. The CMS Final Report shall include all information gathered under the approved CMS Workplan. The CMS Final Report shall at a minimum include:

1. A description of the facility;

   a. Site topographic map & preliminary layouts.

2. A summary of the corrective measure or measures;

   a. Description of the corrective measure or measures and rationale for selection;

   b. Performance expectations;

   c. Preliminary design criteria and rationale;

   d. General operation and maintenance requirements; and

   e. Long-term monitoring requirements.

3. A summary of the RCRA Facility Investigation and impact on the selected corrective measure or measures;

   a. Field studies (groundwater, surface-water, soil, air); and

   b. Laboratory studies (bench scale, pick scale).

4. Design and Implementation Precautions;

   a. Special technical problems;

   b. Additional engineering data required;

   c. Permits and regulatory requirements;

   d. Access, easements, right-of-way;

   e. Health and safety requirements; and

   f. Community relations activities.

5. Cost Estimates and Schedules;

   a. Capital cost estimate;

   b. Operation and maintenance cost estimate; and

   c. Project schedule (design, construction, operation).

APPENDIX C

COMPLIANCE SCHEDULE

APPENDIX C

COMPLIANCE SCHEDULE
AT
LENOX CHINA, A DIVISION OF LENOX, INCORPORATED
POMONA, NEW JERSEY

I. Compliance Schedule For Interim Corrective Measures.

A. Pursuant to Module III Condition B.6.a, Permittee shall submit for approval an interim corrective measures study within thirty (30) calendar days following the date of the notification by the Regional Administrator requiring implementation of interim corrective measures.

B. Pursuant to Module III Condition B.6.b, Permittee shall submit for approval an interim corrective measures work plan within thirty (30) calendar days after notifying the Regional Administrator of the actual or potential threat to human health or the environment.

II. Compliance Schedule For Reporting.

A. Pursuant to Module III Condition B.8.a, Permittee shall submit signed progress reports of all activities conducted in accordance with the provisions of this Permit Module, beginning no later than thirty (30) calendar days after the Permittee is first required to begin implementation of any such requirement.

III. Compliance Schedule for Notification

A. Pursuant to Module III Condition B.10.a, Permittee within fifteen (15) calendar days; after discovering facility releases of hazardous constituents in groundwater exceeding action levels have migrated off-site, shall notify the Regional Administrative and off-site owners or residents on land overlying such contamination.

B. Pursuant to Module III Condition B.10.b, Permittee within fifteen (15) calendar days; after discovering facility releases of hazardous constituents in air have or are migrated off-site, exceeding action levels, shall notify the Regional Administrator and off-site individuals subject to such long term exposure.

IV. Compliance Schedule For Assessment of Newly Identified SWMUs.

A. Pursuant to Module III Condition C.1, Permittee shall notify the Regional Administrator, in writing, of any additional SWMU(s) within fifteen (15) calendar days after discovery.

B. Pursuant to Module III Condition C.2, Permittee shall submit a SWMU Assessment Report within thirty (30) calendar days after notifying the Regional Administrator of any additional SWMU(s).

C. Pursuant to Module III Condition C.3, Permittee shall submit for approval a SWMU Sampling and Analysis Plan within thirty (30) calendar days after submittal of the SWMU Assessment Report.

D. Pursuant to Module III Condition C.4.b, Permittee shall submit for approval revisions of the SWMU Sampling and Analysis Plan within thirty (30) calendar days after meeting with the Agency to discuss Plan comments, or within forty-five (45) calendar days after Permittee's receipt of Plan comments when no meeting is scheduled.

E. Pursuant to Module III Condition C.4.c, Permittee shall begin to implement the SWMU Sampling and Analysis Plan within thirty (30) calendar days following written approval of the Plan.

F. Pursuant to Module III Condition C.5, Permittee shall submit a SWMU Sampling and Analysis Report within thirty (30) calendar days of receipt by the Permittee of validated analytical data generated under the approved SWMU Sampling and Analysis Plan.

V. Compliance Schedule and Notification Requirements For Newly-Discovered Releases At SWMUs.

A. Pursuant to Module III Condition D, Permittee shall notify the Regional Administrator, in writing, of any newly-discovered releases at SWMUs, no later than fifteen (15) calendar days after such discovery.

VI. Compliance Schedule For RCRA Facility Investigation ("RFI") Work Plan.

A. Pursuant to Module III Condition E.1.a, Permittee shall submit for approval a RFI Task I Report for the SWMU(s) identified in Module Condition A.3.c, within ninety (90) calendar days after the effective date of this Permit, if applicable, and within ninety (90) calendar days after written notification that an RFI is required pursuant to Conditions C.6 and/or D of Module III.

B. Pursuant to Module III Condition E.1.b, Permittee shall submit for approval a RFI Task II Report for the SWMU(s) identified in Module Condition A.3.c, within ninety (90) calendar days after the effective date of this Permit, if applicable, and within ninety (90) calendar days after written notification that an RFI is required pursuant to Condition C.6 and/or D of Module III.

C. Pursuant to Module III Condition E.1.c, Permittee shall submit for approval a RFI Work Plan for the SWMU(s) identified in Module Condition A.3.c within one-hundred and fifty (150) calendar days after the effective date of this Permit, if applicable, and within ninety (90) calendar days after written notification that an RFI is required pursuant to Condition C.6 and/or D of Module III.

D. Pursuant to Module III Condition E.1.c.iv Permittee may request, within thirty (30) calendar days of the effective date of this Permit, EPA to review for approval the Permittee's determination that any items required by Task III through V of the Scope of Work in Appendix A have been submitted or completed.

E. Pursuant to Module III Condition E.1.d.ii, Permittee shall submit for approval revisions to the RFI Work Plan within thirty (30) calendar days after meeting with the Agency to discuss Plan comments, or within forty-five (45) calendar days after Permittee's receipt of Plan comments when no meeting is scheduled.

VII. Compliance Schedule For RFI Work Plan Implementation.

A. Pursuant to Module III Condition E.2, Permittee shall begin to implement the RFI Work Plan within thirty (30) calendar days following written approval of the Plan.

VIII. Compliance Schedule For RFI Final Report And Summary Report.

A. Pursuant to Module III Condition E.3.a, Permittee shall submit for approval the RFI Final and Summary Reports within sixty (60) calendar days of receipt by the Permittee of validated analytical data generated under an approved work plan.

B. Pursuant to Module III Condition E.3.b.ii, Permittee shall submit for approval revisions to the RFI-Final and Summary Reports within forty-five (45) calendar days after meeting with the Regional Administrator to discuss Report comments or within forty-five (45) calendar days after Permittee's receipt of Report comments when no meeting is scheduled.

C. Pursuant to Module III Condition E.3.c, Permittee shall mail the approved Summary Report to all individuals on the facility mailing list within thirty (30) calendar days of receipt of Report approval.

IX. Compliance Schedule For Current Interim Corrective Measures.

A. Pursuant to Module III Condition E.4.a, Permittee shall submit all documents including, but not limited to, investigation reports and raw data which are associated with the trichloroethylene-contaminated groundwater within thirty (30) calendar days of the effective date of this Permit.

B. Pursuant to Module III Condition E.4.b, Permittee shall submit within thirty (30) calendar days after the Regional Administrator's determination of a need of the interim corrective measures, documents establishing financial assurance for conducting interim corrective measures required by the Regional Administrator pursuant to Module III Condition E.4.a.

X. Compliance Schedule For Corrective Measures Study ("CMS") Scope of Work.

A. Pursuant to Module III Condition E.5.c, Permittee shall submit a Task I Report and documents within sixty (60) calendar days after the written notification by the Regional Administrator for a CMS.

B. Pursuant to Module III Condition E.5.d, Permittee shall submit for approval a CMS Plan within ninety (90) calendar days after the written notification by the Regional Administrator for a CMS.

C. Pursuant to Module III Condition E.5.e.ii, Permittee shall submit for approval revisions to the CMS Plan within thirty (30) calendar days after meeting with the Agency to discuss Plan comments, or within forty-five (45) calendar days after Permittee's receipt of Plan comments when no meeting is scheduled.

XI. Compliance Schedule For CMS Implementation.

A. Pursuant to Module III Condition E.6, Permittee shall begin to implement the CMS Plan within thirty (30) calendar days following written approval of the Plan.

XII. Compliance Schedule For CMS Final Report.

A. Pursuant to Module III Condition E.7.a, Permittee shall submit for approval a CMS Final Report within forty-five (45) days after completion of the CMS.

B. Pursuant to Module III Condition E.7.c.ii, Permittee shall submit for approval revisions to the CMS Final Report within thirty (30) calendar days after meeting with the Agency to discuss Report comments, or within forty-five (45) calendar days after Permittee's receipt of report comments, when no meeting is scheduled.

XIII. Compliance Schedule For Financial Assurance.

A. Pursuant to Module III Condition E.9.b, Permittee shall demonstrate financial assurance for completing the approved corrective measure(s) within thirty (30) calendar days after this Permit has been modified.

XIV. Modification of the Compliance Schedules.

A. Pursuant to Module III Condition E.10.a.i, Permittee shall submit proposed modifications of any Compliance Schedule within fifteen (15) calendar days of determining that a schedule cannot be met.

APPENDIX D

COMPONENTS REQUIRED FOR RCRA ANALYTICAL DATA SUBMITTED TO UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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JUL 13 1995

Review of Draft HSWA Permit Modification for Lenox China, Pomona, New Jersey, EPA I.D. No. NJD002325074

Andrew Bellina, P.E.
Chief, Hazardous Waste Facilities Branch (2AWM-HWF)

William Saywer, Chief
Air, Waste & Toxic Substances Branch (2ORC-AWTS)

Attached for your review and comment is a draft Hazardous and Solid Waste Amendments (HSWA) Permit Modification, Statement of Basis, Public Notice, and 60 Second Announcement for Lenox China located in Pomona, New Jersey. Pursuant to permit review procedures, I request that your review comments be completed and forwarded to us by August 7, 1995.

As soon as an attorney is assigned, please notify Andrew Park at ext. 4184.

Attachments

bcc: Coles Phinizy, 2ORC-AWTS w/attachs.
Andrew Bellina, 2AWM-HWF w/o attachs.
Barry Tornick, 2AWM-HWF w/o attachs.
Andrew Park, 2AWM-HWF w/attachs.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
290 BROADWAY
NEW YORK, NEW YORK 10007-1866

HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984 PERMIT MODIFICATION

Permittee: Lenox China, a Division of Lenox, Incorporated
Tilton Road
Pomona, New Jersey 08240

I.D. Number: NJD002325074
Effective Date: DRAFT
Expiration Date: DRAFT

This modifies the Hazardous and Solid Waste Amendments ("HSWA") Permit that was issued in October 1992 (effective date of December 1, 1992 and expiration date of December 1, 1997) by the United States Environmental Protection Agency ("EPA" or "Agency") to Lenox China, a Division of Lenox, Incorporated (hereinafter called the "Permittee"), located at Tilton Road, Pomona, New Jersey. This HSWA Permit Modification is issued under the authority of the Resource Conservation and Recovery Act ("RCRA") of 1976, Subtitle C, 42 U.S.C. §§ 6921-6931, HSWA, and EPA regulations promulgated pursuant thereto.

The 1992 HSWA Permit required the Permittee to conduct investigations to determine any releases of hazardous waste or hazardous constituents from the facility through its waste management operations and, if determined to be released, the extent and degree of environmental impacts. Pursuant to the HSWA Permit and also the New Jersey Pollutant Discharge Elimination System/Discharge to Groundwater ("NJPDES/DGW") permit issued by the New Jersey Department of Environmental Protection ("NJDEP"), the Permittee had conducted remedial investigations and/or interim corrective measures for the facility and had delineated the extent and the degree of the contaminated soils and groundwater. This HSWA Permit Modification requires, for the contaminated soils and groundwater, the Permittee to implement institutional controls and to continue the trichloroethylene (TCE) groundwater remediation system.

This HSWA Permit Modification, in conjunction with the Modification of the New Jersey Pollutant Discharge Elimination System ("NJPDES")/Discharge to Groundwater ("DGW") Permit to be jointly issued by the New Jersey Department of Environmental Protection ("NJDEP"), constitutes the RCRA Post-Closure Permit for the facility.

This HSWA Permit Modification is effective as of DRAFT, and shall remain in effect until DRAFT unless revoked and reissued, modified or terminated in accordance with 40 C.F.R. §§ 270.41, 270.42 or 270.43, or continued in accordance with 40 C.F.R. § 270.51(a).

DRAFT

Conrad Simon, Director
Air and Waste Management Division
United States Environmental Protection Agency
Region II

DRAFT
Date

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MODULE II - FACILITY DESCRIPTION

A. BACKGROUND

The facility (Lenox China, a Division of Lenox, Incorporated) is located on Tilton Road, in Pomona, Atlantic County, New Jersey on fifty six (56) acres of land. The facility has been manufacturing since 1954 ceramic dinnerware and giftware. Processes involved in the manufacture of the products are blending of earthen clay and alumino-silicates, molding and plastering, firing, coating and glazing with glass formed from lead compounds, and etching to add patterns and designs. During the facility operation, various units including surface impoundments, drum storage areas, and an incinerator were or have been used for the management of wastes generated at the facility. The management of wastes at the facility resulted in contamination in soils and groundwater.

In 1986, EPA, with support of NJDEP, conducted a RCRA Facility Assessment (RFA) for the facility, to identify Solid Waste Management Units (SWMUs) and/or Areas of Concern (AOCs) that had ever been used, whether intended or not, for management of wastes at the facility and to assess the likelihood of releases of hazardous constituents from those SWMUs/AOCs. Based on the RFA, EPA and NJDEP prepared in March 1989 the RFA report. The RFA report identified 15 SWMUs/AOCs and recommended field investigations for ten (10) SWMUs/AOCs for potential releases to soils and/or groundwater. In accordance with the recommendations of the RFA report, EPA issued in October 1992 the HSWA permit, requiring Lenox China to conduct field investigations. **EPA has determined that this facility is not located within an Environmental Justice (EJ) area.**

Concurrent with the EPA action, the groundwater monitoring conducted since the early 1980's by the facility pursuant to the New Jersey Pollutant Discharge Elimination System/Discharge to Groundwater (NJPDES/DGW) permit issued by the New Jersey Department of Environmental Protection (NJDEP), had detected elevated levels of trichloroethylene (TCE) in groundwater beneath the facility. Subsequent investigations had delineated the extent and degree of the TCE contamination in groundwater and had also concluded that it might have been caused by releases from the degreaser sludge pit (SWMU #1) and the drum storage area (SWMU #12). Since 1990, the facility has been implementing, in accordance with NJDEP's approval, the TCE groundwater remediation system. The State RCRA post-closure permit, prepared by NJDEP under their authorized RCRA program, required the facility to implement post-closure care for the RCRA surface impoundments, to continue the TCE remediation system, and to conduct corrective action investigations to determine potential releases from SWMUs/AOCs at the facility. The State RCRA post-closure permit was issued in October 1992, jointly with the EPA HSWA permit.

While conducting investigations required by the HSWA permit and the State RCRA post-closure permit, the facility identified one new SWMU (precious metal incinerator), in addition to the 15 identified in the RFA report. The RCRA Facility Investigation (RFI) was completed in December 1994, with the delineation of the extent and degree of the lead and zinc contamination in soils in the areas of SWMU #2 (Sludge Disposal Area) and SWMU #13 (Area Between Monitoring Well #10 and Aloe Street). The site wide groundwater monitoring program that had been implemented by the facility since the early 1980's had shown no elevated levels of lead or zinc in groundwater. It was concluded that lead and zinc are immobile in soil and/or subsoil and would not likely be released to groundwater. The RFI report recommended remedial measures for the contaminated soils in the areas of the two SWMUs.

The TCE groundwater remediation system consists of seven off-site recovery wells with a total flow rate of up to 350 gallons per minute, and treatment of the pumpage with a carbon adsorption system equal to or below the health-based cleanup standard of TCE, 1 ppb. Treated groundwater continues to be discharged onto two recharge areas located within the facility property boundaries, will be used for on-site and/or off-site spray irrigation, or will be used for non-contact cooling in plant operations. The site-wide groundwater monitoring has shown that the TCE groundwater remediation program is effective in controlling off-site migration of contaminated groundwater and also in reducing the levels of TCE in groundwater.

B. A SUMMARY OF CORRECTIVE MEASURE ALTERNATIVES

Lenox will implement corrective measures proposed in the Remedial Action Work Plan (Project #530-7) dated April 1995. Corrective measures that Lenox must meet, at a minimum, are provided below:

Soils: NJDEP's soil cleanup standards for lead are 400 ppm (residential) and 600 ppm (nonresidential), which is consistent with or more stringent than the federal standards of 500 ppm to 1,000 ppm. NJDEP's soil cleanup standards for zinc are 1500 ppm for residential and nonresidential criteria, which is more stringent than EPA health based concentrations. Therefore, the State cleanup standards are to be required for the remediation of the soil contamination.

- SWMU #2 (Sludge Disposal Area):

  1. Most of the SWMU is already covered with asphalt. The existing asphalt will be extended to cover soils where the lead and zinc concentrations exceed their respective residential cleanup standards, 400 ppm and 1500 ppm. These are health based standards that were developed based on standard residential and non-

residential exposure scenarios. The capping of the contaminated soil will limit the potential for exposure so that it is no longer considered a viable pathway. Lenox will also implement long term monitoring and maintenance of the asphalt cap.

2. If site conditions change, resulting in higher levels of potential exposure of contaminated soils to humans or the environment, Lenox will implement other appropriate additional measures, such as fencing around the area covered with asphalt, to further restrict access to the area.
3. Placing, in accordance with the State law, a notation in the deed to the property or in some other instrument, such as New Jersey Declaration of Environmental Restriction (DER) which are normally examined during title search that will, in perpetuity, notify any potential purchaser of the property of the existence of the hazardous constituent in soil in the area of the SWMU and also of the extent and the degree of the contamination. **Future uses of the land will therefore, be subject to restriction.**

- SWMU #13 (Area Between Monitoring Well 10 and Aloe Street):

1. Placing a fence around the SWMU to restrict access with long term monitoring and maintenance of the fence. The fencing around the area will limit the potential for exposure so that it is no longer considered a viable pathway.
2. If site conditions change, resulting in higher levels of potential exposure of contaminated soils to humans or the environment, Lenox will implement other appropriate additional measures, such as placing asphalt on the area, to further restrict access to the area.
3. Placing, in accordance with the State law, a notation in the deed to the property or in some other instruments, such as New Jersey Declaration of Environmental Restriction (DER) which are normally examined during title search that will, in perpetuity, notify any potential purchaser of the property of the existence of the hazardous constituent in soil in the area of the SWMU and also of the extent and the degree of the contamination. **Future use of the land will therefore, be subject to restriction.**

<u>Groundwater</u>: The goal of groundwater remediation is to restore the quality of groundwater to the groundwater health-based cleanup standard of 1 ppb for trichloroethylene.

Lenox will continue the currently ongoing TCE groundwater remediation system, in accordance with the Modification of the NJPDES/DGW Permit being jointly issued with this Modification of the HSWA Permit. The groundwater remediation system consists of seven off-site recovery wells with a total flow rate of up to 350 gallons per minute, and treatment of the pumpage with a carbon adsorption system equal to or below the health-based cleanup standard of TCE, 1 ppb. Treated groundwater continues to be discharged onto two recharge areas located within the facility property boundaries, will be used for on-site and/or off-site spray irrigation, or will be used for non-contact cooling in plant operations.

MODULE III - CORRECTIVE MEASURES FOR THE FACILITY

A. APPLICABILITY: The 16 Solid Waste Management Units (SWMUs)/Areas of Concern (AOCs) had been identified, in the RCRA Facility Assessment (RFA) report and during the investigations conducted by the Permittee pursuant to the 1992 HSWA Permit and the the New Jersey Pollutant Discharge Elimination System/Discharge to Groundwater (NJPDES/DGW) permit, to have existed at the facility. Out of the 16, 10 SWMUs/AOCs had been investigated and/or remediated as per the requirements of the HSWA Permit and the NJPDES/DGW permit. The investigation results have shown that two SWMUs - Sludge Disposal Area (SWMU #2) and Area Between Monitoring Well #10 and Aloe Street (SWMU #13) - need corrective measures and that the current TCE groundwater remediation system needs to be continued. A summary of the status and/or investigation results for the 16 SWMUs are provided in the table below:

SWMUs/AOCs	Finding	Corrective Measures
1. Degreaser Sludge Pit	The soil investigation showed no discernable constituents.	No further action needed.
2. Sludge Disposal Area	The soil investigation showed elevated levels of lead (up to 40,000 ppm) and zinc (up to 3,000 ppm). Contaminated soils need to be addressed.	Asphalt cover, fencing (if needed), and Declaration of Environmental Restrictions (DER)
3. Waste Pile	This unit was located right adjacent to the Glaze Basin (SWMU #10). The closure of the Glaze Basin had successfully removed contaminated soils near the Basin and also the Waste Pile.	No further action needed.
4. Polishing Lagoon	This unit was remediated by excavation and off-site disposal of wastes and contaminated soils, under Condition B.6, Module III (Interim Corrective Measures) of the 1992 HSWA Permit.	No further action needed.
5. Tilton Road Pond	The investigation conducted on sludge and aqueous liquid (mostly water) in the unit showed no discernable constituents.	No futher action needed.
6. Underground Effluent Transfer Pipe	The soil investigation showed no discernable constituents.	No further action needed.
7. Equalization Sump	The unit was dismantled and no longer in use. The soil investigation showed no discernable constituents.	No further action needed.
8. Piping	The soil investigation showed no discernable constituents.	No further action needed.
9. Underground Storage Tanks	The Underground Storage Tanks were closed under the State Underground Storage Tank Program. No investigation was required under the 1992 HSWA permit.	Not required.
10. Glaze Basin	The RCRA-regulated unit was closed under the authorized State RCRA program and no investigation was required under the 1992 HSWA permit.	Not required.

11. Slip Basin	The RCRA-regulated unit was closed under the authorized State RCRA program and is currently under post-closure care monitoring. No investigation was required under the 1992 HSWA permit.	Not Required.
12. Drum Storage Area	The RCRA-regulated unit was closed under the authorized State RCRA program and is currently being used for less-than-90-day storage. No additional investigation was required under the 1992 HSWA Permit.	Not required.
13. Area Between Monitoring Well #10 and Aloe Street	The soil investigation showed elevated levels of lead (up to 15,000 ppm) and zinc (up to 3,000 ppm). Contaminated soils need to be addressed.	Fencing, asphalt cover (if needed), and DER.
14. Two Tanks (Neutralization)	Information submitted in compliance with the 1992 HSWA permit has supported that field investigations are not required.	Not required.
15. Filter Press	Information submitted in compliance with the 1992 HSWA permit has supported that field investigations are not required.	Not required.
16. Precious Metal Incinerator	The soil investigation showed no discernable constituents.	No further action needed.

B. STANDARD CONDITIONS FOR CORRECTIVE MEASURES

1. Work Plans. All work plans, if required to be submitted pursuant to this Module, shall include:

   a. Quality Assurance/Quality Control protocols to ensure that data generated is valid and supported by documented procedures;
   b. Other plans, specifications and protocols, as applicable;
   c. A schedule for starting specific tasks, completing the work and submitting progress and final reports; and
   d. Plans for the treatment, storage, discharge or disposal of wastes to be generated by activities described therein.

2. Monitoring and Records. Requirements for monitoring and records shall be in accordance with Permit Condition F.9 of Module I of this Permit Modification and Renewal.

3. Health/Safety Plans. The Permittee shall develop, according to applicable Federal, State and local requirements, and submit to the Division Director, health and safety plans that will be implemented to ensure that the health and safety of project personnel, plant personnel and the general public are protected. These plans are not subject to approval by the Division Director.

4. Guidance Documents. When preparing the submissions described in this Module, the Permittee shall follow applicable guidance documents issued by EPA and the New Jersey Department of Environmental Protection and Energy in a manner reflecting reasonable technical considerations.

5. Reporting.

a. The Permittee shall submit, to the Division Director, signed progress reports, as specified in the NJPDES/DGW Permit and its Modification and the work plans approved or to be approved pursuant to this Module, of all activities related to the Corrective Measures, beginning no later than ninety (90) calendar days after the effective date of this Permit Modification and Renewal. These reports shall contain:

i. A description of the work completed during the reporting period;
ii. Summaries of all findings made during the reporting period, including summaries of laboratory data;
iii. Summaries of all changes made during the reporting period;
iv. Summaries of all contacts made with representatives of the local community and public interest groups during the reporting period;
v. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems;
vi. Changes in personnel conducting or managing the corrective action activities during the reporting period;
vii. Projected work for the next reporting period; and
viii. Copies of daily reports, inspection reports, laboratory/monitoring data, etc., generated during the reporting period, which are critical to the implementation of the corrective action program required by this Module.

b. Upon request, copies of other relevant reports and data not identified in Condition B.5.a of this Module shall be made available to the Division Director.

c. The Division Director may require the Permittee to conduct new or more extensive assessments, investigations, studies, or corrective measures,

based upon information provided in the progress reports referred to in Condition B.5.a of this Module above, or upon other supporting information.

d. All plans and schedules required by the conditions of this Module are, upon approval of the Division Director, incorporated into this Permit Modification and Renewal and become an enforceable part of this Permit Modification and Renewal. Any noncompliance with such approved plans and schedules shall be termed noncompliance with this Permit Modification and Renewal. Extensions of the due dates for submittals may be granted by the Division Director in accordance with the permit modification processes under 40 C.F.R. § 270.41.

6. Compliance with Governmental Requirements. During corrective measures (including, but not limited to, equipment decommissioning, excavation and unit demolition) required under this Module, the Permittee shall ensure that the transportation, treatment, storage, discharge, and disposal of all contaminated materials generated as a result of such activities (including, but not limited to, soils, sediments, liquids, tanks, pipes, pumps, rubble, debris, and structural materials) are performed in an environmentally sound manner pursuant to all applicable Federal, State and local requirements and that are protective of public health and the environment. Nothing in this Module shall be construed to require the Permittee to proceed in a manner which is in violation of any such requirements.

7. Newly-Identified Releases or SWMUs/AOCs: If, during the implementation of or after completion of the implementation of the corrective measures required in this Module, the Permittee identifies new releases or new SWMUs/AOCs that have not been addressed under the 1992 HSWA Permit and this Permit Modification, the Permittee shall notify EPA and NJDEP of new findings. The Permittee shall evaluate potential releases of hazardous waste or hazardous constituents and/or the extent and degree of releases from newly-identified SWMUs/AOCs and or of newly-identified releases. In addition, the Permittee shall implement appropriate corrective measures, if determined to be needed. The Permittee may follow the procedures described in Module III, Conditions C and D of the 1992 HSWA Permit, for notification, reporting, and submissions of investigation and/or corrective measures workplans.

C. CORRECTIVE MEASURES: Lenox will implement corrective measures proposed in the Remedial Action Work Plan (Project #530-7) dated April 1995. Corrective measures that Lenox must meet, at a minimum, are provided below:

1. Sludge Disposal Area (SWMU #2):

   a. Lead and zinc were detected in soils (mostly 2 to 8 feet from the ground surface) in a range of up to 40,000 ppm and 3,000 ppm, respectively. These levels are above the soil cleanup standards for lead, 400 ppm (residential) and 600 ppm (nonresidential), and for zinc, 1,500 ppm (residential and nonresidential). The site groundwater data collected for the facility since the early 1980's supports that there have been no impacts of the elevated levels of lead and zinc in soils on groundwater.
   b. Most of the SWMU is already covered with asphalt. The existing asphalt will be extended to cover soils where the lead and zinc concentrations exceed their respective residential cleanup standards, 400 ppm and 1500 ppm. These are health based standards that were developed based on standard residential and non-residential exposure scenarios. The capping of the contaminated soil will limit the potential for exposure so that it is no longer considered a viable pathway. Lenox will also implement long term monitoring and maintenance of the asphalt cap.
   c. If site conditions change, resulting in higher levels of potential exposure of contaminated soils to humans or the environment, Lenox will implement other appropriate additional measures, such as fencing around the area covered with asphalt, to further restrict access to the area.

2. Area Between Monitoring Well #10 and Aloe Street (SWMU #13):

   a. Lead and zinc were detected in soils (mostly 2 to 8 feet from the ground surface) in a range of up to 15,000 ppm and 3,000 ppm, respectively, which exceed action levels.
   b. Placing a fence around the SWMU to restrict access with long term monitoring and maintenance of the fence. The fencing around the area will limit the potential for exposure so that it is no longer considered a viable pathway.
   c. If site conditions change, resulting in higher levels of potential exposure of contaminated soils to humans or the environment, Lenox will implement

other appropriate additional measures, such as placing asphalt on the area, to further restrict access to the area.

3. Groundwater:

   a. The goal of groundwater remediation is to restore the quality of groundwater to the groundwater health-based cleanup standard of 1 ppb for trichloroethylene.
   b. The facility will continue the currently ongoing TCE groundwater remediation system, in accordance with the Modification of the NJPDES/DGW Permit being jointly issued with this Modification of the HSWA Permit. The groundwater remediation system consists of seven off-site recovery wells with a total flow rate of up to 350 gallons per minute, and treatment of the pumpage with a carbon adsorption system equal to or below the health-based cleanup standard of TCE, 1 ppb. Treated groundwater continues to be discharged onto two recharge areas located within the facility property boundaries, will be used for on-site and/or off-site spray irrigation, or will be used for non-contact cooling in plant operations.

4. General:

   a. The Permittee shall implement/maintain security measures to restrict unauthorized access to and/or unauthorized disturbance to the areas of the Sludge Disposal Area (SWMU #2) and of the Area Between Monitoring Well #10 and Aloe Street (SWMU #13).
   b. The Permittee shall place, in accordance with State law, a notation in the deed to the property or in some other instrument, such as New Jersey Declaration of Environmental Restriction (DER) which are normally examined during title search that will, in perpetuity, notify any potential purchaser of the property of the existence of the hazardous constituent in soil in the areas of Sludge Disposal Area (SWMU #2) and of Area Between Monitoring Well #10 and Aloe Street (SWMU #13) and also of the extent and the degree of the contamination. **Future use of the land will be subject to the restriction.**
   c. Within 180 calendar days of the effective date of this HSWA Permit Modification, the Permittee shall submit a corrective measures report to EPA and NJDEP for review and approval. The corrective measure report should provide information,

including necessary engineering specifications, demonstrating that Lenox has taken the corrective measures required for SWMUs #2 and #13, as described in Conditions C.1.b and C.2.b of this Module. Lenox must revise the report to address deficiencies, if any, that EPA and NJDEP may have noted.

d. Within 60 calendar days of EPA's and NJDEP's approval of the corrective measure report, the Permittee shall submit, to EPA and NJDEP, a certification that a notation in the deed, as required in Condition C.4.b of this Module, has been placed.

e. Financial Assurance: Within sixty (60) calendar days after the effective date of this Permit Modificcation, the Permittee shall demonstrate in writing to the Division Director that financial assurance for completing the approved corrective measure(s) has been in place.

f. Additional Corrective Measures: If EPA, NJDEP, and/or the Permittee determines that the corrective measures required by this Module for the facility will not meet the standards specified in this Module, the Permittee shall implement additional corrective measures as needed, to meet applicable standards.

MODULE IV - WASTE MINIMIZATION

A. SUBMITTAL REQUIREMENTS.

The Permittee shall submit to the Division Director a Hazardous Waste Reduction Plan (HWRP) that describes the technical and administrative procedures addressed below.

B. WASTE MINIMIZATION REPORT. The Permittee must certify that:

(1) A program is in place to reduce the volume and toxicity of hazardous waste generated to the degree determined by the Permittee to be economically practicable; and

(2) The proposed method of treatment, storage or disposal is that practicable method currently available to the Permittee which minimizes the present and future threat to human health and the environment.

C. HAZARDOUS WASTE REDUCTION PLAN.

The Permittee shall submit a HWRP and all accompanying documentation by July 1 of each year after the effective date of the Permit. The HWRP shall be updated at least biennially to reflect changes in the HWRP, and submitted by July 1 of that year. The HWRP shall include at a minimum, the following information:

(1) Identify amounts and types of all acute hazardous waste generated by waste stream.

(2) Identify amounts and types of non-acute hazardous waste by waste stream for streams greater than five (5) tons and,

(3) Identify at least 90% of all non-acute hazardous waste generated at the facility.

(4) Describe source of generation and waste management method for each acute and non-acute waste stream.

(5) Provide a list of technically feasible and economically practicable waste reduction measures, and,

(6) Provide a program plan and schedule for implementing technically feasible and economically practicable waste reduction over time.

The following guidance documents should be used in developing the HWRP:

Waste Minimization Opportunity Assessment Manual, EPA/625/7-88/003, July 1988. Available through: EPA, Office of Research and Development, Cincinnati, Ohio 45268, tel. (513) 569-7562 or NTIS, 5285 Port Royal Road, Springfield, VA 22161, tel. (703) 487-4600.

Region II HWRP Requirements. Available through EPA Region II, Hazardous Waste Facilities Branch, Andrew Bellina, tel. (212) 637-4109.

New York State Waste Reduction Guidance Manual, March 1989, and New York State Waste Reduction Guidance Manual Supplement, January 1992. Available through the New York State Department of Environmental Conservation, Bureau of Hazardous Substances Regulation, 50 Wolf Road, Albany, New York 12233-7252, tel. (518) 457-9257.

D. IMPLEMENTATION OF WASTE REDUCTION TECHNIQUES.

The Permittee shall implement the feasible waste reduction techniques in accordance with the schedule in the HWRP.

MODULE V - LAND DISPOSAL RESTRICTIONS

A. BACKGROUND. HSWA prohibits the continued land disposal of untreated hazardous wastes beyond specified dates, "unless the Administrator determines that the prohibition ... is not required in order to protect human health and the environment for as long as the wastes remain hazardous..." (RCRA Sections 3004(d)(1), (e)(1), (g)(5), 42 U.S.C. § 6924(d)(1), (e)(1), (g)(5)).

Pursuant to 40 C.F.R. § 264.13(a)(1), before an owner or operator treats, stores, or disposes of any hazardous waste, he must obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum, this analysis must contain all the information which must be known to treat, store or dispose of the waste in accordance with the requirements of 40 C.F.R. Parts 264 and 268 or with the conditions of a permit issued under 40 C.F.R. Parts 270 and 124.

The Permittee shall comply with the waste analysis, notification, certification, and recordkeeping requirements of 40 C.F.R. § 268.7 whenever generating, treating, or managing a restricted waste.

B. STORAGE OF RESTRICTED WASTES. The Permittee may store such wastes to which the land disposal prohibition applies, in accordance with the conditions specified in 40 C.F.R. § 268.50(a), for up to one year unless the Agency can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal. (40 C.F.R. § 268.50(b)).

The Permittee may store wastes to which the land disposal prohibition applies beyond one year; however, the Permittee bears the burden of proving that such storage was solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal. (40 C.F.R. § 268.50(c)).

C. LAND DISPOSAL OF RESTRICTED WASTES. The land disposal of restricted waste is prohibited unless the applicable treatment standard is met or the waste is exempt under 40 C.F.R. § 268.1(c).

D. RESTRICTION DATES. The above restrictions become effective and are phased in for specific hazardous wastes over a period which began November 8, 1986.

The Permittee is required to comply with the restrictions and applicable dates which are specified in 40 C.F.R. Part 268 for all hazardous waste regulated under this Permit.

MODULE VI - ORGANIC AIR EMISSION STANDARDS FOR PROCESS VENTS AND EQUIPMENT LEAKS

A. BACKGROUND: Under the authority of Section 3004(n) of the 1984 Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA), on June 21, 1990, EPA promulgated standards for the monitoring and control of organic air emissions from hazardous waste treatment, storage and disposal facilities requiring a permit under Subtitle C of RCRA. These standards became effective on December 21, 1990. A summary and discussion of the final rule relating to the Organic Air Emission Standards for Process Vents and Equipment Leaks is contained in 55 Federal Register 25454 (June 21, 1990).

B. COMPLIANCE. The permittee shall comply with 40 C.F.R. §264 Subpart AA - Air Emission Standards for Process Vents - and §264 Subpart BB - Air Emission Standards for Equipment Leaks, as applicable. The Permittee will be required to submit supporting documentation to demonstrate compliance with these regulations.

MODULE VII - TOXICITY CHARACTERISTICS

A. BACKGROUND. Under the authority of Section 3001(g) and 3001(h) of the Solid Waste Disposal Act (the "Act"), as amended by the Resource Conservation and Recovery Act (RCRA) and the Hazardous and Solid Waste Amendments of 1984 (HSWA), 42 U.S.C. §§ 6920(g) and 6920(h), on March 29, 1990, EPA promulgated an improved leaching procedure to better predict leaching and an expansion of the Toxicity Characteristic (TC) listing to include additional toxicants for regulatory control under Subtitle C of the Act. These standards became effective September 25, 1990. (See 55 Federal Register 11788 (March 29, 1990).)

B. APPLICABILITY. The Permittee shall comply with 40 C.F.R. Part 261, as applicable.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
290 BROADWAY
NEW YORK, NEW YORK 10007-1866

STATEMENT OF BASIS FOR PROPOSED CORRECTIVE MEASURE ALTERNATIVES UNDER 3004(u) AND (v) FOR LENOX CHINA, A DIVISION OF LENOX, INCORPORATED POMONA, NEW JERSEY NJD001890300

INTRODUCTION

In October 1992, the U.S. Environmental Protection Agency (EPA) issued the Hazardous and Solid Waste Amendments (HSWA) Permit (effective on December 1, 1992 and expiring on December 1, 1997) for the Lenox China, a Division of Lenox, Incorporated (Lenox) facility in Pomona, New Jersey. One of the major requirements of the HSWA Permit was that Lenox conduct corrective action investigations to determine whether the site and the surrounding environmental media of soil, subsurface soil, groundwater, and air were contaminated and, if necessary, to determine the nature and extent of such contamination. Under the State of New Jersey Pollutant Discharge Elimination System/Discharge to Groundwater (NJPDES/DGW) program, Lenox was also required to conduct site investigations and/or remediation. The New Jersey Department of Environmental Protection (NJDEP) was responsible for overseeing the implementation of the NJPDES/DGW requirements.

In order to avoid duplication of effort, EPA and NJDEP have been coordinating with each other, to ensure that investigations conducted by Lenox for the facility meet both federal and state requirements. Under the joint EPA/NJDEP oversight, Lenox has completed site investigations and, based on the investigation results and the current site conditions, has proposed corrective measures alternatives that would address the contaminated soil and groundwater delineated from the investigations. EPA and NJDEP have decided to propose approval of the corrective measure alternatives.

Module III, Condition E.9 of the 1992 HSWA Permit requires selection of final corrective measures alternatives for the facility through a modification of the HSWA permit. The modification must comply with the requirements in Title 40 of the Code of Federal Regulations Part 124 and Section 270.41 (40 C.F.R. §§ 124 and 270.41).

This Statement of Basis (SB) has been prepared as per 40 C.F.R. § 124.7. This SB includes summaries of the results from various investigations conducted by Lenox pursuant to the HSWA Permit and the State NJPDES/DGW permit. More detailed information can be found in the investigation reports that Lenox has submitted to NJDEP and EPA. This SB also explains the proposed corrective measures alternatives that would be utilized to address the contaminated soils and groundwater delineated at the Lenox, Pomona, New Jersey facility, and the rationale supporting such alternatives. This SB, the Draft HSWA Permit Modification, the investigation reports, and other documents available in the EPA or NJDEP files constitute the administrative record for this facility. The public may review any of these documents in order to gain a more comprehensive understanding of the facility and the investigation activities conducted there.

Pursuant to 40 C.F.R. § 124.10, EPA will announce a forty-five (45) day public comment period and opportunity for a public hearing. During the public comment period, the public may review the administrative record and may provide comments to EPA. EPA will select final corrective measure alternatives for the facility, after the public comment period has ended and the comments/information submitted have been reviewed and considered. Detailed information concerning the public participation process is provided later in this SB.

PROPOSED CORRECTIVE MEASURE ALTERNATIVES

1. Sludge Disposal Area (SWMU #2): Lead and zinc were detected in soils (mostly 2 to 8 feet from the ground surface) at concentrations up to 40,000 ppm and 3,000 ppm, respectively. These levels are above the soil cleanup standards for lead, 400 ppm (residential) and 600 ppm (nonresidential), and for zinc, 1,500 ppm (residential and nonresidential). The site groundwater data collected for the facility since the early 1980's support that there have been no impacts of the elevated levels of lead and zinc in soils on groundwater.

    a. Most of the SWMU is already covered with asphalt. The existing asphalt will be extended to cover soils where the lead and zinc concentrations exceed their respective residential cleanup standards of 400 ppm and 1500 ppm. Lenox will also implement long term monitoring and maintenance of the asphalt cap.
    b. If site conditions change, resulting in higher levels of potential exposure of contaminated soils to humans or the environment, Lenox will implement other appropriate additional measures, such as fencing around the area covered with asphalt, to further restrict access to the area.

c. Deed restriction, such as the State mechanism, Declaration of Environmental Restrictions (DER), must be implemented. **Future use of the land will therefore, be subject to restriction.**

2. Area Between Monitoring Well #10 and Aloe Street (SWMU #13): Lead and zinc were detected in soils (mostly 2 to 8 feet from the ground surface) at concentrations up to 15,000 ppm and 3,000 ppm, respectively.

   a. A fence would be placed around the SWMU to restrict access with long term monitoring and maintenance of the fence.
   b. If site conditions change, resulting in higher levels of potential exposure of contaminated soils to humans or the environment, Lenox will implement other appropriate additional measures, such as placing asphalt on the area, to further restrict access to the area.
   c. Deed restriction, such as the State mechanism, Declaration of Environmental Restrictions (DER), must be in place. **Future use of the land will therefore, be subject to restriction.**

3. Groundwater:

   a. The goal of groundwater remediation is to restore the quality of groundwater to the groundwater cleanup standard of 1 ppb for trichloroethylene.
   b. The facility will continue the currently ongoing TCE groundwater remediation system. The groundwater remediation system consists of seven off-site recovery wells with a total flow rate of up to 350 gallons per minute, and treatment of the pumpage with a carbon adsorption system equal to or below the health-based cleanup standard of TCE, 1 ppb. Treated groundwater continues to be discharged onto two recharge areas located within the facility property boundaries, will be used for on-site and/or off-site spray irrigation, or will be used for non-contact cooling in plant operations.

FACILITY BACKGROUND

The facility (Lenox China, a Division of Lenox, Incorporated) is located on Tilton Road, in Pomona, Atlantic County, New Jersey on fifty six (56) acres of land. The facility has been manufacturing since 1954 ceramic dinnerware and giftware. Processes involved in the manufacture of the products are blending of earthen clay and alumino-silicates, molding and plastering, firing, coating and glazing with glass formed from lead compounds, and etching to add patterns and designs. During

the facility operation, various units including surface impoundments, drum storage areas, and an incinerator were or have been used for the management of wastes generated at the facility. The management of wastes at the facility resulted in contamination in soils and groundwater.

In 1986, EPA, with support of NJDEP, conducted a RCRA Facility Assessment (RFA) for the facility, to identify Solid Waste Management Units (SWMUs) and/or Areas of Concern (AOCs) that had ever been used, whether intended or not, for management of wastes at the facility and to assess the likelihood of releases of hazardous constituents from those SWMUs/AOCs. Based on the RFA, EPA and NJDEP prepared in March 1989 the RFA report. The RFA report identified 15 SWMUs/AOCs and recommended field investigations for ten (10) SWMUs/AOCs for potential releases to soils and/or groundwater. In accordance with the recommendations of the RFA report, EPA issued in October 1992 the HSWA permit, requiring Lenox China to conduct field investigations. **EPA has determined that the facility is not located in an Environmental Justice (EJ) area.**

Concurrent with the EPA action, the groundwater monitoring conducted since the early 1980's by the facility pursuant to the New Jersey Pollutant Discharge Elimination System/Discharge to Groundwater (NJPDES/DGW) permit issued by the New Jersey Department of Environmental Protection (NJDEP), had detected elevated levels of trichloroethylene (TCE) in groundwater beneath the facility. Subsequent investigations had delineated the extent and degree of the TCE contamination in groundwater and had also concluded that it might have been caused by releases from the degreaser sludge pit (SWMU #1) and the drum storage area (SWMU #12). Since 1990, the facility has been implementing, in accordance with NJDEP's approval, the TCE groundwater remediation system. The State RCRA post-closure permit, prepared by NJDEP under their authorized RCRA program, required the facility to implement post-closure care for the RCRA surface impoundments, to continue the TCE remediation system, and to conduct corrective action investigations to determine potential releases from SWMUs/AOCs at the facility. The State RCRA post-closure permit was issued in October 1992, jointly with the EPA HSWA permit.

While conducting investigations required by the HSWA permit and the State RCRA post-closure permit, the facility identified one new SWMU (precious metal incinerator), in addition to the 15 identified in the RFA report. The RCRA Facility Investigation (RFI) was completed in December 1994, with the delineation of the extent and degree of the lead and zinc contamination in soils in the areas of SWMU #2 (Sludge Disposal Area) and SWMU #13 (Area Between Monitoring Well #10 and Aloe Street). The site wide groundwater monitoring program that had been implemented by the facility since the early 1980's had shown no elevated levels of lead or zinc in groundwater. It was concluded that lead and zinc

are immobile in soil and/or subsoil and would not likely be released to groundwater. The RFI report recommended remedial measures for the contaminated soils in the areas of the two SWMUs.

The TCE groundwater remediation system consists of seven off-site recovery wells with a total flow rate of up to 350 gallons per minute, and treatment of the pumpage with a carbon adsorption system equal to or below the health-based cleanup standard of TCE, 1 ppb. Treated groundwater continues to be discharged onto two recharge areas located within the facility property boundaries, will be used for on-site and/or off-site spray irrigation, or will be used for non-contact cooling in plant operations. The site-wide groundwater monitoring has shown that the TCE groundwater remediation program is effective in controlling off-site migration of contaminated groundwater and also in reducing the levels of TCE in groundwater.

FACILITY RISKS

EPA and NJDEP have determined, based on the results of the investigations conducted for the facility, that there are three potential exposure routes through which the constituents of concern found at the facility in soils and groundwater impose risks to human health and the environment. The three routes and their potential risks are discussed as follows:

1. Potential Exposures to Contaminated Soils: Concentrations of lead and zinc detected under SWMU #2 (Sludge Disposal Area) and SWMU #13 (Area Between Monitoring Well #10 and Aloe Street) are up to 40,000 ppm and 3,000 ppm, respectively, which are above their respective soil cleanup standards (400 ppm residential and 600 ppm nonresidential for lead, 1,500 ppm residential and nonresidential for zinc). Engineering and institutional controls, such as asphalt cover, fencing, and Declaration of Environmental Restrictions (DER) are expected to minimize risks from potential exposures to soils contaminated with lead and zinc.

SOIL CLEANUP STANDARDS APPLICABLE TO THE FACILITY

Chemical Constituents		Cleanup Standards (ppm)
Metals	lead	residential: 400 nonresidential: 600
	zinc	residential: 1,500 nonresidential: 1,500

2. Potential Exposure to Contaminated Groundwater: The TCE groundwater remediation system has been successful in reducing the plume of contaminated groundwater that has migrated off-site and in preventing further off-site migration. Currently, none of the wells located downgradient of the groundwater flow are used for potable purposes. Therefore, potential risks to human health or ecological species through exposure to contaminated groundwater would be minimal.

However, the groundwater data collected since the early 1980's have shown that, without the pumping program, contaminated groundwater would migrate, east or northeast, toward residential areas. Therefore, without the pumping program, potential risks to human health or the environment would increase through use of contaminated groundwater for recreation, gardening, etc.

GROUNDWATER CLEANUP STANDARDS APPLICABLE TO THE FACILITY

Chemical Constituents	Cleanup Standards (ppb)
Trichloroethylene	1

3. Potential Impacts of Contaminated Soils to Groundwater: The site groundwater data collected for the facility since the early 1980's support that there have been no impacts of the elevated levels of lead and zinc in soils on groundwater.

SCOPE OF CORRECTIVE MEASURES

The corrective measures proposed in this SB are to ensure that exposure to any part of the facility, after the completion of corrective measures, would not pose unacceptable risks to human health and the environment. Acceptable risks (considering appropriate exposure scenarios based on any engineering or institutional control) would be a cancer risk of 10^{-6} or less for carcinogens like TCE and health-based standards for non-carcinogenic toxins like zinc and lead.

Cancer risk standards and health based standards will be met for the entire facility, except the soils contaminated with lead and zinc in the areas of SWMUs #2 and #13. Direct contact with the contaminated soils could exceed health based standards. However, since potential exposures to the contaminated soils are to be controlled through the implementation of engineering and institutional controls, potential risks of contaminated soils to human or ecological species would be minimized to acceptable levels. The site groundwater data support that the groundwater is not impacted by the contaminated soil.

EVALUATION OF THE PROPOSED CORRECTIVE MEASURE ALTERNATIVES

The proposed corrective measure alternatives have been evaluated with respect to the following factors:

- Overall Protection: The proposed corrective measure alternatives eliminate, reduce, or control potential risks of the facility to human health and the environment.

- Attainment of Media Cleanup Standards: The proposed engineering and institutional controls - asphalt cover, fencing, and DER - would ensure that soils contaminated above the soil cleanup standards are to be controlled to minimize or eliminate potential exposure to human and ecological species. Any potential future use of the land would need to be evaluated to determine the need for further remediation.

  The TCE groundwater remediation system will continue until the quality of groundwater meets the cleanup standard of 1 ppb.

- Controlling the Sources of Releases: All potential sources for the contaminated groundwater have been removed. The contaminated soils near SWMUs #2 and #13 have been determined not a source for groundwater contamination, but access will be limited by asphalt and fences.

- Compliance with Waste Management Standards: Lenox will comply with all applicable, relevant and appropriate federal, state, and local standards or regulations for the disposal of treated groundwater.

- Long-term Reliability and Effectiveness: The proposed corrective measures would eliminate or prevent potential hazards by pumping and treating of contaminated groundwater and by implementing engineering and institutional controls.

- Reduction of Toxicity, Mobility, or Volume of Wastes: Since no treatment would be provided to contaminated soils, the toxicity, mobility, or volume of contaminated soils would not be significantly reduced. However, the lead and zinc are not adversely affecting the groundwater. TCE contamination in groundwater will continue to be pumped and treated. Therefore, the level of toxicity of contaminated groundwater will be reduced.

- Short-term Effectiveness: The groundwater pumping is an effective mechanism in prevent potential off-site migration of contaminated groundwater.

- Implementability: No major administrative barriers for the implementation of the proposed corrective measure alternatives are expected.

PUBLIC PARTICIPATION

The public is invited to provide comments on the proposed corrective measures alternatives, this SB, the accompanying Draft HSWA Permit Modification, or other corrective measures alternatives that may be applicable for the facility. The public comment period will begin on _____ and will end on _____. Comments may be submitted in writing to:

Andrew Bellina, P.E.
Chief, Hazardous Waste Facilities Branch
U.S. Environmental Protection Agency Region II
26 Federal Plaza, Room 1037
New York, New York 10278

The public may also request for a public hearing concerning corrective measures alternatives for the facility. Requests for a public hearing may be submitted in writing to the address above by _____. Requests for a public hearing must state the nature of the issues proposed to be raised at the hearing. If, on the basis of requests made during the public comment period, there is a significant degree of public interest in opposition to this SB or to the Draft HSWA Permit Modification, EPA shall hold a public hearing. Public notice of a hearing shall be given at least thirty (30) days before the hearing.

The administrative record for the facility is available for review at the EPA location stated above any time between 8:30 a.m. to 4:00 p.m. Monday through Friday, except holidays, and also at the New Jersey Department of Environmental Protection, 401 East State Street, Trenton, New Jersey 08625.

NEXT STEPS

After the close of the public comment period, written comments submitted during the public comment period or comments gathered at the public hearing, if held, will be considered by the Director of the Air and Waste Management Division in the formulation of his final decision. EPA will prepare the Final HSWA Permit Modification along with the Final Decision and Response to Comments (FD & RTC), to include the selected final corrective measures alternatives and also to address all written comments and/or any substantive comments gathered at the public hearing, if held. If the final decision changes substantially, EPA will issue a public notice indicating the revised determination and the reasons for such determination.

Within thirty (30) days of the final decision, any person who submitted timely written comments or made a statement at the public hearing may petition the Administrator of EPA to review any portion of the decision.

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION II
290 BROADWAY
NEW YORK, NEW YORK 10007-1866

PUBLIC NOTICE OF INTENT TO ISSUE THE HAZARDOUS AND SOLID WASTE AMENDMENTS (HSWA) PERMIT MODIFICATION AND RENEWAL

Public Notice: Date:
NJD002325074

The Director of the Air and Waste Management Division of the U.S. Environmental Protection Agency (EPA), Region II, under the Resource Conservation and Recovery Act (RCRA), (42 U.S.C. § 6901 et. seq.), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), has prepared a draft HSWA Permit Modification and proposes to issue a HSWA Permit Modification to Lenox China, a Division of Lenox, Incorporated (Lenox), in Pomona, New Jersey.

The 1989 RCRA Facility Assessment (RFA) report prepared by EPA and NJDEP identified 15 Solid Waste Management Units (SWMUs) and/or Areas of Concern (AOCs) and recommended investigations for 10 SWMUs/AOCs. The 1992 HSWA Permit issued by EPA required Lenox to investigate the SWMUs/AOCs and to implement interim remedial measures as needed. Concurrently, Lenox was investigating its Pomona, New Jersey facility under the New Jersey Pollutant Discharge Elimination System (NJPDES)/Discharge to Groundwater (DPW) Permit. While conducting investigations under the 1992 HSWA Permit and the NJPDES/DGW Permit, one new SWMU was identified. Lenox has completed their investigations and/or interim remedial measures pursuant to the HSWA Permit and NJPDES/DGW Permit and their results have recommended corrective measures for Sludge Disposal Area (SWMU #2) and Area Between Monitoring Well #10 and Aloe Street (SWMU #13). EPA has determined that this facility is not located within an Environmental Justice (EJ) area.

In addition, Lenox has been implementing the groundwater remediation program since 1990 for the facility under the NJPDES/DGW Permit for trichloroethylene (TCE) detected in groundwater beneath and near the facility. The site-wide groundwater monitoring has shown that the groundwater remediation program is effective in controlling off-site migration of contaminated groundwater and also in reducing the levels of TCE in groundwater.

The HSWA Permit Modification, if finalized as proposed, would require Lenox to implement engineering and institutional controls and to continue the current groundwater remediation program.

The public is invited to provide comments on the proposed corrective measure alternatives, this Draft HSWA Permit Modification, the accompanying Statement of Basis, or other corrective measure alternatives that may be applicable and appropriate for the facility. The public comment period will begin on _____ and will end on _____. Comments may be submitted in writing to:

Andrew Bellina, P.E.
Chief, Hazardous Waste Facilities Branch
U.S. Environmental Protection Agency Region II
290 Broadway
New York, New York 10007-1866

The public may also request for a public hearing concerning corrective measure alternatives for the facility. Requests for a public hearing may be submitted in writing to the address above by _____. Requests for a public hearing must state the nature of the issues proposed to be raised at the hearing. If, on the basis of requests made during the public comment period, there is a significant degree of public interest in opposition to this SB or to the Draft HSWA Permit Modification, EPA shall hold a public hearing. Public notice of a hearing shall be given at least thirty (30) days before the hearing.

The administrative record for the facility is available for review at the EPA location stated above any time between 8:30 a.m. to 4:00 p.m. Monday through Friday, except holidays, and also at the New Jersey Department of Environmental Protection, 401 East State Street, Trenton, New Jersey 08625.

After the close of the public comment period, written comments submitted during the public comment period or comments gathered at the public hearing, if held, will be considered by the Director of the Air and Waste Management Division in the formulation of his final decision. EPA will prepare the Final HSWA Permit Modification along with the Final Decision and Response to Comments (FD & RTC), to include the selected final corrective measure alternatives and also to address all written comments and/or any substantive comments gathered at the public hearing, if held. If the final decision changes substantially, EPA will issue a public notice indicating the revised determination and the reasons for such determination.

Within thirty (30) days of the final decision, any person who submitted timely written comments or made a statement at the public hearing may petition the Administrator of EPA to review any portion of the decision.

LENOX CHINA, A DIVISION OF
LENOX, INCORPORATED
TILTON ROAD
POMONA, NEW JERSEY

60 SECOND PUBLIC SERVICE ANNOUNCEMENT

Under the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), the U.S. Environmental Protection Agency (EPA) is announcing intent to issue a HSWA Permit Modification, to Lenox China, a Division of Lenox, Incorporated (Lenox) for its Pomona, New Jersey facility. The Permit Modification, if finalized as proposed, would require Lenox to implement engineering and institutional controls and to continue the current groundwater remediation.

Information regarding this proposed action by EPA may be reviewed at the EPA Regional Office in New York City.

Direct all comments on EPA's draft HSWA Permit Modification or requests for a public hearing to Hazardous Waste Facilities Branch, EPA Region II, 290 Broadway, New York, N.Y., 10007-1866, no later than _____Date_____.

204

cc: Catherine
Simon
Bellina

LENOX

November 20, 1995

Return Receipt Requested No. P 355 906 498

Mr. Joseph Karpa
Section Chief
New Jersey Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
Bureau of Federal Case Management
401 East State Street CN 028
Trenton, New Jersey 08625-0028

Re: Memorandum of Agreement - Lenox China
Tilton Road, Galloway Township, Atlantic County
Block 453, Lot 1
Case # : 95-6-29-0905-37

Dear Mr. Karpa.

The MOA was executed by the NJDEP on October 11, 1995. The MOA transmittal letter was mailed on November 3, 1995 precluding submitting required notifications within seven (7) days of the effective date of the MOA.. Per telephone conversation with Frank Franca, NJDEP on November 20, 1995, Lenox hereby submits the following notifications as required by the MOA:

Paragraph I.8., Item a)Technical Contact: Nicholas Nahorniak, VP Engineering, Lenox Technical Center, 2511 Fire Road, Suite B-12, Absecon, N.J.)8201, Telephone (609) 484-9734.

Paragraph I.8., Item b)Designated Agent: Louis A. Fantin, Esquire, VP and General Counsel, Lenox, Incorporated, 100 Lenox Drive, Lawrenceville, NJ 08025, Telephone (609) 844-1333.

A copy of the schedule of implementation is attached per the MOA transmittal letter to Louis A Fantin, Esq. Lenox China from Mark J. Pedersen, Section Chief, Case Assignment Section, NJDEP dated November 3, 1995.

Should you have any questions concerning the above, please do not hesitate to contact me at (609) 484-9798.

Sincerely,

John F. Kinkela

John F. Kinkela
Director of Environmental Engineering

LENOX TECHNICAL CENTER, 65 FIRE ROAD, ABSECON, NJ 08201 FAX 609-484-9520

JFK/jfk
Enclosures:

Schedule of Implementation
Two additional copies of documents

cc w/encls: L.A. Fantin
N. Nahorniak

Frank Faranca, NJDEP

Mr. Andrew Park
United States Environmental Protection Agency
Air and Waste Management Division
Hazardous Waste Facilities Branch
Region II
26 Federal Plaza
New York, New York 10278

United States Environmental Protection Agency
Office of Policy and Management
Permits Administration Branch
Region II
26 Federal Plaza
New York, New York 10278

Regional Administrator
United States Environmental Protection Agency
Region II
26 Federal Plaza
New York, New York 10278

C:\WPDATA\FORMS\LTRFMT

LENOX CHINA
POMONA, NEW JERSEY

REMEDIAL ACTION SCHEDULE

TASK	AUGUST 1995					SEPTEMBER				OCTOBER					NOVEMBER				DECEMBER				JANUARY			
	07-Aug	07-Aug	14-Aug	21-Aug	28-Aug	04-Sep	11-Sep	18-Sep	25-Sep	02-Oct	09-Oct	16-Oct	23-Oct	30-Oct	06-Nov	13-Nov	20-Nov	27-Nov	04-Dec	11-Dec	18-Dec	25-Dec	01-Jan	08-Jan	15-Jan	22-Jan
Receive NJDEP Approval (*)																										
Prepare Fence Specs																										
Prepare Membrane Liner Specs																										
Prepare Asphalt Cap Specs																										
Bid Solicitations																										
Bid Review and Award Contract																										
Mobilize to Site																										
Install Membrane Liner																										
Install Fencing																										
Install Asphalt Cap																										
On-site NJDEP Inspection																										
Prepare Remedial Action Report																										
Submit Draft Remedial Action Report to NJDEP																										
NJDEP Review																										
Receive Draft NJDEP Comments on Draft Report																										
Submit Revised Remedial Action Report to NJDEP																										
Final NJDEP Review and Approval																										

(*) Starting date based on Lenox receiving NJDEP, USEPA, and the Pinelands Commission approval on the RAW, RAW Addendum and all permit applications.

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State of New Jersey

Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
NO. Z161 537 243

DEC 21 1995

Mr. Nicholas Nahorniak, VP Engineering
Lenox Incorporated
Lenox Technical Center
2511 Fire Road, Suite B-12
Absecon, N.J. 08201

Dear Mr. Nahorniak:

Re: **Lenox China Facility**
Memorandum of Agreement
Galloway Township, Atlantic County

The MOA for Lenox China states that a Classification Exception Area (CEA) will be established pursuant to the completion of a Department approved three year lead and zinc study. The purpose of this study is to establish background concentrations for these 2 constituents. Since the Lenox facility is located in the Class I-PL area, the background concentrations established by this study will be the ground water standards for the site.

The language of the MOA appears to imply that a CEA for the site will be based solely on the exceedence of the lead and zinc standards. Lenox should be aware that a CEA must include all contaminants of concern that exceed the ground water standards. At Lenox, two trichloroethylene (TCE) plumes emanating from the site have been identified and delineated. The CEA established for the Lenox China site must include the TCE contamination found at the site.

Lenox China is responsible for providing to the Department 3 basic elements of the CEA. These are:

1. The CEA Boundaries. A written and mapped description of the area in which ground water standards are not and/or will not be met.

2. The CEA Contaminants. The CEA must identify and list each contaminant for which the CEA applies. This will include all contaminants of concern that exceed the applicable ground water standard.

3. The CEA Longevity. The CEA is not a permanent designation. The time period that the CEA will remain in effect must be estimated.

Guidance on establishing CEAs is available from the Department.

Pursuant to paragraph ten (10) of the MOA, the Department hereby notifies Lenox China that the Department's contact for all matters concerning this Memorandum of Agreement shall be the following:

New Jersey Department of Environmental Protection
Division of Responsible Party Site Remediation

Bureau of Federal Case Management
401 East State Street - CN 028
Trenton, New Jersey 08625-0028
Attention: Frank Faranca, Project Manager

Should you have any questions, please contact me at (609) 984-4071.

Sincerely,

Frank Faranca

Frank Faranca, Project Manager
Bureau of Federal Case Management

c: Andrew Park, USEPA, Region II
Daryl Clark, NJDEPE/DPFSR/BGWPA

LENOX36.FFF

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ENVIRONMENTAL PROTECTION
ACTION UNIT

State of New Jersey -8 AM 9:15

Department of Environmental Protection
AWM-HAZ WASTE FAC. BRANCH

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
NO. P371 442 160

APR 03 1996

Mr. Nicholas Nahorniak, VP Engineering
Lenox Incorporated
Lenox Technical Center
2511 Fire Road, Suite B-12
Absecon, N.J. 08201

Dear Mr. Nahorniak:

Re: **Lenox China Facility**
April 2, 1996 Request to Modify Sampling Schedule in NJPDES Permit
Galloway Township, Atlantic County

The New Jersey Department of Environmental Protection (Department) has reviewed the above referenced request submitted by Eder Associates, Inc. on behalf of Lenox China Inc. dated April 2, 1996. This request is to modify the schedule for Glaze and Slip Basins detection monitoring contained within Table 2, Part IV of the NJPDES permit (NJ0086487). In accordance with N.J.A.C. 7:14A-2.14 et seq. of the NJPDES regulations, this request is considered a minor modification to the NJPDES-DGW permit. The Department has determined that the request is approved. Attached please find a revised Table 2 which incorporates the modified permit requirements.

Should you have any questions, please contact me at (609) 984-4071.

Sincerely,

Frank Faranca, Project Manager
Bureau of Federal Case Management

enclosure

c: Andrew Park, USEPA, Region II
Daryl Clark, NJDEP/DPFSR/BGWPA

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TABLE 2 (Glaze and Slip Basins Detection Monitoring)

PARAMETER	GROUND WATER PROTECTION STANDARD	SAMPLING MONTH	SAMPLE TYPE	REPORTING MONTH
Elevation of top of well casing (to be determined once but reported as indicated)		JanAprJulOct	N/A	MarJunSepDec
Elevation of original ground level (to be determined once but reported as indicated)		JanAprJulOct	N/A	MarJunSepDec
Depth to water table from top of casing prior to sampling		JanAprJulOct	N/A	MarJunSepDec
Depth to water table from original ground level prior to sampling		JanAprJulOct	N/A	MarJunSepDec
Ammonia-Nitrogen	(1)*	Oct	grab(2)*	Dec
Lead, Total	(3)*	JanAprJulOct	grab	MarJunSepDec
Zinc, Total	(3)*	JanAprJulOct	grab	MarJunSepDec
pH (4)*	4-9 SU	JanAprJulOct	grab	MarJunSepDec
Sodium	(1)*	Oct	grab	Dec
Sulfate	(1)*	Oct	grab	Dec
Total Dissolved Solids (TDS)	(1)*	Oct	grab	Dec
Dissolved Oxygen (4)*	-	JanAprJulOct	grab	MarJunSepDec

NOTES:

(1)* Ground water protection standards will not be set for these parameters at this time. Monitoring only is required. Lenox may petition the

Department in the future to reduce the sampling frequency or eliminate some of these parameters if they can demonstrate, through statistical analysis, that there is a decreasing trend in contaminant concentrations or no significant increase in concentrations over the life of this permit.

(2)*
"Grab" means an individual sample of at least 100 milliliters collected over a period not exceeding 15 minutes.

(3)*
Ground-water protection standards are not being set at this time. Lenox is currently conducting a 3-year lead/zinc ground-water monitoring and statistical analysis study for the purpose of determining the background concentration of these metals at the Lenox site. At the completion of this 3-year study and after a review of the data generated, ground-water protection standards will be set by the Department. These standards will be incorporated into this permit as a major modification pursuant to N.J.A.C. 7:14A-8.1(a)1.

(4)*
The parameter is to be field-determined.

eder associates
environmental scientists and engineers

OFFICES:
Locust Valley, NY
Madison, WI
Ann Arbor, MI
Augusta, GA
Jacksonville, FL
Trenton, NJ
Tampa, FL

SERVICE DEDICATED TO OUR CLIENTS AND THE ENVIRONMENT 25 YEARS

ENVIRONMENTAL PROTECTION
1996 APR -8 AM 9:
AWM-HAZ WASTE FAC. BRANCH

VIA FAX

April 2, 1996
File #530-3.3

Frank Faranca, Project Manager
New Jersey Department of Environmental Protection
Division of Responsible Party Site Remediation
Bureau of Federal Case Management
CN 028
401 East State Street
Trenton, New Jersey 08625-0028

Re: NJPDES-DGW Permit Sampling Schedule
Lenox China, Pomona, New Jersey

Dear Mr. Faranca:

Lenox China is requesting NJDEP's approval to revise the groundwater monitoring schedule stipulated in Lenox's NJPDES-DGW permit, which calls for monitoring in February, May, August, and November. Lenox requests that the schedule be changed to January, April, July, and October.

During our telephone conversation yesterday, you and Daryl Clark indicated that NJDEP can approve this schedule change within a few days by issuing a "minor modification" to the current NJPDES-DGW. After receiving NJDEP's approval, Lenox will schedule the second quarter 1996 monitoring round for the week of April 22.

Please call Rick Inyard or me if you have any questions.

Very truly yours,

EDER ASSOCIATES

James M. Barish
Project Manager/Hydrogeologist

Frederick H. Inyard, P.E.
Senior Vice President

cc: ~~A. Park, USEPA~~
L. Fantin, Esq.
J. Kinkela
G. Berman
M. Foley

MA2880.ltr

204

APR 19 1996

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Louis A. Fantin, Esq.
Vice President
Lenox Incorporated
100 Lenox Drive
Lawrenceville, New Jersey 08648-2394

Re: Draft Modification of the Hazardous and Solid Waste Amendments (HSWA) of 1984 Permit
Lenox China, a Division of Lenox, Incorporated
Pomona, New Jersey

Dear Mr. Fantin:

Enclosed for review and comment are copies of the draft HSWA Permit Modification and the draft Statement of Basis (SB). The U.S. Environmental Protection Agency (EPA) and the New Jersey Department of Environmental Protection (NJDEP) jointly issued the RCRA post-closure permit on October 29, 1992. The post-closure permit consisted of the HSWA Permit and the State New Jersey Pollutant Discharge Elimination System (NJPDES)/Discharge to Groundwater (DGW) Permit. Pursuant to these Permits, Lenox completed remedial investigations and EPA and NJDEP were informed in a letter dated March 29, 1996 of the completion of the implementation of the remedial measures.

Condition E.9 of the 1992 HSWA Permit requires selection of the final remedial measures through a modification of the HSWA Permit. The draft Modification and the draft SB have been prepared in compliance with this condition. As per Title 40 of the Code of Federal Regulations section 124.10 (40 C.F.R. § 124.10), a public notice for the draft Modification will be issued for public review and comment on April 23, 1996 in the Atlantic City Press and will also be announced through radio station WFPG AM/FM on the same date. The comment period will extend for 45 days from the date of the public notice. Final approval of the remedial measures will be formally adopted through the issuance of the HSWA Permit Modification.

If you have any questions or require more information, please contact Mr. Andrew Park, of my staff, at (212) 637-4184.

Sincerely yours,

Andrew Bellina, P.E.
Chief, Hazardous Waste Facilities Branch

Enclosures

cc: John Kinkela, Lenox China
Frank F. Faranca, NJDEP

bcc: Andrew Bellina, 2AWM-HWF, w/o encl.
Barry Tornick, 2AWM-HWF, w/o encl.
~~Andrew Park, 2AWM-HWF, w/encl.~~
Joseph Clore, 2AWM-HWF, w/encl.
Christine McCulloch, 2ORC-AWTS, w/encl.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
290 BROADWAY
NEW YORK, NEW YORK 10007-1866

DRAFT

HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984
PERMIT MODIFICATION

Permittee: Lenox China, a Division of
Lenox, Incorporated
Tilton Road
Pomona, New Jersey 08240

I.D. Number: NJD002325074
Effective Date: DRAFT
Expiration Date: DRAFT

This modifies the Hazardous and Solid Waste Amendments (HSWA) Permit that was issued in October 1992 (effective date of December 1, 1992 and expiration date of December 1, 1997) by the United States Environmental Protection Agency ("EPA" or "Agency") to Lenox China, a Division of Lenox, Inc. (hereinafter called the "Permittee"), located at Tilton Road, Pomona, New Jersey. This HSWA Permit Modification is issued under the authority of the Resource Conservation and Recovery Act (RCRA) of 1976, as amended by HSWA, 42 U.S.C. §§ 6921-6931, and 40 C.F.R. Parts 124, 264, and 270.

The 1992 HSWA Permit required the Permittee to conduct investigations to determine any releases of hazardous waste or hazardous constituents from the facility through its waste management operations and, if determined to be released, the extent and degree of environmental impacts. Pursuant to the HSWA Permit and also the New Jersey Pollutant Discharge Elimination System/Discharge to Groundwater (NJPDES/DGW) permit issued by the New Jersey Department of Environmental Protection (NJDEP), the Permittee has conducted remedial investigations and/or interim corrective measures for the facility and delineated the extent and degree of soil and groundwater contamination. This HSWA Permit Modification requires, for the contaminated soils and groundwater, the Permittee to implement corrective measures and to continue the trichloroethylene (TCE) groundwater remediation program.

The 1992 HSWA permit, as amended by this HSWA Permit Modification, in conjunction with the NJPDES/DGW Permit, as amended, constitute the RCRA Post-Closure Permit for the facility.

This HSWA Permit Modification is effective as of DRAFT, and shall remain in effect until DRAFT unless revoked

and reissued, modified or terminated in accordance with 40 C.F.R. §§ 270.41, 270.42 or 270.43, or continued in accordance with 40 C.F.R. § 270.51(a).

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Conrad Simon, Director
Air and Waste Management Division
United States Environmental Protection Agency
Region II

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Date

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MODULE II - FACILITY DESCRIPTION

I. SUPPLEMENTAL BACKGROUND

The facility (Lenox China, a Division of Lenox, Inc.) is located on Tilton Road, in Pomona, Atlantic County, New Jersey on fifty six (56) acres of land. The facility has been manufacturing since 1954 ceramic dinnerware and giftware. Processes involved in the manufacture of the products are blending of earthen clay and alumino-silicates, molding and plastering, firing, coating and glazing with glass formed from lead compounds, and etching to add patterns and designs. During the facility operation, various units including surface impoundments, drum storage areas, and an incinerator were or have been used for the management of wastes generated at the facility. The management of wastes at the facility resulted in contamination of soils and groundwater.

In 1986, EPA, with support of NJDEP, conducted a RCRA Facility Assessment (RFA) for the facility, to identify Solid Waste Management Units (SWMUs) and/or Areas of Concern (AOCs) that had been used, whether intended or not, for management of wastes at the facility and to assess the likelihood of releases of hazardous constituents from those SWMUs/AOCs. Based on the RFA, EPA and NJDEP prepared in March 1989 the RFA report. The RFA report identified 15 SWMUs/AOCs and recommended field investigations for ten (10) SWMUs/AOCs for potential releases to soils and/or groundwater. In accordance with the recommendations of the RFA report, EPA issued in October 1992 the HSWA Permit which required Lenox China to conduct field investigations. [Note: EPA has determined that this facility is not located within an Environmental Justice (EJ) area.]

Concurrent with the EPA action, the groundwater monitoring conducted since the early 1980s by the facility pursuant to the New Jersey Pollutant Discharge Elimination System/Discharge to Groundwater (NJPDES/DGW) permit issued by the New Jersey Department of Environmental Protection (NJDEP), detected elevated levels of trichloroethylene (TCE) in groundwater beneath the facility. Subsequent investigations delineated the extent and degree of the TCE contamination in groundwater and it was concluded that the contamination might have been caused by releases from the degreaser sludge pit (SWMU #1) and the drum storage area (SWMU #12). Since 1990, the facility has been implementing, in accordance with NJDEP's approval, the TCE groundwater remediation program. The State RCRA post-closure permit, prepared by NJDEP under their authorized RCRA program, required the facility to implement post-closure care for the RCRA surface impoundments, to continue the TCE remediation system, and to conduct corrective action investigations to determine potential releases from SWMUs/AOCs at the facility. The EPA HSWA

Permit and the State RCRA post-closure permit were issued in October 1992.

While conducting investigations required by the HSWA Permit and the State RCRA post-closure permit, the facility identified one new SWMU (precious metal incinerator), in addition to the 15 SWMUs identified in the RFA report. The RCRA Facility Investigation (RFI) was completed in December 1994, which specified the extent and degree of lead and zinc contamination in soils found in the areas of SWMU #2 (Sludge Disposal Area) and AOC #13 (Area Between Monitoring Well #10 and Aloe Street). The site wide groundwater monitoring program, that had been implemented by the facility since the early 1980s, showed no elevated levels of lead or zinc in the groundwater. It was concluded that the lead and zinc are immobile in soil and/or subsoil, and probably would not be released to the groundwater. The RFI report recommended remedial measures for the contaminated soils in the areas of the SWMU #2 and AOC #13.

The TCE groundwater remediation system consists of seven off-site recovery wells with a total flow rate of up to 350 gallons per minute, and treatment of the pumpage with a carbon adsorption system to lower current TCE concentrations to a level equal to or below the health-based cleanup standard for TCE, which is 1 ppb. Treated groundwater is either discharged into two recharge trenches located within the facility property boundaries, or is used for: (1) on-site and/or off-site spray irrigation, or (2) non-contact cooling water in plant operations. The site-wide groundwater monitoring has shown that the TCE groundwater remediation program is effective in controlling off-site migration of contaminated groundwater and in reducing the levels of TCE in groundwater.

J. SUMMARY OF CORRECTIVE MEASURES

Lenox will implement the corrective measures in the Remedial Action Work Plan (Project #530-7) dated April 1995 and in the Remedial Action Work Plan Addendum dated June 15, 1995 (Appendices E and F). A summary of the corrective measures that Lenox must implement, at a minimum, are provided below.

Soils: NJDEP's soil cleanup standards for lead are 400 ppm (residential) and 600 ppm (nonresidential), which are consistent with or more stringent than the federal standards of 500 ppm to 1,000 ppm. NJDEP's soil cleanup standards for zinc are 1500 ppm for both residential and nonresidential, which is more stringent than EPA health based concentrations. These health based standards were developed based on standard residential and non-residential exposure scenarios. The State's standards were used by Lenox to ascertain the boundaries of those areas which have capped and/or fenced.

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- SWMU #2 (Sludge Disposal Area):

1. Most of the SWMU prior to implementation of the corrective measures was already covered with asphalt. The existing asphalt will be extended or a synthetic membrane cap will be installed to cover soils, and/or areas will be fenced, where the lead and zinc concentrations exceed their respective residential cleanup standards (400 ppm and 1500 ppm). The capping and/or fencing of the contaminated soil will limit the potential for exposure so that it is no longer considered a viable pathway. Lenox will implement long term monitoring and maintenance of the caps and fence.
2. If site conditions change, resulting in higher levels of potential exposure of contaminated soils to humans or the environment, Lenox will implement additional corrective measures, as needed, to meet the applicable standards.
3. Placing, in accordance with the State law, a notation in the deed to the property or in some other instrument, such as New Jersey Declaration of Environmental Restriction (which normally is examined during title search) that will, in perpetuity, notify any potential property purchaser of the existence of hazardous constituents in the soil, where the contamination is located, and the extent and degree of the contamination. Therefore, future uses of the land will be subject to restriction.

- AOC #13 (Area Between Monitoring Well 10 and Aloe Street):

1. Placing a fence around the AOC and/or capping unfenced areas to restrict access with long term monitoring and maintenance of the fence and caps. The fencing around the area will limit the potential for exposure so that it is no longer considered a viable pathway.
2. If site conditions change, resulting in higher levels of potential exposure of contaminated soils to humans or the environment, Lenox will implement additional corrective measures, as needed, to meet the applicable standards.
3. Placing, in accordance with the State law, a notation in the deed to the property or in some other instruments, such as New Jersey Declaration of Environmental Restriction (which normally is examined during title search) that will, in perpetuity, notify any potential property purchaser of the existence of hazardous constituents in the soil, where the contamination is located, and the extent and degree of the contamination. Therefore, future use of the land will be subject to restriction.

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Groundwater: The goal of groundwater remediation is to restore the quality of groundwater to the groundwater health-based cleanup standard of 1 ppb for trichloroethylene.

Lenox will continue the current ongoing TCE groundwater remediation system, in accordance with the Modification of the NJPDES/DGW Permit being issued in addition to this Modification of the HSWA Permit. The groundwater remediation system consists of seven recovery wells with a total flow rate of up to 350 gallons per minute, and treatment of the pumpage with a carbon adsorption system to lower current TCE concentrations to a level equal to or below the health-based cleanup standard for TCE of 1 ppb. Treated groundwater is either discharged into two recharge trenches located within the facility property boundaries, or is used for: (1) on-site and/or off-site spray irrigation, or (2) non-contact cooling water in plant operations.

The groundwater will be monitored pursuant to the NJPDES/DGW permit and its modifications to assess the potential for releases of lead and zinc present in SWMU #2 and AOC #13 into groundwater.

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MODULE VIII - CORRECTIVE MEASURES FOR THE FACILITY

A. INTRODUCTION: Module III, Condition E.9 of the 1992 HSWA Permit requires selection of final corrective measures for the facility through a modification of the HSWA Permit. The modification must comply with the requirements of 40 C.F.R. Part 124 and § 270.41. Contained within this Module and Appendices E and F, are the corrective measures selected by EPA Region II.

B. APPLICABILITY: Sixteen (16) Solid Waste Management Units (SWMUs) and/or Areas of Concern (AOCs) were identified during the RCRA Facility Assessment (RFA) and/or the investigations conducted by the Permittee pursuant to the 1992 HSWA Permit and the New Jersey Pollutant Discharge Elimination System/Discharge to Groundwater (NJPDES/DGW) permit. Ten of these SWMUs/AOCs had been investigated and/or remediated as per the requirements of the HSWA Permit and the NJPDES/DGW permit. The investigation results have shown that two SWMUs - Sludge Disposal Area (SWMU #2) and Area Between Monitoring Well #10 and Aloe Street (AOC #13) - need corrective measures and the current TCE groundwater remediation system must continue. A summary of the status and/or investigation results for the 16 SWMUs is provided in the Table below.

SWMUs/AOCs	Finding	Corrective Measures
1. Degreaser Sludge Pit	The soil investigation showed no discernable constituents.	No further action needed.
2. Sludge Disposal Area	The soil investigation showed elevated levels of lead (up to 40,000 ppm) and zinc (up to 3,000 ppm). Contaminated soils need to be addressed.	Asphalt or synthetic membrane cap(s) and/or fencing, and Declaration of Environmental Restrictions (DER)
3. Waste Pile	This unit was located right adjacent to the Glaze Basin (SWMU #10). The closure of the Glaze Basin had successfully removed contaminated soils near the Basin and also the Waste Pile.	No further action needed.
4. Polishing Lagoon	This unit was remediated by excavation and off-site disposal of wastes and contaminated soils, under Condition B.6, Module III (Interim Corrective Measures) of the 1992 HSWA Permit.	No further action needed.
5. Tilton Road Pond	The investigation conducted on sludge and aqueous liquid (mostly water) in the unit showed no discernable constituents.	No further action needed.
6. Underground Effluent Transfer Pipe	The soil investigation showed no discernable constituents.	No further action needed.

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7. Equalization Sump	The unit was dismantled and is no longer in use. The soil investigation showed no discernable constituents.	No further action needed.
8. Piping	The soil investigation showed no discernable constituents.	No further action needed.
9. Underground Storage Tanks	The Underground Storage Tanks were closed under the State Underground Storage Tank Program. No investigation was required under the 1992 HSWA permit.	Not required.
10. Glaze Basin	The RCRA-regulated unit was closed under the authorized State RCRA program and is currently under post-closure care monitoring. No investigation was required under the 1992 HSWA permit.	Not required.
11. Slip Basin	The RCRA-regulated unit was closed under the authorized State RCRA program and is currently under post-closure care monitoring. No investigation was required under the 1992 HSWA permit.	Not Required.
12. Drum Storage Area	The RCRA-regulated unit was closed under the authorized State RCRA program and is currently being used for less-than-90-day storage. Soil investigations conducted under the closure of the SWMU showed low levels of TCE, much below the proposed soil action level. No further action for soil was required under the 1992 HSWA Permit. The ongoing TCE groundwater remediation system will continue remediation of TCE-contaminated groundwater.	No further action is needed for soil, but groundwater will continue to be remediated through the TCE Groundwater Remediation System.
13. Area Between Monitoring Well #10 and Aloe Street	The soil investigation showed elevated levels of lead (up to 15,000 ppm) and zinc (up to 3,000 ppm). Contaminated soils need to be addressed.	Fencing and/or asphalt or synthetic membrane cap, and DER.
14. Two Tanks (Neutralization)	Information submitted in compliance with the 1992 HSWA permit has supported that field investigations are not required.	Not required.
15. Filter Press	Information submitted in compliance with the 1992 HSWA permit has supported that field investigations are not required.	Not required.
16. Precious Metal Incinerator	The soil investigation showed no discernable constituents.	No further action needed.

C. STANDARD CONDITIONS FOR CORRECTIVE MEASURES

1. Work Plans. All work plans, if required to be submitted pursuant to this Module, shall include:

   a. Quality Assurance/Quality Control protocols to ensure that data generated is valid and supported by documented procedures;
   b. Other plans, specifications and protocols, as applicable;
   c. A schedule for starting specific tasks, completing the work and submitting progress and final reports; and

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d. Plans for the treatment, storage, discharge or disposal of wastes to be generated by activities described therein.

2. Monitoring and Records. Requirements for monitoring and records shall be in accordance with Permit Condition F.9 of Module I of this Permit.

3. Health/Safety Plans. The Permittee shall develop, according to applicable Federal, State and local requirements, and submit to the Division Director, health and safety plans that will be implemented to ensure the health and safety of project personnel, plant personnel and the general public.

The plans shall be developed as a stand alone document. The plans shall include, but are not limited to all of the requirements specified in Task III, Condition D of Appendix A, Section II, except Conditions D.2.b., D.2.c. and D.2.e which are not applicable. In addition, Module I, Condition D.2. is not applicable to these plans.

4. Guidance Documents. When preparing the submissions described in this Module, the Permittee shall follow applicable guidance documents issued by EPA and the New Jersey Department of Environmental Protection (NJDEP) in a manner reflecting reasonable technical considerations.

5. Reporting.

a. The Permittee shall submit to the Division Director, signed progress reports, as specified in the NJPDES/DGW Permit and its Modification and the work plans approved or to be approved pursuant to this Module, of all activities related to the Corrective Measures, beginning no later than ninety (90) calendar days after the effective date of this Permit Modification. These reports shall contain:

i. A description of the work completed during the reporting period;
ii. Summaries of all findings made during the reporting period, including summaries of laboratory data;
iii. Summaries of all changes made during the reporting period;
iv. Summaries of all contacts made with representatives of the local community and public interest groups during the reporting period;

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v. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems;

vi. Changes in personnel conducting or managing the corrective action activities during the reporting period;

vii. Projected work for the next reporting period; and

viii. Copies of daily reports, inspection reports, laboratory/monitoring data, etc., generated during the reporting period, which are critical to the implementation of the corrective action program required by this Module.

b. Upon request, copies of other relevant reports and data not identified in Condition C.5.a of this Module shall be made available to the Division Director.

c. The Division Director may require the Permittee to conduct new or more extensive assessments, investigations, studies, or corrective measures, based upon information provided in the progress reports referred to in Condition C.5.a of this Module above, or upon other supporting information.

d. All plans and schedules required by the conditions of this Module are, upon approval of the Division Director, incorporated into the Permit and become enforceable. Any noncompliance with such approved plans and schedules shall be termed noncompliance with this Permit. Extensions of the due dates for submittals may be granted by the Division Director in accordance with the permit modification processes under 40 C.F.R. § 270.41(a) and/or § 270.42(d).

6. Compliance with Governmental Requirements. During corrective measures (including, but not limited to, equipment decommissioning, excavation and unit demolition) required under this Module, the Permittee shall ensure that the transportation, treatment, storage, discharge, and disposal of all contaminated materials generated as a result of such activities (including, but not limited to, soils, sediments, liquids, tanks, pipes, pumps, rubble, debris, and structural materials) are performed in an environmentally sound manner pursuant to all applicable Federal, State and local requirements and that are protective of public health and the environment. Nothing in this Module shall be construed to require

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the Permittee to proceed in a manner which is in violation of any such requirements.

7. Newly-Identified Releases or SWMUs/AOCs: If, during the implementation of or after completion of the implementation of the corrective measures required in this Module, the Permittee identifies new releases or new SWMUs/AOCs that have not been addressed under the 1992 HSWA Permit and this Permit Modification, the Permittee shall notify EPA and NJDEP of new findings. The Permittee shall evaluate potential releases of hazardous waste or hazardous constituents and/or the extent and degree of releases from newly-identified SWMUs/AOCs and/or of newly-identified releases. In addition, the Permittee shall implement appropriate corrective measures, if determined to be needed. The Permittee must follow the procedures described in Module III, Conditions C and D, for notification, reporting, and submissions of investigation and/or corrective measures workplans.

D. CORRECTIVE MEASURES: Lenox will implement the corrective measures specified in the Remedial Action Work Plan (Project #530-7) dated April 1995 and in the Remedial Action Work Plan Addendum dated June 15, 1995 (jointly referred to a the Remedial Action Work Plan or "RAWP"). These documents and the requirements set forth therein are approved through this Modification and have been incorporated into the HSWA Permit as Appendices E and F, respectively. A summary of the corrective measures that Lenox must meet, at a minimum, are provided below:

1. Sludge Disposal Area (SWMU #2):

a. Lead and zinc were detected in soils (mostly 2 to 8 feet from the ground surface) in a range of up to 40,000 ppm and 3,000 ppm, respectively. These levels are above the soil cleanup standards for lead, 400 ppm (residential) and 600 ppm (nonresidential), and for zinc, 1,500 ppm (residential and nonresidential). The site groundwater data collected for the facility since the early 1980s support the conclusion that the elevated levels of lead and zinc in the soils have had no impact on the groundwater.

b. Most of the SWMU prior to the implementation of corrective measures was already covered with asphalt. The existing asphalt will be extended or a synthetic membrane cap will be installed to cover soils, and/or areas will be fenced, where the lead and zinc concentrations exceed their respective residential cleanup standards (400 ppm

and 1500 ppm). The capping and/or fencing of the contaminated soil will limit the potential for exposure so that it is no longer considered a viable pathway. Lenox will implement long term monitoring and maintenance of the caps and fence.

2. Area Between Monitoring Well #10 and Aloe Street (AOC #13):

   a. Lead and zinc were detected in soils (mostly 2 to 8 feet from the ground surface) in a range of up to 15,000 ppm and 3,000 ppm, respectively, which exceed cleanup levels.
   b. Placing a fence around and/or capping the AOC to restrict access with long term monitoring and maintenance of the fence and the cap. The fencing around or the capping of the area will limit the potential for exposure so that it is no longer considered a viable pathway.

3. Groundwater:

   a. The goal of groundwater remediation is to restore the quality of groundwater to the groundwater health-based cleanup standard of 1 ppb for trichloroethylene.
   b. The facility will continue the currently ongoing TCE groundwater remediation system, in accordance with the Modification of the NJPDES/DGW Permit being issued in addition to this Modification of the HSWA Permit. The groundwater remediation system consists of seven recovery wells with a total flow rate of up to 350 gallons per minute, and treatment of the pumpage with a carbon adsorption system to lower TCE concentrations to a level equal to or below the health-based cleanup standard for TCE of 1 ppb. Treated groundwater is either discharged into two recharge trenches located within the facility property boundaries, or is used for: (i) on-site and/or off-site spray irrigation, or (ii) non-contact cooling water in plant operations.
   c. The groundwater will be monitored pursuant to the NJPDES/DGW permit and it modifications for releases of lead and zinc present in SWMU #2 and AOC #13 into groundwater.

4. General:

   a. The Permittee shall implement/maintain security measures to restrict unauthorized access to and/or unauthorized disturbance to the areas of the

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Sludge Disposal Area (SWMU #2) and of the Area Between Monitoring Well #10 and Aloe Street (AOC #13).

b. The Permittee shall place, in accordance with State law, a notation in the deed to the property or in some other instrument, such as New Jersey Declaration of Environmental Restriction (which normally is examined during title search) that will, in perpetuity, notify any potential property purchaser of the existence of the hazardous constituents in soil, located at the Sludge Disposal Area (SWMU #2) and the area between Monitoring Well #10 and Aloe Street (AOC #13), and the extent and degree of the contamination. Future use of the land will be subject to the restriction.

c. Within 180 calendar days of the effective date of this HSWA Permit Modification, the Permittee shall submit a corrective measures report to EPA and NJDEP for review and approval. The corrective measure report should provide information, including necessary engineering specifications, demonstrating that Lenox has taken the corrective measures required for SWMU #2 and AOC #13, as described in Conditions D.1.b and D.2.b of this Module and set forth in the Remedial Action Work Plan. Lenox must revise the report to address deficiencies, if any, that EPA and NJDEP may have noted note.

d. Within 60 calendar days of EPA's and NJDEP's approval of the corrective measure report, the Permittee shall submit, to EPA and NJDEP, a certification that a notation in the deed, as required in Condition D.4.b of this Module, has been placed.

e. Financial Assurance: Within sixty (60) calendar days after the effective date of this Permit Modification, the Permittee shall demonstrate in writing to the Division Director that financial assurance for completing and maintaining the approved corrective measure(s) has been in place.

f. Additional Corrective Measures: If EPA, NJDEP, and/or the Permittee determines that the corrective measures required by this Module for the facility will not meet the standards specified in this Module, the Permittee shall implement additional corrective measures as needed, to meet applicable standards.

   i. Within ninety (90) calendar days of the determination by EPA, NJDEP, and/or the Permittee, the Permittee shall submit to EPA

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and NJDEP a workplan which provides detailed description of additional corrective measures to be implemented.

ii. Approval of a proposed workplan will be provided through a modification of the HSWA Permit in accordance with the requirements of 40 C.F.R. § 270.41(a) and/or 270.42(d).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
290 BROADWAY
NEW YORK, NEW YORK 10007-1866

STATEMENT OF BASIS FOR CORRECTIVE MEASURES UNDER RCRA §§ 3004(u) AND (v) FOR LENOX CHINA, A DIVISION OF LENOX, INC. POMONA, NEW JERSEY NJD002325074

INTRODUCTION

In October 1992, the U.S. Environmental Protection Agency (EPA) issued the Hazardous and Solid Waste Amendments (HSWA) Permit (effective on December 1, 1992 and expiring on December 1, 1997) for the Lenox China, a Division of Lenox, Incorporated (Lenox) facility in Pomona, New Jersey. One of the major requirements of the HSWA Permit was that Lenox conduct corrective action investigations to determine whether the site and the surrounding environmental media of soil, subsurface soil, groundwater, and air were contaminated and, if necessary, to determine the nature and extent of such contamination. Under the State of New Jersey Pollutant Discharge Elimination System/Discharge to Groundwater (NJPDES/DGW) program, Lenox was also required to conduct site investigations and/or remediation. The New Jersey Department of Environmental Protection (NJDEP) was responsible for overseeing the implementation of the NJPDES/DGW requirements.

In order to avoid duplication of effort, EPA and NJDEP have been coordinating with each other to ensure that investigations conducted by Lenox for the facility meet both federal and state requirements. Under the joint EPA/NJDEP oversight, Lenox has completed site investigations and, based on the investigation results and the current site conditions, has proposed and implemented corrective measures that would address the contaminated soil and groundwater identified by the investigations.

Before EPA's final approval, the corrective measures must be subject to public comment. Thus, in accordance with Module III, Condition E.9 of the 1992 HSWA Permit, the approval of final corrective measures must be done through a modification of the HSWA permit. The modification must comply with the requirements set forth in 40 C.F.R. Part 124 and § 270.41. Alternatives to and/or substitution of the corrective measures may be made if public comments or additional data indicate that such a change would result in a more appropriate remedy.

This Statement of Basis (SB) has been prepared in accordance with 40 C.F.R. § 124.7. This SB includes summaries of the results

from various investigations conducted by Lenox pursuant to the HSWA Permit and the State NJPDES/DGW permit. More detailed information can be found in the investigation reports that Lenox has submitted to NJDEP and EPA. This SB also explains the: (1) the corrective measures that are being utilized to address the contaminated soils and groundwater found at the Lenox facility in Pomona, New Jersey, and (2) the rationale supporting such corrective measures. Also briefly discussed is the Agency's position regarding those Solid Waste Management Units (SWMUs) for which the determinations of "No Further Action" or "Not Required" were made following the investigation or review of additional information. This SB, the Draft HSWA Permit Modification, the investigation reports and other documents, are available at EPA or NJDEP and constitute the administrative record for this facility. The public may review any of these documents which can provide a more comprehensive understanding of the facility and the investigation activities conducted there.

Pursuant to 40 C.F.R. § 124.10, EPA will announce a forty-five (45) day public comment period and opportunity for a public hearing. During the public comment period, the public may review and/or provide EPA with comments on the draft HSWA Permit Modification, the corrective measures and other determinations, and the administrative record. EPA will issue its final determination with regard to the approval of the corrective measures for the facility, after the public comment period has ended and the comments/information submitted have been reviewed and considered by the Agency. Detailed information concerning the public participation process is provided later in this SB.

CORRECTIVE MEASURES AND DETERMINATION OF "NO FURTHER ACTION" OR "NOT REQUIRED"

The following are the corrective measures being implemented and the determinations of "no further action" or "not required" for the sixteen SWMUs located at the Lenox facility.

1. Corrective Measures: A summary of the corrective measures that Lenox is implementing, at a minimum, are provided below. A more detailed description of the corrective measures is provided in the Remedial Action Work Plan (Project #530-7) dated April 1995 and in the Remedial Action Work Plan Addendum dated June 15, 1995, which Lenox China submitted to EPA and NJDEP. If the corrective measures are approved as the final remedy, a report confirming completion of the measures is due within 180 days after issuance of this HSWA Permit modification.

    a. Sludge Disposal Area (SWMU #2): Lead and zinc were detected in soils (mostly 2 to 8 feet from the ground surface) at concentrations up to 40,000 ppm and 3,000 ppm, respectively. These levels are above the soil

cleanup standards for lead, 400 ppm (residential) and 600 ppm (nonresidential), and for zinc, 1,500 ppm (residential and nonresidential). The site groundwater data collected for the facility since the early 1980s support the conclusion that the elevated levels of lead and zinc in the soils have had no impact on the groundwater.

i. Where the lead and zinc concentrations exceed their respective residential cleanup standards (400 ppm and 1500 ppm), the existing asphalt has been extended, a synthetic membrane cap has been installed, and areas have been fenced, as specified in the Remedial Action Work Plan (see Appendices E and F of the HSWA Permit Modification). Lenox will continue to implement long term monitoring and maintenance of the caps and fence.

ii. If site conditions change, resulting in higher levels of potential exposure of contaminated soils to humans or the environment, Lenox will implement additional corrective measures, as needed, to meet applicable standards.

iii. Deed restriction, such as the State mechanism, Declaration of Environmental Restrictions (DER), must be implemented. Future use of the land will therefore be subject to restriction.

b. Area Between Monitoring Well #10 and Aloe Street (AOC #13): Lead and zinc were detected in soils (mostly 2 to 8 feet from the ground surface) at concentrations up to 15,000 ppm and 3,000 ppm, respectively.

i. A fence has been placed around the AOC and unfenced areas have been capped to restrict access. There will be ongoing long term monitoring and maintenance of the fence and caps.

ii. If site conditions change, resulting in higher levels of potential exposure of contaminated soils to humans or the environment, Lenox will implement additional corrective measures, as needed, to meet applicable standards.

iii. Deed restriction, such as the State mechanism, Declaration of Environmental Restrictions (DER), must be in place. Future use of the land will therefore be subject to restriction.

c. Groundwater: Elevated levels of Trichloroethylene (TCE), above the health-based standard of 1 ppb, have been detected in the facility's groundwater.

i. Groundwater will be monitored pursuant to the Modification of the NJDEPS/DGW Permit to assess the potential for releases of lead or zinc present in SWMU #2 or AOC #13 into groundwater.

ii. The TCE groundwater remediation system, pursuant to the NJPDES/DGW Permit and its modifications, will continue for the remediation of contaminated groundwater.

(1) The goal of groundwater remediation is to restore the quality of groundwater to the groundwater cleanup standard of 1 ppb for TCE.

(2) The facility will continue the current ongoing TCE groundwater remediation system. The groundwater remediation system consists of seven recovery wells with a total flow rate of up to 350 gallons per minute, and treatment of the pumpage with a carbon adsorption system to lower current TCE concentrations to a level equal to or below the health-based cleanup standard for TCE of 1 ppb. Treated groundwater is either discharged into two recharge trenches located within the facility property boundaries or is used for: (A) on-site and/or off-site spray irrigation, or (B) non-contact cooling water in plant operations.

As demonstrated through the investigations and the groundwater remediation and monitoring program, the elevated levels of metal constituents found in the soil, (i.e., lead and zinc), have not been detected in the groundwater. It has been determined that the mobility of those metals is quite limited in the soil. Under these circumstances, the purpose of the soil remediation corrective measures is to limit public access to the areas of the contamination since the contamination already appears to be contained on site. The soil remedial measures, a combination of capping and fencing, meet this goal and prevent further exposure to the contaminated soils. As for the remediation of the groundwater contaminated by TCE, the ongoing program will restore the quality of the groundwater so that it poses no threats to human health and the environment.

2. Determinations of "No Further Action" or "Not Required":

The RCRA Facility Investigation (RFI) was completed in December 1994. A summary of the investigation results is provided in the table found in the FACILITY BACKGROUND section of this SB.

Out of the SWMUs/AOC specified in the 1992 HSWA Permit that required an RFI, these seven SWMUs following the investigations were determined to need "no further action": the Degreaser Sludge Pit (SWMU #1), Waste Pile (SWMU #3), Polishing Lagoon (SWMU #4), Tilton Road Pond (SWMU #5), Underground Effluent Transfer Pipe (SWMU #6), Equalization Sump (SWMU #7), and Piping (SWMU #8). The Precious Metal Incinerator (SWMU #16), that was "newly" identified as a SWMU after the issuance of the 1992 HSWA Permit, was also investigated under the RFI and deemed to need "no further action", remedial or otherwise. The basis for these determinations of "no further action" is that there are no discernible concentrations, or such low concentrations, of hazardous constituents present in these SWMUs. The SWMUs do not present a threat to human health and the environment.

The 1992 HSWA Permit identified three SWMUs - the Underground Storage Tanks (SWMU #9), the Glaze Basin (SWMU #10), and the Slip Basin (SWMU #11) - that were closed in accordance with applicable hazardous waste regulations. Since the issuance of the 1992 HSWA Permit, EPA has no information that would indicate the need to require additional action be performed on these SWMUs. Thus, these SWMUs do "not require" corrective action under this HSWA Permit. It should be noted that the Glaze Basin (SWMU #10) and the Slip Basin (SWMU #11) are currently subject to post-closure monitoring under the State's NJPDES/DGW permit as modified on December 1, 1995.

As for the Two Neutralization Tanks (SWMU #14) and the Filter Press (SWMU #15), the Permittee was required under the 1992 HSWA Permit to submit information that would allow the EPA to make a preliminary assessment as to whether or not an RFI was needed for either SWMU. Based on information submitted, it was determined that field investigations were not necessary for the two SWMUs since there had been no release of hazardous constituents. Thus, SWMUs #14 and #15 do "not require" corrective action under this HSWA Permit.

FACILITY BACKGROUND

The facility (Lenox China, a Division of Lenox, Inc.) is located on Tilton Road, in Pomona, Atlantic County, New Jersey on fifty six (56) acres of land. The facility has been manufacturing since 1954 ceramic dinnerware and giftware. Processes involved in the manufacture of the products are blending of earthen clay and alumino-silicates, molding and plastering, firing, coating and glazing with glass formed from lead compounds, and etching to add patterns and designs. During the facility operation, various units including surface impoundments, drum storage areas, and an incinerator were or have been used for the management of wastes generated at the facility. The management of wastes at the facility resulted in contamination of soils and groundwater.

In 1986, EPA, with support of NJDEP, conducted a RCRA Facility Assessment (RFA) for the facility, to identify Solid Waste Management Units (SWMUs) and/or Areas of Concern (AOCs) that had ever been used, whether intended or not, for management of wastes at the facility and to assess the likelihood of releases of hazardous constituents from those SWMUs/AOCs. Based on the RFA, EPA and NJDEP prepared in March 1989 the RFA report. The RFA report identified 15 SWMUs/AOCs and recommended field investigations for ten (10) SWMUs/AOCs for potential releases to soils and/or groundwater. In accordance with the recommendations of the RFA report, EPA issued in October 1992 the HSWA permit which required Lenox China to conduct field investigations. [Note: EPA has determined that the facility is not located in an Environmental Justice (EJ) area.]

Concurrent with the EPA action, the groundwater monitoring conducted since the early 1980s by the facility pursuant to the NJPDES/DGW permit issued by the New Jersey Department of Environmental Protection (NJDEP), detected elevated levels of trichloroethylene (TCE) in groundwater beneath the facility. Subsequent investigations had delineated the extent and degree of the TCE contamination in groundwater and had also concluded that it might have been caused by releases from the degreaser sludge pit (SWMU #1) and the drum storage area (SWMU #12). Since 1990, the facility has been implementing, in accordance with NJDEP's approval, the TCE groundwater remediation program. The State RCRA post-closure permit, prepared by NJDEP under their authorized RCRA program, required the facility to implement post-closure care for the RCRA surface impoundments, to continue the TCE remediation system, and to conduct corrective action investigations to determine potential releases from SWMUs/AOCs at the facility. The State RCRA post-closure permit was issued in October 1992, jointly with the EPA HSWA permit.

While conducting investigations required by the HSWA permit and the State RCRA post-closure permit, the facility identified one new SWMU (precious metal incinerator), in addition to the 15

SWMUs identified in the RFA report. The RCRA Facility Investigation (RFI) was completed in December 1994, which specified the extent and degree of the lead and zinc contamination in soils found in the areas of SWMU #2 (Sludge Disposal Area) and AOC #13 (Area Between Monitoring Well #10 and Aloe Street). The site wide groundwater monitoring program that had been implemented by the facility since the early 1980s had shown no elevated levels of lead or zinc in groundwater. It was concluded that lead and zinc are immobile in soil and/or subsoil, and probably would not be released to groundwater. The RFI report recommended remedial measures be taken for the contaminated soils in the areas of the two SWMUs. A summary of the investigation results is provided in the table below.

SWMUs/AOCs	Finding	Corrective Measures
1. Degreaser Sludge Pit	The soil investigation showed no discernable constituents.	No further action needed.
2. Sludge Disposal Area	The soil investigation showed elevated levels of lead (up to 40,000 ppm) and zinc (up to 3,000 ppm). Contaminated soils need to be addressed.	Asphalt or synthetic membrane cap(s) and/or fencing, and Declaration of Environmental Restrictions (DER)
3. Waste Pile	This unit was located right adjacent to the Glaze Basin (SWMU #10). The closure of the Glaze Basin had successfully removed contaminated soils near the Basin and also the Waste Pile.	No further action needed.
4. Polishing Lagoon	This unit was remediated by excavation and off-site disposal of wastes and contaminated soils, under Condition B.6, Module III (Interim Corrective Measures) of the 1992 HSWA Permit.	No further action needed.
5. Tilton Road Pond	The investigation conducted on sludge and aqueous liquid (mostly water) in the unit showed no discernable constituents.	No further action needed.
6. Underground Effluent Transfer Pipe	The soil investigation showed no discernable constituents.	No further action needed.
7. Equalization Sump	The unit was dismantled and is no longer in use. The soil investigation showed no discernable constituents.	No further action needed.
8. Piping	The soil investigation showed no discernable constituents.	No further action needed.
9. Underground Storage Tanks	The Underground Storage Tanks were closed under the State Underground Storage Tank Program. No investigation was required under the 1992 HSWA permit.	Not required.
10. Glaze Basin	The RCRA-regulated unit was closed under the authorized State RCRA program and is currently under post-closure care monitoring. No investigation was required under the 1992 HSWA permit.	Not required.
11. Slip Basin	The RCRA-regulated unit was closed under the authorized State RCRA program and is currently under post-closure care monitoring. No investigation was required under the 1992 HSWA permit.	Not Required.
12. Drum Storage Area	The RCRA-regulated unit was closed under the authorized State RCRA program and is currently being used for less-than-90-day storage. Soil investigations conducted under the closure of the SWMU showed low levels of TCE, much below the proposed soil action level. No further action for soil was required under the 1992 HSWA Permit. The ongoing TCE groundwater remediation system will continue remediation of TCE-contaminated groundwater.	No further action is needed for soil, but groundwater will continue to be remediated through the TCE Groundwater Remediation System.

13. Area Between Monitoring Well #10 and Aloe Street	The soil investigation showed elevated levels of lead (up to 15,000 ppm) and zinc (up to 3,000 ppm). Contaminated soils need to be addressed.	Fencing and/or asphalt or synthetic membrane cap, and DER.
14. Two Tanks (Neutralization)	Information submitted in compliance with the 1992 HSWA permit has supported that field investigations are not required.	Not required.
15. Filter Press	Information submitted in compliance with the 1992 HSWA permit has supported that field investigations are not required.	Not required.
16. Precious Metal Incinerator	The soil investigation showed no discernable constituents.	No further action needed.

The TCE groundwater remediation system consists of seven recovery wells with a total flow rate of up to 350 gallons per minute, and treatment of the pumpage with a carbon adsorption system to lower current TCE concentrations to a level equal to or below the health-based cleanup standard for TCE of 1 ppb. Treated groundwater either is discharged into two recharge trenches located within the facility property boundaries, or is used for: (1) on-site and/or off-site spray irrigation, or (2) non-contact cooling water in plant operations. The site-wide groundwater monitoring has shown that the TCE groundwater remediation program is effective in controlling off-site migration of contaminated groundwater and in reducing the levels of TCE in groundwater.

FACILITY RISKS

EPA and NJDEP have determined, based on the results of the investigations conducted for the facility, that there are three potential exposure routes through which the constituents of concern found at the facility pose risks to human health and the environment. The three routes and their potential risks are discussed as follows:

1. Potential Exposures to Contaminated Soils: Concentrations of lead and zinc detected under SWMU #2 (Sludge Disposal Area) and AOC #13 (Area Between Monitoring Well #10 and Aloe Street) are up to 40,000 ppm and 3,000 ppm, respectively, which are above their respective soil cleanup standards (400 ppm residential and 600 ppm nonresidential for lead, 1,500 ppm residential and nonresidential for zinc). Engineering and institutional controls, such as asphalt and/or synthetic membrane cap(s), fencing, and Declaration of Environmental Restrictions (DER) are expected to minimize risks from potential exposures to soils contaminated with lead and zinc.

SOIL CLEANUP STANDARDS APPLICABLE TO THE FACILITY

Chemical Constituents	Cleanup Standards (ppm)

Metals	lead	residential: 400 nonresidential: 600
	zinc	residential: 1,500 nonresidential: 1,500

2. Potential Exposure to Contaminated Groundwater: The TCE groundwater remediation system has been successful in reducing the plume of contaminated groundwater that has migrated off-site and in preventing further off-site migration. Currently, none of the wells located downgradient of the groundwater flow are used for potable purposes. Therefore, potential risks to human health or ecological species through exposure to contaminated groundwater would be minimal.

   However, the groundwater data collected since the early 1980s have shown that without the pumping program contaminated groundwater would migrate east or northeast, toward residential areas. Therefore, without the pumping program potential risks to human health or the environment would increase through use of contaminated groundwater for recreation, gardening, etc.

GROUNDWATER CLEANUP STANDARDS APPLICABLE TO THE FACILITY

Chemical Constituents	Cleanup Standards (ppb)
Trichloroethylene	1

3. Potential Impacts of Contaminated Soils on Groundwater: The site groundwater data collected for the facility since the early 1980s support the conclusion that the elevated levels of lead and zinc in the soils have had no impact on the groundwater.

SCOPE OF CORRECTIVE MEASURES

The corrective measures discussed in this SB are to ensure that exposure to any part of the facility, after the completion of corrective measures, would not pose unacceptable risks to human health and the environment. TCE is a volatile organic compound that is known to cause cancer in laboratory animals and, thus, is classified as a carcinogen. It has been determined that in cleaning-up the contaminated groundwater at the Lenox facility to a concentration of 1 ppb of TCE, the probability of contracting cancer as a result of exposure to the treated groundwater would

increase by one in a million, which is considered an acceptable risk.

Cancer risk standards and health based standards will be met for the entire facility, except the soils contaminated with lead and zinc in the areas of SWMU #2 and AOC #13. Direct contact with the contaminated soils could exceed health based standards assigned to those metals. However, the mobility of these metals is quite limited and potential exposures to the contaminated soils can be controlled through the implementation of engineering and institutional controls. In addition, the site groundwater data support the conclusion that the groundwater has not been impacted by the metal constituents found in contaminated soil. (Nevertheless, in order to ensure adequate protection to human health and the environment, groundwater will be monitored to access the possible migration of lead and zinc as well as there potential release into the groundwater.) Thus, the potential risks posed by the contaminated soils to human or ecological species would be minimized to acceptable levels since there direct contact exposure has been reduced and the potential migration of lead and zinc into the groundwater has been minimized.

EVALUATION OF THE CORRECTIVE MEASURES

The corrective measures have been evaluated with respect to the following factors:

- Overall Protection: The corrective measures eliminate, reduce, or control potential risks of the facility to human health and the environment.

- Attainment of Media Cleanup Standards: The engineering and institutional controls - asphalt and/or synthetic membrane cap(s), fencing, and DER - would ensure that soils contaminated above the soil cleanup standards are to be controlled to minimize or eliminate potential exposure to human and ecological species. Any potential future use of the land would need to be evaluated to determine the need for further remediation.

  The TCE groundwater remediation system will continue until the quality of groundwater meets the cleanup standard of 1 ppb.

- Controlling the Sources of Releases: All potential sources for groundwater contamination have been removed. The contaminated soils near SWMU #2 and AOC #13 have been determined not to be a source for groundwater contamination. However, access to those areas will be limited by asphalt

and/or a synthetic membrane cap(s) and fences to minimize risks from direct exposure to the contaminated soils.

- Compliance with Waste Management Standards: Lenox will comply with all applicable, relevant and appropriate federal, state, and local standards or regulations for the disposal of treated groundwater. This will assure that the management of wastes is conducted in a protective manner.

- Long-term Reliability and Effectiveness: The corrective measures would eliminate or prevent potential hazards by pumping and treating the contaminated groundwater. The groundwater monitoring system will assess the effectiveness of the treatment.

  By implementing engineering and institutional controls, the long-term risks of exposure to the remaining contaminates in the soils would be greatly reduced by preventing migration of the contaminated soil to surface water, air and other soils. In addition, the amount of water that would otherwise pass through the contaminated soils will be drastically reduced. The cap would be subject to long-term maintenance and its effectiveness would be evaluated through long-term monitoring. If needed, the fencing would prohibit human and animal contact with the contaminated areas. The DER will prohibit unacceptable development of these areas.

- Reduction of Toxicity, Mobility, or Volume of Wastes: Since no treatment would be provided to contaminated soils, the toxicity or volume of contaminated soils would not be significantly reduced. However, since it has been concluded through testing and monitoring that the lead and zinc are immobile in the soil and/or subsoil, these contaminates will not adversely affect the groundwater.

  The TCE contamination in groundwater will continue to be pumped and treated. Therefore, the level of toxicity and volume of contaminated groundwater will be reduced.

- Short-term Effectiveness: The groundwater pumping is an effective mechanism to prevent potential off-site migration of contaminated groundwater.

- Implementability: No major administrative barriers for the implementation of the corrective measures are expected.

- Cost: The corrective measures costs (capital cost and the operation/maintenance cost) for SWMU #2 and AOC #13 (contaminated soils) were evaluated. The costs

After the close of the public comment period, written comments submitted during the public comment period or comments gathered at the public hearing, if held, will be considered by EPA in its final decision. EPA will prepare the Final HSWA Permit Modification along with the Final Decision and Response to Comments (FD & RTC), to include the final approval of the corrective measures and also to address all written comments and/or any substantive comments gathered at the public hearing, if held. If the Agency's final decision differs substantially from the draft, EPA will issue a public notice indicating the revised determination and the reasons for such determination.

Within thirty (30) days of the final decision, any person who submitted timely written comments on any aspect of this draft HSWA Permit or made a statement at the public hearing may petition the Administrator of EPA to review any portion of the decision.

associated with capping and/or fencing the SWMU and/or AOC were estimated, in 1995, to be $371,950. The cost for removing the contaminated soil at SWMU #2 and AOC #13 and disposing of the material off-site was estimated to be $2,799,820.

In summary, based on the information currently available the corrective measures provide a balanced approach to the remedial activities while ensuring protection of human health and the environment. The corrective measures provide for the safe management of the contaminated soils which will remain at the facility and attain the media clean-up standard for TCE in groundwater.

PUBLIC PARTICIPATION

The public is invited to provide comments on the corrective measures and determinations of "No Further Action" or "Not Required", this SB, the accompanying Draft HSWA Permit Modification, or other corrective measures alternatives that may be applicable to this facility. The public comment period will begin on _____ and will end on _____.

Comments may be submitted in writing to:

Andrew Bellina, P.E.
Chief, Hazardous Waste Facilities Branch
U.S. Environmental Protection Agency Region II
290 Broadway, 22nd Floor
New York, New York 10007-1866

The public may also request a public hearing concerning corrective measures alternatives for the facility. Requests for a public hearing may be submitted in writing to the address above by _____. Requests for a public hearing must state the nature of the issues proposed to be raised at the hearing. If, on the basis of requests made during the public comment period, there is a significant degree of public interest in this SB or to the Draft HSWA Permit Modification, EPA will hold a public hearing. Public notice of a hearing shall be given at least thirty (30) days before the hearing.

The administrative record for the facility is available for review at the EPA location stated above any time between 8:30 a.m. to 4:00 p.m. Monday through Friday, except holidays, and also at the New Jersey Department of Environmental Protection, 401 East State Street, Trenton, New Jersey 08625.

NEXT STEPS

204

ENVIRONMENTAL PROTECTION

1996 MAY 29 PM 10: 25

SITE FAC. BRANCH

State of New Jersey

Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
NO. P 170 080 231

MAY 21 1996

Mr. Andrew Park
Hazardous Waste Facilities Branch
U.S Environmental Protection Agency, Region II - Twenty Second Floor
290 Broadway Avenue
New York, NY 10007-1866

Re: **Lenox China Facility**
Draft HSWA Permit and Statement of Basis for Corrective Measures
Galloway Township, Atlantic County

Dear Mr. Park:

The New Jersey Department of Environmental Protection (Department) reviewed the above referenced Draft HSWA permit and Statement of Basis prepared by the U.S. Environmental Protection Agency (EPA) and received April 23, 1996.

The Department's comments on the submission are outlined below:

1. On page II-6, paragraph 1 of the permit, it is stated that no elevated levels of lead and zinc have been detected in ground water at the site. This is incorrect. Based on the Ground Water Quality Standards (GWQS) for a Class I-PL (Pinelands) aquifer, elevated levels of lead and zinc have been detected in ground water on Lenox property. Elevated levels of zinc have also been detected down gradient of the Lenox property. Lenox is currently performing a 3-year lead/zinc ground water monitoring and statistical analysis study for the purpose of determining the background concentration of these metals at the Lenox site. Upon completion of the study and after the data have been analyzed, the appropriate ground water standards for these metals will be determined.

2. On page II-5, paragraph 2 of the permit, it should be noted that only 6 of the 7 recovery wells are currently being operated as part of the TCE remediation system. Each well is pumped at approximately 50 gpm. The seventh well may be used in the future for ground water recovery.

3. On page VIII-5, under the title Sludge Disposal Area, the paragraph should be revised to incorporate comment #1 above.

4. Page 3, paragraph 1 of Statement of Basis. See comment #1 above.

5. Page 4, last paragraph of Statement of Basis. See comment #1 above.

6. Page 7, Statement of Basis. See comment #1 above.

7. Page 9, under the heading Ground Water Cleanup Standards. See comment #1 above.

Should you have any questions, please contact me at (609) 984-4071.

Sincerely,

Frank Faranca

Frank Faranca, Project Manager
Bureau of Federal Case Management

c: Daryl Clark, DPFSR/BGWPA

State of New Jersey

Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

TO: ANDY PARK

FAX #: 212-637-4437

DATE: 5-21-96 NUMBER OF PAGES ___ (inc. cover)

FROM: FRANK FARANCA

BUREAU OF _____

PHONE: _____ FAX: (609) 633-1454

COMMENTS: _____

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State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection

Robert C. Shinn, Jr.
Commissioner

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
NO._____

MAY 21 1996

Mr. Andrew Park
Hazardous Waste Facilities Branch
U.S Environmental Protection Agency, Region II - Twenty Second Floor
290 Broadway Avenue
New York, NY 10007-1866

Re: **Lenox China Facility**
Draft HSWA Permit and Statement of Basis for Corrective Measures
Galloway Township, Atlantic County

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6. Page 7, Statement of Basis. See comment #1 above.

7. Page 9, under the heading Ground Water Cleanup Standards. See comment #1 above.

Should you have any questions, please contact me at (609) 984-4071.

Sincerely,

Frank Faranca

Frank Faranca, Project Manager
Bureau of Federal Case Management

c: Daryl Clark, DPFSR/BGWPA

AP
204

LENOX

ENVIRONMENTAL PROTECTION AGENCY
1996 JUL 11 AM 11:00
AWM-HAZ WASTE FAC. BRANCH

July 8, 1996

CERTIFIED MAIL - RETURN RECEIPT REQUESTED #P 542475257

Frank Faranca
New Jersey Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
Bureau of Federal Case Management
401 East State Street CN 028
Trenton, New Jersey 08625-0028

Re: NJPDES-DGW Permit #0086487

Memorandum of Agreement - Lenox China
Tilton Road, Galloway Township, Atlantic County
Block 453, Lot 1
Case # : 95-6-29-0905-37

Dear Mr. Faranca,

This letter is to inform you that Nick Nahorniak, VP Technical Services has been replace by Mark Chinn, Director of Technical Services. Please address all future correspondence concerning the referenced permit and MOA to him.

Should you have any questions concerning the above, please do not hesitate to contact me at (609) 484-9798.

Sincerely,

John F. Kinkela
Director of Environmental Engineering

JFK/jfk
cc: M. Chinn
L. Fantin

Mr. Andrew Park
United States Environmental Protection Agency
Air and Waste Management Division
Hazardous Waste Facilities Branch
Region II
26 Federal Plaza
New York, New York 10278

United States Environmental Protection Agency
Office of Policy and Management
Permits Administration Branch
Region II
26 Federal Plaza
New York, New York 10278

Regional Administrator
United States Environmental Protection Agency
Region II
26 Federal Plaza
New York, New York 10278

Barry T - Simply HWP 204

LENOX

July 8, 1996

CERTIFIED MAIL - RETURN RECEIPT REQUESTED # P 542475256

Mr. Andrew Park
United States Environmental Protection Agency
Air and Waste Management Division
Hazardous Waste Facilities Branch
Region II
26 Federal Plaza
New York, New York 10278

NJD 002 325074

Re: USEPA-HSWA Permit EPA ID# 002325074

Dear Mr. Park,

This letter is to inform you that Nick Nahorniak, VP Technical Services has been replaced by Mark Chinn, Director of Technical Services. Please address all future correspondence concerning the referenced permit and MOA to him.

Should you have any questions concerning the above, please do not hesitate to contact me at (609) 484-9798.

Sincerely,

John F. Kinkela
Director of Environmental Engineering

JFK/jfk
cc: M. Chinn
L. Fantin

Frank Faranca
New Jersey Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
Bureau of Federal Case Management
401 East State Street CN 028
Trenton, New Jersey 08625-0028

US EPA
96 JUL 11 PM 2:31
PPIB

United States Environmental Protection Agency
Office of Policy and Management
Permits Administration Branch
Region II
26 Federal Plaza
New York, New York 10278

~~Regional Administrator~~
United States Environmental Protection Agency
Region II
26 Federal Plaza
New York, New York 10278

204

State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection

Robert C. Shinn, Jr.
Commissioner

NOV - 3 1995

Louis A. Fantin, Esq.
Lenox China
100 Lenox Drive
Lawrenceville, New Jersey 08648

RE: Memorandum of Agreement - Lenox China
Tilton Road, Galloway Township, Atlantic County
Block 453, Lot 1
Case #: 95-6-29-0905-37

Dear Mr. Fantin:

Enclosed please find one original executed copy of the Memorandum of Agreement for the investigation and remediation of the referenced Site. The effective date of the Memorandum of Agreement is the date which the Memorandum of Agreement was executed by the Department.

Within thirty (30) calendar days from the effective date of the Memorandum of Agreement, you are requested to submit to the Department a schedule of implementation of those activities and /or phases enumerated in the Memorandum of Agreement. If all remedial activities required by this Memorandum of Agreement are completed, then please submit a schedule of when required documents will be submitted. This schedule is needed to assure that Department personnel can be appropriately assigned to this matter to ensure timely response by the Department.

Pursuant to paragraph 9, Joseph Karpa will be your contact for the Department concerning all matters addressed by the Memorandum of Agreement. Do not hesitate to contact Joseph Karpa at 609-633-0719 if you have any questions regarding this document.

Enclosed is a copy of the **certification** which must accompany all submittals to the Department.

Sincerely,

Mark J. Pedersen, Section Chief
Case Assignment Section

Enclosures
c: Atlantic County Health Department

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State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection

Robert C. Shinn, Jr.
Commissioner

IN THE MATTER OF	:	
THE TILTON ROAD SITE	:	MEMORANDUM
AND	:	OF
LENOX CHINA	:	AGREEMENT

This Memorandum of Agreement is entered into pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection (hereinafter "the Department" or "NJDEP") by N.J.S.A. 13:1D-1 et seq. and N.J.S.A. 58:10B et seq. and the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq. and the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq. and duly delegated to the Section Chief, Division of Responsible Party Site Remediation, Case Assignment Section pursuant to N.J.S.A. 13:1B-4.

FINDINGS

1. The property that is the subject of this Memorandum of Agreement is owned by Lenox Incorporated, d/b/a/Lenox China and is located on Tilton Road and is designated as Block 453, Lot 1 on the tax maps of the Township of Galloway, Atlantic County, New Jersey and as further defined on attached map A (hereinafter the "Site").

2. Lenox Incorporated d/b/a Lenox China (hereinafter "Lenox China"), incorporated in the State of New Jersey, with principal offices at 100 Lenox Drive, Lawrenceville, New Jersey 08648 is the party executing this Memorandum of Agreement.

3. The intent of this Memorandum of Agreement is to allow Lenox China to conduct any of the remedial activities outlined herein with oversight from the Department. Lenox China has indicated to the Department, that it wishes to conduct the following activities at the Site with the Department's oversight:

a. Remedial Action

4. By entering into this Memorandum of Agreement, Lenox China does not admit to any fact, fault or liability under any statute or regulation for conditions which existed before, during, or after Lenox China's execution of this Memorandum of Agreement nor shall it be construed as a waiver of any right or defense Lenox China may have with regard to the Site.

5. By letter dated March 15, 1994, NJDEP approved Lenox China's July 1993 Work Plan to define a Classification Exception Area for lead and zinc pursuant to a three year groundwater monitoring study with a statistical analysis of the monitoring data. Further the intent of this Memorandum of Agreement is to

allow Lenox China to fulfill its USEPA RCRA Corrective Action process and related NJDEP requirements by performing certain Remedial Action Workplan activities (RAWP) approved by the Department in its letters dated May 15, 1995, March 14, 1994, and August 31, 1993. In addition to the RAWP activities , Lenox China has indicated to the Department, that it wishes to conduct the following activities at the Site with the Deparments oversight under this Memorandum of Agreement:

a. SWMU number 2 and adjacent areas- groundwater monitoring for lead and zinc

b. area of concern-groundwater monitoring for lead and zinc

c. TCE Plume-groundwater monitoring

AGREEMENT

I. Remediation

6. Lenox China agrees to submit the following documents on the following schedule and the Department agrees to review and comment on documents submitted.

a. A detailed groundwater monitoring plan as a supplement to the existing groundwater sampling and analysis plan

b. A Remedial Action Report for RAWP activities-within thirty (30) calendar days after completion of RAWP activities.

c. A Declaration of Environmental Restriction (DER) to address SWMU No. 2 and the area of concern-within thirty (30) calendar days after completion of RAWP activities.

d. A Classification Exception Area Report- ninety (90) calendar days after completion of activities approved by the department in its March 15, 1994 letter.

e. Groundwater monitoring reports as required by the Department's approved supplement to the Groundwater Sampling and Analysis Plan

7. Within thirty (30) calendar days after the Department's receipt of any submission pursuant to this Memorandum of Agreement, the Department will inform Lenox China in writing of any administrative deficiencies in the submission, pursuant to N.J.A.C. 7:26E, that will prevent the Department from conducting its review. When the Department determines that the submission is administratively complete, the Department will notify Lenox China in writing of the timeframe required for the Department to complete the review. This review will include a determination by the Department whether or not all remedial activities have been carried out consistent with applicable rules, standards, and guidelines.

8. Within seven (7) calendar days after the effective date of this Memorandum of Agreement, Lenox China will submit to the Department: a) the name, address and telephone number of the individual who will be the contact for Lenox

China regarding technical matters concerning this Memorandum of Agreement and b) the name and address of the designated agent for Lenox China for the purpose of service for all matters concerning this Memorandum of Agreement.

9. Lenox China may terminate this Memorandum of Agreement if Lenox China determines that it is no longer feasible or desirable to continue with this Memorandum of Agreement, when Lenox China:

a. Submits full payment to the Department for any Department oversight costs the Department incurred pursuant to this Memorandum of Agreement which Lenox China has not paid;

b. Notifies the Department in writing of its intentions to terminate this Memorandum of Agreement;

c. Submits all data generated pursuant to this Memorandum of Agreement; and

d. Ensures that no environmental hazards exist at the Site as a result of Lenox China's actions pursuant to this Memorandum of Agreement.

e. The Department will cease review of any submittals under this memorandum of agreement on the date it receives the notice of intent to terminate described in Paragraph 9b above; and no oversight costs will accrue after the Department has determined that the signatory is in full compliance with Paragraph 9 The Department will then prepare a summary of its costs and provide it to Lenox China. The date of termination of this agreement is the date of the Department's receipt of both the full unconditioned payment of all of the Department's oversight costs and all data required by Paragraph 9c. above.

II. Project Coordination

10. Unless otherwise directed by the Department, Lenox China shall submit three (3) copies of all documents required by this Memorandum of Agreement to the person identified below, who shall be the Department's contact for Lenox China for all matters concerning this Memorandum of Agreement.

New Jersey Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
Bureau of State Case Management
401 East State Street - CN 028
Trenton, New Jersey 08625-0028

Attention: Joseph Karpa, Section Chief

III. Financial Obligations

11. Upon receipt of a summary of the Department's costs incurred in connection with its oversight functions of this Memorandum of Agreement, Lenox China shall submit to the Department a cashier's or certified check payable to the "Treasurer, State of New Jersey" with NJDEP Form 062A for the full amount of the Department's oversight costs. Lenox China cannot be released from its

obligations under this Memorandum of Agreement, until all oversight costs, for work performed by the Department, are paid.

12. Beginning three hundred sixty-five (365) calendar days after the effective date of this Memorandum of Agreement, and annually thereafter on that same calendar day Lenox China shall submit to the Department a detailed summary of all monies spent to date pursuant to this Memorandum of Agreement, the estimated cost of all future expenditures associated with this Memorandum of Agreement (including any operation and maintenance costs), and the reason for any changes from the previous cost review Lenox China submitted.

IV. Reservation of Rights

13. The Department reserves the right to unilaterally terminate this Memorandum of Agreement in the event that Lenox China violates any terms or fails to meet the obligations of this Memorandum of Agreement or in the event that the Site becomes a high priority for the Department.

14. Nothing herein, including any document the Department issues as agreed to above, shall be interpreted to constitute a release or waiver of liability for any of the conditions which existed before, during or after the Department's execution of this Memorandum of Agreement.

V. General Conditions

15. Lenox China shall, in addition to any other obligation required by law, notify the Department contact immediately upon knowledge of any condition posing an immediate threat to human health and/or the environment.

16. Lenox China shall perform all work conducted pursuant to this Memorandum of Agreement in accordance with N.J.A.C. 7:26E and prevailing professional standards then prevailing.

17. Lenox China shall conform all actions required by this Memorandum of Agreement with all applicable federal, State and local laws and regulations.

18. Nothing in this Memorandum of Agreement shall be deemed to impose on Lenox China any additional liabilities or obligations, other than those specifically stated herein. Nothing shall relieve Lenox China from complying with all other applicable laws and regulations.

19. Lenox China shall preserve all potential evidentiary documentation found at the Site, which may provide a nexus between the contaminated site and any responsible party or lead to the discovery of other areas of concern including without limitation, documents, labels, drums, bottles, boxes or other containers, and/or other physical materials that could lead to the establishment of the identity of any person which generated, treated, transported, stored or disposed of contaminants at the Site, until written approval is received from the Department to do otherwise.

20. Upon receipt of a written request from the Department, Lenox China shall submit to the Department all data and information concerning contamination at the Site, including technical records and contractual documents, and raw

sampling and monitoring data, whether or not such data and information was developed pursuant to this Memorandum of Agreement. If Lenox China believes any such data or information is protected by a privilege it will retain the data and information and notify the Department of the nature of the document and the privilege claimed. Lenox China may request that the Department keep confidential information contained in a submission to the Department pursuant to N.J.A.C. 7:14A-11.

21. The Department will issue a no further action statement when the Department has determined that the signatory has conducted the agreed upon remedial activities pursuant to this Memorandum of Agreement and the remedial activities are in accordance with all Department requirements.

22. This Memorandum of Agreement shall be governed and interpreted under the laws of the State of New Jersey.

23. This Memorandum of Agreement shall be binding, jointly and severally, on each party, its successors and assignees subject to the right of termination above. No change in the ownership or corporate or business status of any party, or of the facility or Site shall alter any signatories's responsibilities under this Memorandum of Agreement.

24. This Memorandum of Agreement shall become effective upon execution hereof by all parties.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

Date: 10/11/95 BY: Mark J. Pedersen

Mark J. Pedersen, Section Chief
DRPSR Case Assignment Section

Lenox China

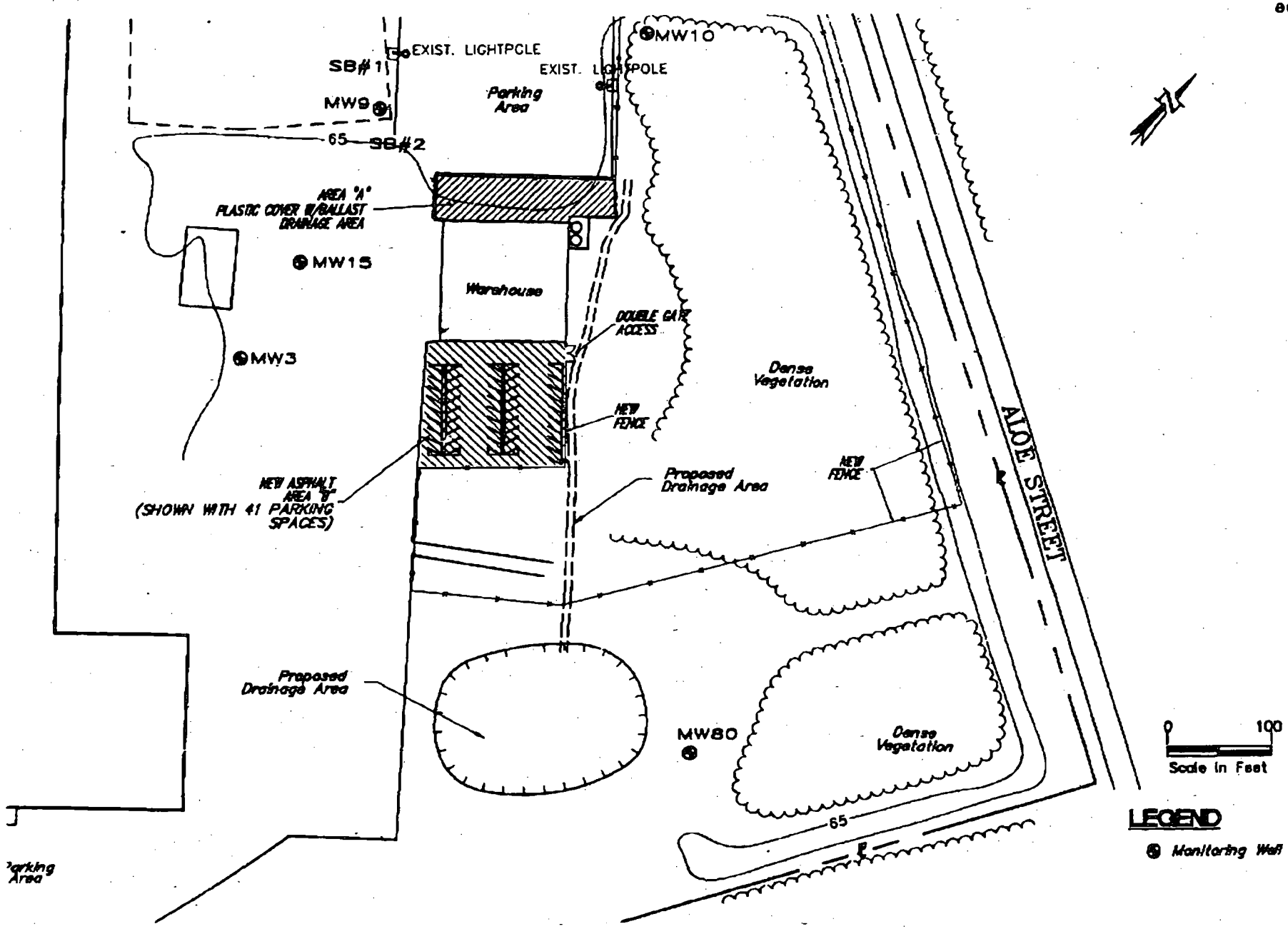
Date: October 5, 1995 BY: Jerome J. Ciszewski

Signature

Jerome J. Ciszewski
Print Full Name Signed Above

President, Lenox Manufacturing
Title

eder associates
FIGURE D.1



PROPOSED DRAINAGE CHANNEL AND RECHARGE AREA

LENOX CHINA
BOUONA, NEW JERSEY

Division of Responsible Party Site Remediation
Bureau of Federal Case Management
CN 028, Floor 5 West
401 East State Street, Trenton, NJ 08625-0028
Phone: (609) 984-4071, Fax: (609) 633-1454

New Jersey Department of Environmental Protection

VIA FAX:

DATE: 07/18/96

TO: Mr. Andrew Park
USEPA

FAX/PHONE: (212) 637-4437

FROM: Frank Faranca, Project Manager
Bureau of Federal Case Management

SUBJECT: Lenox China MOA

Andy:

Attached please find the Department's MOA with Lenox as we discussed this morning. Sorry it did not get to you sooner. A separate group in the DEP prepared this document.

If you have any questions regarding the enclosed, please contact me at the above telephone number. FFF

State of New Jersey
Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

NOV - 3 1995

Louis A. Fantin, Esq.
Lenox China
100 Lenox Drive
Lawrenceville, New Jersey 08648

RE: Memorandum of Agreement - Lenox China
Tilton Road, Galloway Township, Atlantic County
Block 453, Lot 1
Case #: 95-6-29-0905-37

Dear Mr. Fantin:

Enclosed please find one original executed copy of the Memorandum of Agreement for the investigation and remediation of the referenced Site. The effective date of the Memorandum of Agreement is the date which the Memorandum of Agreement was executed by the Department.

Within thirty (30) calendar days from the effective date of the Memorandum of Agreement, you are requested to submit to the Department a schedule of implementation of those activities and /or phases enumerated in the Memorandum of Agreement. If all remedial activities required by this Memorandum of Agreement are completed, then please submit a schedule of when required documents will be submitted. This schedule is needed to assure that Department personnel can be appropriately assigned to this matter to ensure timely response by the Department.

Pursuant to paragraph 9, Joseph Karpa will be your contact for the Department concerning all matters addressed by the Memorandum of Agreement. Do not hesitate to contact Joseph Karpa at 609-633-0719 if you have any questions regarding this document.

Enclosed is a copy of the **certification** which must accompany all submittals to the Department.

Sincerely,

Mark J. Pedersen, Section Chief
Case Assignment Section

Enclosures
c: Atlantic County Health Department

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Recycled Paper

State of New Jersey
Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

IN THE MATTER OF
THE TILTON ROAD SITE
AND
LENOX CHINA

MEMORANDUM
OF
AGREEMENT

This Memorandum of Agreement is entered into pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection (hereinafter "the Department" or "NJDEP") by N.J.S.A. 13:1D-1 et seq. and N.J.S.A. 58:10B et seq. and the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq. and the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq. and duly delegated to the Section Chief, Division of Responsible Party Site Remediation, Case Assignment Section pursuant to N.J.S.A. 13:1B-4.

FINDINGS

1. The property that is the subject of this Memorandum of Agreement is owned by Lenox Incorporated, d/b/a/Lenox China and is located on Tilton Road and is designated as Block 453, Lot 1 on the tax maps of the Township of Galloway, Atlantic County, New Jersey and as further defined on attached map A (hereinafter the "Site").

2. Lenox Incorporated d/b/a Lenox China (hereinafter "Lenox China"), incorporated in the State of New Jersey, with principal offices at 100 Lenox Drive, Lawrenceville, New Jersey 08648 is the party executing this Memorandum of Agreement.

3. The intent of this Memorandum of Agreement is to allow Lenox China to conduct any of the remedial activities outlined herein with oversight from the Department. Lenox China has indicated to the Department, that it wishes to conduct the following activities at the Site with the Department's oversight:

a. Remedial Action

4. By entering into this Memorandum of Agreement, Lenox China does not admit to any fact, fault or liability under any statute or regulation for conditions which existed before, during, or after Lenox China's execution of this Memorandum of Agreement nor shall it be construed as a waiver of any right or defense Lenox China may have with regard to the Site.

5. By letter dated March 15, 1994, NJDEP approved Lenox China's July 1993 Work Plan to define a Classification Exception Area for lead and zinc pursuant to a three year groundwater monitoring study with a statistical analysis of the monitoring data. Further the intent of this Memorandum of Agreement is to

allow Lenox China to fulfill its USEPA RCRA Corrective Action process and related NJDEP requirements by performing certain Remedial Action Workplan activities (RAWP) approved by the Department in its letters dated May 15, 1995, March 14, 1994, and August 31, 1993. In addition to the RAWP activities , Lenox China has indicated to the Department, that it wishes to conduct the following activities at the Site with the Deparments oversight under this Memorandum of Agreement:

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b. area of concern-groundwater monitoring for lead and zinc

c. TCE Plume-groundwater monitoring

AGREEMENT

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a. A detailed groundwater monitoring plan as a supplement to the existing groundwater sampling and analysis plan

b. A Remedial Action Report for RAWP activities-within thirty (30) calendar days after completion of RAWP activities.

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a. Submits full payment to the Department for any Department oversight costs the Department incurred pursuant to this Memorandum of Agreement which Lenox China has not paid;

b. Notifies the Department in writing of its intentions to terminate this Memorandum of Agreement;

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d. Ensures that no environmental hazards exist at the Site as a result of Lenox China's actions pursuant to this Memorandum of Agreement.

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Division of Responsible Party Site Remediation
Bureau of State Case Management
401 East State Street - CN 028
Trenton, New Jersey 08625-0028

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obligations under this Memorandum of Agreement, until all oversight costs, for work performed by the Department, are paid.

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14. Nothing herein, including any document the Department issues as agreed to above, shall be interpreted to constitute a release or waiver of liability for any of the conditions which existed before, during or after the Department's execution of this Memorandum of Agreement.

V. General Conditions

15. Lenox China shall, in addition to any other obligation required by law, notify the Department contact immediately upon knowledge of any condition posing an immediate threat to human health and/or the environment.

16. Lenox China shall perform all work conducted pursuant to this Memorandum of Agreement in accordance with N.J.A.C. 7:26E and prevailing professional standards then prevailing.

17. Lenox China shall conform all actions required by this Memorandum of Agreement with all applicable federal, State and local laws and regulations.

18. Nothing in this Memorandum of Agreement shall be deemed to impose on Lenox China any additional liabilities or obligations, other than those specifically stated herein. Nothing shall relieve Lenox China from complying with all other applicable laws and regulations.

19. Lenox China shall preserve all potential evidentiary documentation found at the Site, which may provide a nexus between the contaminated site and any responsible party or lead to the discovery of other areas of concern including without limitation, documents, labels, drums, bottles, boxes or other containers, and/or other physical materials that could lead to the establishment of the identity of any person which generated, treated, transported, stored or disposed of contaminants at the Site, until written approval is received from the Department to do otherwise.

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24. This Memorandum of Agreement shall become effective upon execution hereof by all parties.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

Date: 10/11/95 BY: Mark J. Pedersen

Mark J. Pedersen, Section Chief
DRPSR Case Assignment Section

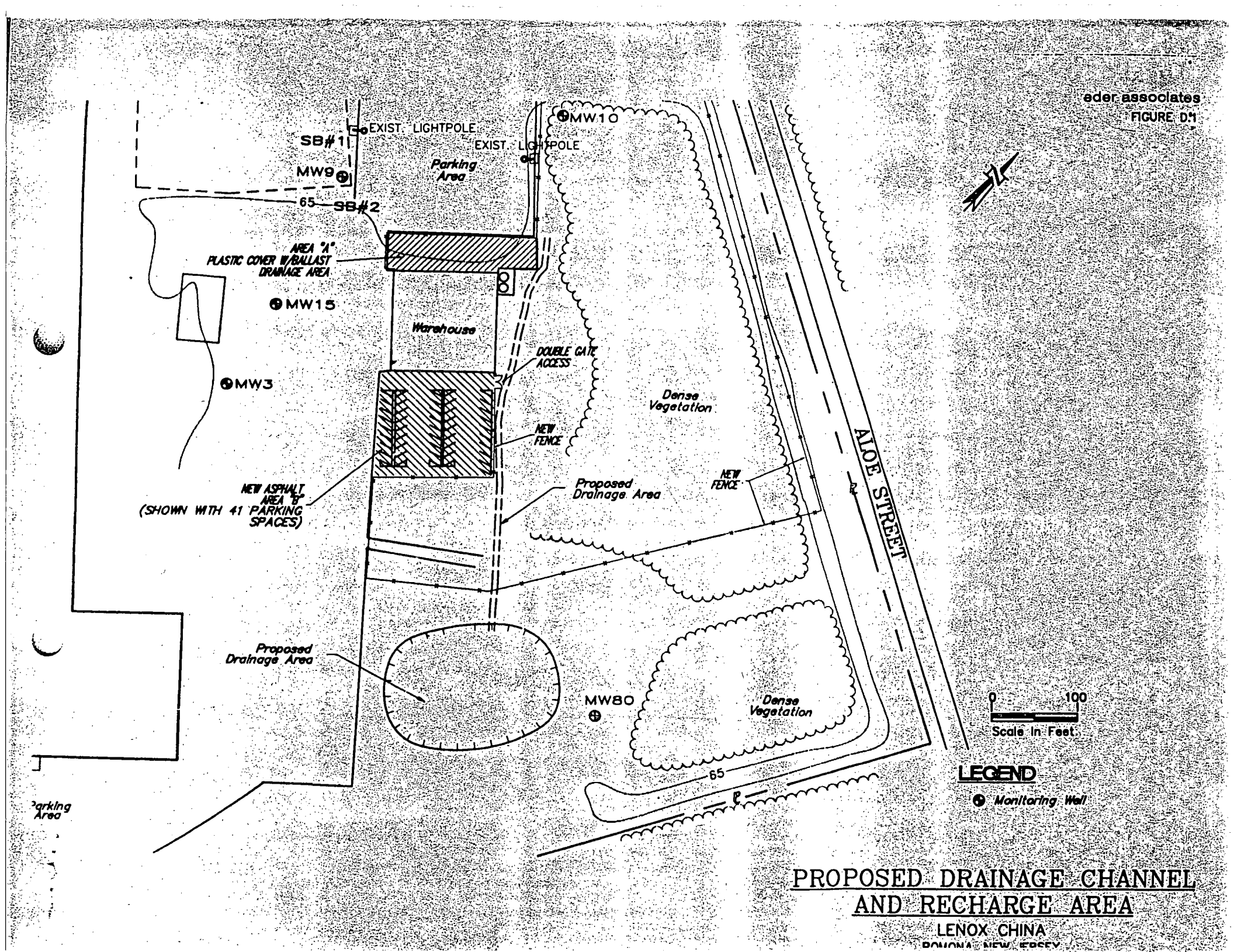
Lenox China

Date: October 5, 1995 BY: Jerome J. Ciszewski

Signature

Jerome J. Ciszewski
Print Full Name Signed Above

President, Lenox Manufacturing
Title



PROPOSED DRAINAGE CHANNEL AND RECHARGE AREA

LENOX CHINA

ROMONA, NEW JERSEY

204

FEB 20 1997

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

SEE ADDRESSES

Re: Notice of Issuance of Final Hazardous and Solid Waste Amendments of 1984 (HSWA) Permit Modification to Lenox China, a Division of Lenox, Incorporated, Pomona, New Jersey, NJD002325074

Dear Sir/Madam:

The United States Environmental Protection Agency (EPA) Region 2 has decided to issue a final HSWA permit modification to the Lenox China facility in Pomona, New Jersey. Enclosed are a copy of the final HSWA permit modification, the Statement of Basis, and the Final Decision and Response to Comments. The Final Decision and Response to Comments provides EPA's response to comments received by EPA during the public comment period (April 23, 1996 through June 10, 1996).

Any appeal of this decision must be filed to the USEPA Environmental Appeal Board at the address indicated below:

U.S. Environmental Protection Agency
Office of Administrator
Environmental Appeal Board (A-101)
401 M Street, SW
Room 1145 (West Tower)
Washington, DC 20460

Anyone wishing to appeal the permit modification decision should refer to the procedures set forth in 40 C.F.R. § 124.19. Within thirty (30) days after the date of this letter, any person who filed comments on the draft HSWA permit modification may petition the Environmental Appeal Board to review any condition of the draft HSWA permit modification. Any person who failed to file comments on the draft HSWA permit modification may petition for administrative review only to the extent of the changes from the draft to the final HSWA permit modification.

The thirty (30) day period to request review of this final permit decision shall begin with the service of this letter. (Note, for those parties receiving this letter by mail, three (3) additional days will be added to the prescribed thirty (30) day period, as is provided for at 40 C.F.R. § 124.20(d).)

Sincerely yours,

Kathleen C. Callahan
Director
Division of Environmental Planning and Protection

Enclosures

bcc: Raymond Basso, 2DEPP-RCRA w/o encls.
Barry Tornick, 2DEPP-RPB w/o encls.
Andy Park, 2DEPP-RPB w/o encls.
Hannah Maciejko, 2DEPP-RPB w/encls.

Permit Mailing List for the Lenox China, Pomona, New Jersey Facility,

1. (Applicant/Permittee)

   Lenox China Incorporated
   A Division of Lenox Incorp.
   Tilton Road
   Pomona, New Jersey 08240

2. Mr. Louis A. Fantin, Esq.
   Vice President
   Lenox Incorporated
   Lenox Drive Tilton Road
   Lawrenceville, New Jersey 08648

3. Mr. Nicholas Nahorniak
   Vice President, Engineering
   Lenox Incorporated
   Lenox Technical Center
   2511 Fire Road, Suite B-12
   Absecon, New Jersey 08201

4. Mr. Frank McAlister
   Chief, Permits Branch
   Office of Solid Waste and Emergency Response (WH-563)
   U.S.E.P.A.
   401 M Street, S.W.
   Washington, DC 20460

5. Mr. Bruce Venner
   Chief, Bureau of Federal Case Management
   New Jersey Department of Environmental Protection
   401 East State Street - CN-028
   Trenton, New Jersey 08625

6. Mr. Frank F. Faranca
   Case Manager
   Bureau of Federal Case Management
   NJDEP
   401 East State Street, CN-028
   Trenton, New Jersey 08625

7. Mr. David Sweeney
   Chief, Bureau of Groundwater Pollution Abatement
   New Jersey Department of Environmental Protection
   401 East State Street, CN-028
   Trenton, New Jersey 08625

8. Mr. Thomas Sherman
   Chief,Bureau of Hazardous Waste & Transfer Facilities
   NJDEP
   401 East State Street, CN-414
   Trenton, New Jersey 08625

9. Mr. Richard Gritman
U.S. Fish & Wildlife Service
Route 1 & 9 South
Newark International Plaza
Newark, New Jersey 08625

10. Mr. Lawrence Schmidt
New Jersey State Historic Preservation Office,
New Jersey Department of Environmental Protection
P.O. Box 1390
Trenton, New Jersey 08625

11. Mr. Anthony Scoppetuollo
Chief, Bureau of Coastal Enforcement & Field Services
NJDEP
1433 Hooper Avenue
Toms River, New Jersey 08753

12. The Pinelands Commission
P.O. Box 7
New Lisbon, New Jersey 08064

13. Atlantic County Health Department
201 South Shore Road
Northfield, New Jersey 08225-2370
Attn: Ms. Tracye Mcardle

14. Atlantic County Planning Board
1333 Atlantic Avenue, 7th Floor
Atlantic City, New Jersey 08401

15. Galloway Township Muncipal Utilities Authority
300 E. Jimmy Leeds Road
Absecon, New Jersey 08201

16. Mayor Meg Worthington
Township of Galloway
625 West White Horse Pike
Galloway, New Jersey 08240

17. Clerk of Galloway Township
625 West White Horse Pike
Galloway, New Jersey 08240

18. Environmental Commission
Galloway Township
P.O. Box 12
Oceanville, New Jersey 08231

19. Ms. Jane Bloom
Senior Staff Attorney
Natural Resources Defense Council
40 West 20th Street
New York, New York 10011

20. Mrs. Rita Fennelly
18 Highfield Road
Flanders, New Jersey 07836

21. S & W Waste Inc.
115 Jacobus Avenue
South Kearny, New Jersey 07023
Attn: E. Meyers (Contact Admin.)

22. Mr. Keith J. Duff
Rd. 3, 106 W. County Line Road
Jackson, New Jersey 08527

23. Ms. Eleanor O'Malley
12 Nevin Street
Jersey City, New Jersey 07306

24. Mr. Ronald J. Reid III
Environmental Coordinator
Sohio Engineered Materials Co.
P.O. Box 337
Niagara Falls, New York 14302

25. Mr. John Gaspari
President, NYTEST Environmental, Inc.
Box 1021, 75 Urban Avenue
Westbury, New York 11590

26. Mr. Sam W. Klickovich
415 S. Pitney Road
Absecon, New Jersey 08201

27. Lavallette Environmental Committee
P.O. Box 67
Lavallette, New Jersey 08735-0067

28. Rothrock Realty
4 Davis Terrace
Newton, New Jersey 07860

29. Mr. Cameron L. Lange
Project Manager
Beak Consultants Inc.
12072 Main Road
Akron, New York 14001-9755

30. Albert D. Martinelli, Inc.
49 E. Sherman Avenue
P.O. Box 2050
Vineland, New Jersey 08360

31. Mr. Edward M. Kelly
Manager, Works Engineering
BASF Corporation
Cranbury & South River Road
Jamesburg, New Jersey 08831

32. Mr. Kenneth D. McPherson, Jr.
Waters, McPherson, McNeil
400 Plaza Drive
Secaucus, New Jersey 07094

33. Commanding Office, Northern Div.
Naval Facilities Engineering Command
Bldg 77-1, PA Naval Base
Philadelphia, Pennsylvania 19112
Attn: Mr. DePaul, Code 202.2

34. Ironbound Committee
Against Toxic Waste
95 Fleming Avenue
Newark, New Jersey 07105

35. Ms. Audrey Zapp
Environmental Coordinator
Citizens Committee of Hudson County
242 Stevens Avenue
Jersey Coty, New Jersey 07003

36. Clyde N. Lattimer
Construction Co., Inc.
P.O. Box 4413
Cherry Hill, New Jersey 08034

204

Rec'd 9/27/01 AP

LENOX

September 13, 2001

CERTIFIED MAIL – RETURN RECEIPT REQUESTED #7000 1530 0003 2391 1061

Barry R. Tornick, Chief
New Jersey Section RCRA Program Branch
Division of Environmental Planning & Protection
United States Environmental Protection Agency
Region 2
290 Broadway
New York, New York 10007-186615

Re: HSWA Permit Renewal Application
Lenox China, Pomona, New Jersey
HSWA Permit #NJD002325074

Dear Mr. Tornick:

This letter serves as Lenox China's application to renew its Hazardous and Solid Waste Amendments (HSWA) Permit, which was jointly issued by the USEPA and the New Jersey Department of Environmental Protection (NJDEP) in 1992 and expires on March 24, 2002. As we discussed during our August 1 telephone conference with you and Mr. Andrew Park of USEPA, USEPA agreed that this letter submittal will serve as Lenox China's HSWA permit renewal application and that this letter submittal administratively satisfies post-closure permit renewal requirements at 40 CFR § 270.28.

Background

USEPA issued the current HSWA permit to Lenox China on October 29, 1992, with a December 1, 1992 effective date. The HSWA permit and the New Jersey Pollutant Discharge Elimination System/Discharge to Groundwater (NPDES/DGW) permit issued by NJDEP, constituted the full RCRA post-closure permit for the Lenox China facility.

The HSWA permit covers sixteen (16) Solid Waste Management Units (SWMUs) at the Lenox China facility; fifteen (15) SWMUs were referenced in the original permit and one (1) SWMU was identified after the permit was finalized and subsequently referenced in a permit modification issued by USEPA. Table 1 identifies the SWMUs and the regulatory status at the time the permit was issued. As shown in the Table, an initial assessment to determine whether a release had occurred was required at six (6) SWMUs; a full RCRA Facility Investigation (RFI)

was required at four (4) SWMUs; a request was made for additional information to determine the need for an environmental assessment at two (2) SWMUs; continued post-closure monitoring was required at two (2) SWMUs; and no further action was required at two (2) SWMUs.
In December 1994 Lenox China completed the RFI and other assessments required by the permit to further characterize the nature and extent of lead and zinc residuals in soil and groundwater. Table 2 summarizes the RFI findings and the resulting regulatory status of the SWMUs.

Following completion of the RFI, Lenox China implemented corrective measures at SWMUs #2 and #13 in accordance with its April 1995 Remedial Action Plan approved by USEPA and NJDEP in a letter dated June 22, 1995. The selected remedies consisted of capping and fencing the SWMU #2 and #13 areas, where lead and zinc concentrations in soil exceeded applicable residential or industrial soil cleanup standards; implementing an operation and maintenance plan to guide the inspection, reporting and, if necessary, corrective actions to ensure and maintain the long-term integrity of the caps and fencing; modifying the site-wide groundwater monitoring program to incorporate lead and zinc analyses; and establishing and recording with the Count Clerk a Declaration of Environmental Restriction on the portions of the property covered by SWMUs #2 and #13. In addition, Lenox China continued to monitor groundwater quality in accordance with the NJPDES/DGW permit requirements and to operate and maintain the Groundwater Corrective Action System installed downgradient of the facility in 1991 to control two trichloroethylene (TCE) plumes emanating from the property.

Following completion of the RFI, USEPA and NJDEP jointly issued a permit modification to document the corrective actions taken by Lenox. The modified permit was issued to Lenox China on February 20, 1997, with a March 25, 1997 effective date.

Current Status

Lenox China has addressed all conditions of the original and modified HSWA permit and has since completed the required remedial actions, as documented in the March 25, 1997 permit modification issued by USEPA and NJDEP. There has been no change in Lenox China's manufacturing, materials handling, waste generation or waste disposal processes (other than lead was removed from the glaze formulation, mercury was removed from precious metal decorations and the use of trichloroethylene has been discontinued) that would require further modification to, or contravene any conditions of, the original or modified HSWA permit. No other SWMUs have been identified at the facility, and the location, type, contents and historical use of the SWMUs identified previously have been addressed in the various reports submitted by Lenox China to USEPA and NJDEP in support of the RFI work. Lenox China has established and continues to perform the required post-closure groundwater monitoring. Reports summarizing the monitoring findings will continue to be prepared and submitted quarterly by Lenox China to NJDEP in accordance with the joint USEPA and NJDEP permit requirements.

We believe that this letter provides the USEPA with the necessary information to support Lenox China's HSWA permit renewal application. Please confirm in writing that USEPA accepts this letter submittal as Lenox China's HSWA renewal application. Further, please call me if you have any questions or require additional information at (609) 965-8272 or FAX to (609) 965-8282.

Sincerely yours,

John F. Kinkela
Director of Environmental Engineering

JFK/jfk

Enclosures: -TABLE 1, SOLID WASTE MANAGEMENT UNITS (SWMUs) – LENOX CHINA FACILITY
-TABLE 2, SWMUs, ENVIRONMENTAL INVESTIGATION FINDINGS AND CORRECTIVE MEASURES – LENOX CHINA FACILITY

Cc w/o encls: M.E. Chinn
L.A. Fantin

G.W. Berman
J. Barish
E.R. Sadat

Mr. Andrew Park
Environmental Engineer
United States Environmental Protection Agency
22nd Floor
290 Broadway
New York New York 10007-18615

Mr. Frank Faranca, Case Manager
New Jersey Department of Environmental Protection
Division of Responsible Party Site Remediation
Bureau of Federal Case Management
CN 028, 401 E. state Street
Trenton, NJ 08625-0028

8/6/01 ROC w/ Frank Faranca on Lenox.

He said Gary Bergman and Jim Barsh, consultant to Lenox, called and left a message on his voice mail on August 2, 2001.

They wanted (at least sounded like) to know what need to be included in a HWA permit renewal application. Particularly, it is required that they need to monitor the SWMUs under the engineering and institutional control as part of the HWA permit or they can be dropped out of the HWA permit. I said that they should be included.

A Park

Frank agreed to let me know ~~after~~ what they really want.

8/1/01 Telephone Conference
EPA: Barry Tornick & Andy Parker
Lenox: John Kinkela
Jim Barish, Consultant to Lenox

→ Letter/application may include no further action requests, citing supporting documents.
→ HSWA permit needed to be maintained because of groundwater, other HSWA requirements such as AA, BB, CC, land ban.

→ We may not review the permit in time due to resource constraints. If not, the current HSWA permit will continue to remain effective.

(609-965-8272
Fax 609-965-8282) & Garry Bergman

7/31/01 ROC w/ John Kinkela, of Lenox China concerning a renewal application of the HSWA permit.

→ They are pretty much doing the same as what the existing HSWA permit has required

→ South Site, outside of the facility boundaries, was done under MOA.

→ GW sampling at offsite residential homes pushed by Lenox with Health Department.

The immediate residential homes that we were concerned with have turned out to have the public water supply.

→ HSWA permit Renewal options

- Drop the HSWA permit due to the existing state mechanism that addresses the same
- If the HSWA permit need to be maintained, just extend it for five years.
- If renewal is needed, they want to know what will be required from us in order to have a complete application. They may need an time extension from the due date of September 24, 2001.

A Park

Andy Park
07/30/01 05:15 PM

To: Frank Faranca <FFARANCA@dep.state.nj.us>
cc:
Subject: Re: Lenox

Frank,
As we previously discussed, I think that the application should include what have been done, are being done, and need to be done. I may want to double check this with our management.

I would agree with you that they just need to continue what they are having been doing, except groundwater. It is my understanding that they planned to conduct offsite residential wells early this year. Please let me know what the status of the sampling is and the results are if available - we may want to have a copy of the results. Let me know if there is any others that Lenox needs to address.

Andy Park
RCRA Programs Branch
EPA Region 2
212-637-4184
park.andy@epa.gov
Frank Faranca <FFARANCA@dep.state.nj.us>

Frank Faranca <FFARANCA@dep.state.nj.us>
07/27/01 08:35 AM

To: Andy Park/R2/USEPA/US@EPA
cc:
Subject: Comment Letter on SWMU Fact Sheets

** High Priority **

Andy,
Attached please find an electronic copy of the State's comments on the above submission from DuPont. Hard copy is in the mail.

On another note, please give me a call when you get back from vacation. I got a call from Jim Barish, consultant to Lenox. Apparently Lenox is approaching the 180 day deadline for submitting the HSWA Permit renewal. I indicated that as far as I know, they must submit the application but since the units are now in O&M and that the State has provided NFA's, I did not know if they need to do anything different. Please call. Thanks
Frank

Frank Faranca, Project Manager
NJDEP/ Bureau of Case Management
401 East State Street
P.O. Box 028
Trenton, NJ 08625-0028
phone: 609-984-4071
fax: 609-633-1439
e-mail: ffaranca@dep.state.nj.us

SWMU Fact Sheets.d Frank Faranca.v

7/30/01 ROC w/ Barry Tornick on Lenox

→ Check w/ Frank Faranca, NJDEP, to find or agree on whether there are any more actions needed other than the ongoing groundwater pumping.

→ HSWA permit modification application may include documents supporting all decisions of NFAs. Before we come up with a final suggestion, check with Ray on whether he would agree.

Frank Faranca
<FFARANCA@dep.state.nj.us>

07/27/01 08:35 AM

To: Andy Park/R2/USEPA/US@EPA
cc:
Subject: Comment Letter on SWMU Fact Sheets

** High Priority **

Andy,
Attached please find an electronic copy of the State's comments on the above submission from DuPont. Hard copy is in the mail.

On another note, please give me a call when you get back from vacation. I got a call from Jim Barish, consultant to Lenox. Apparently Lenox is approaching the 180 day deadline for submitting the HSWA Permit renewal. I indicated that as far as I know, they must submit the application but since the units are now in O&M and that the State has provided NFA's, I did not know if they need to do anything different. Please call. Thanks
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e-mail: ffaranca@dep.state.nj.us

SWMU Fact Sheets.d Frank Faranca.v

July 26, 2001, Telephone Message from John Kinkela & Jim Barish concerning the HSWA permit renewal.

He paid that, as per my message, he would call Barry Tornick.

A. Park

Frank Faranca
<ffaranca@dep.state.nj.us>

04/04/01 08:04 AM

To: john_kinkela@lenox.com
cc: Andy Park/R2/USEPA/US@EPA
Subject: HSWA Permit Renewal

John,
I have received a voice mail message from Andy Park at EPA regarding the above issue. Andy indicates that he agrees that Lenox needs a permit renewal application submitted. Specifically, Lenox needs to describe what they are doing now, and what they will do in the future for close out of the facility. I am not up on the EPA deadlines, but I would think that the application needs to be submitted within 180 days before expiration of the permit. For more specific guidance, Andy Park as always, will be most accommodating for any questions you may have.
Frank

Barry Tornick
04/03/01 11:30 AM

To: Andy Park/R2/USEPA/US@EPA
cc:
Subject: Re: Lenox China

That sounds right.

Andy Park

Andy Park
04/03/01 09:07 AM

To: Barry Tornick/R2/USEPA/US@EPA
cc:
Subject: Lenox China

Please see below a telephone message from Frank Faranca of NJDEP. Because the groundwater remediation is not expected to be completed in the near future, submission of a HSWA permit renewal application and/or a permit renewal appears to be needed. A renewal application should provide descriptions of what is currently being done for the remediation of the site and what more needs to be done for the close-out, including all applicable standards and performance criteria. Please let me know if you have any suggestions.

Telephone Message from Frank Faranca, NJDEP Case Manager, on Lenox China, 4/3/01

Frank left a message on my voice mail. He received a telephone message from Mr. John Kinkela of Lenox China. Mr. Kinkela asked him what needs to be done for a renewal of the HSWA permit since it will expire on March 24, 2002. Under the HSWA permit, a HSWA permit renewal application is required to be submitted at least 180 days prior to the expiration date, which lead to September 2001.
end

4/3/01 Called Frank Faranca and left a message.

- a HSWA permit renewal application needed.
- application including what is being done and will be done.

Andy Park
04/03/01 09:07 AM

To: Barry Tornick/R2/USEPA/US@EPA
cc:
Subject: Lenox China

Please see below a telephone message from Frank Faranca of NJDEP. Because the groundwater remediation is not expected to be completed in the near future, submission of a HSWA permit renewal application and/or a permit renewal appears to be needed. A renewal application should provide descriptions of what is currently being done for the remediation of the site and what more needs to be done for the close-out, including all applicable standards and performance criteria. Please let me know if you have any suggestions.

Telephone Message from Frank Faranca, NJDEP Case Manager, on Lenox China, 4/3/01

Frank left a message on my voice mail. He received a telephone message from Mr. John Kinkela of Lenox China. Mr. Kinkela asked him what needs to be done for a renewal of the HSWA permit since it will expire on March 24, 2002. Under the HSWA permit, a HSWA permit renewal application is required to be submitted at least 180 days prior to the expiration date, which lead to September 2001.
end

April 3, 2001

Telephone message from Frank Faranca on Lenox China.

He got a telephone message from John Kinkela of Lenox China. Mr. Kinkela asked him what needs to be done for a HSWA permit renewal since the current HSWA permit expires at the end of summer. A permit renewal application needs to be submitted 180 days prior to the expiration date. Frank asked me what needs to be done or suggested that I contact them directly.

Andy Park

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY - REGION II

290 BROADWAY

NEW YORK, NEW YORK 10007-1866

HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984 PERMIT MODIFICATION

Permittee: Lenox China, a Division of
Lenox, Incorporated
Tilton Road
Pomona, New Jersey 08240

I.D. Number: NJD002325074
Effective Date: March 25, 1997
Expiration Date: March 24, 2002

This modifies the Hazardous and Solid Waste Amendments (HSWA) Permit that was issued in October 1992 (effective date of December 1, 1992 and expiration date of December 1, 1997) by the United States Environmental Protection Agency ("EPA" or "Agency") to Lenox China, a Division of Lenox, Inc. (hereinafter called the "Permittee"), located at Tilton Road, Pomona, New Jersey. This HSWA Permit Modification is issued under the authority of the Resource Conservation and Recovery Act (RCRA) of 1976, as amended by HSWA, 42 U.S.C. §§ 6921-6931, and 40 C.F.R. Parts 124, 264, and 270.

The 1992 HSWA Permit required the Permittee to conduct investigations to determine any releases of hazardous waste or hazardous constituents from the facility through its waste management operations and, if determined to be released, the extent and degree of environmental impacts. Pursuant to the HSWA Permit and also the New Jersey Pollutant Discharge Elimination System/Discharge to Groundwater (NJPDES/DGW) permit issued by the New Jersey Department of Environmental Protection (NJDEP), the Permittee has conducted remedial investigations and/or interim corrective measures for the facility and delineated the extent and degree of soil and groundwater contamination. This HSWA Permit Modification requires the Permittee to implement corrective measures for the soil contaminated with lead and zinc, to continue the trichloroethylene (TCE) groundwater remediation program, and to monitor groundwater for TCE, lead, and zinc.

The 1992 HSWA permit, as amended by this HSWA Permit Modification, in conjunction with the NJPDES/DGW Permit, as amended, constitute the RCRA Post-Closure Permit for the facility.

Printed on Recycled Paper

This HSWA Permit Modification is effective as of March 25, 1997, and shall remain in effect until March 24, 2002 unless revoked and reissued, modified or terminated in accordance with 40 C.F.R. §§ 270.41, 270.42 or 270.43, or continued in accordance with 40 C.F.R. § 270.51(a).

Kathleen C. Callahan

Kathleen C. Callahan, Director
Division of Environmental Planning
& Protection
United States Environmental Protection Agency
Region II

Jan 13, 1997
Date

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APPENDIX F - ADDENDUM TO THE REMEDIAL ACTION WORK PLAN (APRIL 1995), DATED JUNE 15, 1995, ADDRESSED TO FRANK FARANCA OF NJDEP CASE MANAGER FROM EDER ASSOCIATES (CONSULTANT FOR LENOX CHINA)

APPENDIX G - GROUNWATER SAMPLING AND ANALYSIS FOR THE LENOX CHINA POMONA FACILITY PLAN

APPENDIX H - SUPPLEMENTAL GROUNDWATER MONITORING PLAN TO MONITOR TRICHLOROETHYLENE, LEAD, AND ZINC IN GROUNDWATER

MODULE II - FACILITY DESCRIPTION

I. SUPPLEMENTAL BACKGROUND

The facility (Lenox China, a Division of Lenox, Inc.) is located on Tilton Road, in Pomona, Atlantic County, New Jersey on fifty six (56) acres of land. The facility has been manufacturing since 1954 ceramic dinnerware and giftware. Processes involved in the manufacture of the products are blending of earthen clay and alumino-silicates, molding and plastering, firing, coating and glazing with glass formed from lead compounds, and etching to add patterns and designs. During the facility operation, various units including surface impoundments, drum storage areas, and an incinerator were or have been used for the management of wastes generated at the facility. The management of wastes at the facility resulted in contamination of soils and groundwater.

In 1986, EPA, with support of NJDEP, conducted a RCRA Facility Assessment (RFA) for the facility, to identify Solid Waste Management Units (SWMUs) and/or Areas of Concern (AOCs) that had been used, whether intended or not, for management of wastes at the facility and to assess the likelihood of releases of hazardous constituents from those SWMUs/AOCs. Based on the RFA, EPA and NJDEP prepared in March 1989 the RFA report. The RFA report identified 15 SWMUs/AOCs and recommended field investigations for ten (10) SWMUs/AOCs for potential releases to soils and/or groundwater. In accordance with the recommendations of the RFA report, EPA issued in October 1992 the HSWA Permit which required Lenox China to conduct field investigations. [Note: EPA has determined that this facility is not located within an Environmental Justice (EJ) area.]

Concurrent with the EPA action, the groundwater monitoring conducted since the early 1980s by the facility pursuant to the New Jersey Pollutant Discharge Elimination System/Discharge to Groundwater (NJPDES/DGW) permit issued by the New Jersey Department of Environmental Protection (NJDEP), detected elevated levels of trichloroethylene (TCE) in groundwater beneath the facility. Subsequent investigations delineated the extent and degree of the TCE contamination in groundwater and it was concluded that the contamination might have been caused by releases from the degreaser sludge pit (SWMU #1) and the drum storage area (SWMU #12). Since 1990, the facility has been implementing, in accordance with NJDEP's approval, the TCE groundwater remediation program. The State RCRA post-closure permit, prepared by NJDEP under their authorized RCRA program, required the facility to implement post-closure care for the RCRA surface impoundments, to continue the TCE remediation system, and to conduct corrective action investigations to determine potential releases from SWMUs/AOCs at the facility. The EPA HSWA

Permit and the State RCRA post-closure permit were issued in October 1992.

While conducting investigations required by the HSWA Permit and the State RCRA post-closure permit, the facility identified one new SWMU (precious metal incinerator), in addition to the 15 SWMUs identified in the RFA report. The RCRA Facility Investigation (RFI) was completed in December 1994, which specified the extent and degree of lead and zinc contamination in soils found in the areas of SWMU #2 (Sludge Disposal Area) and AOC #13 (Area Between Monitoring Well #10 and Aloe Street). The site wide groundwater monitoring program, that had been implemented by the facility since the early 1980s, identified lead and zinc in groundwater. The lead and zinc concentrations in the groundwater are generally below EPA groundwater levels; although elevated levels have been occasionally observed for lead and zinc. The Permittee is required under this Permit Modification to monitor groundwater for lead and zinc. The RFI report recommended remedial measures for the contaminated soils in the areas of the SWMU #2 and AOC #13.

The TCE groundwater remediation system consists of seven off-site recovery wells with a total flow rate of up to 350 gallons per minute. The treatment of the pumpage with a carbon adsorption system is expected to lower current TCE concentrations to a level equal to or below the health-based cleanup standard for TCE, which is 1 ppb. Treated groundwater is either discharged into two recharge trenches located within the facility property boundaries, or is used for: (1) on-site and/or off-site spray irrigation, or (2) non-contact cooling water in plant operations. The site-wide groundwater monitoring has shown that the TCE groundwater remediation program is effective in controlling off-site migration of contaminated groundwater and in reducing the levels of TCE in groundwater. The Permittee is also required to continue groundwater monitoring for TCE.

J. SUMMARY OF CORRECTIVE MEASURES

Lenox will implement the corrective measures in the Remedial Action Work Plan (Project #530-7) dated April 1995 and in the Remedial Action Work Plan Addendum dated June 15, 1995 (Appendices E and F). Lenox will continue to monitor the groundwater as set forth in the groundwater Sampling and Analysis Plan (GWSAP), dated April 1996 (Appendix G). In addition, Lenox will perform the work as described and required by the Supplemental Groundwater Sampling and Analysis Plan (SGWSAP), dated April 1996. A summary of the corrective measures that Lenox must implement, at a minimum, are provided below.

Soils: NJDEP's soil cleanup standards for lead are 400 ppm (residential) and 600 ppm (nonresidential), which are consistent with or more stringent than the federal standards of 500 ppm to

1,000 ppm. NJDEP's soil cleanup standards for zinc are 1500 ppm for both residential and nonresidential, which is more stringent than EPA health based concentrations. These health based standards were developed based on standard residential and non-residential exposure scenarios. The State's standards were used by Lenox to ascertain the boundaries of those areas which have capped and/or fenced.

- SWMU #2 (Sludge Disposal Area):

  1. Most of the SWMU prior to implementation of the corrective measures was already covered with asphalt. The existing asphalt will be extended or a synthetic membrane cap will be installed to cover soils, and/or areas will be fenced, where the lead and zinc concentrations exceed their respective residential cleanup standards (400 ppm and 1500 ppm). The capping and/or fencing of the contaminated soil will limit the potential for exposure so that it is no longer considered a viable pathway. Lenox will implement long term monitoring and maintenance of the caps and fence.
  2. If site conditions change, resulting in higher levels of potential exposure of contaminated soils to humans or the environment, Lenox will implement additional corrective measures, as needed, to meet the applicable standards.
  3. Placing, in accordance with the State law, a notation in the deed to the property or in some other instrument, such as New Jersey Declaration of Environmental Restriction (which normally is examined during title search) that will, in perpetuity, notify any potential property purchaser of the existence of hazardous constituents in the soil, where the contamination is located, and the extent and degree of the contamination. Therefore, future uses of the land will be subject to restriction.

- AOC #13 (Area Between Monitoring Well 10 and Aloe Street):

  1. Placing a fence around the AOC and/or capping unfenced areas to restrict access with long term monitoring and maintenance of the fence and caps. The fencing around the area will limit the potential for exposure so that it is no longer considered a viable pathway.
  2. If site conditions change, resulting in higher levels of potential exposure of contaminated soils to humans or the environment, Lenox will implement additional corrective measures, as needed, to meet the applicable standards.
  3. Placing, in accordance with the State law, a notation in the deed to the property or in some other instruments, such as New Jersey Declaration of

Environmental Restriction (which normally is examined during title search) that will, in perpetuity, notify any potential property purchaser of the existence of hazardous constituents in the soil, where the contamination is located, and the extent and degree of the contamination. Therefore, future use of the land will be subject to restriction.

Groundwater: Analysis of the groundwater at Lenox has shown that: (1) the TCE concentrations are above the health-based standard of 1 ppb, and (2) that occasionally the concentrations for the metals lead and zinc reached levels that were above those permitted by EPA.

Lenox will continue the current ongoing TCE groundwater remediation system. The goal of groundwater remediation is to restore the quality of groundwater to the groundwater health-based cleanup standard of 1 ppb for trichloroethylene. The groundwater remediation system consists of seven recovery wells with a total flow rate of up to 350 gallons per minute. The treatment of the pumpage with a carbon adsorption system is expected to lower current TCE concentrations to a level equal to or below the health-based cleanup standard for TCE of 1 ppb. Treated groundwater is either discharged into two recharge trenches located within the facility property boundaries, or is used for: (1) on-site and/or off-site spray irrigation, or (2) non-contact cooling water in plant operations.

The groundwater will be monitored for TCE, lead, and zinc. Lenox will monitor the groundwater in accordance with the NJPDES-DGW Permit, the Groundwater Sampling and Analysis Plan (GWSAP) and the Supplemental Groundwater Sampling, Analysis, and Monitoring Plan (SGWSAP). The groundwater monitoring is to: (a) assess the effectiveness of the TCE groundwater remediation system, (b) evaluate potential releases of lead and zinc from SWMU 2, AOC 13 and other SWMUs, (c) determine the concentrations of the metals lead and zinc, (d) develop the site specific groundwater protection standards for the metals lead and zinc, if needed, (e) determine if additional corrective measures are needed, and (f) designate compliance monitoring wells, if needed. The groundwater monitoring for TCE, lead and zinc will continue for the life of this HSWA Permit.

MODULE VIII - CORRECTIVE MEASURES FOR THE FACILITY

A. INTRODUCTION: Module III, Condition E.9 of the 1992 HSWA Permit requires selection of final corrective measures for the facility through a modification of the HSWA Permit. The modification must comply with the requirements of 40 C.F.R. Part 124 and § 270.41. Contained within this Module and Appendices E, F, G, and H are the corrective measures selected or to be selected by EPA Region II.

B. APPLICABILITY: Sixteen (16) Solid Waste Management Units (SWMUs) and/or Areas of Concern (AOCs) were identified during the RCRA Facility Assessment (RFA) and/or the investigations conducted by the Permittee pursuant to the 1992 HSWA Permit and the New Jersey Pollutant Discharge Elimination System/Discharge to Groundwater (NJPDES/DGW) permit. Ten of these SWMUs/AOCs had been investigated and/or remediated as per the requirements of the HSWA Permit and the NJPDES/DGW permit. The investigation results have shown that: (1) two SWMUs - Sludge Disposal Area (SWMU #2) and Area Between Monitoring Well #10 and Aloe Street (AOC #13) - need corrective measures, and (2) the current TCE groundwater remediation system and the groundwater monitoring for TCE, lead, and zinc must continue. A summary of the status and/or investigation results for the 16 SWMUs is provided in the Table below.

SWMUs/AOCs	Finding	Corrective Measures
1. Degreaser Sludge Pit	The soil investigation showed no discernable constituents.	No further action needed.
2. Sludge Disposal Area	The soil investigation showed elevated levels of lead (up to 40,000 ppm) and zinc (up to 3,000 ppm). Contaminated soils need to be addressed.	Asphalt or synthetic membrane cap(s) and/or fencing, and Declaration of Environmental Restrictions (DER). Groundwater monitoring for lead and zinc.
3. Waste Pile	This unit was located right adjacent to the Glaze Basin (SWMU #10). The closure of the Glaze Basin had successfully removed contaminated soils near the Basin and also the Waste Pile.	No further action needed.
4. Polishing Lagoon	This unit was remediated by excavation and off-site disposal of wastes and contaminated soils, under Condition B.6, Module III (Interim Corrective Measures) of the 1992 HSWA Permit.	No further action needed.
5. Tilton Road Pond	The investigation conducted on sludge and aqueous liquid (mostly water) in the unit showed no discernable constituents.	No further action needed.
6. Underground Effluent Transfer Pipe	The soil investigation showed no discernable constituents.	No further action needed.

7. Equalization Sump	The unit was dismantled and is no longer in use. The soil investigation showed no discernable constituents.	No further action needed.
8. Piping	The soil investigation showed no discernable constituents.	No further action needed.
9. Underground Storage Tanks	The Underground Storage Tanks were closed under the State Underground Storage Tank Program. No investigation was required under the 1992 HSWA permit.	Not required.
10. Glaze Basin	The RCRA-regulated unit was closed under the authorized State RCRA program and is currently under post-closure care monitoring. No investigation was required under the 1992 HSWA permit.	Not required.
11. Slip Basin	The RCRA-regulated unit was closed under the authorized State RCRA program and is currently under post-closure care monitoring. No investigation was required under the 1992 HSWA permit.	Not Required.
12. Drum Storage Area	The RCRA-regulated unit was closed under the authorized State RCRA program and is currently being used for less-than-90-day storage. Soil investigations conducted under the closure of the SWMU showed low levels of TCE, much below the proposed soil action level. No further action for soil was required under the 1992 HSWA Permit. The ongoing TCE groundwater remediation system will continue remediation of TCE-contaminated groundwater.	No further action is needed for soil, but groundwater will continue to be remediated through the TCE Groundwater Remediation System.
13. Area Between Monitoring Well #10 and Aloe Street	The soil investigation showed elevated levels of lead (up to 15,000 ppm) and zinc (up to 3,000 ppm). Contaminated soils need to be addressed.	Fencing and/or asphalt or synthetic membrane cap, and DER. Groundwater monitoring for lead and zinc.
14. Two Tanks (Neutralization)	Information submitted in compliance with the 1992 HSWA permit has supported that field investigations are not required.	Not required.
15. Filter Press	Information submitted in compliance with the 1992 HSWA permit has supported that field investigations are not required.	Not required.
16. Precious Metal Incinerator	The soil investigation showed no discernable constituents.	No further action needed.

C. STANDARD CONDITIONS FOR CORRECTIVE MEASURES

1. Work Plans. All work plans, if required to be submitted pursuant to this Module, shall include:

   a. Quality Assurance/Quality Control protocols to ensure that data generated is valid and supported by documented procedures;
   b. Other plans, specifications and protocols, as applicable;
   c. A schedule for starting specific tasks, completing the work and submitting progress and final reports; and
   d. Plans for the treatment, storage, discharge or disposal of wastes to be generated by activities described therein.

2. Monitoring and Records. Requirements for monitoring and records shall be in accordance with Permit Condition F.9 of Module I of this Permit.

3. Health/Safety Plans. The Permittee shall develop, according to applicable Federal, State and local requirements, and submit to the Division Director, health and safety plans that will be implemented to ensure the health and safety of project personnel, plant personnel and the general public.

   The plans shall be developed as a stand alone document. The plans shall include, but are not limited to all of the requirements specified in Task III, Condition D of Appendix A, Section II, except Conditions D.2.b., D.2.c. and D.2.e which are not applicable. In addition, Module I, Condition D.2. is not applicable to these plans.

4. Guidance Documents. When preparing the submissions described in this Module, the Permittee shall follow applicable guidance documents issued by EPA and the New Jersey Department of Environmental Protection (NJDEP) in a manner reflecting reasonable technical considerations.

5. Reporting.

   a. The Permittee shall submit to the Division Director, signed progress reports, as specified in the NJPDES/DGW Permit and its Modification and the work plans approved or to be approved pursuant to this Module, of all activities related to the Corrective Measures, beginning no later than ninety (90) calendar days after the effective date of this Permit Modification. These reports shall contain:

      i. A description of the work completed during the reporting period;
      ii. Summaries of all findings made during the reporting period, including summaries of laboratory data;
      iii. Summaries of all changes made during the reporting period;
      iv. Summaries of all contacts made with representatives of the local community and public interest groups during the reporting period;
      v. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems;

vi. Changes in personnel conducting or managing the corrective action activities during the reporting period;

vii. Projected work for the next reporting period; and

viii. Copies of daily reports, inspection reports, laboratory/monitoring data, etc., generated during the reporting period, which are critical to the implementation of the corrective action program required by this Module.

b. Upon request, copies of other relevant reports and data not identified in Condition C.5.a of this Module shall be made available to the Division Director.

c. The Division Director may require the Permittee to conduct new or more extensive assessments, investigations, studies, or corrective measures, based upon information provided in the progress reports referred to in Condition C.5.a of this Module above, or upon other supporting information.

d. All plans and schedules required by the conditions of this Module are, upon approval of the Division Director, incorporated into the Permit and become enforceable. Any noncompliance with such approved plans and schedules shall be termed noncompliance with this Permit. Extensions of the due dates for submittals may be granted by the Division Director in accordance with the permit modification processes under 40 C.F.R. § 270.41(a) and/or § 270.42(d).

6. Compliance with Governmental Requirements. During corrective measures (including, but not limited to, equipment decommissioning, excavation and unit demolition) required under this Module, the Permittee shall ensure that the transportation, treatment, storage, discharge, and disposal of all contaminated materials generated as a result of such activities (including, but not limited to, soils, sediments, liquids, tanks, pipes, pumps, rubble, debris, and structural materials) are performed in an environmentally sound manner pursuant to all applicable Federal, State and local requirements and that are protective of public health and the environment. Nothing in this Module shall be construed to require the Permittee to proceed in a manner which is in violation of any such requirements.

7. Newly-Identified Releases or SWMUs/AOCs: If, during the implementation of or after completion of the implementation of the corrective measures required in this Module, the Permittee identifies new releases or new SWMUs/AOCs that have not been addressed under the 1992 HSWA Permit and this Permit Modification, the Permittee shall notify EPA and NJDEP of new findings. The Permittee shall evaluate potential releases of hazardous waste or hazardous constituents and/or the extent and degree of releases from newly-identified SWMUs/AOCs and/or of newly-identified releases. In addition, the Permittee shall implement appropriate corrective measures, if determined to be needed. The Permittee must follow the procedures described in Module III, Conditions C and D, for notification, reporting, and submissions of investigation and/or corrective measures workplans.

D. CORRECTIVE MEASURES: Lenox will implement the corrective measures specified in the Remedial Action Work Plan (Project #530-7) dated April 1995, in the Remedial Action Work Plan Addendum dated June 15, 1995 (jointly referred to a the Remedial Action Work Plan or "RAWP"). Lenox will also implement the Groundwater Sampling and Analysis Plan (GWSAP), dated April 1996, and the Supplemental Groundwater Sampling and Analysis Plan (SGWSAP), dated April 1996, to monitor TCE, lead, and zinc. These documents and the requirements set forth therein are approved through this Modification and have been incorporated into the HSWA Permit as Appendices E, F, G, and H respectively. A summary of the corrective measures that Lenox must meet, at a minimum, are provided below:

1. Sludge Disposal Area (SWMU #2):

   a. Lead and zinc were detected in soils (mostly 2 to 8 feet from the ground surface) in a range of up to 40,000 ppm and 3,000 ppm, respectively. These levels are above the soil cleanup standards for lead, 400 ppm (residential) and 600 ppm (nonresidential), and for zinc, 1,500 ppm (residential and nonresidential). The site groundwater data collected for the facility since the early 1980s have generally shown low levels of lead and zinc in groundwater.

   b. Most of the SWMU prior to the implementation of corrective measures was already covered with asphalt. The existing asphalt will be extended or a synthetic membrane cap will be installed to cover soils, and/or areas will be fenced, where the lead and zinc concentrations exceed their respective residential cleanup standards (400 ppm

and 1500 ppm). The capping and/or fencing of the contaminated soil will limit the potential for exposure so that it is no longer considered a viable pathway. Lenox will implement long term monitoring and maintenance of the caps and fence.

c. Groundwater monitoring for the metals lead and zinc is to be performed pursuant to Condition D.4.e. of this Permit Modification.

2. Area Between Monitoring Well #10 and Aloe Street (AOC #13):

a. Lead and zinc were detected in soils (mostly 2 to 8 feet from the ground surface) in a range of up to 15,000 ppm and 3,000 ppm, respectively, which exceed cleanup levels. The site groundwater data collected for the facility since the early 1980s have generally shown low levels of lead and zinc in groundwater.

b. Placing a fence around and/or capping the AOC to restrict access with long term monitoring and maintenance of the fence and the cap. The fencing around or the capping of the area will limit the potential for exposure so that it is no longer considered a viable pathway.

c. Groundwater monitoring for the metals lead and zinc is to be performed pursuant to Condition D.4.e. of this Permit Modification.

3. Groundwater:

a. The goal of groundwater remediation is to restore the quality of groundwater to the groundwater health-based cleanup standard of 1 ppb for trichloroethylene.

b. The facility will continue the currently ongoing TCE groundwater remediation system. The groundwater remediation system consists of seven recovery wells with a total flow rate of up to 350 gallons per minute. The treatment of the pumpage with a carbon adsorption system is expected to lower TCE concentrations to a level equal to or below the health-based cleanup standard for TCE of 1 ppb. Treated groundwater is either discharged into two recharge trenches located within the facility property boundaries, or is used for: (i) on-site and/or off-site spray irrigation, or (ii) non-contact cooling water in plant operations.

4. General:

a. The Permittee shall implement/maintain security measures to restrict unauthorized access to and/or

unauthorized disturbance to the areas of the Sludge Disposal Area (SWMU #2) and of the Area Between Monitoring Well #10 and Aloe Street (AOC #13).

b. The Permittee shall place, in accordance with State law, a notation in the deed to the property or in some other instrument, such as New Jersey Declaration of Environmental Restriction (which normally is examined during title search) that will, in perpetuity, notify any potential property purchaser of the existence of the hazardous constituents in soil, located at the Sludge Disposal Area (SWMU #2) and the area between Monitoring Well #10 and Aloe Street (AOC #13), and the extent and degree of the contamination. Future use of the land will be subject to the restriction.

c. Within 180 calendar days of the effective date of this HSWA Permit Modification, the Permittee shall submit a corrective measures report to EPA and NJDEP for review and approval. The corrective measure report should provide information, including necessary engineering specifications, demonstrating that Lenox has taken the corrective measures required for SWMU #2 and AOC #13, as described in Conditions D.1.b and D.2.b of this Module and set forth in the Remedial Action Work Plan. Lenox must revise the report to address deficiencies, if any, that EPA and NJDEP may have noted note.

d. Within 60 calendar days of EPA's and NJDEP's approval of the corrective measure report, the Permittee shall submit, to EPA and NJDEP, a certification that a notation in the deed, as required in Condition D.4.b of this Module, has been placed.

e. The groundwater will be monitored for TCE, lead, and zinc as required by the NJPDES-DGW Permit issued by New Jersey, the GWSAP (see Appendix G) and the SGWSAP (see Appendix H).

   i. The Permittee shall monitor the groundwater for TCE, lead and zinc for the life of this HSWA Permit, as specified on page i of the HSWA Permit. (See Module I, Condition F.3.)

   ii. The Permittee may terminate groundwater monitoring corrective action measures if he can demonstrate to the satisfaction of the EPA and NJDEP, based on data from the groundwater monitoring program, that the groundwater monitoring corrective action measures are no longer needed (e.g., the

applicable groundwater protection standard has not been exceeded).

iii. The Permittee to initiate termination of the groundwater monitoring corrective action must submit a permit modification pursuant to 40 C.F.R. § 270.42(d).

iv. If EPA determines that the groundwater monitoring corrective action measures no longer satisfies the requirements of this HSWA Permit, as modified, EPA can modify this HSWA Permit, as modified, pursuant to Module VIII, Condition D.4.g.

f. Financial Assurance: Within sixty (60) calendar days after the effective date of this Permit Modification, the Permittee shall demonstrate in writing to the Division Director that financial assurance for completing and maintaining the approved corrective measure(s) has been in place.

g. Additional Corrective Measures: If EPA, NJDEP, and/or the Permittee determines that the corrective measures required by this Module for the facility will not meet the standards specified in this Module, the Permittee shall implement additional corrective measures as needed, to meet applicable standards.

i. Within ninety (90) calendar days of the determination by EPA, NJDEP, and/or the Permittee, the Permittee shall submit to EPA and NJDEP a workplan which provides detailed description of additional corrective measures to be implemented.

ii. Approval of a proposed workplan will be provided through a modification of the HSWA Permit in accordance with the requirements of 40 C.F.R. § 270.41(a) and/or 270.42.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY - REGION II
290 BROADWAY
NEW YORK, NEW YORK 10007-1866

FINAL DECISION AND RESPONSE TO COMMENTS CONCERNING HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984 PERMIT MODIFICATION FOR LENOX CHINA, A DIVISION OF LENOX, INC. POMONA, NEW JERSEY NJD002325074

INTRODUCTION

This Response to Comments (RTC) is being presented by the U.S. Environmental Protection Agency (EPA). The purpose of the RTC is to identify the selected remedy, present concerns and issues raised during the public comment period, and provide responses. All of the comments received were reviewed during the final selection of the remedy, and have been addressed in this RTC. No additional alternatives were raised and the proposed remedy was not altered as a result of public comments, except that the requirements for groundwater monitoring for lead and zinc will be performed sitewide, instead of only for SWMU 2 and AOC 13 as proposed in the draft HSWA Permit Modification. Additionally, the draft HSWA Permit Modification has been revised to clarify that trichloroethylene (TCE) is also included in the groundwater monitoring program.

SELECTED REMEDY

The selected remedy for the contaminated soil at the facility is, as proposed in the draft HSWA Permit Modification, capping with asphalt or a synthetic membrane liner and/or fencing with long term monitoring and maintenance of the caps and fence.

As proposed in the draft HSWA Permit Modification, the ongoing groundwater pump and treat program is the selected remedy for the trichloroethylene (TCE)-contaminated groundwater. In addition, groundwater will be monitored for TCE, lead and zinc to assess the effectiveness of the TCE groundwater remediation system and to evaluate potential releases of lead and zinc from SWMU 2, AOC 13 and other SWMUs.

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PUBLIC PARTICIPATION ACTIVITIES

A public comment period for the proposed draft HSWA Permit Modification extended from April 23, 1996 through June 10, 1996. A notice of the public comment period was provided in the April 23, 1996 edition of, "THE PRESS of Atlantic City" and was announced on radio station, "WFPG AM/FM," on the same date. EPA received comments only from the New Jersey Department of Environmental Protection (NJDEP).

COMMENTS RAISED AND THE AGENCY'S RESPONSE

Concern:

NJDEP pointed out inconsistencies in the draft HSWA Permit Modification. The draft HSWA Permit Modification required groundwater monitoring for lead and zinc. However, the permit incorrectly indicated that there were no detectable levels of lead and zinc in the groundwater.

Response:

Generally, the concentrations of lead and zinc in the groundwater are below EPA levels. However, during the course of the groundwater monitoring program which was initiated during the early 1980's there have been elevated levels occasionally observed for lead and zinc. Since the groundwater data base collected for lead and zinc is not conclusive with respect to whether the levels of groundwater contamination by lead and zinc exceed the respective cleanup standards, the monitoring will continue throughout the site. The monitoring is to: (a) evaluate potential releases from SWMU 2, AOC 13 and other SWMUs, (b) determine the concentrations of the metals lead and zinc, (c) develop the site specific groundwater protection standards for the metals lead and zinc, if needed, (d) determine if additional corrective measures are needed, and (e) designate compliance monitoring wells if needed.

EPA has resolved these inconsistencies. The final HSWA Permit Modification (Modification) and the revised Statement of Basis (SB) (REVISION, 6/30/96) reflect the status of groundwater with respect to lead and zinc. The following paragraphs or Sections in the Modification and SB have been revised to reflect the correct status:

Modification:

- Page i, 2nd paragraph.
- Page iii, addition of Appendices G and H
- Page II-6, 2nd paragraph.

- Page II-8, revision and addition to 1st, 2nd and 3rd paragraphs.
- Pages VIII-1 and 2, Sections A and B, and the Table.
- Page VIII-5, Sections D. and D.1.a.
- Page VIII-6, Sections D.1.c., D.2.a. and D.2.c.
- Page VIII-7, addition of section D.4.e.

SB:

- Page 2, 4th paragraph (Section 1. entitled "Corrective Measures").
- Page 3, Sections 1.a. and 1.b.
- Page 4, Sections 1.c. (entitled "Groundwater") and 1.c.i.
- Page 5, 2nd paragraph.
- Page 7, 3rd paragraph.
- Pages 7-8, the Table.
- Page 10, 3rd and 4th paragraphs.
- Page 11, 1st, 2nd and 3rd paragraphs.
- Page 12, 4th and 5th paragraphs.
- Page 14, 1st and 2nd paragraphs.

Concern:

NJDEP clarified that, although the company may use all seven recovery wells with a maximum pumping rate of 350 gallons per minute (GPM) (50 GPM from each well), only six recovery wells were being utilized as of when the draft HSWA Permit Modification was being prepared. However, the seventh well may be utilized in the future.

Response:

The draft HSWA Permit Modification stated that Lenox could utilize a maximum of seven wells with a total maximum pumping rate of 350 GPM for the TCE groundwater remediation program. The current groundwater remediation program, which utilizes six recovery wells at 300 GPM, is within the scope of the draft and not inconsistent with the draft permit. Therefore, the draft need not be revised.

ADDITIONAL CHANGES MADE DUE TO THE REORGANIZATION OF EPA REGION II

Since the reorganization of EPA Region II which became effective on July 21, 1996, the division director of the Division of Environmental Planning and Protection is the duly authorized representative within the Region for the issuance of the HSWA Permit Modification. Therefore, the signatory section on page ii of the HSWA Permit Modification has been revised to reflect this.

DECLARATIONS

Based on the administrative record compiled for this corrective action, I have determined that the selected remedy in the permit modification for this facility is appropriate and will be protective of human health and the environment.

Kathleen C. Callahan

Kathleen C. Callahan, Director
Division of Environmental Planning
& Protection
United States Environmental Protection Agency
Region II

Jan. 13, 1997
Date

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY - REGION II
290 BROADWAY
NEW YORK, NEW YORK 10007-1866

STATEMENT OF BASIS FOR CORRECTIVE MEASURES UNDER RCRA §§ 3004(u) AND (v) FOR LENOX CHINA, A DIVISION OF LENOX, INC. POMONA, NEW JERSEY NJD002325074

INTRODUCTION

In October 1992, the U.S. Environmental Protection Agency (EPA) issued the Hazardous and Solid Waste Amendments (HSWA) Permit (effective on December 1, 1992 and expiring on December 1, 1997) for the Lenox China, a Division of Lenox, Incorporated (Lenox) facility in Pomona, New Jersey. One of the major requirements of the HSWA Permit was that Lenox conduct corrective action investigations to determine whether the site and the surrounding environmental media of soil, subsurface soil, groundwater, and air were contaminated and, if necessary, to determine the nature and extent of such contamination. Under the State of New Jersey Pollutant Discharge Elimination System/Discharge to Groundwater (NJPDES/DGW) program, Lenox was also required to conduct site investigations and/or remediation. The New Jersey Department of Environmental Protection (NJDEP) was responsible for overseeing the implementation of the NJPDES/DGW requirements.

In order to avoid duplication of effort, EPA and NJDEP have been coordinating with each other to ensure that investigations conducted by Lenox for the facility meet both federal and state requirements. Under the joint EPA/NJDEP oversight, Lenox has completed site investigations and, based on the investigation results and the current site conditions, has proposed and implemented corrective measures that would address the contaminated soil and groundwater identified by the investigations.

Before EPA's final approval, the corrective measures must be subject to public comment. Thus, in accordance with Module III, Condition E.9 of the 1992 HSWA Permit, the approval of final corrective measures must be done through a modification of the HSWA permit. The modification must comply with the requirements set forth in 40 C.F.R. Part 124 and § 270.41. Alternatives to and/or substitution of the corrective measures may be made if public comments or additional data indicate that such a change would result in a more appropriate remedy.

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This Statement of Basis (SB) has been prepared in accordance with 40 C.F.R. § 124.7. This SB includes summaries of the results from various investigations conducted by Lenox pursuant to the HSWA Permit and the State NJPDES/DGW permit. More detailed information can be found in the investigation reports that Lenox has submitted to NJDEP and EPA. This SB also explains the: (1) the corrective measures that are being utilized to address the contaminated soils and groundwater found at the Lenox facility in Pomona, New Jersey, and (2) the rationale supporting such corrective measures. Also briefly discussed is the Agency's position regarding those Solid Waste Management Units (SWMUs) for which the determinations of "No Further Action" or "Not Required" were made following the investigation or review of additional information. This SB, the Draft HSWA Permit Modification, the investigation reports and other documents, are available at EPA or NJDEP and constitute the administrative record for this facility. The public may review any of these documents which can provide a more comprehensive understanding of the facility and the investigation activities conducted there.

Pursuant to 40 C.F.R. § 124.10, EPA will announce a forty-five (45) day public comment period and opportunity for a public hearing. During the public comment period, the public may review and/or provide EPA with comments on the draft HSWA Permit Modification, the corrective measures and other determinations, and the administrative record. EPA will issue its final determination with regard to the approval of the corrective measures for the facility, after the public comment period has ended and the comments/information submitted have been reviewed and considered by the Agency. Detailed information concerning the public participation process is provided later in this SB.

CORRECTIVE MEASURES AND DETERMINATION OF "NO FURTHER ACTION" OR "NOT REQUIRED"

The following are the corrective measures being implemented and the determinations of "no further action" or "not required" for the sixteen SWMUs located at the Lenox facility.

1. Corrective Measures: A summary of the corrective measures that Lenox is implementing, at a minimum, are provided below. A more detailed description of the corrective measures is provided in the Remedial Action Work Plan (Project #530-7) dated April 1995 and in the Remedial Action Work Plan Addendum dated June 15, 1995, which Lenox China submitted to EPA and NJDEP. In addition, the required groundwater monitoring is set forth in the Groundwater Sampling and Analysis Plan (GWSAP) dated April 1996 and the Supplemental Groundwater Sampling and Analysis Plan (SGWSAP) dated April 1996. If the corrective measures are approved as the final remedy, a report confirming completion of the

measures is due within 180 days after issuance of this HSWA Permit modification.

a. Sludge Disposal Area (SWMU #2): Lead and zinc were detected in soils (mostly 2 to 8 feet from the ground surface) at concentrations up to 40,000 ppm and 3,000 ppm, respectively. These levels are above the soil cleanup standards for lead, 400 ppm (residential) and 600 ppm (nonresidential), and for zinc, 1,500 ppm (residential and nonresidential). The site groundwater data collected for the facility since the early 1980s have shown generally low levels of lead and zinc in groundwater. Groundwater monitoring for these metals will be required under the HSWA Modification.

   i. Where the lead and zinc concentrations exceed their respective residential cleanup standards (400 ppm and 1500 ppm), the existing asphalt has been extended, a synthetic membrane cap has been installed, and areas have been fenced, as specified in the Remedial Action Work Plan (see Appendices E and F of the HSWA Permit Modification). Lenox will continue to implement long term monitoring and maintenance of the caps and fence.

   ii. If site conditions change, resulting in higher levels of potential exposure of contaminated soils to humans or the environment, Lenox will implement additional corrective measures, as needed, to meet applicable standards.

   iii. Deed restriction, such as the State mechanism, Declaration of Environmental Restrictions (DER), must be implemented. Future use of the land will therefore be subject to restriction.

b. Area Between Monitoring Well #10 and Aloe Street (AOC #13): Lead and zinc were detected in soils (mostly 2 to 8 feet from the ground surface) at concentrations up to 15,000 ppm and 3,000 ppm, respectively. The site groundwater data collected for the facility since the early 1980s have shown generally low levels of lead and zinc in groundwater. Groundwater monitoring for these metals will be required under the HSWA Modification.

   i. A fence has been placed around the AOC and unfenced areas have been capped to restrict access. There will be ongoing long term monitoring and maintenance of the fence and caps.

   ii. If site conditions change, resulting in higher levels of potential exposure of contaminated soils

to humans or the environment, Lenox will implement additional corrective measures, as needed, to meet applicable standards.

iii. Deed restriction, such as the State mechanism, Declaration of Environmental Restrictions (DER), must be in place. Future use of the land will therefore be subject to restriction.

c. Groundwater: Elevated levels of Trichloroethylene (TCE), above the health-based standard of 1 ppb, have been detected in the facility's groundwater. Lead and zinc have also been detected in the groundwater; the concentrations are generally below EPA standards although a few samples have indicated elevated levels.

i. Groundwater will be monitored for TCE, lead, and zinc pursuant to the NJDEPS/DGW Permit, as modified, and the GWSAP and SGWSAP. The monitoring is to: (a) assess the effectiveness of the TCE groundwater remediation system, (b) evaluate potential releases of lead and zinc from SWMU 2, AOC 13 and other SWMUs, (c) determine the concentrations of the metals lead and zinc, (d) develop the site specific groundwater protection standards for the metals lead and zinc, if needed, (e) determine if additional corrective measures are needed, and (f) designate compliance monitoring wells. The groundwater monitoring for TCE, lead and zinc will continue for the life of this HSWA Permit.

ii. The TCE groundwater remediation system will continue for the remediation of contaminated groundwater.

(1) The goal of groundwater remediation is to restore the quality of groundwater to the groundwater cleanup standard of 1 ppb for TCE.

(2) The facility will continue the current ongoing TCE groundwater remediation system. The groundwater remediation system consists of seven recovery wells with a total flow rate of up to 350 gallons per minute. The treatment of the pumpage with a carbon adsorption system is expected to lower current TCE concentrations to a level equal to or below the health-based cleanup standard for TCE of 1 ppb. Treated groundwater is either discharged into two recharge trenches located within the facility property

boundaries or is used for: (A) on-site and/or off-site spray irrigation, or (B) non-contact cooling water in plant operations.

As demonstrated through the investigations and the groundwater remediation and monitoring program, lead and zinc have been found in the soil and in groundwater. As per the requirements of this HSWA Permit Modification, Lenox China will continue to monitor groundwater for lead and zinc. As for the contamination in the soil of lead and zinc, it has been determined that the mobility of those metals in the soil is quite limited. Under these circumstances, the purpose of the soil remediation corrective measures is to limit public access to the areas of the contamination since the contamination already appears to be contained on site. The soil remedial measures, a combination of capping and fencing, meet this goal and prevent further exposure to the contaminated soils. As for the remediation of the groundwater contaminated by TCE, the ongoing program will restore the quality of the groundwater so that it poses no threats to human health and the environment.

2. <u>Determinations of "No Further Action" or "Not Required"</u>:

The RCRA Facility Investigation (RFI) was completed in December 1994. A summary of the investigation results is provided in the table found in the FACILITY BACKGROUND section of this SB.

Out of the SWMUs/AOC specified in the 1992 HSWA Permit that required an RFI, these seven SWMUs following the investigations were determined to need "no further action": the Degreaser Sludge Pit (SWMU #1), Waste Pile (SWMU #3), Polishing Lagoon (SWMU #4), Tilton Road Pond (SWMU #5), Underground Effluent Transfer Pipe (SWMU #6), Equalization Sump (SWMU #7), and Piping (SWMU #8). The Precious Metal Incinerator (SWMU #16), that was "newly" identified as a SWMU after the issuance of the 1992 HSWA Permit, was also investigated under the RFI and deemed to need "no further action", remedial or otherwise. The basis for these determinations of "no further action" is that there are no discernible concentrations, or such low concentrations, of hazardous constituents present in these SWMUs, so that the SWMUs do not present a threat to human health and the environment.

The 1992 HSWA Permit identified three SWMUs - the Underground Storage Tanks (SWMU #9), the Glaze Basin (SWMU #10), and the Slip Basin (SWMU #11) - that were closed in accordance with applicable hazardous waste

regulations. Since the issuance of the 1992 HSWA Permit, EPA has no information that would indicate the need to require additional action be performed on these SWMUs. Thus, these SWMUs do "not require" corrective action under this HSWA Permit. It should be noted that the Glaze Basin (SWMU #10) and the Slip Basin (SWMU #11) are currently subject to post-closure monitoring under the State's NJPDES/DGW permit as modified on December 1, 1995.

As for the Two Neutralization Tanks (SWMU #14) and the Filter Press (SWMU #15), the Permittee was required under the 1992 HSWA Permit to submit information that would allow the EPA to make a preliminary assessment as to whether or not an RFI was needed for either SWMU. Based on information submitted, it was determined that field investigations were not necessary for the two SWMUs since there had been no release of hazardous constituents. Thus, SWMUs #14 and #15 do "not require" corrective action under this HSWA Permit.

FACILITY BACKGROUND

The facility (Lenox China, a Division of Lenox, Inc.) is located on Tilton Road, in Pomona, Atlantic County, New Jersey on fifty six (56) acres of land. The facility has been manufacturing since 1954 ceramic dinnerware and giftware. Processes involved in the manufacture of the products are blending of earthen clay and alumino-silicates, molding and plastering, firing, coating and glazing with glass formed from lead compounds, and etching to add patterns and designs. During the facility operation, various units including surface impoundments, drum storage areas, and an incinerator were or have been used for the management of wastes generated at the facility. The management of wastes at the facility resulted in contamination of soils and groundwater.

In 1986, EPA, with support of NJDEP, conducted a RCRA Facility Assessment (RFA) for the facility, to identify Solid Waste Management Units (SWMUs) and/or Areas of Concern (AOCs) that had ever been used, whether intended or not, for management of wastes at the facility and to assess the likelihood of releases of hazardous constituents from those SWMUs/AOCs. Based on the RFA, EPA and NJDEP prepared in March 1989 the RFA report. The RFA report identified 15 SWMUs/AOCs and recommended field investigations for ten (10) SWMUs/AOCs for potential releases to soils and/or groundwater. In accordance with the recommendations of the RFA report, EPA issued in October 1992 the HSWA permit which required Lenox China to conduct field investigations.

[Note: EPA has determined that the facility is not located in an Environmental Justice (EJ) area.]

Concurrent with the EPA action, the groundwater monitoring conducted since the early 1980s by the facility pursuant to the NJPDES/DGW permit issued by the New Jersey Department of Environmental Protection (NJDEP), detected elevated levels of trichloroethylene (TCE) in groundwater beneath the facility. Subsequent investigations had delineated the extent and degree of the TCE contamination in groundwater and had also concluded that it might have been caused by releases from the degreaser sludge pit (SWMU #1) and the drum storage area (SWMU #12). Since 1990, the facility has been implementing, in accordance with NJDEP's approval, the TCE groundwater remediation program. The State RCRA post-closure permit, prepared by NJDEP under their authorized RCRA program, required the facility to implement post-closure care for the RCRA surface impoundments, to continue the TCE remediation system, and to conduct corrective action investigations to determine potential releases from SWMUs/AOCs at the facility. The State RCRA post-closure permit was issued in October 1992, jointly with the EPA HSWA permit.

While conducting investigations required by the HSWA permit and the State RCRA post-closure permit, the facility identified one new SWMU (precious metal incinerator), in addition to the 15 SWMUs identified in the RFA report. The RCRA Facility Investigation (RFI) was completed in December 1994, which specified the extent and degree of the lead and zinc contamination in soils found in the areas of SWMU #2 (Sludge Disposal Area) and AOC #13 (Area Between Monitoring Well #10 and Aloe Street). The site wide groundwater monitoring program, that had been implemented by the facility since the early 1980s, has identified lead or zinc in groundwater. The lead and zinc concentrations in the groundwater are generally below EPA Levels for these metals. Occasionally, during the course of the groundwater monitoring program there have been elevated levels for lead and zinc. Lenox China is required to continue monitoring groundwater for lead and zinc so as to further access the lead and zinc concentrations in the groundwater and determine if additional corrective measures are needed. The RFI report recommended remedial measures be taken for the contaminated soils in the areas of the two SWMUs. A summary of the investigation results is provided in the table below.

SWMUs/AOCs	Finding	Corrective Measures
1. Degreaser Sludge Pit	The soil investigation showed no discernable constituents.	No further action needed.
2. Sludge Disposal Area	The soil investigation showed elevated levels of lead (up to 40,000 ppm) and zinc (up to 3,000 ppm). Contaminated soils need to be addressed.	Asphalt or synthetic membrane cap(s) and/or fencing, and Declaration of Environmental Restrictions (DER). Groundwater monitoring for lead and zinc.
3. Waste Pile	This unit was located right adjacent to the Glaze Basin (SWMU #10). The closure of the Glaze Basin had successfully removed contaminated soils near the Basin and also the Waste Pile.	No further action needed.
4. Polishing Lagoon	This unit was remediated by excavation and off-site disposal of wastes and contaminated soils, under Condition B.6, Module III (Interim Corrective Measures) of the 1992 HSWA Permit.	No further action needed.
5. Tilton Road Pond	The investigation conducted on sludge and aqueous liquid (mostly water) in the unit showed no discernable constituents.	No further action needed.
6. Underground Effluent Transfer Pipe	The soil investigation showed no discernable constituents.	No further action needed.
7. Equalization Sump	The unit was dismantled and is no longer in use. The soil investigation showed no discernable constituents.	No further action needed.
8. Piping	The soil investigation showed no discernable constituents.	No further action needed.
9. Underground Storage Tanks	The Underground Storage Tanks were closed under the State Underground Storage Tank Program. No investigation was required under the 1992 HSWA permit.	Not required.
10. Glaze Basin	The RCRA-regulated unit was closed under the authorized State RCRA program and is currently under post-closure care monitoring. No investigation was required under the 1992 HSWA permit.	Not required.
11. Slip Basin	The RCRA-regulated unit was closed under the authorized State RCRA program and is currently under post-closure care monitoring. No investigation was required under the 1992 HSWA permit.	Not Required.
12. Drum Storage Area	The RCRA-regulated unit was closed under the authorized State RCRA program and is currently being used for less-than-90-day storage. Soil investigations conducted under the closure of the SWMU showed low levels of TCE, much below the proposed soil action level. No further action for soil was required under the 1992 HSWA Permit. The ongoing TCE groundwater remediation system will continue remediation of TCE-contaminated groundwater.	No further action is needed for soil, but groundwater will continue to be remediated through the TCE Groundwater Remediation System.
13. Area Between Monitoring Well #10 and Aloe Street	The soil investigation showed elevated levels of lead (up to 15,000 ppm) and zinc (up to 3,000 ppm). Contaminated soils need to be addressed.	Fencing and/or asphalt or synthetic membrane cap, and DER. Groundwater Monitoring for lead and zinc.
14. Two Tanks (Neutralization)	Information submitted in compliance with the 1992 HSWA permit has supported that field investigations are not required.	Not required.
15. Filter Press	Information submitted in compliance with the 1992 HSWA permit has supported that field investigations are not required.	Not required.

16. Precious Metal Incinerator	The soil investigation showed no discernable constituents.	No further action needed.

The TCE groundwater remediation system consists of seven recovery wells with a total flow rate of up to 350 gallons per minute. The treatment of the pumpage with a carbon adsorption system is expected to lower current TCE concentrations to a level equal to or below the health-based cleanup standard for TCE of 1 ppb. Treated groundwater either is discharged into two recharge trenches located within the facility property boundaries, or is used for: (1) on-site and/or off-site spray irrigation, or (2) non-contact cooling water in plant operations. The site-wide groundwater monitoring has shown that the TCE groundwater remediation program is effective in controlling off-site migration of contaminated groundwater and in reducing the levels of TCE in groundwater. The TCE groundwater monitoring will continue under the HSWA Modification.

FACILITY RISKS

EPA and NJDEP have determined, based on the results of the investigations conducted for the facility, that there are three potential exposure routes through which the constituents of concern found at the facility pose risks to human health and the environment. The three routes and their potential risks are discussed as follows:

1. Potential Exposures to Contaminated Soils: Concentrations of lead and zinc detected under SWMU #2 (Sludge Disposal Area) and AOC #13 (Area Between Monitoring Well #10 and Aloe Street) are up to 40,000 ppm and 3,000 ppm, respectively, which are above their respective soil cleanup standards (400 ppm residential and 600 ppm nonresidential for lead, 1,500 ppm residential and nonresidential for zinc). Engineering and institutional controls, such as asphalt and/or synthetic membrane cap(s), fencing, and Declaration of Environmental Restrictions (DER) are expected to minimize risks from potential exposures to soils contaminated with lead and zinc.

SOIL CLEANUP STANDARDS APPLICABLE TO THE FACILITY

Chemical Constituents		Cleanup Standards (ppm)
Metals	lead	residential: 400 nonresidential: 600
	zinc	residential: 1,500 nonresidential: 1,500

2. Potential Exposure to Contaminated Groundwater: The TCE groundwater remediation system has been successful in reducing the plume of contaminated groundwater that has migrated off-site and in preventing further off-site migration. Currently, none of the wells located downgradient of the groundwater flow are used for potable purposes. Therefore, potential risks to human health or ecological species through exposure to contaminated groundwater would be minimal.

   However, the groundwater data collected since the early 1980s have shown that without the pumping program contaminated groundwater would migrate east or northeast, toward residential areas. Therefore, without the pumping program potential risks to human health or the environment would increase through use of contaminated groundwater for recreation, gardening, etc.

   Potential risks to human health and the environment through exposure to groundwater contaminated with lead and zinc are currently believed to be minimal because the levels are generally so low. In addition, the TCE groundwater remediation program will effectively mitigate or control any potential off-site migration of the contaminated groundwater.

GROUNDWATER CLEANUP STANDARDS APPLICABLE TO THE FACILITY

Chemical Constituents	Cleanup Standards (ppb)
Trichloroethylene	1

3. Potential Impacts of Contaminated Soils on Groundwater: The site groundwater data collected for the facility since the early 1980s have indicated detectable levels of lead and zinc in groundwater. However, based on current information it has been determined that the mobility of these metals in soil and/or subsoil is limited and that potential impacts of

contaminated soils on groundwater is minimal. Lenox China will continue to monitor groundwater for lead and zinc which will be used to further assess the potential of these metals in soils to leach into groundwater.

SCOPE OF CORRECTIVE MEASURES

1. TCE: The corrective measures discussed in this SB are to ensure that exposure to any part of the facility, after the completion of corrective measures, would not pose unacceptable risks to human health and the environment. TCE is a volatile organic compound that is known to cause cancer in laboratory animals and, thus, is classified as a carcinogen. It has been determined that in cleaning-up the contaminated groundwater at the Lenox facility to a concentration of 1 ppb of TCE, the probability of contracting cancer as a result of exposure to the treated groundwater would increase by one in a million, which is considered an acceptable risk.

2. Lead and Zinc: Health based standards will be met for the entire facility, except the soils contaminated with lead and zinc in the areas of SWMU #2 and AOC #13. Direct contact with the contaminated soils could exceed health based standards assigned to those metals. Nevertheless, the mobility of these metals has been determined through monitoring to be limited and the potential exposures to the contaminated soils can be controlled through the implementation of engineering and institutional controls.

   The site groundwater data indicates that the concentrations of lead and zinc in the groundwater are generally below EPA levels. However, during the course of the groundwater monitoring program which was initiated in the early 1980's, there have been elevated levels occasionaly observed for lead and zinc. Since the groundwater data base collected for lead and zinc is not conclusive with respect to whether the levels of groundwater contamination by lead and zinc exceed the respective cleanup standards, monitoring for these metals will continue throughout the site.

   Thus, the potential risks posed by the contaminated soils to human or ecological species would be minimized to acceptable levels since the direct contact exposure has been reduced and the groundwater is being monitored

to reduce the potential of lead and zinc leaching from the soil into the groundwater.

EVALUATION OF THE CORRECTIVE MEASURES

The corrective measures have been evaluated with respect to the following factors:

- Overall Protection: The corrective measures eliminate, reduce, or control potential risks of the facility to human health and the environment.

- Attainment of Media Cleanup Standards: The engineering and institutional controls - asphalt and/or synthetic membrane cap(s), fencing, and DER - would ensure that soils contaminated above the soil cleanup standards are to be controlled to minimize or eliminate potential exposure to human and ecological species. Any potential future use of the land would need to be evaluated to determine the need for further remediation.

  The TCE groundwater remediation system will continue until the quality of groundwater meets the cleanup standard of 1 ppb. Generally, low levels of lead and zinc below the respective federal cleanup standards have been detected in groundwater. Groundwater will be monitored to ensure continuous compliance with the cleanup standards and/or to implement, if needed, additional corrective measures.

- Controlling the Sources of Releases: All potential sources for TCE groundwater contamination have been removed. The contaminated soils near SWMU #2 and AOC #13 have been determined not to be a significant source for groundwater contamination. However, access to those areas will be limited by asphalt and/or a synthetic membrane cap(s) and fences to minimize risks from direct exposure to the contaminated soils. In addition, groundwater monitoring will continue so as to ensure that the contaminated soils are not a source for groundwater contamination.

- Compliance with Waste Management Standards: Lenox will comply with all applicable, relevant and appropriate federal, state, and local standards or regulations for the disposal of treated groundwater. This will assure that the management of wastes is conducted in a protective manner.

- Long-term Reliability and Effectiveness: The corrective measures would eliminate or prevent potential hazards by pumping and treating the contaminated groundwater. The groundwater monitoring system will assess the effectiveness of the treatment.

By implementing engineering and institutional controls, the long-term risks of exposure to the remaining contaminates in the soils would be greatly reduced by preventing migration of the contaminated soil to surface water, air and other soils. In addition, the amount of water that would otherwise pass through the contaminated soils will be drastically reduced. The cap would be subject to long-term maintenance and its effectiveness would be evaluated through long-term monitoring. If needed, the fencing would prohibit human and animal contact with the contaminated areas. The DER will prohibit unacceptable development of these areas.

- Reduction of Toxicity, Mobility, or Volume of Wastes: Since no treatment would be provided to contaminated soils, the toxicity or volume of contaminated soils would not be significantly reduced. However, since it has been concluded through testing and monitoring that the lead and zinc are quite immobile in the soil and/or subsoil, these contaminants are not expected to adversely affect the groundwater. Groundwater will be continuously monitored to assess the immobility of these metals in the soil and subsoil.

  The TCE contamination in groundwater will continue to be pumped and treated. Therefore, the level of toxicity and volume of contaminated groundwater will be reduced.

- Short-term Effectiveness: The groundwater pumping is an effective mechanism to prevent potential off-site migration of contaminated groundwater.

- Implementability: No major administrative barriers for the implementation of the corrective measures are expected.

- Cost: The corrective measures costs (capital cost and the operation/maintenance cost) for SWMU #2 and AOC #13 (contaminated soils) were evaluated. The costs associated with capping and/or fencing the SWMU and/or AOC were estimated, in 1995, to be $371,950. The cost for removing the contaminated soil at SWMU #2 and AOC #13 and disposing of the material off-site was estimated to be $2,799,820.

In summary, based on the information currently available the corrective measures provide a balanced approach to the remedial activities while ensuring protection of human health and the environment. The corrective measures provide for the safe management of the contaminated soils which will remain at the

facility and attain the media clean-up standard for TCE in groundwater.

PUBLIC PARTICIPATION

The public was invited to provide comments on the corrective measures and determinations of "No Further Action" or "Not Required", this SB, the accompanying Draft HSWA Permit Modification, or other corrective measures alternatives that may be applicable to this facility. The public comment period for the proposed draft HSWA Permit Modification and the SB extended from April 23, 1996 through June 10, 1996. The notice of the public comment period was provided in the April 23, 1996 edition of, "THE PRESS of Atlantic City" and was announced on radio station, "WFPG AM/FM," on the same date.

EPA received comments only from the New Jersey Department of Environmental Protection (NJDEP) and has prepared the Response to Comments (RTC), to identify the selected remedy, present concerns and issues raised during the public comment period, and provide responses. All of the comments received were reviewed during the final selection of the remedy, and have been addressed in the RTC. No additional alternatives were raised and the proposed remedy was not altered as a result of public comments.

NEXT STEPS

Within thirty (30) days of the final decision, any person who submitted timely written comments on any aspect of this draft HSWA Permit or made a statement at the public hearing may petition the Administrator of EPA to review any portion of the decision.