



State of Ohio Environmental Protection Agency

STREET ADDRESS:

Lazarus Government Center  
122 S. Front Street  
Columbus, Ohio 43215

TELE: (614) 644-3020 FAX: (614) 644-3184

MAILING ADDRESS:

P.O. Box 1049  
Columbus, OH 43216-1049

March 31, 2004

**Re: Ohio Hazardous Waste Permit Renewal**  
The Lubrizol Corporation, Painesville Facility  
U.S. EPA ID No.: OHD 004 172 623  
Ohio ID No.: 02-43-0178

**CERTIFIED MAIL**

Mr. Curt Jerauld  
The Lubrizol Corporation  
155 Freedom Road  
Painesville, Ohio 44077

Dear Mr. Jerauld:

Here is the renewed Ohio Hazardous Waste Facility Installation and Operation Permit (Permit) for The Lubrizol Corporation. I have enclosed a copy of the responsiveness summary Ohio EPA prepared in response to verbal and written comments the Agency received concerning the Part B permit application. The Permit is effective today, March 31, 2004. The date-stamped, page-numbered copy of the Part B permit application is also enclosed.

Please remember that according to Rule 3745-50-36 of the Ohio Administrative Code your annual hazardous waste permit fee of \$6,200.00 will be due on March 31, 2005. Ohio EPA will try to notify you before this fee is due, but it is your responsibility to make sure it gets paid on time.

As a party to this permit proceeding, you may appeal this Permit to the Environmental Review Appeals Commission (ERAC) no later than 30 days after the public notice (See Ohio Revised Code § 3745.04). You may file your appeal with ERAC at the following address: Environmental Review Appeals Commission, 309 South Fourth Street, Room 222, Columbus, Ohio 43215.

If you file an appeal, you must put it in writing. Your appeal must explain why you are appealing the action and the grounds you are using for your appeal. You must send a copy of the appeal to the director of the Ohio Environmental Protection Agency no later than three (3) days after you file it with ERAC.

Bob Taft, Governor  
Jennette Bradley, Lieutenant Governor  
Christopher Jones, Director

Mr. Curt Jerauld  
The Lubrizol Corporation  
March 31, 2004  
Page Two

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If you have any questions concerning compliance, do not hesitate to call Edward D'Amato of the Northeast District Office at (330) 963-1200.

Sincerely,



Pamela S. Allen, Manager  
Regulatory and Information Services  
Division of Hazardous Waste Management

PSA/ds

Attachments

cc: John Gaitskill, U.S. EPA, Region V  
Edwin Lim, Mgr., ERAS, DHWM  
Jeremy Carroll, ERAS, DHWM  
Harriet Croke, US EPA, Region V  
Frank Popotnik, DHWM, NEDO  
Edward D'Amato, DHWM, NEDO  
Carol Hester, Public Interest Center, Ohio EPA

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## PUBLIC NOTICE

Lake County

### OHIO EPA ISSUES FINAL RENEWAL HAZARDOUS WASTE PERMIT TO THE LUBRIZOL CORPORATION, PAINESVILLE, OHIO

On March 31, 2004, Ohio EPA issued a final renewal Hazardous Waste Facility Installation and Operation Permit (Permit) to The Lubrizol Corporation (Lubrizol) for its facility at 155 Freedom Road, Painesville, Ohio 44077. The EPA Identification Number for this facility is OHD004172623.

#### **Why does Lubrizol need a Permit?**

The Lubrizol Corporation in Painesville is engaged in the manufacture of lubricant additives, fuel additives, and other speciality chemicals related to the transportation industry. From these activities, hazardous waste is generated. Lubrizol is authorized to store and treat hazardous waste in tanks, and treat hazardous waste by incineration. The final renewal Permit contains the conditions under which the facility must operate if the Permit receives final approval. To issue this final Permit, Ohio EPA determined that the Permit application is complete and meets appropriate standards and that the applicant has a history of compliance with relevant environmental laws. The final Permit allows Lubrizol to continue to store and treat hazardous waste in tanks and treat hazardous waste by incineration. It also requires Lubrizol to investigate and, if necessary, clean up any contamination from hazardous wastes or constituents that may be at the facility.

#### **Can I appeal this permit?**

Yes, if you are an officer of an agency of the state or of a political subdivision, acting in a representative capacity, or any person who would be aggrieved or adversely affected by this renewal Permit, you have the right to appeal this permit decision to the Environmental Review Appeals Commission (ERAC).

#### **If I decide to appeal this final renewal Permit, how and when must I make the appeal?**

If you file an appeal, you must put it in writing no later than April 30, 2004. Your appeal must explain why you are appealing the action and the grounds you are using for your appeal. You must file your appeal with ERAC at the following address: ***Environmental Review Appeals Commission***, 309 South Fourth Street, Room 222, Columbus, Ohio 43215. You must send a copy of the appeal to the director of Ohio EPA at the following address no later than three (3) days after you file it with ERAC: ***Christopher Jones, Director of Ohio EPA***, P.O. Box 1049, Columbus, Ohio 43216-1049.

OHIO ENVIRONMENTAL PROTECTION AGENCY

MAR 31 2004

OHIO HAZARDOUS WASTE FACILITY

ENTERED DIRECTOR'S JOURNAL INSTALLATION AND OPERATION PERMIT RENEWAL

Permittee: The Lubrizol Corporation

Mailing Address: The Lubrizol Corporation, 155 Freedom Rd., Painesville, OH 44077

Owner: The Lubrizol Corporation, 29400 Lakeland Blvd., Wickliffe, OH 44092

Operator: The Lubrizol Corporation, 29400 Lakeland Blvd., Wickliffe, OH 44092

Location: The Lubrizol Corporation, 155 Freedom Rd., Painesville, OH 44077

Ohio Permit No.	02-43-0178
US EPA ID	OHD 004 172 623
Issue Date	03/31/2004
Effective Date	03/31/2004
Expiration Date	03/31/2009

AUTHORIZED ACTIVITIES

In reference to the application of The Lubrizol Corporation for an Ohio Hazardous Waste Facility Installation and Operation Renewal Permit under Ohio Revised Code (ORC) Chapter 3734 and the record in this matter, you are authorized to conduct at the above-named facility the following hazardous waste management activities:

- ◆ Storage and Treatment in Tanks
- ◆ Treatment by Incineration
- ◆ Corrective Action

PERMIT APPROVAL

Christopher Jones, Director, Ohio Environmental Protection Agency

This permit approval is based upon the record in this matter which is maintained at the offices of the Ohio Environmental Protection Agency. The Director has considered the application, accompanying information, inspection reports of the facility, a report regarding the facility's compliance or noncompliance with the terms and conditions of its permit and rules adopted by the Director under this chapter, and such other information as is relevant to the operation of the facility. The Director has determined that the facility under the existing permit has a history of compliance with ORC Chapter 3734, rules adopted under it, the existing permit, or orders entered to enforce such requirements that demonstrate sufficient reliability, expertise, and competency to operate the facility henceforth under this chapter, rules adopted under it, and the renewal permit.

Entered into the Journal of the Director this 31 day of March, 2004.

By Sonya Jackson of the Ohio Environmental Protection Agency.

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency

By Sonya Jackson on 3/31/04

## MODULE A - GENERAL PERMIT CONDITIONS

### A. GENERAL PERMIT CONDITIONS

#### A.1 Effect of Permit

ORC Sections 3734.02 (E) and (F) and 3734.05  
OAC Rule 3745-50-58(G)

- (a) The Permittee is authorized to treat and store hazardous waste in tanks, and treat hazardous waste in an incinerator in accordance with the terms and conditions of this Ohio hazardous waste permit (hereinafter "permit"), ORC Chapter 3734, all applicable Ohio hazardous waste rules, all applicable regulations promulgated under the Resource Conservation and Recovery Act (RCRA), as amended, and the permit application. The permit application as submitted to Ohio EPA and last updated on September 18, 2003 is hereby incorporated into this permit. In the instance of inconsistent language or discrepancies between the above, the language of the more stringent provision shall govern.
- (b) Any management of hazardous waste not authorized by this permit is prohibited, unless otherwise expressly authorized or specifically exempted by law. Issuance of this permit does not convey 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. Compliance with the terms and conditions of this permit does not obviate Permittee's obligation to comply with other applicable provisions of law governing protection of public health or the environment including but not limited to the Community Right to Know law under ORC Chapter 3750.

#### A.2 Permit Actions

OAC Rule 3745-50-58(F)

This permit may be modified or revoked as specified by Ohio law. The filing of a request by the Permittee for a permit modification, or the notification of planned changes or anticipated noncompliance on the part of the Permittee, does not stay any permit term or condition.

OHIO EPA DHWM

MAR 31 2004

A.3 Permit Effective/Expiration Date  
OAC Rule 3745-50-54

The effective date of this permit is the date the permit is entered into the Director's Journal. The permit expiration date is five years after the date of journalization of this permit.

A.4 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 held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

A.5 Duty to Comply  
OAC Rule 3745-50-58(A)

The Permittee must comply with all applicable provisions of ORC Chapter 3734, all applicable Ohio hazardous waste rules, and all terms and conditions of this permit, except to the extent and for the duration such noncompliance is authorized by the laws of the State of Ohio. Any permit noncompliance, other than noncompliance authorized by the laws of the State of Ohio, constitutes a violation of ORC Chapter 3734 and is grounds for enforcement action, revocation, modification, denial of a permit renewal application or other appropriate action.

A.6 Duty to Reapply and Permit Expiration  
OAC Rules 3745-50-40(D), 3745-50-58(B), 3745-50-56 and ORC Section 3734.05(H)

- (a) If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee must submit a completed permit application for a hazardous waste facility installation and operation permit renewal and any necessary accompanying general plans, detailed plans, specifications, and such information as the Director may require, to the Director no later than one hundred eighty (180) days prior to the expiration date of this permit, unless a later submittal date has been authorized by the Director upon a showing of good cause.
- (b) The Permittee may continue to operate in accordance with the terms and conditions of the expired permit until a renewal permit is issued or denied if:

OHIO EPA DHWM

MAR 31 2004

- (i) the Permittee has submitted a timely and complete permit application for a renewal permit under OAC Rule 3745-50-40; and
  - (ii) through no fault of the Permittee, a new permit has not been issued pursuant to OAC Rule 3745-50-40 on or before the expiration date of this permit.
- (c) The Corrective Action obligations contained in this permit will continue regardless of whether the facility continues to operate or ceases operation and closes. The Permittee is obligated to complete facility-wide Corrective Action under the conditions of this permit regardless of the operational status of the facility. The Permittee must submit an application for permit renewal at least 180 days before the expiration date of this permit pursuant to OAC Rule 3745-50-40(D) unless a) the permit has been modified to terminate the Corrective Action schedule of compliance and the Permittee has been released from the requirements for financial assurance for Corrective Action; or b) a later submittal date has been authorized by the Director.

A.7 Need to Halt or Reduce Activity Not a Defense  
OAC Rule 3745-50-58(C)

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce a permitted activity in order to maintain compliance with the conditions of this permit.

A.8 Duty to Mitigate  
OAC Rule 3745-50-58(D)

The Permittee must take all reasonable steps to minimize releases to the environment and must carry out such measures as are reasonable to prevent significant adverse impact on human health or the environment resulting from noncompliance with this permit.

A.9 Proper Operation and Maintenance  
OAC Rule 3745-50-58(E)

The Permittee must at all times properly operate and maintain the facility (and related appurtenances) to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes effective management practices, adequate funding, adequate operator staffing and training, and where

OHIO EPA DHWM

MAR 31 2004

appropriate, adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the terms and conditions of this permit.

A.10 Duty to Provide Information  
OAC Rule 3745-50-58(H)

The Permittee must furnish to the Director, within a reasonable time, any relevant information which the Director may request to determine whether cause exists for modifying or revoking, or to determine compliance with, this permit. The Permittee must also furnish to the Director, upon request, copies of records required to be kept by this permit.

A.11 Inspection and Entry  
OAC Rules 3745-50-58(I) and 3745-50-30, and ORC Section 3734.07

- (a) The Permittee must allow the Director, or an authorized representative, upon stating the purpose and necessity of the inspection and upon proper identification, to:
- (i) 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 terms and conditions of this permit;
  - (ii) have access to and copy, at reasonable times, any records required to be kept under the terms and conditions of this permit;
  - (iii) inspect and photograph at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under the terms and conditions of this permit; and
  - (iv) sample, document, or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by ORC Chapter 3734 and the rules adopted thereunder, any substances or parameter at any location.
- (b) Any record, report or other information obtained under the hazardous waste rules or Chapter 3734 of the Revised Code shall not be available to the

OHIO EPA DHWM

MAR 31 2004

public upon the Permittee's satisfactory showing to Ohio EPA that all or part of the information would divulge methods or processes entitled to protection as trade secrets pursuant to Ohio Trade Secret Law and OAC Rule 3745-50-30.

A.12 Monitoring and Records  
OAC Rule 3745-50-58(J)

- (a) Any sample and measurement taken for the purpose of monitoring must be representative of the monitored activity. Further, a sample must be a representative sample, as such term is defined and used in the Ohio hazardous waste rules. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of OAC Rule 3745-51-20, Laboratory Methods. Laboratory methods must be those specified in Test Methods for the Evaluation of Solid Waste: Physical /Chemical Methods; SW-846:Third Edition, November 1992; and additional supplements or editions thereof; Standard Methods for the Examination of Water and Wastewater: Twentieth Edition, 1999; or an equivalent method as specified in the approved waste analysis plan, or as this term is defined and used in the Ohio hazardous waste rules.
- (b) Records of monitoring information must specify the:
  - (i) date(s), exact place(s), and time(s) of sampling or measurements;
  - (ii) individual(s) who performed the sampling or measurements;
  - (iii) date(s) analyses were performed;
  - (iv) individual(s) who performed the analyses;
  - (v) analytical technique(s) or method(s) used; and
  - (vi) results of such analyses.

A.13 Signatory Requirement and Certification of Records  
OAC Rules 3745-50-58(K) and 3745-50-42

All applications, reports or information must be properly signed and certified in accordance with OAC Rule 3745-50-58(K).

OHIO EPA/DHWM

MAR 31 2004

**A.14 Retention of Records**

OAC Rules 3745-50-40(G), 3745-50-58(J) and 3745-50-58(M)

- (a) The Permittee must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this permit, the certification required by OAC Rule 3745-54-73(B)(9), and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report, certification, or application.
- (b) The record retention period may be extended by request of the Director at any time and is automatically extended during the course of any unresolved enforcement action regarding the facility.
- (c) The Permittee must maintain, in accordance with the Ohio hazardous waste rules, records of all data used to complete the permit application and any amendments, supplements or modifications of such application and must retain a complete copy of the application for a period of at least five (5) years from the effective date of the permit.
- (d) The Permittee must maintain records from all ground water monitoring wells and associated ground water surface elevations for the active life of the facility, and for disposal facilities for the post-closure care period as well.
- (e) Corrective Action records must be maintained at least three (3) years after all Corrective Action activities have been completed.

**A.15 Planned Changes**

OAC Rules 3745-50-51 and 3745-50-58(L)(1)

The Permittee must give notice to the Director as soon as possible of any planned physical alterations or additions to the facility. All such changes must be made in accordance with OAC Rule 3745-50-51.

**A.16 Waste Shipments**

OAC Rule 3745-52-12, ORC Section 3734.15(C)

The Permittee must only use properly registered transporters of hazardous waste to remove hazardous waste from the facility, in accordance with all applicable laws and rules.

OHIO EPA DHWM

MAR 31 2004

**A.17 Anticipated Noncompliance**  
OAC Rule 3745-50-58(L)(2)

The Permittee must give advance notice to the Director of any planned changes in the permitted facility or operations which may result in noncompliance with the terms and conditions of this permit. Such notification does not waive the Permittee's duty to comply with this permit pursuant to Permit Condition A.5.

**A.18 Transfer of Permits**  
OAC Rules 3745-50-52, 3745-50-58(L)(3) and 3745-54-12

- (a) The permit may be transferred to a new owner or operator only if such transfer is conducted in accordance with ORC Chapter 3734 and the rules adopted thereunder. This permit may be transferred by the Permittee to a new owner or operator only if the permit has been modified under OAC Rule 3745-50-51. Before transferring ownership or operation of the facility, the Permittee must notify the new owner or operator in writing of the requirements of ORC Chapter 3734 and the rules adopted thereunder (including all applicable Corrective Action requirements).
- (b) The Permittee's failure to notify the new owner or operator of the requirements of the applicable Ohio law or hazardous waste rules does not relieve the new owner or operator of its obligation to comply with all applicable requirements.

**A.19 Compliance Reports**  
OAC Rules 3745-50-58(L)(5) and 3745-50-50

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule (developed in accordance with OAC Rule 3745-50-50) of this permit must be submitted to the Director no later than fourteen (14) days following each scheduled date.

**A.20 Immediate Reporting of Noncompliance**  
OAC Rule 3745-50-58(L)(6)

- (a) The Permittee must report orally to Ohio EPA's Division of Emergency and Remedial Response within twenty-four (24) hours from the time the Permittee becomes aware of any noncompliance with this permit, ORC Chapter 3734 or the rules adopted thereunder, which may endanger human health or the environment, including:

OHIO EPA DHWM

MAR 31 2004

- (i) information concerning the release of any hazardous waste that may cause an endangerment to public drinking water supplies; and
  - (ii) any information of a release or discharge of hazardous waste or a fire or explosion from the hazardous waste facility, which could threaten the environment or human health outside the facility.
- (b) The report must consist of the following information (if such information is available at the time of the oral report):
- (i) name, address, and telephone number of the owner or operator;
  - (ii) name, address, and telephone number of the facility;
  - (iii) date, time, and type of incident;
  - (iv) name and quantity of material(s) involved;
  - (v) the extent of injuries, if any;
  - (vi) an assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and
  - (vii) estimated quantity and disposition of recovered material that resulted from the incident.

**A.21 Follow-Up Written Report of Noncompliance**  
OAC Rule 3745-50-58(L)(6)(c)

- (a) A written report must also be provided to Ohio EPA's Division of Emergency and Remedial Response and the Division of Hazardous Waste Management Northeast District Office within five (5) days of the time the Permittee becomes aware of the circumstances reported in Permit Condition A.20.
- (b) The written report must address the items in Permit Condition A.20 and must contain a description of such noncompliance and its cause; the period(s) of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and, if not, the anticipated time it is expected to continue; and steps taken or planned to minimize the impact on human health and the environment and to reduce, eliminate, and prevent recurrence of the noncompliance.

OHIO EPA DHWM

MAR 31 2004

- (c) The Permittee need not comply with the five (5) day written report requirement if the Director, upon good cause shown by the Permittee, waives that requirement and the Permittee submits a written report within fifteen (15) days of the time the Permittee becomes aware of the circumstances.

A.22 Other Noncompliance

OAC Rules 3745-50-58(L)(10) and 3745-50-58(L)(4)

The Permittee must report to the Director all other instances of noncompliance not provided for in Permit Conditions A.19 and A.20. These reports must be submitted within thirty (30) days of the time at which the Permittee is aware of such noncompliance. Such reports must contain all information set forth within Permit Condition A.20.

A.23 Reserved

A.24 Other Information

OAC Rule 3745-50-58(L)(11)

If at any time the Permittee becomes aware that it failed to submit any relevant facts, or submitted incorrect information to the Director, the Permittee must promptly submit such facts, information or corrected information to the Director.

A.25 Confidential Information

OAC Rule 3745-50-30

In accordance with ORC Chapter 3734 and the rules adopted thereunder, the Permittee may request confidentiality for any information required to be submitted by the terms and conditions of this permit, or any information obtained by the Director, or an authorized representative, pursuant to the authority provided under Permit Condition A.11.

A.26 Ohio Annual Permit Fee

OAC Rule 3745-50-36

The annual permit fee, calculated pursuant to OAC Rule 3745-50-36 and payable to the Treasurer of the State, must be submitted to the Director on or before the anniversary of the date of issuance during the term of the permit. For the purpose of the payment of the Ohio Annual Permit Fee, the date of issuance is the date the permit was entered into the Journal of the Director of Ohio EPA.

OHIO EPA/DHWM

MAR 31 2004

**A.27 Compliance Schedule - Documents**  
OAC Rule 3745-50-50, OAC 3745-50-51

- (a) Unless specified otherwise, Permittee must submit the documents listed below to:

Ohio EPA, Director  
P.O. Box 1049  
Columbus, Ohio 43216-1049

Ohio EPA, DHWM  
Attn: Regulatory and Information Services Section  
P.O. Box 1049  
Columbus, Ohio 43216-1049

Ohio EPA Northeast District Office  
2100 East Aurora Road  
Twinsburg, Ohio 44087  
Attn: DHWM/Lubrizol Painesville Facility Inspector

- (b) The Permittee must submit to the Ohio EPA within sixty (60) days after permit journalization, in accordance with Ohio's hazardous waste rules, the following information to be incorporated in the permit application:

- (i) Updated Closure Cost Estimate  
OAC Rule 3745-55-42

Section I of the permit application containing the financial assurance mechanism for closure must be updated to include a copy of the current closure cost estimate as set forth in OAC Rule 3745-55-42.

- (ii) Updated Financial Assurance Mechanism for Closure  
OAC Rules 3745-55-43 and 3745-55-45

Section I of the permit application containing the financial assurance mechanism for closure must be updated to include a copy of the current financial assurance mechanism, as set forth in OAC Rules 3745-55-43 and 3745-55-45, and as specified by the wording requirements of OAC Rule 3745-55-51. The value of the financial assurance mechanism must reflect at least the current amount of the closure cost estimate.

OHIO EPA DHWM

MAR 31 2004

During the life of the permit the facility may change the financial assurance mechanism as stated in OAC Rules 3745-55-43 and 3745-55-45. The facility must submit the financial assurance mechanism documentation to the Director of Ohio EPA in accordance with the parameters set forth in OAC Rules 3745-55-43 and 3745-55-45.

(iii) Updated Liability Requirements  
OAC Rule 3745-55-47

Section I of the permit application containing the financial assurance mechanism for closure must be updated to include a copy of the current liability coverage as set forth in OAC Rule 3745-55-47 and as specified by the wording requirements of OAC Rule 3745-55-51.

During the life of the permit the facility may change the mechanism used to demonstrate liability coverage as stated in OAC Rule 3745-55-47. The facility must submit the liability mechanism documentation to the Director of Ohio EPA in accordance with the parameters set forth in OAC Rule 3745-55-47.

This information must be submitted in accordance with OAC Rule 3745-50-51.

A.28 Information to be Maintained at the Facility  
OAC Rule 3745-54-74

- (a) Unless otherwise specified by the hazardous waste rules, the Permittee must maintain at the facility, until closure is completed and certified by an independent, registered professional engineer, pursuant to OAC Rule 3745-55-15, and until the Director releases the Permittee from financial assurance requirements pursuant to OAC Rule 3745-55-47, the following documents (including amendments, revisions and modifications):
- (i) waste analysis plan, developed and maintained in accordance with OAC Rule 3745-54-13 and the terms and conditions of this permit;
  - (ii) contingency plan, developed and maintained in accordance with OAC Rule 3745-54-53 and the terms and conditions of this permit;
  - (iii) closure plan, developed and maintained in accordance with OAC Rule 3745-55-12 and the terms and conditions of this permit;

OHIO EPA DHWM

MAR 31 2004

- (iv) cost estimate for facility closure, developed and maintained in accordance with OAC Rule 3745-55-42 and the terms and conditions of this permit;
  - (v) personnel training plan and the training records, developed and maintained in accordance with OAC Rule 3745-54-16 and the terms and conditions of this permit;
  - (vi) operating record, required by OAC Rule 3745-54-73 and the terms and conditions of this permit; and
  - (vii) inspection schedules, developed in accordance with OAC Rules 3745-54-15, 3745-55-74 and 3745-55-95 and the terms and conditions of this permit.
  - (viii) Reserved
  - (ix) annually-adjusted cost estimate for facility closures required by OAC Rule 3745-55-42 and the terms and conditions of this permit.
  - (x) all other documents required by Module A, Permit Condition A.12, and Module IA, Permit Condition I(A).10.
- (b) The Permittee must maintain copies of all inspection logs at the facility for a period not less than three (3) years from the date of inspection.
  - (c) Corrective Action reports and records as required by Module E, Permit Condition E.5 of this permit. These reports and records must be maintained for at least 3 years after all Corrective Action Activities have been completed.

**A.29 Waste Minimization Report**  
OAC Rules 3745-54-73 and 3745-54-75

- (a) The Permittee must submit a Waste Minimization Report describing the waste minimization program required by OAC Rules 3745-54-75(H), (I), and (J); and 3745-54-73(B)(9) at least once every two years. The provisions of OAC Rules 3745-54-75(H), (I) and (J); and 3745-54-73(B)(9) must be satisfied annually.
- (b) The Permittee must submit the Waste Minimization Report to Ohio EPA's Office of Pollution Prevention within one hundred eighty (180) days of the effective date of this permit, and must submit updates to this report biennially thereafter.

OHIO EPA DHWM

MAR 31 2004

## MODULE B - GENERAL FACILITY CONDITIONS

### B. GENERAL FACILITY CONDITIONS

#### B.1 Design and Operation of Facility OAC Rule 3745-54-31

- (a) The Permittee must design, construct, maintain, and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, ground water, or surface waters which could threaten human health or the environment.
- (b) The Permittee must not accept hazardous waste from off-site sources (except where the Permittee is also the generator) during the life of the permit. This is a facility wide limitation and includes all units.

#### B.2 Reserved

#### B.3 General Waste Analysis Plan OAC Rule 3745-54-13

- (a) Before an owner or operator treats, stores, or disposes of any hazardous wastes, or nonhazardous wastes if applicable under OAC Rule 3745-55-13(D), he must obtain a detailed chemical and physical analysis of a representative sample of the wastes. 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 Chapters 3745-54 to 3745-57, 3745-218, and 3745-270 of the Administrative Code.
- (b) The Permittee must follow the procedures described in the waste analysis plan found in Section C of the permit application and the terms and conditions of this permit.
- (c) The Permittee must verify the analysis of each waste stream annually as part of its quality assurance program, in accordance with Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, EPA Publication SW-846, or equivalent methods approved by the Director. At a minimum, the Permittee must maintain proper functional instruments, use approved sampling and analytical methods, verify the validity of sampling and analytical procedures, and perform correct calculations. If the Permittee uses a contract laboratory to perform analyses, then the Permittee must

OHIO EPA DHWM

MAR 31 2004

inform the laboratory in writing that it must operate under the waste analysis conditions set forth in this permit.

**B.4 Security**  
OAC Rule 3745-54-14

The Permittee must comply with the security provisions of OAC Rule 3745-54-14(B) (2) and (C) and Section F of the permit application.

**B.5 General Inspection Requirements**  
OAC Rules 3745-54-15 and 3745-54-73

The Permittee must follow the inspection schedule set forth in Section F of the permit application. The Permittee must remedy any deterioration or malfunction discovered by an inspection, as required by OAC Rule 3745-54-15(C). Records of inspection must be kept for a minimum of three years from the date of inspection. These records must be a part of the facility's operating record as required by OAC Rule 3745-54-73.

**B.6 Personnel Training**  
OAC Rule 3745-54-16

The Permittee must conduct personnel training, as required by OAC Rule 3745-54-16. This training program must contain at least the elements set forth in Section H of the permit application. The Permittee must maintain training documents and records as required by OAC Rule 3745-54-16(D) and (E).

**B.7 General Requirements for Ignitable, Reactive, or Incompatible Wastes**  
OAC Rule 3745-54-17

- (a) The Permittee must comply with the requirements of OAC Rule 3745-54-17 and must follow the procedures for handling ignitable, reactive, and incompatible wastes set forth in Section F of the permit application.
- (b) The Permittee must provide electrical grounding for all containers and tanks, and transport vehicles during all operations involving the handling of ignitable or reactive wastes.
- (c) The Permittee must prevent accidental ignition or reaction of ignitable or reactive wastes using methods appropriate to the facility.

OHIO EPA DHWM

MAR 31 2004

- (d) The Permittee must prohibit smoking and open flames in each area where ignitable, reactive, or incompatible hazardous wastes are managed and must post appropriate signs.

**B.8 Reserved**

**B.9 Required Equipment**  
OAC Rule 3745-54-32

At a minimum, the Permittee must maintain at the facility all the equipment required by OAC Rule 3745-54-32 and the equipment set forth in the contingency plan contained in Section G of the permit application.

**B.10 Testing and Maintenance of Equipment**  
OAC Rule 3745-54-33

The Permittee must inspect, test and maintain the equipment required by Permit Condition B.9 as necessary to assure its proper operation in time of emergency, as specified in OAC Rule 3745-54-33, Section F of the permit application and the terms and conditions of this permit.

**B.11 Access to Communications or Alarm System**  
OAC Rule 3745-54-34

The Permittee must maintain access to the communications and alarm systems, as required by OAC Rule 3745-54-34, Section F of the permit application and the terms and conditions of this permit.

**B.12 Required Aisle Space**  
OAC Rule 3745-54-35

At a minimum, the Permittee must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, as required by OAC Rule 3745-54-35.

**B.13 Arrangements with Local Authorities**  
OAC Rule 3745-54-37

- (a) The Permittee must comply with the requirements of OAC Rule 3745-54-37 (A) by making a diligent effort to:

OHIO EPA DHWM

MAR 31 2004

- (i) make arrangements and familiarize all emergency response agencies which are likely to respond in an emergency with the location and layout of the facility, properties of hazardous waste managed at the facility and associated hazards, places where facility personnel will normally be working, entrances to and roads inside the facility, and possible evacuation routes as depicted and explained in Section G of the permit application;
  - (ii) make arrangements with Ohio EPA emergency response teams, emergency response contractors, and equipment suppliers;
  - (iii) make arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and types of injuries or illnesses which could result from fires, explosions, or releases at the facility; and
  - (iv) make agreements designating primary emergency authority to a specific police and a specific fire department and make agreements with any others to provide support to the primary emergency authority, where more than one police and fire department may respond to an emergency.
- (b) Where authorities decline to enter into such agreements or arrangements set forth in OAC Rule 3745-54-37(A), the Permittee must document the refusal in the operating record as required by OAC Rule 3745-54-37(B).

**B.14 Implementation of Contingency Plan**  
OAC Rules 3745-54-51 and 3745-54-56

The Permittee must immediately carry out the provisions of the contingency plan and follow the emergency procedures described in OAC Rule 3745-54-56, whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which threatens or could threaten human health or the environment.

In regard to spills and related toxic gas releases, the plan must describe the criteria to be used by the emergency coordinator to determine when the plan will be implemented. At a minimum, the plan must be implemented in the following situations:

- (a) Any fire involving hazardous waste; or

OHIO EPA DHWM

MAR 31 2004

- (b) Any explosion involving hazardous waste; or
- (c) Any uncontrolled hazardous waste reaction that produces or has the potential to produce hazardous conditions, including noxious, poisonous, flammable and/or explosive gases, fumes, or vapors; harmful dust; or explosive conditions; or
- (d) Any hazardous waste release, outside of a secondary containment system, that causes or has the potential to cause off-site soil and/or surface water contamination; or
- (e) Any hazardous waste release that produces or has the potential to produce hazardous conditions, including noxious, poisonous, flammable and/or explosive gases, fumes, or vapors; harmful dust; or explosive conditions.

**B.15 Content of the Contingency Plan**  
OAC Rule 3745-54-52

The Permittee must comply with OAC Rule 3745-54-52 and the contingency plan, as set forth in Section G of the permit application.

**B.16 Contingency Plan - Released Material and Emergency Response Material and By-products**  
OAC Rule 3745-54-56(G)

- (a) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.
- (b) All liquid or solid material resulting from fire, explosion, released material, or emergency response material and by-products that the Permittee is required to evaluate to determine whether such material is hazardous waste in accordance with OAC Rule 3745-52-11, must be collected and managed as a hazardous waste unless the Permittee can demonstrate that such waste is not hazardous in accordance with OAC Rule 3745-51-03(C) and (D).

**B.17 Amendments to Plan**  
OAC Rule 3745-54-54

The Permittee must review the contingency plan at least annually and upon the occurrence of any event listed in OAC Rule 3745-54-54. If necessary or appropriate,

OHIO EPA DHWM

MAR 31 2004

the Permittee must amend the contingency plan as required by OAC Rule 3745-54-54 in accordance with OAC Rule 3745-50-51.

**B.18 Copies of Plan**  
OAC Rule 3745-54-53

- (a) The Permittee must comply with the requirements set forth in OAC Rule 3745-54-53 regarding contingency plan distribution. The Permittee must maintain at the facility a copy of the contingency plan and all revisions to the plan.
- (b) The Permittee must, in accordance with OAC Rule 3745-54-53, submit a copy of the contingency plan to all local police departments, fire departments, hospitals and local emergency response teams that may be called upon to provide emergency services. The Permittee must notify such agencies and the local authorities, in writing of any significant changes to the plan which will impact their ability to respond to an emergency, within fifteen (15) days of the effective date of any amendments of, revisions to, or modifications to the contingency plan. For all other changes, notification in writing must be made annually.
- (c) The Permittee must, in accordance with OAC Rule 3745-54-53, submit a copy of the contingency plan to the Ohio Environmental Protection Agency's Division of Emergency and Remedial Response.

**B.19 Emergency Coordinator**  
OAC Rule 3745-54-55

The Permittee must comply with the requirements set forth in OAC Rule 3745-54-55 regarding the emergency coordinator.

**B.20 Emergency Procedures**  
OAC Rule 3745-54-56

The Permittee must comply with the requirements regarding emergency procedures set forth in OAC Rule 3745-54-56, Section G of the permit application and the terms and conditions of this permit.

OHIO EPA DHWM

MAR 31 2004

**B.21 Availability, Retention and Disposition of Records**  
OAC Rule 3745-54-74

All records shall be furnished by the Permittee upon request to, and made available at all reasonable times for inspection by, Ohio EPA, in accordance with OAC Rule 3745-54-74.

**B.22 Operating Record**  
OAC Rule 3745-54-73

The Permittee must comply with the requirements set forth in OAC Rule 3745-54-73 regarding an operating record, including information to be recorded and the maintenance thereof.

**B.23 Contingency Plan Records**  
OAC Rule 3745-54-56(J)

The Permittee must note in the operating record the time, date, and details of any incident that requires the implementation of the contingency plan. Within fifteen (15) days after any such incident the Permittee must submit to the Director a written report of the incident containing the elements set forth in OAC Rule 3745-54-56(J).

**B.24 Manifest System**  
OAC Rules 3745-54-70, 3745-54-71, 3745-54-72 and 3745-54-76

- (a) In managing waste at the facility the Permittee must comply with OAC Chapter 3745-52 and OAC Rules 3745-54-71, 3745-54-72 and 3745-54-76 with regard to the manifest system.
- (b) Manifest discrepancy report. If a significant discrepancy in a manifest is discovered, the Permittee must attempt to reconcile the discrepancy. If not resolved with fifteen (15) days after receiving the waste, the Permittee must submit a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest, to the Director in accordance with OAC Rule 3745-54-72.
- (c) Unmanifested waste report. If the Permittee receives unmanifested waste which is not excluded from the manifest requirements of OAC Rule 3745-51-05, then the Permittee must submit an unmanifested waste report to the Director within fifteen (15) days after receipt of the waste. The report must include the information required under OAC Rule 3745-54-76.

**B.25 Annual Reports and Additional Reports**  
OAC Rules 3745-54-77 and 3745-54-75

The Permittee must comply with the annual report requirements set forth in OAC Rule 3745-54-75 and the additional report requirements set forth in OAC Rule 3745-54-77.

**B.26 Closure Performance Standard**  
OAC Rule 3745-55-11

During facility closure, the Permittee must implement the provisions of the closure plan found in Section I of the permit application in such a manner as to achieve compliance with OAC Rule 3745-55-11.

**B.27 Closure Plan**  
OAC Rules 3745-55-10, 3745-55-11 and 3745-55-13

The Permittee must implement those procedures detailed within Section I of the permit application, in accordance with OAC Rules 3745-55-10 through 3745-55-20.

**B.28 Amendment of Closure Plan**  
OAC Rules 3745-55-12 and 3745-50-51

Should a change in the facility closure plan become necessary, the Permittee must amend the closure plan in accordance with OAC Rule 3745-55-12 (C).

**B.29 Content of Closure Plan**  
OAC Rule 3745-55-12

The Permittee must maintain the closure plan at the facility which contains the elements set forth in OAC Rule 3745-55-12 and all elements required by the terms and conditions of this permit.

**B.30 Notification of Closure**  
OAC Rule 3745-55-12

The Permittee must notify the Director in writing at least 45 days prior to the date on which he expects to begin final closure of a facility, as required by OAC Rule 3745-55-12(D).

OHIO EPA DHWM

MAR 31 2004

**B.31 Time Allowed For Closure**  
OAC Rule 3745-55-13

Within ninety (90) days after receiving the final volume of hazardous waste, the Permittee must remove from the facility or treat or dispose of on-site all hazardous waste in accordance with the closure plan. The Director may approve a longer closure period if the Permittee complies with all applicable requirements for requesting a modification to the permit as set forth in OAC Rule 3745-55-13(A). The Permittee must complete all closure activities within one hundred eighty (180) days after receiving the final volume of hazardous waste in accordance with OAC Rule 3745-55-13. The Director may approve a longer closure period if the Permittee complies with all applicable requirements for requesting a modification to the permit as set forth in OAC Rule 3745-55-13 (B).

**B.32 Disposal or Decontamination of Equipment, Structures, and Soils**  
OAC Rule 3745-55-14

- (a) The Permittee must decontaminate or dispose of all contaminated facility equipment, structures, and soils, as required by OAC Rule 3745-55-14, the closure plan and the terms and conditions of this permit.
- (b) The Permittee must notify the Ohio EPA Northeast District Office within five (5) working days prior to all rinseate and soil sampling.

**B.33 Certification of Closure**  
OAC Rule 3745-55-15

The Permittee and an independent, registered professional engineer must certify that each hazardous waste management unit or the facility has been closed in accordance with the specifications in the closure plan and the terms and conditions of this permit, as required by OAC Rule 3745-55-15. The Permittee must furnish to the Director, upon request, documentation supporting the certification.

**B.34 Reserved**

**B.35 Reserved**

OHIO EPA DHWM

MAR 31 2004

**B.36 Cost Estimate for Facility Closure**  
OAC Rule 3745-55-42

- (a) The Permittee's most recent closure cost estimate, prepared in accordance with OAC Rule 3745-55-42 is specified in Section I of the permit application.
- (b) The Permittee must adjust the closure cost estimate for inflation within 30 days after the close of the Permittee's fiscal year and before submission of updated information to the Director, as specified in OAC Rule 3745-55-42(B).
- (c) The Permittee must revise the closure cost estimate whenever there is a change in the facility's closure plan that increases the cost of closure, as required by OAC Rule 3745-55-42(C).
- (d) The Permittee must submit to the Ohio EPA and keep at the facility the latest closure cost estimate as required by OAC Rule 3745-55-42(D) and (E).

**B.37 Financial Assurance for Facility Closure**  
OAC Rules 3745-55-43 and 3745-55-45

The Permittee must maintain continuous compliance with OAC Rule 3745-55-43, and provide documentation of financial assurance, which meets the requirements of OAC Rule 3745-55-51, in at least the amount of the cost estimates required by Permit Condition B.36.

**B.38 Liability Requirements**  
OAC Rule 3745-55-47

The Permittee must maintain continuous compliance with the requirements of OAC Rule 3745-55-47 and the documentation of liability by providing liability coverage which meets the requirements of OAC Rule 3745-55-51 for sudden accidental occurrences in the amount of at least \$1 million per occurrence, with an annual aggregate of at least \$2 million, exclusive of legal defense costs.

**B.39 Incapacity of Owners or Operators, Guarantors, or Financial Institutions**  
OAC Rule 3745-55-48

The Permittee must comply with requirements set forth in OAC Rule 3745-55-48 regarding the incapacity of owners, operators, guarantors or financial institutions.

**B.40 General Requirements for Land Disposal Restrictions**  
**OAC Chapter 3745-270**

The Permittee must comply with all applicable regulations regarding land disposal prohibitions and restrictions as required by OAC Chapter 3745-270.

OHIO EPA DHWM

MAR 31 2004

**MODULE C - RESERVED**

OHIO EPA DHWM

MAR 31 2004

## **MODULE D - TANK STORAGE, TREATMENT, AND MANAGEMENT**

### **D. MODULE HIGHLIGHTS**

The tank system consists of 12 above-ground carbon steel tanks (W-1, W-6, W-7, W-11, W-12, W-13, W-14, W-15, W-31, W-32, W-33, and W-34) with a total capacity of 245,300 gallons. The ages of the individual tanks vary between 7 and 56 years (as of 2002). Two tanks, W-6 and W-7, are considered new tanks as they replaced existing tanks in 1995. The remaining 10 tanks are considered existing tanks which were installed and in operation prior to July 14, 1986.

All 12 tanks are provided with secondary containment systems. Tank W-1 has a total storage capacity of 4,800 gallons and has a secondary containment system capable of holding up to 8,617 gallons. Tanks W-6, W-7, W-11, W-12, W-13, W-14, W-15, W-31, W-32, W-33, and W-34 are located in a secondary containment system capable of containing 91,376 gallons. The largest tank in this secondary containment system has a capacity of 49,996 gallons. The secondary containment systems for the tanks are fully described in Section D of the permit application.

Tanks are assumed to contain ignitable wastes and, as such, are equipped with flame arresters which prevent ignition from an external source. Tanks W-1, W-6 and W-7 are provided with high level shutdowns that stop the pump and close the automatic valves which feed the tanks to prevent overfilling the tanks. The other nine above-ground storage tanks are equipped with high level alarms as a means of preventing overflows into the secondary containment system. A complete description of the feed systems, safety cut-offs, bypass systems and pressure controls is found in Section D of the permit application.

The tanks are used to manage hazardous wastes generated at the Lubrizol-Painesville facility as well as from three other Lubrizol facilities that are located in the following cities: Wickliffe, Ohio, Deer Park, Texas, and Bayport, Texas.

In general, the types of wastes that are managed in the system include the following: filter cakes, waste water, clarifier sludge, aqueous wastes, slurry pre-mixes, aqueous wastes, waste oil, oil, fuel oil, scrubber solutions, alcohols, reaction byproducts, distillates, solvents, and off-specification materials. The specific hazardous waste codes that encompass these wastes and those that the facility is permitted to store and treat in the tank system are listed in Permit Condition D.1(a).

Tank W-1 is used to blend filter cakes and clarifier sludges with aqueous wastes to form a pumpable slurry. Once blended, the slurries are pumped to tanks W-6 and W-7. Tanks

OHIO EPADHWM

MAR 31 2004

W-6 and W-7 feed the slurried wastes to the incinerator. The remaining tanks (W-11, W-12, W-13, W-14, W-15, W-31, W-32, W-33, and W-34) are used to store and treat aqueous and non-aqueous wastes as explained in Section D of the permit application.

**D.1 Tank Storage Quantity Limitation/Waste Identification**

- (a) The Permittee may store a total volume of 245,300 gallons of hazardous waste in 12 tanks, subject to the terms of this permit and as detailed in the table below.

The Permittee shall store in tanks only the hazardous waste codes specified in the permit application and summarized below:

Tank No	Capacity (Gallons)	Dimensions of Tank	Secondary Containment Required	Description of Hazardous Waste	Hazardous Waste No.
W-1	4,800	205 in X 138 in (conical vessel)	Yes- In place	Filter cakes, waste water, clarifier sludge, aqueous wastes, slurry pre-mixes	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003
W-6	6,400	116 in X 120 in	Yes- In place	slurry mixes	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003
W-7	6,400	116 in X 120 in	Yes- In place	slurry mixes	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003
W-11	11,200	186 in X 132 in	Yes- In place	Aqueous wastes, waste oil, oil, fuel oil, scrubber solutions, alcohols, reaction byproducts, distillates, solvents, off-specification materials	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003
W-12	24,000	366 in X 138 in	Yes- In place	Aqueous wastes, waste oil, oil, fuel oil, scrubber solutions, alcohols, reaction byproducts, distillates, solvents, off-specification materials	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003

Tank No.	Capacity (Gallons)	Dimensions of Tank	Secondary Containment Required	Description of Hazardous Waste	Hazardous Waste No.
W-13	26,000	366 in X 144 in	Yes- In place	Aqueous wastes, waste oil, oil, fuel oil, scrubber solutions, alcohols, reaction byproducts, distillates, solvents, off-specification materials	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003
W-14	20,000	366 in X 126 in	Yes- In place	Oil, fuel oil, scrubber solutions, alcohols, reaction byproducts, distillates, water flushes solvents, off-specification materials	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003
W-15	25,500	366 in X 143 in	Yes- In place	Aqueous wastes, waste oil, oil, fuel oil, scrubber solutions, alcohols, reaction byproducts, distillates, solvents, off-specification materials	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003
W-31	10,500	210 in X 120 in	Yes- In place	Oil, fuel oil, scrubber solutions, alcohols, reaction byproducts, distillates, solvents, off-specification materials	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003
W-32	10,500	210 in X 120 in	Yes- In place	Oil, fuel oil, scrubber solutions, alcohols, reaction byproducts, distillates, solvents, off-specification materials	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003
W-33	50,000	252 in X 240 in	Yes- In place	Oil, fuel oil, scrubber solutions, alcohols, reaction byproducts, distillates, solvents, off-specification materials	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003
W-34	50,000	252 in X 240 in	Yes- In place	Oil, fuel oil, scrubber solutions, alcohols, reaction byproducts, distillates, solvents, off-specification materials	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003

**D.2 Limitations on Treatment of Hazardous Waste in Tanks**

- (a) The Permittee is authorized to treat 245,300 gallons per day of hazardous waste in the 12 tanks specified in the table below. The Permittee shall treat

in tanks only the hazardous waste codes specified in the permit application and summarized below:

Tank No.	Capacity (Gallons)	Treatment Type	Dimensions of Tank	Secondary Containment Volume (Gal)	Description of Hazardous Waste	Hazardous Waste No.
W-1	4,800	blending	205 in X 138 in (conical vessel)	8,617 gallons	Filter cakes, waste water, clarifier sludge, aqueous wastes, slurry pre-mixes	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003
W-6	6,400	phase separation, blending	116 in X 120 in	91,376 gallons	slurry mixes	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003
W-7	6,400	phase separation, blending	116 in X 120 in	91,376 gallons	slurry mixes	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003
W-11	11,200	phase separation, blending	186 in X 132 in	91,376 gallons	Aqueous wastes, waste oil, oil, fuel oil, scrubber solutions, alcohols, reaction byproducts, distillates, solvents, off-specification materials	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003
W-12	24,000	phase separation, blending	366 in X 138 in	91,376 gallons	Aqueous wastes, waste oil, oil, fuel oil, scrubber solutions, alcohols, reaction byproducts, distillates, solvents, off-specification materials	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003

Tank No.	Capacity (Gallons)	Treatment Type	Dimensions of Tank	Secondary Containment Volume (Gal)	Description of Hazardous Waste	Hazardous Waste No.
W-13	26,000	phase separation, blending	366 in X 144 in	91,376 gallons	Aqueous wastes, waste oil, oil, fuel oil, scrubber solutions, alcohols, reaction byproducts, distillates, solvents, off-specification materials	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003
W-14	20,000	phase separation, blending	366 in X 126 in	91,376 gallons	Oil, fuel oil, scrubber solutions, alcohols, reaction byproducts, distillates, water flushes solvents, off-specification materials	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003
W-15	25,500	phase separation, blending	366 in X 143 in	91,376 gallons	Aqueous wastes, waste oil, oil, fuel oil, scrubber solutions, alcohols, reaction byproducts, distillates, solvents, off-specification materials	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003
W-31	10,500	phase separation, blending	210 in X 120 in	91,376 gallons	Oil, fuel oil, scrubber solutions, alcohols, reaction byproducts, distillates, solvents, off-specification materials	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003
W-32	10,500	phase separation, blending	210 in X 120 in	91,376 gallons	Oil, fuel oil, scrubber solutions, alcohols, reaction byproducts, distillates, solvents, off-specification materials	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003
W-33	50,000	phase separation, blending	252 in X 240 in	91,376 gallons	Oil, fuel oil, scrubber solutions, alcohols, reaction byproducts, distillates, solvents, off-specification materials	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003

OHIO EPA DHWM

MAR 31 2004

Tank No.	Capacity (Gallons)	Treatment Type	Dimensions of Tank	Secondary Containment Volume (Gal)	Description of Hazardous Waste	Hazardous Waste No.
W-34	50,000	phase separation, blending	252 in X 240 in	91,376 gallons	Oil, fuel oil, scrubber solutions, alcohols, reaction byproducts, distillates, solvents, off-specification materials	D001, D002, D003, D005, D018, D021, D023, D024, D025, D026, D027, D035, F003

- (b) Permit Condition D.2(a) shall not apply to the Permittee's activities as a generator treating hazardous waste in tanks on-site in compliance with the provisions of OAC Rule 3745-52-34. However, when treating waste in tanks in accordance with OAC Rule 3745-52-34, the Permittee shall not, for the total amount of hazardous waste treated, exceed the maximum throughput established under this Condition.

**D.3 Design and Installation of New Tank Systems or Components**  
 OAC Rule 3745-55-92

- (a) The Permittee must construct the tank system or components in accordance with Section D of the permit application.
- (b) Prior to operation of the newly constructed tank system, the Permittee must submit the certification of installation of the tank system in accordance with OAC Rule 3745-55-92(B) to ensure that proper handling procedures were adhered to in order to prevent damage to the system during installation.

**D.4 Containment and Detection of Releases**  
 OAC Rule 3745-55-93

(a) New Tank Systems

The Permittee must construct and operate the secondary containment system in accordance with the requirements of OAC Rule 3745-55-93(B) through (F), and Section D of the permit application.

New tanks at the facility are W-6 and W-7.

(b) Existing Tank Systems with Secondary Containment

The Permittee must design, construct, and operate the secondary containment system, in accordance with the detailed design plans and descriptions contained in the permit application.

Existing tanks at the facility are W-1, W-11, W-12, W-13, W-14, W-15, W-31, W-32, W-33, W-34.

D.5 Operating Requirements  
OAC Rule 3745-55-94

- (a) The Permittee must not place hazardous wastes or treatment reagents in the tank system if they could cause the tank, its ancillary equipment, or a containment system to rupture, leak, corrode, or otherwise fail.
- (b) The Permittee must prevent spills and overflows from the tank or containment systems using the methods described in the permit application. The Permittee must comply with the requirements of OAC Rule 3745-55-96 if a leak or spill occurs in the tank system.

D.6 Inspection Schedules and Procedures  
OAC Rule 3745-55-95

- (a) The Permittee must inspect the tank systems, in accordance with the Inspection Schedule found in Section F of the permit application and must complete the items in Permit Conditions D.6(b) and D.6(c) as part of those inspections:
- (b) The Permittee must inspect the overfill controls, in accordance with the procedure and schedule in the permit application.
- (c) The Permittee must inspect the following components of the tank system once each operating day:
  - (i) Above-ground portions of the tank system, if any, to detect corrosion or releases of waste;
  - (ii) Data gathered from monitoring and leak detection equipment (e.g., pressure or temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design; and

OHIO EPA DHWM

MAR 31 2004

- (iii) Construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system, to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation).
- (d) Reserved
- (e) The Permittee must document compliance with Permit Condition D.6 in the operating record of the facility.

**D.7 Response to Leaks or Spills**  
OAC Rule 3745-55-96

- (a) In the event of a leak or a spill from the tank system, from a secondary containment system, or if a system becomes unfit for continued use, the Permittee must remove the system from service immediately and complete the following actions:
  - (i) Immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.
  - (ii) If the release was from the tank system, the owner/operator must, within twenty-four hours after detection of the leak, or, if the owner/operator demonstrates that it is not possible, at the earliest practicable time, remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.  
  
If the material released was to a secondary containment system, all released materials must be removed within twenty-four hours or in as timely a manner as possible to prevent harm to human health and the environment.
  - (iii) The Permittee must immediately conduct a visual inspection of all releases to the environment and based on that inspection: (1) prevent further migration of the leak or spill to soils or surface water and (2) remove and properly dispose of any visible contamination of the soil or surface water.
- (b) Unless the requirements of Permit Conditions D.7(b)(i) through D.7(b)(iv) are satisfied, the Permittee must close its tank system in accordance with OAC

OHIO EPA DHWM

MAR 31 2004

Rule 3745-55-97 and its closure plan if there has been a leak or spill from the tank system, from a secondary containment system, or if a system becomes unfit for continual use.

- (i) For a release caused by a spill that has not damaged the integrity of the system, the Permittee must remove the released waste and make any necessary repairs to fully restore the integrity of the system before returning the tank system to service.
  - (ii) For a release caused by a leak from the primary tank system to the secondary containment system, the Permittee must repair the primary system prior to returning it to service.
  - (iii) For a release to the environment caused by a leak from the aboveground portion of the tank system that does not have secondary containment, and can be visually inspected, the Permittee must repair the tank system in accordance with Permit Condition D.7(c) before returning it to service.
  - (iv) If the Permittee replaces a component of the tank system to eliminate the leak, that component must satisfy the requirements for new tank systems or components in OAC Rules 3745-55-92 and 3745-55-93.
- (c) For all major repairs (e.g., installation of an internal liner, repair of a ruptured tank, or repair or replacement of a secondary containment vault) to eliminate leaks or restore the integrity of the tank system, the Permittee must obtain a certification by an independent, qualified, registered professional engineer in accordance with OAC Rule 3745-50-42(D) that the repaired system is capable of handling hazardous wastes without release for the intended life of the system before returning the system to service. This certification must be submitted to the Director within seven days after returning the tank system to use.

#### D.8 Recordkeeping and Reporting

OAC Rules 3745-55-96, 3745-55-91(A), and 3745-55-92(G)

- (a) The Permittee must report to the Director, within 24 hours of detection, when a leak or spill occurs from the tank system or secondary containment system to the environment. A leak or spill of one pound or less of hazardous waste, that is immediately contained and cleaned-up, need not be reported. Releases that are contained within a secondary containment system need not be reported.

OHIO EPA DHWM

MAR 31 2004

- (b) Within 30 days of detecting a release to the environment from the tank system or secondary containment system, the Permittee must report the following information to the Director:
  - (i) Likely route of migration of the release;
  - (ii) Characteristics of the surrounding soil (including soil composition, geology, hydrogeology, and climate);
  - (iii) Results of any monitoring or sampling conducted in connection with the release. If the Permittee finds it will be impossible to meet this time period, the Permittee should provide the Director with a schedule of when the results will be available. This schedule must be provided before the required 30-day submittal period expires;
  - (iv) Proximity of downgradient drinking water, surface water, and populated areas; and
  - (v) Description of response actions taken or planned.
- (c) The Permittee must obtain, and keep on file at the facility, the written statements by those persons required to certify the design and installation of the tank system.
- (d) The Permittee must keep on file at the facility the written assessment of the tank system's integrity.

**D.9 Closure and Post-Closure Care**  
OAC Rule 3745-55-97

- (a) At closure of the tank system(s), the Permittee must follow the procedures in the closure plan in Section I of the permit application.
- (b) If the Permittee demonstrates that not all contaminated soils can be practically removed or decontaminated, in accordance with the closure plan, then the Permittee must close the tank system(s) and perform post-closure care following the contingent procedures in the closure plan and in the post-closure plan.

OHIO EPA/DHWM

MAR 31 2004

**D.10 Special Tank Provisions for Ignitable or Reactive Wastes**  
OAC Rule 3745-55-98

- (a) The Permittee must not place ignitable or reactive waste in the tank system or in the secondary containment system, unless the procedures specified in the permit application are followed. The Permittee must document compliance with this condition and place it in the operating record.
- (b) The Permittee must comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon, as required in Tables 2-1 to 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code" (1996 or most recent edition) incorporated by reference in OAC Rule 3745-50-11.

**D.11 Special Tank Provisions for Incompatible Wastes**  
OAC Rule 3745-55-99

- (a) The Permittee must not place incompatible wastes, or incompatible wastes and materials, in the same tank system or the same secondary containment system, unless the procedures specified in the permit application are followed. The Permittee must document compliance with this condition and place that documentation into the operating record.
- (b) The Permittee must not place hazardous waste in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless the requirements of Permit Condition D.11(a) are met.

OHIO EPA DHWM

MAR 31 2004

## MODULE E - CORRECTIVE ACTION REQUIREMENTS

### E. CORRECTIVE ACTION

#### Corrective Action Summary

On December 19, 2001, a RCRA Facility Assessment (RFA) for Lubrizol's Painesville, Ohio facility was submitted to Ohio EPA. The RFA was prepared by Baker Environmental, Inc. which is a consulting firm contracted by Lubrizol. The December 2001 RFA is an update of a RFA submitted to U.S. EPA Region 5 on March 1, 1988. The above referenced documents are incorporated into the Part B application. The 1988 and 2001 RFAs identified Waste Management Units (WMUs) and Areas of Concern (AOCs) at the facility. In order to complete the RFA, Ohio EPA will require the permittee to conduct additional assessment at several of the WMUs and AOCs.

Transition of corrective action authority from U.S. EPA will occur on the date of the state permit issuance.

#### E.1 Corrective Action at the Facility OAC Rules 3745-50-10 & 3745-55-011

In accordance with OAC Rule 3745-50-10 "waste management unit" means any discernible unit at which solid waste, hazardous waste, infectious waste (as those terms are defined in ORC Chapter 3734), constructions and demolition debris (as defined in ORC Chapter 3714) industrial waste, or other waste (as those terms are defined in ORC Chapter 6111), has been placed at any time, irrespective of whether the unit was intended for the management of waste or hazardous waste. Such units include any area at a facility at which wastes have been routinely and systematically released. For the purpose of Corrective Action, facility is defined as all contiguous property under the control of the owner or operator seeking a permit under Subtitle C of RCRA. The terms Interim Measure (IM), RCRA Facility Investigation (RFI), Corrective Measures Study (CMS) and Corrective Measure Implementation (CMI) are defined in U.S. EPA's Corrective Action Plan (CAP) (OSWER Directive 9902.3-2A, May 1994).

The Permittee must institute Corrective Action as necessary to protect human health and the environment for all releases of hazardous wastes or hazardous constituents from any waste management units (WMUs) at the Facility, regardless of the time at which waste was placed in such units.

OHIO EPA DHWM

MAR 31 2004

**E.2 Corrective Action Beyond the Facility Boundary**  
OAC Rule 3745-55-011

The Permittee must implement Corrective Action beyond the Facility property boundary, where necessary to protect human health and the environment, unless the Permittee demonstrates to the satisfaction of Ohio EPA that, despite the Permittee's best efforts, the Permittee was unable to obtain the necessary permission to undertake such actions. The Permittee is not relieved of all responsibility to clean up a release that has migrated beyond the Facility boundary where off-site access is denied. On-site measures to address such releases will be addressed under the RFI, CMS, and CMI phases, as determined to be necessary on a case-by-case basis.

**E.3 Identification of WMUs**  
OAC Rules 3745-50-44(D) and 3745-55-011

Those WMUs and AOCs which require further assessment in order to support the exposure potential as presented in the 1988 and 2001 RFAs are presented below. As set forth in Permit Condition E.3.(f), the Permittee shall provide to Ohio EPA results of sampling and analysis of ground water, land surface, and subsurface strata for the WMUs and AOCs identified below in order to complete the RFA and to determine which units may need to be addressed in the RFI.

**(a) WMUs Requiring Further Assessment**

- (i) Beryllium Disposal Area (SWMU 1): The inactive beryllium disposal area is located under Building 18. Disposal is believed to have occurred during the 1950s. The disposal area was a deep, elongated trench measuring approximately 20 feet wide by 60 feet long by 20 feet deep. Contents within the trench were compacted and then covered with gravel. The trench was then filled with compacted fill. Building 18 was constructed after this process was completed.

Beryllium waste originated from the former owner, Clifton Products Company, which processed beryllium ore for the Federal Government. Lubrizol purchased the Painesville property from Clifton Products in late 1956. At that time, all equipment used in the beryllium ore process was dismantled. Various types of beryllium contaminated material were buried in the trench including items which were used in the process as well as other items believed to be contaminated with beryllium dust. Several specific items are known to have been disposed of in the trench including rubber linings

OHIO EPA DHWN

MAR 31 2004

stripped out of eight digestion tanks, cast iron pipe and flexible rubber hose used in the beryllium dust vacuum system, stainless steel or galvanized steel drip pan-type trays, two 100 gallon tanks used in the vacuum system, deck plating and beryllium ingots in bullet shapes.

Sample results presented in the RFA indicate that beryllium levels underneath Building 18 may pose a threat to human health and the environment. Beryllium results were as high as 38.3 mg/kg. In addition, the full vertical and horizontal extent of contamination may not have been defined for this area. Although four boreholes were dug on the west side of Building 18, these samples do not appear to have been analyzed for beryllium. No evidence was presented by the Permittee to verify whether or not beryllium contamination has spread south of Building 18.

- (ii) Incinerator Lagoon (SWMU 2): The former incinerator lagoon was located north of the current location of Building 40 (Incinerator). The incinerator lagoon was built in 1972 and received waste until its closure on September 30, 1985. The incinerator lagoon was a pit with an approximate area of 8,250 square feet. Original design drawings of the lagoon indicate the dimensions were 150 feet long by 55 feet wide by 12 feet deep. The sides were sloped at a one to one ratio. The lagoon was unlined and had no berms around the perimeter; however, natural soils at the bottom were reported to be clay.

During its operation, the incinerator lagoon received the following waste streams:

- storm sewer water from the incinerator area
- process sewer water from inside Building 40 (incinerator)
- continuous boiler blowdown (calcium sulfate and particulates)
- incinerator flyash
- periodic incinerator wall wash down
- gas well brines
- sewer clarifier sludge

OHIO EPA DHWM

MAR 31 2004

- sodium aluminate
- phenolic spills neutralized with bleach solution
- spill residues consisting of oily material, dirt, and gravel that were managed in the incinerator lagoon

Between August 8, 1985 and August 30, 1985 the sludge in the incinerator lagoon was solidified and stabilized. Approximately 1,750 cubic yards of stabilized sludge was removed from the lagoon and disposed at the Kirtland Landfill in Kirtland, Ohio. The bottom of the excavated incinerator lagoon was stabilized with cement and lime. The lagoon was then backfilled with clean soil, graded with a slight slope to the west for run off, and seeded with grass. The site is currently a grassy area with a slightly higher elevation than the surrounding area.

No evidence was presented by the Permittee to determine whether or not waste placed in this unlined area has affected the upper aquifer. Also, the full vertical and horizontal extent of contamination has not been identified for this WMU.

- (iii) Maintenance Lagoon (SWMU 3): The former maintenance lagoon was located east of the incinerator lagoon. The maintenance lagoon was built in 1972 and intermittently received waste materials or rainwater until its closure in 1986. The maintenance lagoon was slightly larger than the incinerator lagoon and was approximately 200 feet long by 60 feet wide by 8 feet deep. The December 19, 2001, RFA stated that from aerial photos, it appears the sides were sloped at a one to one ratio, was not lined, and had no berms around the perimeter. The natural soils at the bottom of the lagoon were reported to be clay.

The original use of the maintenance lagoon was to provide for the discharge ash from the incinerator to be sluiced and slurried. This practice was discontinued in 1979 due to a high chlorides content in the ash which increased the weight and volume of the ash. The maintenance lagoon was then used to hold rainwater from 1979 to 1981. From 1981 to 1985, the lagoon is known to have managed materials including, but not limited to, sodium aluminate solution, sewer sludge, phenolic spills neutralized with bleach solution, spill residues consisting of oily materials, toluene spill residues, and sulfide

OHIO EPA DHWM

MAR 31 2004

reactive sewer sludge neutralized with bleach solutions, and rainwater. During this period (1981 to 1985), the maintenance lagoon was to be kept empty and only to be used for emergencies. In 1985, the maintenance lagoon was put back into regular service because the auxiliary and process lagoons were being dredged and backfilled. At this time, the maintenance lagoon was dredged and the material disposed off-site so that it could be used as a temporary retention basin for large chemical spills or process sewer upsets.

In August and September of 1986, the maintenance lagoon was emptied and closed. At this time it was estimated that the maintenance lagoon contained 400,000 gallons (approximately 3,400,000 pounds) of concentrated sludge from the clarifier. At closure the sludge was solidified. After solidification, approximately 5,838 tons of non-hazardous waste was taken off-site for disposal. The area was backfilled with clean soil, then two equalization tanks for the process sewer (part of the wastewater pretreatment system) were installed over the former maintenance lagoon location.

No evidence was presented by the Permittee to determine whether or not waste placed in this unlined area has affected the upper aquifer. Also, the full vertical and horizontal extent of contamination has not been identified for this WMU.

- (iv) Process Sewer Lagoon (SWMU 4): The former process sewer lagoon was located northwest of the incinerator lagoon. It was in service from 1967 until 1986. The lagoon was approximately 200 feet long by 50 feet wide and 14 feet deep. The December 19, 2001, RFA stated that from aerial photos, it appears that the sides were sloped at a one to one ratio and the lagoon was unlined. The natural soils at the bottom of the lagoon were reported to be clay. The December 19, 2001 RFA also stated that there appears to be a berm between the process sewer lagoon and auxiliary process sewer lagoon. The lagoons were connected by a pipe which was removed when the auxiliary lagoon was closed in 1985.

The process sewer lagoon was part of the on-site waste water treatment system while it was in service. According to records, the process sewer lagoon was used for the retention of process wastewater containing toxic materials, degradation of organics, contaminated gravel, and effluent sludge.

OHIO EPA DHWM

MAR 31 2004

Records indicate that over the years, sludge from the process sewer lagoon was dried (landfarmed) in the area west of the incinerator and may have been worked into the top 6-inches of the soil. Also, some of the sludge that was dried in that area was put onto the soil pile to the west of the former process sewer lagoons. In November of 1986, sludge from the lagoon was removed and disposed off-site as non-hazardous waste. The lagoon was then backfilled with clean soil and seeded with grass. Currently, the area is partially covered with gravel and partially covered with a concrete pad. The Roll-off Storage Area currently lies on-top of the former process sewer lagoon area.

No evidence was presented by the Permittee to determine whether or not waste placed in this unlined area has affected the upper aquifer. Also, the full vertical and horizontal extent of contamination has not been identified for this WMU.

- (v) Auxiliary Process Sewer Lagoon (SMWU 5): The former auxiliary process sewer lagoon was adjacent to the process sewer lagoon. The auxiliary process sewer lagoon was approximately 185 feet long by 45 feet wide by 12 feet deep. The December 19, 2001, RFA stated that from photos, it appears that the sides were sloped at a one to one ratio and the lagoon was unlined. The natural soils at the bottom of the lagoon were reported to be clay. The December 19, 2001, RFA also stated that there appears to be a berm between the process sewer lagoon and the auxiliary process sewer lagoon. The lagoons were connected by a pipe which was removed when the auxiliary process sewer lagoon was closed in 1985.

The auxiliary process sewer lagoon was used for additional storage of sludge generated in the process sewer system. The auxiliary process sewer lagoon received the same type of waste as that of the process sewer lagoon which was the retention of process wastewater containing toxic materials, degradation of organics, contaminated gravel, and effluent sludge.

The auxiliary process sewer lagoon was taken out of service in 1985. The sludge from the lagoon was removed to the visual appearance of virgin clay. The empty lagoon was then backfilled with clean soil and seeded with grass. Currently, the area is partially covered with gravel and partially covered with a concrete pad which serves as a Roll-off Storage area. The remainder of the area is unpaved ground surface.

OHIO EPA DHWM

MAR 31 2004

No evidence was presented by the Permittee to determine whether or not waste placed in this unlined area has affected the upper aquifer. Also, the full vertical and horizontal extent of contamination has not been identified for this WMU.

- (vi) Ash Pit (SWMU 6): The former ash pit was located between the incinerator lagoon and the maintenance lagoon, to the north of the former location of Building 57. The ash pit was constructed in 1972. The December 19, 2001, RFA stated that according to records and aerial photographs, the ash pit was closed sometime between June and September of 1980. The ash pit was approximately 60 feet long by 50 feet wide, the depth is unknown. The natural soils at the bottom of the pit were reported to be clay.

The ash pit was used as a temporary storage site for ash and clinkers when no hopper was available, and for plant/tank farm gravel contaminated with organics. The ash pit mostly contained dry material, but received water from rainfall. Records indicate that the ash pit may have also received water from other lagoons in order to dewater sludge from these lagoons.

The December 19, 2001, RFA for the Lubrizol Painesville facility indicated that at closure, the material from within the ash pit was removed. The former ash pit was then backfilled. The location of the former ash pit is currently partially covered by the waste water pretreatment facility, and concrete pavement.

No evidence was presented by the Permittee to determine whether or not waste placed in this unlined area has affected the upper aquifer.

- (vii) Landfarming Area (SWMU 7): The landfarming area was located west of the incinerator baghouse. The landfarming area was approximately one acre in size. This area was not lined, and the moisture from the sludge either evaporated or soaked into the ground. The December 19, 2001, RFA stated that according to records, it appears the landfarming area was in operation between approximately 1980 to 1985.

The waste that was managed in this area was the sludge from the incinerator lagoon and the process sewer lagoon. These waste streams included storm sewer water from the incinerator area, process sewer water from inside Building 40 (incinerator), continuous

OHIO EPA DHWM

MAR 31 2004

boiler blowdown (calcium sulfate and particulates), incinerator flyash, periodic incinerator wall wash down, gas well brines, sewer clarifier sludge, sodium aluminate, phenolic spills neutralized with bleach solution, spill residues consisting of oily material, dirt, and gravel that were managed in the incinerator lagoon, process wastewater containing toxic materials, degradation of organics, contaminated gravel, and effluent sludge. The sludge that was removed from the incinerator and process sewer lagoons was spread out to dry and mixed with the top 6-inches of soil.

No evidence was presented by the Permittee that this area was sampled to determine whether or not it presents a risk to human health and the environment. The full vertical and horizontal extent of contamination for this WMU has not been defined. In addition, no evidence was presented to determine whether or not activities conducted in this SWMU have impacted ground water.

- (viii) Soil Pile (SWMU 8): There is one soil pile area referenced in Lubrizol Painesville records where wastes were temporarily stored in the past which has been identified in the December 19, 2001, RFA as (SMWU 8). This area is located to the north of the process sewer lagoons. The soil pile area was an open, unlined area. The area was approximately 70 feet by 70 feet in size.

Records indicate that dried sludge from the process sewer lagoon was piled on the soil pile. These wastes included process wastewater containing toxic materials, degradation of organics, contaminated gravel, and effluent sludge. The soil pile no longer exists. The soil pile has been replaced by an open grassy area.

No evidence was presented by the Permittee that this area was sampled to determine whether or not it presents a risk to human health and the environment. The full vertical and horizontal extent of contamination for this WMU has not been defined. In addition, no evidence was presented to determine whether or not activities conducted in this SWMU have impacted ground water.

- (ix) Building 34 Drum Storage Area (SWMU11): Drums were reportedly stored south of Building 34 based on a 1984 OEPA annual RCRA compliance inspection. The December 19, 2001, RFA for the Lubrizol Painesville facility stated that it was not known how long this area was used for drum storage.

OHIO EPA DHWM

MAR 31 2004

The December 19, 2001, RFA for the Lubrizol Painesville facility stated the type of waste that was stored in drums in this SWMU was unknown. The area is adjacent to Building 34 and is paved. However, there was no secondary containment for the drums on the concrete pad. Drum storage operations in this area were discontinued in 1984.

There is limited information regarding the type of waste that was stored in this area or the time frame for which it was stored. Also, there is no secondary containment in this WMU. No evidence was presented by the Permittee that this area was sampled to determine whether or not it presents a risk to human health and the environment. The full vertical and horizontal extent of contamination for this WMU has not been defined. In addition, no evidence was presented to determine whether or not activities conducted in this SWMU have impacted ground water.

- (x) Waste Transfer and Collection Areas (SWMU 24): Seven sumps are located along the C/D and A/B tracks. One sump is a waste transfer area, one sump collects liquids from a tank car washing station, and five sumps collect spilled product during rail car loading operations. Each collection unit consists of a pan and a sump. The pan lies between the tracks rail line. The pan is approximately the length of one rail car and approximately 4 inches deep at the deepest location. If released, material is collected in the pan where it flows through a gate to the nearest track sump. The track sumps are constructed of a minimum of 4-inch thick concrete and range from 4 to 7 feet long and wide, and are approximately 6 feet deep.

The hazardous waste that may be transferred in this SWMU could be any waste that the W-tank farm is certified to contain. Materials used in the production processes at the facility are also loaded at these locations and could be collected in the sumps from spills during loading operations and from tank car residues during washing.

There has been one reported release in this SWMU. On May 22, 1996, as much as 123 gallons of carbon disulfide was reported as being spilled in this area. The spill occurred along a railcar unloading spur in a highly developed area of the plant, surrounded by the railroad tracks, pipe racks, equipment and structures. The spill migrated to soils along the railroad track and through a drain (pipeless opening) located within the adjacent area.

OHIO EPA DHWM

MAR 31 2004

In response to the release, Lubrizol took a series of actions. Pre-excavation activities included collection of 12 samples to try and define the vertical extent of contamination. Sample results indicated that the highest concentrations were in the northwestern portion of the area. The highest concentration of carbon disulfide was from a sample collected inside the drain (006) at 57,000 mg/kg.

Prior to excavation, sections of concrete were cut and removed. Subsequent excavation removed soils along the railroad spur and beneath the concrete. The excavation was limited due to structures and pipe rack foundations. The excavation extended approximately four feet deep. Excavated material, which totaled approximately five cubic yards, was placed into an open dump truck and transported to a hazardous waste staging area where it was placed on a synthetic liner and covered. The material was then disposed off-site at a RCRA regulated disposal facility.

After removal, eight confirmation samples were taken from the base of the excavation. Six of the confirmation sample results were non-detects < 1.0 mg/kg. Carbon disulfide was found in samples 015 and 018 at 140 mg/kg and 690 mg/kg respectively. These samples are located in the northwestern portion of the area of concern and removal was restricted as stated above, due to structures and pipe rack foundations.

Lubrizol did commission a focused site-specific risk assessment to evaluate the isolated area of remaining contamination that was not excavated; however, this risk assessment was done without input from, or reviewed by, Ohio EPA. Carbon disulfide at 690 mg/kg exceeds the direct contact level of 347 mg/kg, which is an Ohio Generic Cleanup Number (GCN) used for hazardous waste closures in Ohio. Also, the full vertical extent of contamination for this WMU has not been defined.

- (xi) Soil Pile Area (SWMU 25): There is one soil pile area referenced in Lubrizol Painesville facility records where materials are stored which has been identified in the December 19, 2001, RFA as SWMU 25. The soil pile is directly west of the location of the former process sewer lagoons. The soil pile is approximately 250 feet long and 100 feet wide. The area is in a large grassy, unlined part of the Lubrizol Painesville facility.

OHIO EPA DHWM

MAR 31 2004

Soil and gravel scrapings from spills at the Lubrizol facility have been placed on the soil pile. Organic contaminants from the facility processes or waste storage areas could have been on the gravel from operations at the facility. Sludge periodically excavated from the creek at the storm sewer outfall was also deposited on this soil pile. The sludge was a result of materials that entered the storm sewer and possibly contained organic contaminants.

The RFA did not indicate that this area has been sampled to determine whether or not it presents a risk to human health or the environment. The full vertical and horizontal extent of contamination has not been identified for this WMU. It also has not been determined whether or not activities conducted in this WMU have impacted ground water.

- (xii) Temporary Gravel Storage Area (SWMU 25A): The temporary gravel storage area is located southwest of the W-tank farm area. This is an open area approximately 100 feet by 75 feet in size. Soil and gravel scrapings from clean-up of spills are placed in temporary piles awaiting final analysis and transport to an appropriate, approved landfill. Organic material from processes or waste storage areas could be on the gravel from operations at the facility.

No evidence was presented by the Permittee that this area was sampled to determine whether or not it presents a risk to human health or the environment. The full vertical and horizontal extent of contamination has not been identified for this WMU.

(b) AOCs Requiring Further Assessment

- (i) Xylene Release (AOC 26): On March 23, 2000 a container of recovered xylene was packed and placed into Flammable Storage (Tote ET-16) to be recycled. The tote was located adjacent to Building 12. On March 25, 2000 xylene was observed leaking from a threaded fitting above the valve at the bottom of the container. According to the RFA, leaking may have occurred for a 40.5 hour period and an estimated 569 pounds of recovered xylene was released. Approximately 53 square feet of paved concrete and gravel area was covered by the release.

Absorbents were used to recover free liquid and were disposed by incineration. Approximately 73 pounds were reclaimed during

OHIO EPA DHWM

MAR 31 2004

excavation. Approximately 3,128 pounds of contaminated gravel were disposed off-site at an approved hazardous waste landfill. The container was temporarily removed from service and similar containers were inspected for loose fittings and repaired if necessary. Soil samples were collected during excavation of the spill area. Xylenes (total) were reported at 5,700 mg/kg, 340 mg/kg, 2,200 mg/kg and 2.2 mg/kg in the collected samples.

According to the RFA, some material was not recovered because it evaporated or was lost through a joint in the concrete. Also, it appears that the sampling performed was for confirmation and that the full vertical and horizontal extent of contamination may not have been defined. In addition, xylene concentrations for several samples exceed the direct contact level of 316 mg/kg, which is an Ohio Generic Cleanup Number (GCN) used for hazardous waste closures in Ohio.

- (ii) Hydroxyalkylamine Substituted Phenol Release (AOC 27): On September 13, 1996 approximately 7,600 pounds of hydroxyalkylamine substituted phenol was released from the Lubrizol Painesville facility. Hydroxyalkylamine substituted phenolic is a semi-volatile which according to the RFA, contains approximately 33.2 % xylene and 9.6 % ethylbenzene. The release occurred through a drain valve on Tank 432, which was inadvertently left open following maintenance work to replace a valve on a manifold. The release area is a tank farm containing numerous aboveground storage tanks. The release was to a gravel covered natural depression surrounded by a concrete wall that serves as secondary containment for the tank farm.

Lubrizol performed a series of recovery activities that included the following:

- Released product, along with contaminated storm water, was collected and pumped to an on-site waste tank.
- Soil in the area of the release was excavated to an average depth of one foot. Approximately 200 cubic yards of material was excavated.
- Eight post-excavation samples were collected from the base of the excavation to verify contamination removal. Each sample was analyzed for xylene and ethylbenzene. Results ranged

OHIO EPA DHHW

MAR 31 2004

from 0.23 to 40 ppm for xylenes and 0.09 to 9.1 ppm for ethylbenzene.

The sampling that was conducted appears to be for confirmation purposes. Evidence that was presented by the Permittee was insufficient to determine if the full vertical and horizontal extent of contamination has been identified for this AOC. In addition, samples were only analyzed for xylene and ethylbenzene. The RFA did not indicate the exact chemical makeup of hydroxyalkylamine substituted phenol and whether or not there are additional analytes besides xylene and ethylbenzene which could pose a threat to human health and the environment.

- (iii) Benzene Release - 1991 (AOC 29) located in Above Ground Waste Tank System (SWMU 13): The aboveground waste tank system at the Painesville Lubrizol facility, known as the W-tank farm, includes 12 hazardous waste tanks that are used to feed waste to the incinerator and for waste storage. The location of the W-tank farm is just south of the incinerator.

The W-tank farm is used for the storage, blending and distribution of wastes from the Recovered Organic/Aqueous (RO/A) System. The RO/A system collects recoverable or incinerable wastes throughout the facility. These wastes are generated on-site as a result of manufacturing speciality chemicals. The wastes include aqueous and nonaqueous organic liquid wastes and discarded filter cake and sludge from the plant primary wastewater treatment operation. This AOC also receives wastes from the Lubrizol Wickliffe, Ohio and the Deer Park and Bayport, Texas Lubrizol facilities.

The W-tank farm is constructed with a sealed concrete secondary containment. The tank farm floor is sloped to a collection sump located in the southwest corner. The sump contains a manually operated drain valve which connects to the process sewer system and is used to remove any collected liquids.

There has been one reported release in this area which covered both the W-tank farm area and area adjacent to the W-tank farm area. On August 9, 1991 approximately 100 pounds of organic material containing benzene was reported as being released to the storm sewer. A facility fire water line broke and caused flooding of a waste sump at the incinerator. Due to the flooding, solid waste overflowed

OHIO EPA DHWM

MAR 31 2004

the pit and entered the storm sewer and contaminated gravel and soil. Material that entered the storm sewer was prevented from leaving the facility by using the facility's oil skimmer and underflow weirs. The RFA indicated that approximately 100 cubic yards of visibly contaminated gravel and soil was also recovered and removed.

Although Lubrizol has taken some action to mitigate the situation, no information was presented by the Permittee to indicate that the full vertical and horizontal extent of contamination caused by this incident has been defined.

- (iv) Xylene Release (AOC 30): On August 15, 1991 a spill of approximately 3,000 gallons of a reported xylene and ethylbenzene product mixture occurred when Tank 232 overflowed. Tank 232 is located in the 200 tank farm area. The RFA indicated that in general, the area slopes towards two collection sumps for the collection and removal of rainwater. Product was recovered in both sumps; however, Lubrizol personnel reported that the majority of the spill was collected within the sump north of Tank 200.

After recovery of pumpable product, the gravel area where the spill occurred was high pressure sprayed with a fire hose and the liquid was recovered. Soil sampling was conducted on August 20, 1991 after initial cleanup efforts. A total of five soil samples were collected and analyzed for xylene and ethylbenzene. One of the five samples was a composite sample of the gravel to evaluate gravel flushings, in order to determine proper disposal. The four non-composite samples were taken at different locations and at the following depths:

Sample 1	0 to 3 inches
Sample 2	0 to 3 inches
Sample 3	3 to 6 inches
Sample 4	6 to 9 inches

Sample results for these four samples ranged from 0.310 to 5.0 mg/kg for xylenes (total). Levels for ethylbenzene ranged from 0.098 to 1.4 mg/kg. Sample concentrations for the gravel composite were 6,500 mg/kg for xylene (total) and 2,000 mg/kg for ethylbenzene.

The sampling that was conducted appears to be for confirmation purposes and only to a depth of one foot. It appears that the top layer of this area is covered with gravel and the contamination easily could

OHIO EPA DHWM

MAR 31 2004

have migrated vertically below one foot. Evidence that was presented by the Permittee was insufficient to determine if the full vertical and horizontal extent of contamination has been identified for this AOC. In addition, samples were only analyzed for xylene and ethylbenzene. The RFA did not indicate the exact chemical makeup of the material stored in tank at the time of the release and whether there are additional analytes besides xylene and ethylbenzene which could pose a threat to human health or the environment.

- (v) Phenol Release (AOC 31): On March 29, 1985 approximately 55 pounds of phenol were released to the storm and process sewers after a rupture in Tank 448 (phenol storage) during the unloading of a tank car to the tank at track spot C-1. The rupture was caused by a line that was plugged with crystallized phenol while a tank car was unloading phenol into the tank. In addition, phenol crystals were spread across the road and over a field/wooded area (approximately 180 feet by 240 feet) adjacent to the tracks extending up to the property line.

Evidence that was presented by the Permittee was insufficient to determine if the full vertical and horizontal extent of contamination has been identified for this AOC.

Additional information on the WMUs and AOCs described above can be obtained in the December 19, 2001, RFA or the permit application.

- (c) Releases Reported to Ohio EPA's Division of Emergency and Remedial Response

In addition to the WMUs and AOCs described in Permit Conditions E.3.(a) and E.3.b., Ohio EPA's Division of Emergency and Remedial Response has information for the following reported releases which were not mentioned in the RFA. Ohio EPA has determined that further assessment will be required for the releases listed below to determine whether or not they have impacted human health and/or the environment. As set forth in Permit Condition E.3.(f), the Permittee shall provide results of sampling and analysis of ground water, land surface and/or subsurface strata for the releases identified below in order to complete the RFA. Based on the results of current and additional information, a determination will be made by Ohio EPA as to whether or not a RCRA Facility Investigation (RFI) will be required.

OHIO EPA DHWM

MAR 31 2004

- (i) Ethylene Glycol: In April, 1992, 490 pounds of ethylene glycol were reported to have bypassed the treatment system and been discharged.
- (ii) Diesel Fuel: In April, 2001, 1,500 gallons of diesel fuel were reported as being spilled. A saddle tank released from a locomotive on site. A sheen was noted on the waterway that runs through the property.

(d) RFA Sampling and Analysis Workplan

The Permittee shall submit a written RFA Sampling and Analysis Workplan to Ohio EPA within 90 days of permit issuance to further assess potential releases of hazardous waste(s) or hazardous constituent(s) from all applicable WMUs, AOCs and releases reported to Ohio EPA's Division of Emergency and Remedial Response identified in Permit Conditions E.3.(a) through E.3.(c).

- (i) If necessary, Ohio EPA shall provide comments on the RFA Sampling and Analysis Workplan to the Permittee.
- (ii) Within 45 days of receipt of Ohio EPA's comments, the Permittee shall submit either an amended or new RFA Sampling and Analysis Workplan that incorporates Ohio EPA's comments.
- (iii) Ohio EPA shall approve or modify and approve, in writing, the amended or new RFA Sampling and Analysis Workplan. The RFA Sampling and Analysis Workplan, as approved or as modified and approved, shall be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved RFA Sampling and Analysis Workplan must be authorized by Ohio EPA.

(e) RFA Sampling and Analysis Implementation

The Permittee shall implement the workplan according to the terms and schedule in the approved RFA Sampling and Analysis Workplan.

(f) RFA Sampling and Analysis Final Report

Within 60 days after the completion of data collection, the Permittee shall submit an RFA Sampling and Analysis Final Report to Ohio EPA. The report shall describe the procedures, methods, and results of the investigation. The

OHIO EPA DHWM

MAR 31 2004

report must contain adequate information to support further decisions concerning investigation and potential corrective action at the Facility for all WMUs, AOCs and releases reported to Ohio EPA's Division of Emergency and Remedial Response identified in Permit Conditions E.3.(a) through E.3.(c). Upon request by the Ohio EPA, the Permittee shall submit progress reports for specific WMUs, AOCs and releases reported to Ohio EPA's Division of Emergency and Remedial Response within 30 days.

- (i) If necessary, Ohio EPA shall provide written comments on the RFA Sampling and Analysis Final Report to the Permittee.
- (ii) Within 45 days of receipt of Ohio EPA's comments, the Permittee shall submit either an amended or new RFA Sampling and Analysis Final Report that satisfactorily addresses Ohio EPA's comments.
- (iii) Ohio EPA shall approve or modify and approve, in writing, the amended or new RFA Sampling and Analysis Final Report. The RFA Sampling and Analysis Final Report, as approved or as modified and approved, shall be incorporated into this permit as the official RFA exposure assessment. Subsequent changes to the approved RFA Sampling and Analysis Final Report must be authorized by Ohio EPA.

E.4 Reserved

E.5 RCRA Facility Investigation (RFI)  
OAC Rule 3745-55-011

The Permittee must conduct an RFI to thoroughly evaluate the nature and extent of the release of hazardous wastes and hazardous constituents from all applicable WMUs and AOCs identified in Permit Condition E.3 and Permit Condition E.10. The major tasks and required submittal dates are shown below. The scope of work for each of the tasks is found in U.S. EPA's CAP.

(a) RFI Workplan

Based upon current RFA data and/or additional RFA information to be provided by the Permittee as required in Permit Condition E.3.(f), if it is determined that an RFI will be required, the Permittee must submit a written RFI Workplan to Ohio EPA within 90 days after receiving Ohio EPA written notification or, in case of a newly discovered waste management unit, on a time frame established by Ohio EPA.

OHIO EPA DHWM

MAR 31 2004

- (i) Within 45 days of receipt of any Ohio EPA comments on the RFI Workplan, the Permittee must submit either an amended or new RFI Workplan that incorporates Ohio EPA's comments.
- (ii) Ohio EPA will approve or modify and approve, in writing, the amended or new RFI Workplan. The RFI Workplan, as approved or as modified and approved, shall be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved RFI Workplan must be authorized by Ohio EPA.

(b) RFI Implementation

The Permittee must implement the RFI Workplan according to the terms and schedule in the approved RFI Workplan.

(c) RFI Final Report

Within 60 days after the completion of the RFI, the Permittee must submit an RFI Final Report to Ohio EPA. The RFI Final Report must describe the procedures, methods, and results of the RFI. The Final Report must contain adequate information to support further decisions concerning Corrective Action at the Facility.

- (i) Within 45 days of receipt of any Ohio EPA comments on the RFI Final Report, the Permittee must submit either an amended or new RFI Final Report that incorporates Ohio EPA's comments.
- (ii) Ohio EPA will approve or modify and approve, in writing, the amended or new RFI Final Report. The RFI Final Report, as approved or as modified and approved, shall be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved RFI Final Report must be authorized by Ohio EPA.

E.6 Interim Measure (IM)

Based on the RFI Final Report or other information documenting a release of hazardous waste or constituents to the environment, Ohio EPA may require (or the Permittee may propose) the development and implementation of an IM (this may include an IM Workplan) at any time during the life of the permit to mitigate or eliminate a threat to human health or the environment. The Permittee shall implement the IM upon a time frame established by Ohio EPA.

OHIO EPA DHWM

MAR 31 2004

## E.7 Determination of No Further Action

### (a) Permit Modification

Based on the results of the completed RFI and other relevant information, the Permittee may submit an application to Ohio EPA for a permit modification under OAC Rule 3745-50-51 to terminate the Corrective Action tasks of the Schedule of Compliance. Other tasks identified in the Schedule of Compliance shall remain in effect. This permit modification application must conclusively demonstrate that there are no releases of hazardous waste or constituents from WMUs at the Facility that pose an unacceptable risk to human health and the environment.

If, based upon review of the Permittee's request for a permit modification, the results of the completed RFI, and other information, Ohio EPA determines that releases or suspected releases which were investigated either are nonexistent or do not pose an unacceptable risk to human health and the environment, Ohio EPA will approve the requested modification. Decisions regarding the completion of RCRA Corrective Action and no further action may be made for the entire Facility, for a portion of the Facility, or for a specific unit or release.

### (b) Periodic Monitoring

A determination of no further action shall not preclude Ohio EPA from requiring continued or periodic monitoring of air, soil, ground water, or surface water, if necessary to protect human health and the environment, when site-specific circumstances indicate that a potential or an actual release of hazardous waste or constituents exists.

### (c) Further Investigations

A determination of no further action shall not preclude Ohio EPA from requiring further investigations, studies, or remediation at a later date, if new information or subsequent analysis indicates that a release or potential release from a WMU at the Facility may pose an unacceptable risk to human health or the environment. In such a case, Ohio EPA shall initiate a modification to the terms of the permit to rescind the determination made in accordance with Permit Condition E.7(a). Additionally, in the event Ohio EPA determines that there is insufficient information on which to base a determination, the Permittee, upon notification, is required to develop a Work

OHIO EPA DHWM

MAR 31 2004

Plan and upon Ohio EPA approval of that Work Plan, perform additional investigations as needed.

**E.8 Corrective Measures Study (CMS)**

If Ohio EPA determines, based on the results of the RFI and any other relevant information, that corrective measures are necessary to protect human health and the environment, Ohio EPA will notify the Permittee in writing that the Permittee must conduct a CMS either as described below or as described in Ohio EPA's notification to the Permittee. The purpose of the CMS will be to develop and evaluate the corrective action alternative(s) and to outline one or more alternative corrective measure(s) that will satisfy the performance objectives specified in Permit Condition E.9.

**(a) CMS Workplan**

The Permittee must submit a written CMS Workplan to Ohio EPA within 90 days from the notification by Ohio EPA of the requirement to conduct a CMS.

- (i) Within 45 days of receipt of any Ohio EPA comments, the Permittee must submit either an amended or new CMS Workplan that incorporates Ohio EPA's comments.
- (ii) Ohio EPA will approve or modify and approve, in writing, the amended or new CMS Workplan. The CMS Workplan, as approved or as modified and approved, must be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved CMS Workplan must be authorized by Ohio EPA.

**(b) CMS Workplan Implementation**

The Permittee must implement the CMS Workplan according to the terms and schedule in the approved CMS Workplan.

**(c) CMS Final Report**

Within 60 days after the completion of the CMS, the Permittee must submit a CMS Final Report to Ohio EPA. The CMS Final Report must summarize the results of the investigations for each remedy studied and must include an evaluation of each remedial alternative.

OHIO EPADHWM

MAR 31 2004

- (i) Within 45 days of receipt of any Ohio EPA comments, the Permittee must submit either an amended or new CMS Final Report that incorporates Ohio EPA's comments.
- (ii) Ohio EPA will approve or modify and approve, in writing, the amended or new CMS Final Report. The CMS Final Report, as approved or as modified and approved, must be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved CMS Final Report must be authorized by Ohio EPA.

#### E.9 Corrective Measures Implementation (CMI)

Based on the results of the CMS, the Permittee must implement one or more of the Corrective Measures authorized by Ohio EPA. Ohio EPA will authorize one or more of the Corrective Measures in the CMS, and will notify the Permittee in writing of the decision. The Corrective Measure selected for implementation must: (1) be protective of human health and the environment; (2) attain media cleanup standards; (3) control the source(s) of releases so as to reduce or eliminate further releases of hazardous waste(s) (including hazardous constituent[s]); and (4) comply with all applicable standards for management of wastes.

If two or more of the Corrective Measures studied meet the threshold criteria set out above, Ohio EPA will authorize the Corrective Measures Implementation by considering remedy selection factors including: (1) long-term reliability and effectiveness; (2) the degree to which the Corrective Measure will reduce the toxicity, mobility or volume of contamination (3) the Corrective Measure's short-term effectiveness; (4) the Corrective Measure's implementability; and (5) the relative cost associated with the alternative.

##### (a) Permit Modification

Ohio EPA will initiate a permit modification, as provided by OAC Rule 3745-50-51 to require implementation of the corrective measure(s) authorized.

The Permittee shall not implement the corrective measure until the permit is modified pursuant to OAC Rule 3745-50-51.

OHIO EPA DHWM

MAR 31 2004

(b) Financial Assurance  
OAC Rule 3745-55-011

Within 30 days after receiving approval of the CMI, the Permittee must provide financial assurance in the amount necessary to implement the corrective measure(s) as required by OAC Rule 3745-55-011 (b) and (c).

E.10 Newly Identified WMUs or Releases  
OAC Rule 3745-55-011

(a) General Information

The Permittee must submit to Ohio EPA, within 30 days of discovery, the following information regarding any new WMU identified at the Facility by Ohio EPA or the Permittee:

- (i) The location of the unit on the site topographic map;
- (ii) Designation of the type of unit;
- (iii) General dimensions and structural description (supply any available drawings);
- (iv) When the unit was operated; and
- (v) Specification of all waste(s) that have been managed at the unit.

(b) Release Information

The Permittee must submit to Ohio EPA, within 30 days of discovery, all available information pertaining to any release of hazardous waste(s) or hazardous constituent(s) from any new or existing WMU.

E.11 Corrective Action for Newly Identified WMUs and Releases  
OAC Rule 3745-55-011

If Ohio EPA determines that a RCRA Facility Investigation is required for newly identified WMUs, the Permittee must submit a written RCRA Facility Investigation Workplan to Ohio EPA upon a time frame established in written notification by Ohio EPA in accordance with Permit Condition E.5. This determination will be made based on the information submitted in accordance with Permit Condition E.10.

OHIO EPA DHWM

MAR 31 2004

Further investigations or corrective measures will be established by Ohio EPA.

Permittee must make such submittal in accordance with time frames established by Ohio EPA.

E.12 Documents Requiring Professional Engineer Stamp  
ORC 4733.01

Preparation of the following Corrective Action documents constitutes the "practice of engineering" as defined by ORC 4733.01:

Final Interim Measures Report

Corrective Measures Final Design

Corrective Measures Construction Completion Report

Corrective Measures Attainment of Groundwater Performance Standards Report

Corrective Measures Completion of Work Report

As such, the Permittee must ensure that these documents, as submitted to Ohio EPA, are stamped by a Professional Engineer licensed to practice in the State of Ohio.

OHIO EPADHWM

MAR 31 2004

**MODULE F - RESERVED**

**OHIO EPA DHWM**

**MAR 31 2004**

**MODULE G - RESERVED**

OHIO EPA DHWM

MAR 31 2004

**MODULE H - RESERVED**

**OHIO EPA DHWM**

**MAR 31 2004**

## MODULE I(A) - INCINERATION

### I(A) INCINERATION

#### I(A).1 Module Highlights

The Waste Heat Recovery Incinerator (WHRI) system consists of a rotary hearth incinerator with a secondary combustion chamber. A waste heat boiler is used to recover heat from flue gases and generate steam. Flue gases from the waste heat boiler are routed to a baghouse for particulate removal and a wet scrubber for acid gas removal.

The rotary hearth incinerator processes both liquid and solid waste streams. Waste streams include waste oil (recovered organics), aqueous liquids, distillate liquids, slurries, and containerized wastes. These waste streams are fed by burners, atomized liquid nozzles, a slurry nozzle, and a drop chute.

The rotary hearth incinerator (primary combustion chamber) has a refractory table in the bottom portion of the incinerator chamber that rotates while the sidewalls and top of the chamber remain stationary. Solids placed on the rotating table are agitated by stationary rabble arms and moved slowly to the outer diameter of the rotary hearth where they are discharged after a retention time of approximately 30 minutes. Solids are discharged from the rotating hearth into a collection hopper below the hearth. A drag conveyor then transfers the ash to an enclosed receptacle.

Flue gases generated in the rotary hearth incinerator flow into the secondary combustion chamber (SCC). The primary function of the SCC is to elevate the flue gas temperature for an additional time period to complete the combustion process. The SCC is equipped with a single liquid burner, which uses either fuel oil or liquid waste (recovered organic) as fuel. From the SCC the flue gas enters the heat recovery boiler. The boiler has a flue gas outlet temperature of approximately 650 deg F. A feed water economizer is used to preheat the boiler feed water and further reduces flue gas temperature. At the exit of the feed water economizer is the post economizer cooler. The post economizer cooler uses a water spray to further cool combustion gases, prior to their entering the baghouse. An induced draft (ID) fan located between the baghouse and scrubber is used to maintain negative pressure on the rotary hearth and to increase or decrease gas flow through the system. The first stage of the wet scrubber is the quench chamber, which further reduces the gas stream temperature before it enters the packed column. The wet scrubber is the final flue gas cleaning unit in the

OHIO EPA DHWM

MAR 31 2004

incinerator system. It removes acid gas pollutants and fine particulate matter. The stack is the last unit in the system. The height of the stack is 110 feet. Analyzers are positioned at specific locations within the incineration system to monitor combustion of the hazardous waste and ensure compliance with permit limits.

A programmable logic controller (PLC) provides control functions, alarming, data logging, trending, graphics, and operator interaction with the incineration system. The majority of the PLC system is located in the WHRt control room. Process parameters in critical locations are continuously recorded by the PLC and monitored by the facility's control room operators. The PLC is used to maintain key operating conditions such as combustion zone temperature and process flow within permitted ranges. The PLC will automatically stop waste feeds if certain process and operation parameters fall outside the allowable operating range.

Key operating parameters for the incineration system include:

- (i) combustion temperature for the rotary hearth (minimum) and the SCC (minimum);
- (ii) waste feed restrictions;
- (iii) residence time for waste in combustion zone, to ensure complete combustion;
- (iv) negative pressure in the rotary hearth to prevent fugitive emissions;
- (v) carbon monoxide concentration in the stack gases, as an indicator of complete combustion;
- (vi) baghouse inlet temperature, as a control for dioxin/furan formation; and
- (vii) scrubber liquid to gas (L/G) ratio and scrubber liquid pH, as an indicator of scrubber effectiveness.

Operating limits for the incineration system are based on the results of a source emissions survey completed for the incineration system in April and May of 1997.

OHIO EPA DHWM

MAR 31 2004

Two semi-volatile principal organic hazardous constituents (POHCs) were selected for use in the 1997 source emission survey. These include naphthalene and hexachloroethane. Naphthalene is a Class I aromatic compound ranked 5<sup>th</sup> on the University of Dayton Thermal Stability Index. Naphthalene is a typical constituent in the waste streams burned at this facility. Hexachloroethane was selected because of its ranking as the 6<sup>th</sup> most difficult to destroy compound on the Heat of Combustion List. The heat of combustion of hexachloroethane is 0.46 kcal/gram.

The facility's waste feed cut-off (WFCO) system is an integral part of the PLC. The system is utilized to terminate waste feed to the incineration system when a triggering event, such as excess carbon monoxide detected by the continuous emissions monitoring system (CEMS) analyzer(s), occurs. Operating parameters which have been demonstrated through testing to be indicators of complete combustion, minimal emissions, and efficient operation of the incineration train are listed in Permit Condition I(A).6. When the PLC detects any of these parameters not being met, it is programmed to automatically terminate all hazardous waste feeds to the incineration system, an automatic WFCO.

I(A).2 Identification Criteria for Permitted and Prohibited Waste  
OAC Rule 3745-57-44

Unless otherwise authorized, the Permittee may incinerate the following hazardous wastes, as specified in this Permit and only under the terms of this Permit. The Permittee may only feed the hazardous wastes as identified below at the facility subject to Permit Conditions I(A).3. through I(A).5., and I(A).8.

(a) The Permittee may incinerate the following hazardous wastes:

- Waste Oil (Recovered Organic)
- Aqueous Liquids
- Distillate Liquids
- Slurries, and
- Containerized Wastes

(b) Throughout operation, the Permittee shall conduct sufficient analysis in accordance with the Waste Analysis Plan to verify that waste fed to the incinerator is within the physical and chemical composition limits specified in this Permit.

OHIO EPA DHWM

MAR 31 2004

- (c) The Permittee shall not feed any hazardous waste whose current Ohio EPA hazardous waste code number does not appear in the Part A application under the process code of T03.

**I(A).3 Construction, Instrumentation, and Operational Performance Requirements**  
OAC Rules 3745-57-43 and 3745-57-45

- (a) The Permittee shall maintain the incinerator in accordance with the design plans and specifications contained in the permit application.
- (b) The Permittee shall install and test all instrumentation in accordance with the design plans, performance specifications, and maintenance procedures contained in the permit application prior to handling hazardous wastes in the incinerator unit.
- (c) The Permittee shall maintain the incinerator so that when operated, in accordance with the operating requirements specified in this permit, it will meet the performance standards specified in Permit Conditions I(A).3(d) through I(A).3(f).
- (d) The incinerator shall achieve a destruction and removal efficiency (DRE) of 99.99 percent for each of the following principal organic hazardous constituents (POHC) for each waste feed. The DRE value shall be determined using the method specified in OAC Rule 3745-57-43(A)(1).

The designated POHCs are naphthalene and hexachloroethane.

- (e) The Permittee shall control hydrogen chloride (HCl) emissions, such that the rate of emissions is no greater than the larger of either 1.8 kilograms per hour (4 pounds/hour) or one percent of the HCl in the stack gas, prior to entering any pollution control equipment in accordance with OAC Rule 3745-57-43(B).
- (f) The incinerator shall not emit particulate matter in excess of 180 milligrams per dry standard cubic meter (0.08 grains per dry standard cubic foot) when corrected for the amount of oxygen in the stack gas, in accordance with the formula specified in OAC Rule 3745-57-43(C).

Unless otherwise authorized, the Permittee shall feed the wastes described in Permit Condition I(A).2. to the incinerator only under the following conditions:

OHIO EPADHWM

MAR 31 2004

- (g) Carbon monoxide concentration in the stack exhaust gas, monitored as specified in Permit Condition I(A).5., and corrected for the amount of oxygen in the stack gas, shall not exceed 100 ppm over a one hour rolling average.
- (h) The Permittee shall be limited to the following waste feed rates in the following locations:
  - (i) Maximum total waste feed shall not exceed 4,530 lb/hr on an hourly rolling average basis.
  - (ii) Maximum total pumpable waste feed to the rotary hearth shall not exceed 3,994 lb/hr on an hourly rolling average basis.
  - (iii) Maximum Recovered Organic (Waste Oil) feed to the secondary combustion chamber shall not exceed 700 lb/hr on an hourly rolling average basis.
  - (iv) The size of waste containers fed to the Rotary Hearth shall not exceed 11 gallons of capacity.
  - (v) The maximum total ash feed rate shall not exceed 598 lbs/hr on a 12 hour rolling average basis.
  - (vi) The maximum total chlorine feed rate shall not exceed 99 lbs/hr on a 12 hour rolling average basis.
- (i) Combustion temperature, monitored as specified in Permit Condition I(A).5., shall be maintained as follows:
  - (a) minimum temperature in the SCC shall not drop below 1606 °F on a one hour rolling average;
  - (b) minimum temperature at the exit of the hearth, as measured in the flue, must be greater than 1200 °F on a one hour rolling average.
- (j) Combustion gas flowrate, monitored as specified in Permit Condition I(A).5., shall be less than 16,382 ACFM on a one hour rolling average.
- (k) The mass feed rates of toxic metals to the incinerator shall not exceed:

OHIO EPA DHWM

MAR 31 2004

Metal	Hourly Rolling Average Feed Rate Limit
Antimony	5.27 lb/hr
Arsenic	0.0346 lb/hr *
Barium	1.96 lb/hr
Beryllium	0.0632 lb/hr *
Cadmium	0.0843 lb/hr *
Chromium	15.3 lb/hr *
Lead	1.36 lb/hr
Mercury	1.13 lb/hr
Silver	66.3 lb/hr
Thallium	0.92 lb/hr

\* Each of the feed rate limits presented assume that only one of the four carcinogenic metals is emitted. In order to assure that the ratio of the predicted maximum annual average ground level concentration to the risk-specific dose is maintained less than or equal to 1, the following equation will be used to limit the carcinogenic metals feed rates:

$$AFR(As)/0.0346 + AFR(Be)/0.0632 + AFR(Cd)/0.0843 + AFR(Cr)/15.3 < 1.0$$

where AFR = actual feed rate in lb/hr.

- (l) Atomization fluid pressure (e.g., steam, air) for the rotary hearth and SCC burners shall be no less than 10 psig above the pressure of the feed. On loss of atomization fluid pressure the individual burner is shutoff.
- (m) Atomization fluid pressure (e.g., steam, air) for aqueous and distillate lances shall be no less than 35 psig. On loss of atomization fluid pressure waste feed to the lance is shutoff.
- (n) The L/G ratio to the scrubber, monitored as specified in Permit Condition I(A).5., shall be maintained at no less than 0.005 gal/CF on a one hour rolling average.

OHIO EPA DHWM

MAR 31 2004

- (o) The scrubber pH, monitored as specified in Permit Condition I(A).5., shall be maintained at a minimum pH of 4.5 on a one hour rolling average.
- (p) The maximum baghouse inlet temperature shall not exceed 487 °F on a one hour rolling average.
- (q) All 3 modules of the baghouse must be on-line when burning hazardous waste in the incineration system.
- (r) The scrubber blowdown rate shall be maintained at no less than 1 gpm on a one hour rolling average.
- (s) Pressure drop across the baghouse, monitored as specified in Permit Condition I(A).5., shall be no less than 1.5" w.c., nor greater than 8" w.c. on a one hour rolling average. These limits are based on manufacturer's specifications.
- (t) The Permittee shall control fugitive emissions from the combustion zone of the incinerator by maintaining the pressure in the primary combustion chamber, monitored as specified in Permit Condition I(A).5., to not exceed 0.0 psig, with a 5 second delay.
- (u) For purposes of permit enforcement, compliance with the operating requirements specified in this permit and in OAC Rule 3745-57-45 will be regarded as compliance with the required performance standards in this permit and OAC Rule 3745-57-43. However, evidence that compliance with these operating conditions is insufficient to ensure compliance with the performance standards, may justify modification, revocation, or reissuance of the permit pursuant to OAC Rule 3745-50-51 in accordance with OAC Rule 3745-57-43(D).

I(A).4 Inspection Requirements  
OAC Rule 3745-57-47

The Permittee shall inspect the incineration unit in accordance with the Inspection Schedule in Section F of the permit application and shall complete the following as part of these inspections:

- (a) The Permittee shall thoroughly, visually inspect the incinerator and associated equipment (including pumps, valves, conveyors, pipes, etc.) for

OHIO EPA DHWM

MAR 31 2004

leaks, spills, corrosion and deterioration, fugitive emissions, and signs of tampering.

- (b) The Permittee shall continuously monitor the programmable logic controller (PLC) including analyzers, monitors, temperature probes, pH meters, alarms, etc. for proper operation and recording of data.
- (c) The Permittee shall test the emergency waste feed cut-off system and associated alarms at least monthly to verify operability, as specified in Permit Condition I(A).6.(a). The monitoring systems will be tested by simulating an upset condition of each monitoring parameter which will engage the waste feed cut-off system.

**I(A).5 Monitoring Requirements**  
**OAC Rule 3745-57-47**

- (a) The Permittee shall maintain, calibrate, and operate monitoring equipment and record the data while incinerating hazardous waste, as specified below:

System Parameter	Monitor Type, Instr. No.	Location	Recording Process	Calibration Frequency
Stack Gas CO Concentration	Nondispersive Infrared E CO: AIT 32014 W CO: AIT 32015	Stack	Continuous HRA	Daily
Recovered Organic Feed Rate (hearth and SCC)	Mass Flowmeter W-31 FE 32008 W-32 FE 32009	Feed Line	Continuous HRA	Sent out every three years
Slurry Flow	Tank Level and PLC W-6 LT 32007 W-7 LT 32006	Feed Tank	Continuous HRA	Annual
Aqueous Flow	Mass Flowmeter W-14 FE 32007	Feed Line	Continuous HRA	Sent out every three years
Distillate Flow	Mass Flowmeter FE 32013	Feed Line	Continuous HRA	Sent out every three years
Container weight	Weight WIT 32006	Container feed location	Continuous HRA	Monthly

OHIO EPA DHWM

MAR 31 2004

System Parameter	Monitor Type, Instr. No.	Location	Recording Process	Calibration Frequency
Rotary Hearth Flue Temperature	Thermocouple TE 32054A TE 32054B TE 32054C	Rotary Hearth Flue	Continuous HRA OMA	Annual
SCC Temperature	Thermocouple TE 32039A TE 32039B TE 32039C	SCC exit	Continuous HRA	Annual
Baghouse Inlet Temperature	Thermocouple TE32032	Inlet Duct	Continuous HRA	Annual
Combustion Gas Flowrate	Annubar FT 32020	Stack	Continuous HRA	Daily
Scrubber Water pH	Glass Probe AT 32022	Recirculation Line and Sump	Continuous HRA	Bi-monthly
Scrubber Liquid Recirculation Flow	Magnetic Flowmeter FE 32044	Scrubber liquid recirculation line	Continuous HRA	Sent out every three years
Scrubber Blowdown Rate	Magnetic Flowmeter FE32047	Scrubber liquid blowdown line	Continuous HRA	Sent out every three years
Stack Gas O2 Concentration	Paramagnetic E O2: AIT 32016 W O2: AIT 32017	Stack	Continuous OMA	Daily
Baghouse Differential Pressure	Pressure Transmitter PDT 32088	Inlet/Outlet Duct	Continuous HRA	Annual
Scrubber System Pressure Drop (inches water)	Pressure Transmitter PIT 32235 PIT 32236	Inlet/Outlet Duct	Continuous HRA	Annual
Rotary Hearth Pressure (vacuum)	Pressure Transmitter PT 32079	Hearth	Continuous Instantaneous	Annual

OHIO EPA DHWM

MAR 31 2004

System Parameter	Monitor Type, Instr. No.	Location	Recording Process	Calibration Frequency
Burner Oil Pressure	Pressure Switch PSLL-32131 PSLL-32146 PSLL-32161 PSLL-32176 PSLL-32191	Oil lines to Individual Burners 1-5	Switch Monitors Continuously No data recorded	Annual
Burner Steam Atomization Pressure	Pressure Switch PSLL-32140 PSLL-32155 PSSL-32170 PSSL-32185 PSSL-32200	Steam lines to Individual Burners 1-5	Switch Monitors Continuously No data recorded	Annual
Distillate Steam Atomization Pressure	Steam Switch1	Steam line Header	Switch Monitors Continuously No data recorded	Annual
Aqueous Air Atomization Pressure	PSL-32109	Air line Header	Switch Monitors Continuously No data recorded	Annual

(b) Upon a request by Ohio EPA, the Permittee shall perform sampling and analysis of the waste and exhaust emissions to verify that the operating requirements established in the Permit achieve the performance standards in accordance with OAC Rule 3745-57-47(A)(3).

**I(A).6 Waste Feed Cut-Off Requirements**  
 OAC Rule 3745-57-45

(a) The Permittee shall construct and maintain the systems specified below to automatically cut off the hazardous waste feed to the incinerator at the levels specified below. Hazardous wastes shall be fed to the incinerator only when all instruments required by this condition are on line and operating properly.

Parameter	Cut-Off Limits	Test Frequency
Stack Gas CO Concentration	> 100 PPM (One Hour Rolling Average)	Monthly
Total Waste Feed	> 4,530 LBS/HR (One Hour Rolling Average)	Monthly

OHIO EPA DHWM

MAR 31 2004

Parameter	Cut-Off Limits	Test Frequency
Maximum Total Pumpable Waste Feed to Rotary Hearth	> 3,994 LBS/HR (One Hour Rolling Average)	Monthly
Maximum Recovered Organic to SCC	> 700 LBS/HR (One Hour Rolling Average)	Monthly
Hearth Flue Temp	< 1200 °F (One Hour Rolling Average)  < 1150 °F (One Minute Average)	Monthly
SCC Temp	< 1606 °F (One Hour Rolling Average)	Monthly
Total Chlorine Feed Rate	> 99 LBS/HR (12 Hour Rolling Average)	Monthly
Metal Feed Rates	HOURLY FEED RATES (See Permit Condition I(A).3.(K))	Monthly
Total Ash Feed Rates	> 598 LBS/HR (12 Hour Rolling Average)	Monthly
Scrubber ph	< 4.5 (One Hour Rolling Average)	Monthly
Scrubber L/g Ratio	< 0.005 GAL/ACF (One Hour Rolling Average)	Monthly
Scrubber Blowdown Rate	< 1 GPM (One Hour Rolling Average)	Monthly
Baghouse Inlet Temp	> 487 °F (One Hour Rolling Average)	Monthly
Baghouse Pressure Drop	> 8" W.C. AND < 1.5 "W.C. (One Hour Rolling Average)	Monthly
Rotary Hearth Pressure (Vacuum)	> 0.0 PSIG (Five Second Delay)	Monthly
Combustion Gas Flowrate	> 16,382 ACFM (One Hour Rolling Average)	Monthly

(b) In case of a malfunction of the automatic waste feed cut-off systems, the Permittee shall perform manual shut downs in accordance with the approved

OHIO EPA DHWM

MAR 31 2004

procedures in the permit application. The Permittee shall not restart the incinerator until the problem causing the malfunction has been located and corrected.

I(A).7 Closure  
OAC Rule 3745-57-51

The Permittee shall follow the procedures in the Closure Plan in Section I of the permit application, and the terms and conditions of this permit.

I(A).8 Recordkeeping

- (a) The Permittee shall record and maintain, in the operating record for this permit, all monitoring and inspection data compiled under the requirements of this Permit and in accordance with OAC Rule 3745-57-47(D).
- (b) The Permittee shall record in the operating record for this permit the date and time of all automatic waste feed cut-offs, including the triggering parameters, reason(s) for the cut-off, and corrective actions taken. The Permittee shall also record all failures of the automatic waste feed cut-off system to function properly and corrective actions taken.

I(A).9 Treatment Residual

Unless the Permittee can show otherwise, per OAC Rule 3745-51-03(D), residue from the incinerator is hazardous waste and the Permittee is considered the generator.

- (i) The Permittee shall sample and analyze the treatment residue generated from the incineration system and all ancillary systems in accordance with the procedures outlined in Section C of the permit application.
- (ii) The Permittee shall manage the treatment residue generated from the incineration system in accordance with the procedures outlined in Section D of the permit application and all applicable Ohio hazardous waste regulations.

OHIO EPA DHWM

MAR 31 2004

**I(A).10 Compliance Schedule**

The Permittee shall conduct an incineration performance test within two years from the date of this permit and each succeeding three years. The performance test plan shall be submitted to Ohio EPA at least six months prior to the test date and shall address all regulations and other conditions that may be needed to protect human health and the environment.

In developing and submitting the scope for the first performance test required by this permit condition, the Permittee shall use as a guide the most appropriate and current version of guidance relative to trial burns and risk assessments. Permittee shall submit a plan for the first performance test and associated site specific risk assessment no later than one year from the date of this permit. The Permittee shall conduct the test approximately six (6) months after agreement on the scope. The Permittee may, at its option, conduct this performance test and risk assessment in conjunction with the compliance test that the Permittee is required to conduct under the hazardous waste combustor MACT regulations. In June 2002, The Lubrizol Corporation submitted the "Comprehensive Performance Test Plan to Demonstrate Compliance with 40 CFR, Subpart EEE". This test plan includes a risk condition to collect emission data for site-specific human health and ecological risk assessments. The above referenced document is hereby incorporated into this permit.

Permittee shall submit the report documenting performance test activities and results within 6 months of conducting each performance test.

Within one year after completion of Ohio EPA's review of the first performance test report, Permittee shall complete a site specific risk assessment and submit this assessment to Ohio EPA. Within 45 days of receipt of Ohio EPA's comments, the Permittee must submit either an amended or new site specific risk assessment that incorporates Ohio EPA's comments.

**End of Permit Conditions**

OHIO EPA DHWM

MAR 31 2004