

OHIO ENVIRONMENTAL PROTECTION AGENCY

OHIO E.P.A.

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OHIO HAZARDOUS WASTE FACILITY
INSTALLATION AND OPERATION PERMIT RENEWAL

ENTERED DIRECTOR'S JOURNAL

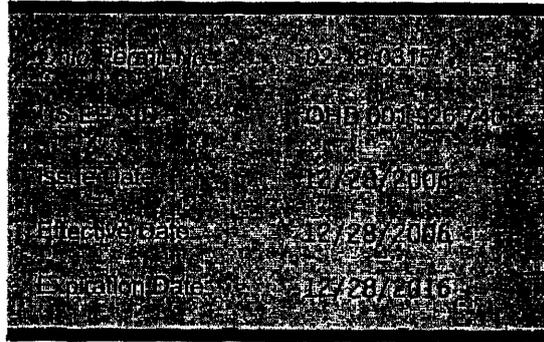
Permittee: Hukill Chemical Corporation

Mailing Address: 7013 Krick Road
Bedford, Ohio 44146

Owner: Hukill Chemical Corporation
7013 Krick Road
Bedford, Ohio 44146

Operator: Hukill Chemical Corporation
7013 Krick Road
Bedford, Ohio 44146

Location: 7013 Krick Road
Bedford, Ohio 44146



AUTHORIZED ACTIVITIES

In reference to the application of Hukill Chemical 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 of Hazardous Waste in Containers and Tanks
- Treatment of Hazardous Waste in Tanks
- Closure and Post-Closure Corrective Action

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

PERMIT APPROVAL

[Signature]
Joseph P. Koncek, Director
Ohio Environmental Protection Agency

[Signature] 12-28-06

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 28th day of December, 2006.

By *[Signature]* of the Ohio Environmental Protection Agency.

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 store hazardous waste in containers and tanks, and treat hazardous waste in tanks, 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 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.

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 ten 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:
 - (i) the Permittee has submitted a timely and complete permit application for a renewal permit under OAC Rule 3745-50-40; and

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- (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 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.

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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 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)

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- (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).

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

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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 the 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.

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:
 - (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.

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- (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.
- (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.

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

- (a) The Permittee must submit to the Ohio EPA within thirty (30) 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/Post-Closure/Corrective Action Cost Estimate
OAC Rules 3745-55-42 and 3745-55-44

Section I of the permit application containing the financial assurance mechanism for closure must be updated to include a copy of the current closure/post-closure/corrective action cost estimate as set forth in OAC Rules 3745-55-42 and 3745-55-44.

- (ii) Updated Financial Assurance Mechanism for Closure/Post-Closure/Corrective Action
OAC Rules 3745-55-43

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 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/post-closure/corrective action cost estimate.

During the life of the permit the facility may change the financial assurance mechanism as stated in OAC Rules 3745-55-43. 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.

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

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

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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.

(b) Unless specified otherwise, Permittee shall submit the above documents 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, DHWM
Northeast District Office
2110 East Aurora Road
Twinsburg, Ohio 44087

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;

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- (iii) closure plan, developed and maintained in accordance with OAC Rule 3745-55-12 and the terms and conditions of this permit;
 - (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) post-closure plan, as required by OAC Rule 3745-55-18(A) and the terms and conditions of this permit.
 - (ix) annually-adjusted cost estimate for facility closure and post-closure, as required by OAC Rules 3745-55-42 and 3745-55-44 and the terms and conditions of this permit.
 - (x) all other documents required by Module A, Permit Condition A.12.
- (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.

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); 3745-54-73(B)(9); and 3745-52-20(B) 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.

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- (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.

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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 more than 347,679 tons in any one calendar year from off-site sources during the life of the permit, until such time as this permit condition is modified or renewed. This is a facility wide limitation and includes all units.

B.2 Required Notices OAC Rule 3745-54-12

- (a) The Permittee must notify the Director in writing at least four weeks in advance of the date the Permittee expects to receive hazardous waste from a foreign source, as required by OAC Rule 3745-54-12(A). Notice of subsequent shipments of the same waste from the same foreign source is not required.
- (b) Hazardous Waste from Off-Site Sources

When the Permittee is to receive hazardous waste from an off-site source (except where the Permittee is also the generator), he must inform the generator in writing that he has the appropriate permits, and will accept the waste the generator is shipping. The Permittee must keep a copy of this written notice as part of the operating record.

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 3745-54-13(D), he must obtain a detailed chemical and physical analysis of a

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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, 3745-205, 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 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 Sections C, D and 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 provide, and require the use of, spark proof tools during all operations involving the handling of all ignitable or reactive wastes.
- (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, Sections F and G 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, Sections F and G 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:
- (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
- (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, 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.

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- (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, within ten (10) days of the effective date of any amendments of, revisions to, or modifications to the contingency plan.
 - (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.

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.

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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 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).

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).

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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 Survey Plat
OAC Rule 3745-55-16

The Permittee must submit a survey plat to the Director and the local zoning authority no later than the submission of certification of closure of each hazardous waste disposal unit, in accordance with OAC Rule 3745-55-16.

B.35 General Post-Closure Requirements
OAC Rules 3745-55-17, 3745-55-18, 3745-55-19 and 3745-55-20**(a) Post-Closure Care Period**

The Permittee must begin post-closure care for the former hazardous waste tank farm, underground cistern, and the solvent storage tank farm after completion of closure of the unit and continue for 30 years after that date. Post-closure care must be in accordance with OAC Rule 3745-55-17 and the post-closure plan.

(b) Post-Closure Security

The Permittee must maintain security at the facility during the post-closure care period, in accordance with the post-closure plan and OAC Rule 3745-55-17(B).

(c) Amendment to Post-Closure Plan

The Permittee must amend the post-closure plan, when necessary, in accordance with OAC Rule 3745-55-18(D).

(d) Post-Closure Notices

(i) No later than 60 days after certification of closure of each hazardous waste disposal unit, the Permittee must submit to the Director and the local zoning authority records of the type, location, and quantity of hazardous waste disposed of within each cell or disposal unit, in accordance with OAC Rule 3745-55-19(A).

(ii) Within 60 days of certification of closure of the first hazardous waste disposal unit and within 60 days of certification of closure of the last hazardous waste disposal unit, the Permittee must do the following:

(a) Record a notation on the deed to the facility property, or on some other instrument which is normally examined during title search, which contains the information required by OAC Rule 3745-55-19(B)(1).

(b) Submit to the Director a certification that the Permittee has recorded the notation and submit a copy of the document in which the Permittee placed the notation.

(c) The Permittee must request and obtain a permit modification prior to post-closure removal of hazardous wastes, hazardous waste residues, liners, or contaminated soils, in accordance with OAC Rule 3745-55-19(C).

(e) Certification of Completion of Post-Closure Care

No later than sixty days after completion of the established post-closure care period for each hazardous waste disposal unit, the Permittee must certify that the post-closure care period was performed in accordance with the

specifications in the post-closure plan and the terms and conditions of this permit, as required by OAC Rule 3745-55-20. The Permittee must furnish to the Director, upon request, documentation supporting the certification.

B.36 Cost Estimate for Facility Closure and Post-Closure
OAC Rule 3745-55-42 and 3745-55-44

- (a) The Permittee's most recent closure and post-closure cost estimate, prepared in accordance with OAC Rule 3745-55-42 and 3745-55-44 is specified in Section I of the permit application.
- (b) The Permittee must adjust the closure and post-closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with OAC Rule 3745-55-43 and 3745-55-45.
- (c) The Permittee must revise the closure cost estimate and post-closure cost estimate whenever there is a change in the facility's closure plan and post-closure plan that increases the cost of closure and post-closure care, as required by OAC Rule 3745-55-42(C) and 3745-55-44(C).
- (d) The Permittee must submit to the Ohio EPA and keep at the facility the latest closure cost estimate and post-closure cost estimate as required by OAC Rule 3745-55-42(D) and (E) and 3745-55-44(D) and (E).

B.37 Financial Assurance for Facility Closure and Post-Closure

The Permittee must maintain continuous compliance with OAC Rule 3745-55-43, 3745-55-45, and 3745-55-46 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

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

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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.

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MODULE C - CONTAINERS STORAGE & TREATMENT

C. CONTAINER STORAGE AND MANAGEMENT

The Permittee operates two container storage areas. One is located indoors and the other, located outdoors, is only used for the storage of hazardous waste without free liquids.

The East Warehouse Container Storage Area is located inside the East Warehouse in an area which measures 92 feet by 74 feet. Containers stored in the East Warehouse include DOT approved steel drums and portable containers (tote bins), fiberboard boxes, plastic drums, and various types of small containers and buckets.

The storage area is bounded at its perimeter by a 4.5 inch high integrated concrete curb. The doorways and garage doors into the East Warehouse are ramped with reinforced concrete to a minimum height of 4.5 inches. The containment area has been lined with a steel plate floor which serves as the secondary containment system liner. The steel floor is butt welded 3/16" thick hot rolled carbon steel. The steel curbing was made by bending the steel plate to form the curb. A steel plate cap was attached to the concrete curbing, and caulked at the concrete juncture to prevent infiltration of liquid between the edge of the steel containment curb and the concrete curbing. Per Permit condition C.6.(c), the Permittee shall annually non-destructively test at least 20% of the steel plate floor's welded seams for failure.

The effective containment capacity of the storage area is 18,360 gallons. The maximum container capacity in the East Warehouse Container Storage Area is 50,380 gallons of containerized waste.

The East Pad No Free Liquids (NFL) Container Storage Area is located outside on concrete along the southern fence line within a yellow striped area. The entire East Pad area is paved with concrete and the NFL area is located on a small portion of the East Pad area. Containers stored here generally are 55 gallon drums. The East Pad NFL Container Storage Area is used for storage of wastes which contain no free liquids and, therefore, is not required to have a containment system under OAC Rule 3745-55-75(C). The maximum storage capacity is 19,800 gallons of containerized, no free liquids containing hazardous waste.

The maximum combined storage capacity of the East Warehouse Container Storage Area and The East Pad NFL Container Storage Area is 68,695 gallons of containerized waste.

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C.1 Container Storage/ Quantity Limitation

- (a) The Permittee is authorized to store 68,695 gallons of hazardous waste at any given time in the permitted container areas located in the East Warehouse Container Storage Area, the East Pad outdoors no free liquids storage area, and the staging areas.

There are two staging areas at the facility. One staging area is located on the containerized truck loading/unloading pad. After containers of hazardous waste are removed from a trailer van, they are staged on the containerized truck loading/unloading pad awaiting sample analysis results. Once waste analysis is completed, the containers are moved into storage.

A second staging area is located in the Process Building. Drums are staged here prior to being pumped into processing tanks for the thin film evaporators, also called the LUWAs.

The Permittee must store hazardous waste in the types of containers (size and type) described in Section D of the permit application. The Permittee may not store containers for more than one year.

- (b) For the purpose of compliance with the capacity limitation of this permit, each container will be considered to be storing an amount of hazardous waste equal to its capacity, regardless of the actual quantity stored in the container.
- (c) Permit Conditions C.1(a) and C.2 shall not apply to the Permittee's activities as a generator accumulating hazardous waste on-site in compliance with OAC Rule 3745-52-34.

However, when accumulating waste within the permitted container storage area, in accordance with OAC Rule 3745-52-34, the Permittee must not, for the total amount of hazardous waste stored and accumulated, exceed the maximum container storage inventory established under this permit condition.

C.2 Reserved.

C.3 Waste Identification

The Permittee must store in containers only the hazardous waste codes specified below:

D001 D002 D003 D004 D005 D006 D007 D008 D009 D010 D011 D012 D013 D014
D015 D016 D017 D018 D019 D020 D021 D022 D023 D024 D025 D026 D027 D028
D029 D030 D031 D032 D033 D034 D035 D036 D037 D038 D039 D040 D041 D042
D043

F001 F002 F003 F004 F005 F006 F019 F024 F025 F037 F038 F039

K009 K010 K014 K015 K016 K017 K018 K019 K020 K021 K022 K023 K024 K025
K026 K028 K029 K030 K048 K049 K050 K051 K052 K060 K061 K062 K083 K085
K086 K087 K093 K094 K095 K096 K103 K104 K105 K136 K141 K142

U002 U004 U007 U008 U017 U019 U021 U023 U024 U025 U027 U028 U029 U031
U032 U037 U039 U043 U044 U045 U046 U047 U048 U051 U052 U055 U056 U057
U066 U067 U068 U069 U070 U071 U072 U075 U076 U077 U079 U080 U081 U082
U083 U088 U089 U092 U101 U102 U107 U112 U113 U117 U118 U121 U122 U123
U127 U131 U132 U134 U140 U144 U145 U146 U147 U153 U154 U159 U161 U162
U165 U166 U167 U168 U169 U171 U182 U183 U184 U188 U190 U191 U196 U201
U207 U208 U209 U210 U211 U213 U220 U221 U225 U226 U227 U228 U235 U238
U239 U328 U353 U359

C.4 Condition of Containers
OAC Rule 3745-55-71

If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the Permittee must transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in compliance with the conditions of this permit and the hazardous waste facility chapters of the OAC.

C.5 Compatibility of Waste with Containers
OAC Rule 3745-55-72

The Permittee must use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

C.6 Management of Containers
OAC Rule 3745-55-73

- (a) The Permittee must keep all containers closed during storage, except when it is necessary to add or remove waste, and must not open, handle, or store containers in a manner which may rupture the container or cause it to leak.

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- (b) In the event lab-pack wastes are generated they must be handled in compliance with applicable storage requirements.
- (c) In the event lab-pack wastes are generated they must be packaged in drums containing absorbent material that is compatible with the waste.

C.7 Containment Systems
OAC Rule 3745-55-75

- (a) The Permittee must maintain the containment system in accordance with the plans and specifications contained in Section D of the permit application.
- (b) The Permittee must maintain the containment system as described in the permit application, designed with sufficient capacity to contain ten percent of the total volume of the containers or the volume of the largest container, whichever is greater. Additionally, the containment system must be designed with sufficient capacity to contain 100% of the total volume of the 1000 gallon disperser tank and the 750 gallon auger tank. The containment system must be free of cracks and gaps and sufficiently impervious to contain leaks and spills and accumulated precipitation until the collected material is detected and removed.
- (c) The base of the containment system must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids.
- (d) Run-on into the containment system must be prevented unless the collection system has sufficient excess capacity in addition to that required in Permit Condition C.7(b) above.
- (e) Spilled or leaked waste and accumulated precipitation must be removed from the floor in a timely manner.
- (f) The Permittee shall annually non-destructively test at least 20% of the steel plate floor's welded seams for failure. Should a failure be detected, the facility shall implement the following:
 - (i) determine the extent of failure;
 - (ii) fully document the repair of the damaged seam; and

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- (iii) test the remainder of the seams for failure and ensure that 100% of the seams that can be tested, have been tested and all failures repaired. Due to the nature of the construction of the steel plate floor, it is impossible to test all of the seams.

Yearly testing shall be done such that at the end of a five year time period, 100% of the seams that can be tested shall have been tested. All obvious areas of degradation shall be tested in addition to the area scheduled for annual testing.

- (g) The provisions of C.7 (a) through (f) do not apply to the East Pad No Free Liquids Container Storage Area. No wastes shall be stored on the east pad container storage area unless they are found to contain no free liquids according to the Paint Filter Liquids Test, SW-846 Method 9095.

C.8 Reserved.

C.9 Inspection Schedules and Procedures
OAC Rules 3745-54-15 and 3745-54-73

The Permittee must inspect the container storage areas in accordance with the inspection schedule contained in Section F of the permit application and in accordance with OAC Rule 3745-54-15. The inspection schedule must be designed to detect for leaking containers, deteriorating containers and/or containment systems. The Permittee must note the results of these inspections in the inspection log along with any remedial action taken.

Areas subject to spills, such as loading or unloading areas, shall be inspected daily when in use pursuant to the inspection procedure described in Section F of the permit application. The Permittee must maintain these inspection results in the facility operating record.

C.10 Recordkeeping
OAC Rule 3745-54-73

The Permittee must comply with all recordkeeping requirements of OAC Rule 3745-54-73 as part of the facility operating record.

C.11 Special Container Provisions for Ignitable or Reactive Waste
OAC Rules 3745-54-17 and 3745-55-76

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- (a) The Permittee must not store ignitable or reactive waste except in accordance with OAC Rules 3745-54-17 and 3745-55-76.
 - (b) The Permittee must not locate containers holding ignitable or reactive waste within 15 meters (50 feet) of the facility's property line.
 - (c) The Permittee must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste and shall follow the storage procedures specified in Section F of the permit application.

C.12 Special Container Provisions for Incompatible Waste
OAC Rules 3745-54-17(B) and 3745-55-77

- (a) The Permittee must not store incompatible waste except in accordance with OAC Rules 3745-54-17(B) and 3745-55-77.
- (b) The Permittee must not place hazardous waste in an unwashed container that previously held an incompatible waste or material.
- (c) The Permittee must separate or protect (by means of a dike, berm, wall, or other device) a storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments.

C.13 Reserved.

C.14 Closure and Post-Closure
OAC Rules 3745-55-10 through 3745-55-20, and 3745-55-78

At closure of the container area, the Permittee shall remove all hazardous waste and hazardous waste residues from the containment system, in accordance with the procedures in the closure plan set forth in Section I of the permit application.

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MODULE D - TANK STORAGE, TREATMENT AND MANAGEMENT

D. MODULE HIGHLIGHTS

The Permittee has a total of twenty (20) hazardous waste storage tanks. Five (5) of the twenty (20) tanks are storage and treatment tanks. All the tanks are above ground tanks and are provided with secondary containment.

Two storage and treatment tanks are located in the East Warehouse Container Storage Area. The East Warehouse secondary containment system is constructed to contain 100% of the capacity of these tanks as well as ten percent of the total volume of all containers located in the storage area. Another two storage and treatment tanks, the 2,900 gallon agitated feed tanks, are located inside the Distillation Processing Area. One storage and treatment tank is located in the 7-Tank Dike.

The remaining tanks have been provided with a secondary containment system constructed of a concrete liner external to the tanks, or, for one containment system, a steel liner external to the tanks. The concrete liners have been provided with an impermeable coating to make the secondary containment system impermeable to the waste. The containment system for all tanks is constructed to contain 100% of capacity of the largest tank within its boundary as required by Ohio law.

All storage tanks are protected from over-filling by using a manual shut-off system and are equipped with a high level alarm. The Hochmeyer (dispenser) treatment tank is provided with a high level sensor connected to a high level alarm. The Auger treatment tank does not have a high level sensor. The liquid level is controlled visually by the operator running the equipment.

Wastes managed in most tanks are received from off-site generators, but several tanks are routinely used for the storage of still bottoms from the thin film evaporators and for the storage of hazardous waste fuel which is generated during the treatment(blending) of hazardous waste in the Hochmeyer and/or Auger tanks.

The Permittee is required to conduct annual thickness testing of the tanks located in the Feeds/Process Dike, tanks 8-3-F, 9-3-F, 10-3-F and 11-3-F, as outlined in Permit Condition D.6.(d).

D.1 Tank Storage Quantity Limitation/Waste Identification

- (a) The Permittee may store a total volume of 179,850 gallons of hazardous waste in 20 tanks, subject to the terms of this permit and as detailed in the

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table below.

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

D001 D002 D003 D004 D005 D006 D007 D008 D009 D010 D011 D012
D013 D014 D015 D016 D017 D018 D019 D020 D021 D022 D023 D024
D025 D026 D027 D028 D029 D030 D031 D032 D033 D034 D035 D036
D037 D038 D039 D040 D041 D042 D043

F001 F002 F003 F004 F005 F006 F019 F024 F025 F037 F038 F039

K009 K010 K014 K015 K016 K017 K018 K019 K020 K021 K022 K023 K024
K025 K026 K028 K029 K030 K048 K049 K050 K051 K052 K060 K061 K083
K085 K086 K087 K093 K094 K095 K096 K103 K104 K105 K136 K141 K142

U002 U004 U007 U008 U017 U019 U021 U023 U024 U025 U027 U028
U029 U031 U032 U037 U039 U043 U044 U045 U046 U047 U048 U051
U052 U055 U056 U057 U066 U067 U068 U069 U070 U071 U072 U075
U076 U077 U079 U080 U081 U082 U083 U088 U089 U092 U101 U102
U107 U112 U113 U117 U118 U121 U122 U123 U127 U131 U132 U134
U140 U144 U145 U146 U147 U153 U154 U159 U161 U162 U165 U166
U167 U168 U169 U171 U182 U183 U184 U188 U190 U191 U196 U201
U207 U208 U209 U210 U211 U213 U220 U221 U225 U226 U227 U228
U235 U238 U239 U328 U353 U359

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Tank No.	Capacity (Gallons)	Dimensions of Tank	Secondary Containment Required	Description Of Hazardous Waste	Hazardous Waste No.
Hazardous Waste Tank Farm					See Condition D.1(a)
T57, T58, T59, T61, T62	14,000	10.5 ft (diam) x 24	Yes- in place	Waste Organic Solvents	See Condition D.1(a)
T56, T60	14,000	12 ft (diam) x 15 ft 7 in	Yes- in place	Waste Organic Solvents	See Condition D.1(a)
Feed & Bottoms Storage Dike					
T55	16,000	10.5 ft (diam) x 23 ft 1 in	Yes- in place	Waste Organic Solvents	See Condition D.1(a)
T52, T53	6,000	8 ft (diam) x 15 ft 2 in	Yes- in place	Waste Organic Solvents	See Condition D.1(a)
HW Fuels Dike					
T15	9,500	9.5ft (diam) x 19 ft	Yes- in place	Waste Organic Solvents	See Condition D.1(a)
T14	10,000	10 ft (diam) x 15 ft	Yes- in place	Waste Organic Solvents	See Condition D.1(a)
T16	6,000	10.5 ft (diam) x 8 ft 2 in	Yes-in place	Waste Organic Solvents	See Condition D.1(a)
T13	15,000	10 ft (diam) x 32 ft	Yes-in place	Waste Organic Solvents	See Condition D.1(a)
Feed/Process Dike					
8-3-F, 9-3-F, 10-3-F, 11-3-F	2,900	7 ft (diam) x 10 ft	Yes-in place	Waste Organic Solvents	See Condition D.1(a)
**Fuels Blending				Waste Organic Solvents	See Condition D.1(a)
Hochmeyer	1,000	6 ft (diam) x 5 ft	Yes-in place	Waste Organic Solvent and pumpable semi-solids	See Condition D.1(a)
Auger	750	5 ft (diam) x 5 ft	Yes-in place	Waste Organic Solvent and pumpable semi-solids	See Condition D.1(a)

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- (b) During any calendar year, the Permittee must not manage through tank storage hazardous waste in excess of the maximum annual quantity set forth in Permit Condition B.1(b).
- (c) The Permittee is prohibited from storing K062 hazardous waste in any of the hazardous waste storage tanks.
- (d) The Permittee is prohibited from storing hazardous waste with the waste codes K025 and K026 in the Hochmeyer and the Auger tanks.

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

- (a) The Permittee is authorized to treat hazardous waste in the tanks specified in the table below. The Permittee is limited to processing 27,500 gallons per day of hazardous waste through the Auger tank, 63,000 gallons per day of hazardous waste through the Hochmeyer tank, 2,900 gallons per day of hazardous waste through Tank 10-3-f, 2,900 gallons per day of hazardous waste through Tank 11-3-f and 14,000 gallons of hazardous waste through tank T56. The Permittee shall treat in tanks only the hazardous waste codes specified in the permit application and summarized below:

D001 D002 D003 D004 D005 D006 D007 D008 D009 D010 D011 D012
D013 D014 D015 D016 D017 D018 D019 D020 D021 D022 D023 D024
D025 D026 D027 D028 D029 D030 D031 D032 D033 D034 D035 D036
D037 D038 D039 D040 D041 D042 D043

F001 F002 F003 F004 F005 F006 F019 F024 F025 F037 F038 F039

K009 K010 K014 K015 K016 K017 K018 K019 K020 K021 K022 K023 K024
K028 K029 K030 K048 K049 K050 K051 K052 K060 K061 K083 K085 K086
K087 K093 K094 K095 K096 K103 K104 K105 K136 K141 K142

U002 U004 U007 U008 U017 U019 U021 U023 U024 U025 U027 U028
U029 U031 U032 U037 U039 U043 U044 U045 U046 U047 U048 U051
U052 U055 U056 U057 U066 U067 U068 U069 U070 U071 U072 U075
U076 U077 U079 U080 U081 U082 U083 U088 U089 U092 U101 U102
U107 U112 U113 U117 U118 U121 U122 U123 U127 U131 U132 U134
U140 U144 U145 U146 U147 U153 U154 U159 U161 U162 U165 U166
U167 U168 U169 U171 U182 U183 U184 U188 U190 U191 U196 U201
U207 U208 U209 U210 U211 U213 U220 U221 U225 U226 U227 U228
U235 U238 U239 U328 U353 U359

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Tank No.	Capacity (Gallons)	Treatment Type	Dimensions of Tank	Secondary Containment Required	Description Of Hazardous Waste	Hazardous Waste No.
Hochmeyer	1,000	Mixing Dispersion	6 ft (diam) x 5 ft	Yes-in place	Waste Organic Solvent and pumpable semi-solids	See Condition D.1(a)
Auger	750	Shearing dispersion	5 ft (diam) x 5 ft	Yes-in place	Waste Organic Solvent and pumpable semi-solids	See Condition D.1(a)
10-3-F	2,900	Blending, Mixing, Separation	7 ft (diam) x 10 ft	Yes-in place	Waste Organic Solvents	See Condition D.1(a)
11-3-F	2,900	Blending, Mixing, Separation	7 ft (diam) x 10 ft	Yes-in place	Waste Organic Solvents	See Condition D.1(a)
T56	14,000	Blending, Mixing, Separation	12 ft (diam) x 15 ft 7 in	Yes-in place	Waste Organic Solvents	See Condition D.1(a)

- (b) The Permittee is prohibited from storing and treating hazardous waste with the waste codes K025, K026, and K062 in the Hochmeyer and the Auger tanks.
- (c) The provision of 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 capacity 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 any future new tank systems 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 3745-55-92(B) to ensure that proper handling procedures were adhered to in order to prevent damage to the system during installation.

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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 requirements of 3745-55-93(B) through (F), and Section D of the permit application.

New tanks at the facility are T-13, T-56, T-57, T-58, T-59, T-60, T-61 and T-62; tanks 8-3-F, 9-3-F, 10-3-F and 11-3-F; Hochmeyer tank and Auger tank.

- (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: T-52, T-53 and T-55; T-14, T-15, T-16.

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

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once each operating day:

- (i) Aboveground 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
 - (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) The Permittee shall annually inspect the tank wall thickness of the Feed/Process Tanks: 8-3-F, 9-3-F, 10-3-F, and 11-3-F, using an ultrasound testing method and provide the inspection report to the Ohio EPA.

At a minimum this inspection report shall include the following items:

- (i) Test Standard (e.g., ASME SA-435/SA-435M, ASTM A 435/A 435M-82);
- (ii) Test Apparatus;
- (iii) Test Conditions;
- (iv) Test Procedure;
- (v) Drawings showing locations of the test points on the grid;
- (vi) Field Report showing materials of construction, joints details, construction details and thickness readings; and
- (vii) Test Results showing calculations.

When available, Manufacturer's Data Report for the tank must be included.

If a point on any tank exhibits a thickness of less than 0.095 inch then the tank shall be immediately taken out of service.

- (e) The Permittee must document compliance of 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)(vi) are satisfied, the Permittee must close its tank system in accordance with OAC 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

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secondary containment system, the Permittee must repair the primary system prior to returning it to service.

- (iii) 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.
- (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

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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.

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

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- (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.

D.12 Reserved.

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MODULE E - CORRECTIVE ACTION REQUIREMENTS

E. Corrective Action Summary

In 1985, the Permittee entered into a Consent Agreement and Final Order (CAFO) with U.S. EPA to conduct an investigation:

To determine the nature and extent of potential contamination from storage operations at the facility's solvent storage tank farm;

To determine the need for corrective action to eliminate potential threats to the environment; and

To select and implement corrective action including the closure of an underground cistern at the facility.

A report entitled "Site Investigation Report (October 1988, revised in January 1989)" was prepared by Eder Associates Consulting Engineers, (Eder), on behalf of the Permittee. The document summarized the investigation of contamination at the site, and was prepared in a manner similar to an RCRA Facility Investigation (RFI) report. The report also identified the Waste Management Units (WMUs) at the facility. A listing of these units can be found in Permit Condition E.3.

The Permittee proposed five alternative corrective action plans which were prepared in a manner similar to a corrective measures study. U.S. EPA approved an alternative, known as Corrective Action Alternative 5, on February 8, 1990.

In early 1990, Ohio EPA took over oversight from U.S. EPA. This change in oversight was informally done because the CAFO between the Permittee and U.S. EPA was not an enforcement order, rather, it was a proactive agreement between the Permittee and U.S. EPA to remediate the site. The major elements of Alternative 5 have been incorporated into the Closure Plan/Post-Closure Plan/RCRA Corrective Measures Implementation Plan (CP/CMI), that addresses closure, post-closure and corrective action activities. Formally, Ohio EPA took over the corrective action lead at the site through the October 30, 1998 hazardous waste storage permit issued to the Permittee.

Ohio EPA approved the CP/CMI plan on June 12, 2001. The approved CP/CMI plan outlines the requirements for the facility to continue corrective action and corrective measures implementation. Corrective action activities will be accomplished through remediation of the solvent storage tank farm by placing an alternative RCRA cap over the tank farm. The cap will be constructed of concrete

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and will be designed for use as a tank farm for the Permittee's solvent storage tanks. Construction of the concrete cap for the Solvent Storage Tank Farm is to commence Fall of 2006. Ground water contamination will be addressed by using a monitored natural attenuation remedy.

The regulated portion of the Solvent Storage Tank Farm has been closed per the CP/CMI. It was capped with concrete during the summer of 2001 and was certified closed by Ohio EPA in a letter to the facility dated July 16, 2003.

E.1 Corrective Action at the Facility
OAC Rules 3745-50-10 & 3745-54-101

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), construction 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.

E.2 Corrective Action Beyond the Facility Boundary
OAC Rule 3745-54-101

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

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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 3745-54-101

As part of the CAFO with USEPA, solid waste management units were identified by the Permittee in the document "Site Investigation Report Revision Number 1". The following is a list of the units and a summary of the actions taken by the Permittee to address remediation of the WMUs:

Solvent Tank Farm. The CP/CMI plan addresses corrective action for this unit. The solvent tank farm will be capped with concrete and the cap designed to be used as a tank dike for storage of product solvent. The corrective measures implementation remedy for contaminated ground water is monitored natural attenuation.

Hazardous Waste Tank Farm. Seven hazardous waste storage tanks were formerly located in an L shaped area of the Solvent Tank Farm. In 1989, the tanks were relocated to a dike that met secondary containment requirements. The former hazardous waste tank farm was closed as a landfill by placing an alternative RCRA cap over the L shaped area. Certification of closure of this unit was acknowledged by Ohio EPA in a letter dated July 16, 2002. The unit is in post closure care.

Underground Cistern. This unit was used from 1975 until 1982 as secondary containment for floor drains and trenches located in the facility. In 1982 the floor drains were sealed. In 1993 it was power washed and filled with concrete. Final closure was addressed in the CP/CMI plan. Certification of closure of this unit was acknowledged by Ohio EPA in a letter dated July 16, 2002. The unit is in post-closure care.

No Free Liquid Container Storage Area. This former unit and the area surrounding it was covered with concrete. (The current location of the No Free Liquid Container Storage Area is located in a different area than the one identified for USEPA).

Storm water collection system. The storm water sewer collection system has been replaced. Storm water used to discharge to outfall 001 which ran to a tributary to Tinkers Creek. The Permittee received authorization June 6, 1990 from the Army Corp of Engineers to enclose the channel, which has

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been done. Storm water is now collected in tanks and runs through an air stripper prior to discharge.

API Tank Basin. An underground 10,000 gallon API separator tank was located to the east of the solvent tank farm. The depth at the center of the basin was approximately 4 feet. In August 1988, the API tank was removed from service and the tank excavation was backfilled. The tank had been used as the collector for a french drain system installed to collect subsurface seepage that could migrate in an easterly direction from the tank farm. The french drain is located to the east of the tank farm. Storm water is now collected in a 15,000 gallon underground tank and is pumped to holding tanks prior to air stripping and final discharge to the sewer. No additional remediation has been required for this area.

E.4 Reserved

E.5 RCRA Facility Investigation (RFI)
OAC Rule 3745-54-101

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 newly identified WMUs identified in 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

In case of a newly discovered waste management unit, the Permittee must submit a written RFI Workplan to Ohio EPA on a time frame established by Ohio EPA.

- (i) Within 55 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.

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(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 55 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 must implement the IM upon a time frame established by Ohio EPA.

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

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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 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, 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

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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 55 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.

- (1) Within 55 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.
- (2) 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.

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

**(b) Financial Assurance
OAC Rule 3745-54-101**

Within 45 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 3745-54-101 (b) and (c).

**E.10 Newly Identified WMUs or Releases
OAC Rule 3745-54-101**

(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 45 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 3745-54-101

If Ohio EPA determines that a RFI is required for newly identified WMUs, the Permittee must submit a written RFI 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.

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 Completion of Corrective Action
OAC Rule 3745-54-101

After completing Corrective Action as necessary to protect human health and the environment for all releases of hazardous wastes or hazardous constituents from any WMUs at the Facility, the Permittee shall submit a Corrective Measures Completion of Work (CMCW) Report. The CMCW Report shall document that Corrective Action construction is complete, cleanup objectives and standards have been met, and any releases of hazardous waste or constituents no longer pose an unacceptable risk to human health and the environment. The CMCW Report may be submitted for any part of the Facility for which corrective measures are complete,

or for the entire Facility. The CMCW Report must be submitted as a request for permit modification pursuant to OAC Rule 3745-50-51.

E.13 Documents Requiring Professional Engineer Stamp
ORC Section 4733.01

Preparation of the following Corrective Action documents constitutes the "practice of engineering" as defined by ORC Section 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.

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MODULE F - POST-CLOSURE CARE**F. POST-CLOSURE CARE**

The Permittee has an approved Closure/Post-Closure/RCRA Corrective Measures Implementation (CP/CMI) plan for closure of the former underground cistern and the hazardous waste tank farm as a landfill pursuant to OAC Rule 3745-55-97 (B).

From 1975 until 1982, the Permittee used an underground concrete cistern for secondary containment for floor drains and trenches located in the facility. In 1982, the floor drains were sealed. Subsequent sampling of the soils and groundwater around the cistern revealed contamination attributable to past use of this unit as a secondary containment structure. In 1985 the Permittee entered into a Consent Agreement and Final Order with USEPA to close the underground cistern and the solvent storage tank farm.

The former underground cistern was power washed and filled with concrete in 1993. Closure certification of the cistern was acknowledged by Ohio EPA in a letter to the facility dated July 16, 2003. The area is in post-closure care.

Until January 1989, the Permittee had seven hazardous waste storage tanks located in the solvent storage tank farm whose secondary containment system consisted of an earthen dike. In January 1989, the hazardous waste storage tanks in this tank farm were moved to a diked concrete area in order to comply with Ohio law regarding secondary containment requirements.

The hazardous waste tank farm portion of the solvent storage tank farm has been closed per the CP/CMI. It was capped with concrete during the summer of 2001 and was certified closed by Ohio EPA in a letter to the facility dated July 16, 2003. The area is now in post-closure care.

F.1 Unit Identification

The Permittee must provide post-closure care for the following hazardous waste management units, subject to the terms and conditions of this permit:

Type of Waste Unit	Unit No. or Other Designation	Maximum Waste Inventory	Description of Wastes Contained	Hazardous Waste No.	Year Post-closure began
Tank Farm	Hazardous Waste portion of Solvent Storage Tank Farm	unknown	Various solvent waste streams	D001, F and U waste codes	2001

Type of Waste Unit	Unit No. or Other Designation	Maximum Waste Inventory	Description of Wastes Contained	Hazardous Waste No.	Year Post-closure began
Tank	Underground Cistern	unknown	waste organic solvents from floor washing	D001, F and U waste codes	2001

F.2 Post-closure Procedures and Use of Property
OAC Rule 3745-55-17

- (a) The Permittee must conduct post-closure care for each hazardous waste management unit listed in Permit Condition F.1 above, to begin after completion of closure of the unit and continue for 30 years after that date. The 30-year post-closure care period may be shortened upon application and demonstration approved by Ohio EPA that the reduced period is sufficient to protect human health and the environment. The 30-year post-closure care period may be extended if the Director finds that the extended period is necessary to protect human health and the environment.
- (b) The Permittee must maintain and monitor the ground water monitoring system and comply with all other applicable requirements of OAC Rules 3745-54-90 thru 3745-54-99 and OAC Rule 3745-55-01 during the post-closure period.
- (c) The Permittee must comply with the requirements for landfills, as follows:
 - (i) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap, as necessary, to correct the effects of settling, subsidence, erosion, or other events;
 - (ii) The concrete within the L-shaped cap has been sloped toward a collection sump which is used to collect rainwater. The sump will be manually pumped, as needed, to an existing retention basin; and
 - (iii) Protect and maintain surveyed benchmarks used in complying with the surveying and record keeping requirements of OAC Rule 3745-57-09.
- (e) The Permittee must comply with all security requirements, as specified in the permit application.

- (f) The Permittee must not allow any use of the units designated in Permit Condition F.1 which will disturb the integrity of the final cover, liners, any components of the containment system, or the function of the facility's monitoring systems during the post-closure care period.
- (g) The Permittee must implement the post-closure plan. All post-closure care activities must be conducted in accordance with the provisions of the post-closure plan.

F.3 Inspections
OAC Rule 3745-55-18(B)

The Permittee must inspect the components, structures, and equipment at the facility in accordance with the inspection schedule found in the post-closure plan.

F.4 Notices and Certification
OAC Rules 3745-55-19 and 3745-55-20

The Permittee has completed partial closure of the hazardous waste tank farm and underground cistern units. Partial closure was acknowledged by Ohio EPA in a letter dated July 16, 2003.

On January 23, 2003 the Permittee submitted a survey plat and Deed Notice for the hazardous waste tank farm.

- (a) No later than 60 days after certification of closure of each hazardous waste disposal unit, the Permittee must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Director, a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before January 12, 1981, the Permittee must identify the type, location, and quantity of the hazardous wastes to the best of his knowledge and in accordance with any records he has kept.
- (b) Within 60 days after certification of closure of the first and the last hazardous waste disposal unit, the Permittee must:
 - (i) Record, in accordance with Ohio law, a notation on the deed to the facility property that will in perpetuity notify any potential purchaser of the property that:
 - (a) The land has been used to manage hazardous wastes;

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- (b) Its use is restricted under OAC Rules 3745-55-10 thru 3745-55-20; and
 - (c) The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility have been filed with the Director and the local zoning authority.
- (ii) Submit a certification to the Director, signed by the Permittee, that he has recorded the notation specified in Permit Condition F.4(b)(i), including a copy of the document in which the notation has been placed.
- (c) If the Permittee wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, or contaminated soils, then he must request a modification to this permit in accordance with the applicable requirements in OAC Chapter 3745-50. The Permittee must demonstrate that the removal of hazardous wastes will satisfy the criteria of OAC Rule 3745-55-17(C).

By removing hazardous waste, the Permittee may become a generator of hazardous waste and must manage it in accordance with all applicable hazardous waste requirements.

If the Permittee is granted a permit modification or otherwise granted approval to conduct such removal activities, the Permittee may request that the Director approve either:

- (i) The removal of the notation on the deed to the facility property or other instrument normally examined during title search or,
 - (ii) The addition of a notation to the deed or instrument indicating the removal of the hazardous waste.
- (d) No later than 60 days after completion of the established post-closure care period for each hazardous waste disposal unit, the Permittee must submit to the Director, by registered mail, a certification that the post-closure care period for the hazardous waste disposal unit was performed in accordance with the specifications in the approved post-closure plan. The certification must be signed by the Permittee and an independent, qualified, registered professional engineer. Documentation supporting the independent, qualified, registered professional engineer's certification must be furnished to the Director upon request until the Director releases the Permittee from the

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financial assurance requirements for post-closure care under OAC Rule 3745-55-45.

F.5 Financial Assurance
OAC Rule 3745-55-45

The Permittee must maintain financial assurance during the post-closure period and comply with all applicable requirements of OAC Rules 3745-55-40 thru 3745-55-51.

F.6 Post-closure Permit Modifications
OAC Rule 3745-55-18(D)

The Permittee must request a permit modification to authorize a change in the approved post-closure plan. This request must be in accordance with applicable requirements of OAC Rules 3745-50-40 to 3745-50-62, and must include a copy of the proposed amended post-closure plan for approval by the Director. The Permittee must request a permit modification whenever changes in operating plans or facility design affect the approved post-closure plan, there is a change in the expected year of final closure, or other events occur during the active life of the facility that affect the approved post-closure plan. The Permittee must submit a written request for a permit modification at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the post-closure plan.

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MODULE G - INTEGRATED GROUND WATER MONITORING
OAC Rule 3745-54-101

G. INTEGRATED GROUND WATER MONITORING

Hukill Chemical Corporation [Hukill] must provide post-closure care for the portion of the Solvent Storage Tank Farm regulated under OAC Rules 3745-54-90 through 3745-54-100 and the Underground Cistern. In addition, ground water monitoring under OAC Rule 3745-54-101 must be provided for the portion of the Solvent Storage Tank Farm subject to corrective action.

Hukill entered into a Consent Agreement and Findings and Orders [CAFO] with U.S. EPA in 1985 regarding closure of the solvent storage tank farm and underground cistern. In 1989, U.S. EPA approved "Corrective Action Alternative 5" as the remediation approach for the solvent storage tank farm and underground cistern. Ohio took the lead on the project in 1990 and ultimately, the remediation strategy as put forth in Corrective Action Alternative 5 was incorporated into a closure plan for the former hazardous waste tank storage area, submitted to Ohio EPA, by Hukill, in January 1990.

The April 2001 Revised RCRA Closure Plan & RCRA Corrective Measures Implementation Plan (CP/CMI) was approved by Ohio EPA on June 12, 2001, and incorporated into the permit. The former hazardous waste tank farm and cistern were certified closed by Ohio EPA in a letter to the facility dated July 16, 2003. The approved closure plan contains a post-closure ground water monitoring plan, corrective actions implementation incorporating a natural attenuation monitoring plan, and a natural attenuation contingency plan.

The regulated portion of the tank storage area has been capped with concrete. The portion of the Solvent Storage Tank Farm subject to corrective action will be capped in late 2006. The cistern was filled with concrete in 1993. A Deed Notice has been filed for the former hazardous waste tank farm and underground cistern. Both the hazardous waste tank farm and cistern have been certified closed. Hukill is currently conducting 30 years of post-closure care for the tank farm.

Hukill has a volatile organic compound (VOC) ground water contaminant plume above background levels and above maximum contaminant levels (MCLs). Under RCRA regulations if the contaminant levels are above concentration limits defined in OAC Rule 3745-54-94(A) as either background, MCLs or Alternate Concentration Limits (ACLs), then the facility must perform Corrective Action Ground Water Monitoring under OAC Rule 3745-54-100. Hukill has not submitted an ACL

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demonstration under OAC Rule 3745-54-94(B). Under such circumstances a facility would be required to perform active corrective action to bring the contaminant plume concentrations back under either MCLs or background. In March 1999, Earth Tech, consulting firm for Hukill, provided data supporting the position that natural attenuation was occurring in the ground water. Data showed that the aquifer was anaerobic, the plume was not advancing (the plume seemed to be smaller than it was 10 years ago), there had been a general decline of methylene chloride in ground water, and levels of cis 1,2-DCE were present, a compound that was not detected years ago. Ohio EPA made the determination that there was no indication of contaminated ground water moving off-site and human exposure to ground water was controlled at the facility. Since the plume is contained onsite and the concentration levels are reducing by orders of magnitude, Ohio EPA approved a permit allowing the corrective action to entail only monitored natural attenuation (MNA).

This module presents permit conditions addressing the requirements for an integrated monitoring program. Ground water contamination from the two Hazardous Waste Management Units (portion of the Solvent Storage Tank Farm regulated under OAC Rules 3745-54-90 through 3745-54-100 and the Underground Cistern regulated under OAC Rules 3745-54-90 through 3745-54-100) has co-mingled with ground water contamination from the Waste Management Unit (portion of Solvent Storage Tank Farm subject to corrective action and regulated under OAC Rule 3745-54-101) at the site. Therefore, it is not practical to separate these units either for ground water monitoring purposes or remedial efforts. A more efficient multifaceted approach is to combine the relevant portions of OAC Rules 3745-54-100 and 54-101 for these areas. This combined approach is hereafter referred to as the Integrated Ground Water Monitoring Program or IGWMP.

G.1 Applicability

OAC Rule 3745-54-101

- (a) The Permittee must comply with the applicable requirements in OAC Rule 3745-54-101 and institute corrective action as necessary to protect human health and the environment for all releases of hazardous wastes or constituents from any waste management unit at the facility, regardless of the time at which waste was placed in such unit for the following units/areas:

Solvent Tank Farm [in Corrective Measures]
Hazardous Waste Solvent Tank Farm [in post-closure]
Underground Cistern [in post-closure]

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These units have previously been monitored under the Revised RCRA Closure Plan & RCRA Corrective Measures Implementation Plan (CP/CMI) which was approved by Ohio EPA on June 12, 2001.

- (b) Reserved.
- (c) The owner or operator must implement corrective actions beyond the facility property boundary, where necessary, to protect human health and the environment, unless the owner or operator demonstrates to the satisfaction of the director that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such actions. The owner/operator 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 determined on a case-by-case basis. Assurances of financial responsibility for such corrective action must be provided.

G.2 Ground Water Contingency Standard (GWCS)

The Permittee must ensure that the hazardous constituents or constituents detected in the ground water from a unit listed in this Permit Condition do not exceed the contingency standards in the uppermost aquifer underlying the units beyond the point of compliance (POC) wells during the permit period and to respond according to the Contingency Plan in Section E of the Permit Application to bring the ground water back into compliance with those standards. The GWCS has been established in this Permit due to hazardous constituents being detected in the ground water above MCLs and background.

(a) List of Hazardous Constituents

The Permittee must monitor the ground water to determine whether units are in compliance with the GWCS. The hazardous constituents listed in the Appendix to OAC Rule 3745-54-98 detected in the ground water underlying a unit and reasonably expected to be contained in or derived from the waste contained in the unit to which the GWCS applies are listed in the table below.

(b) Ground Water Contingency Standards

The GWCS for each constituent will be added to the table below after they have been determined based upon the following:

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- (i) The GWCS for each hazardous parameter will be based upon an intrawell 95% Upper Prediction Limit (UPL) calculated using the background sampling results from each POC well. The results of each sampling event will then be compared to the background GWCS for that parameter at that well. The facility may calculate the initial 95% UPL limit based upon eight background values in each well for each constituent. Analytical data from each well may be added to the background 95% UPL only in blocks of four or more statistically independent samples. A statistical outlier test followed by a trend test must be performed before data may be added to background. Due to semi-annual sampling, Hukill may only update their intra-well background 95% UPL concentration limit every two years at the least.
- (ii) An outlier test using Dixon's test, for datasets of 25 data points or less, or Rosner's Test, for greater than 25 data points, or another test deemed acceptable by the Director, must be performed on the entire background dataset for each individual well. The statistical outlier test shall be performed at a 0.01 level of significance for each well contributing new data. Data points failing the outlier test shall be excluded from background.
- (iii) Once four or more new data points pass the outlier test, a statistical trend analysis shall be performed on the entire background dataset for each individual well using either Sens' Estimate of Slope, Spearman's Test, Mann-Kendall Test or another test deemed appropriate by the Director. The statistical trend test shall be performed at a 0.01 level of significance for each well. If a statistically significant increasing trend is identified, then the existing background data set shall not be updated unless the owner/operator submits a demonstration that the trend is not due to waste or waste-derived constituents from the regulated unit.
- (iv) The Permittee shall submit a demonstration documenting the outlier and trend analytical comparisons. This documentation and justification shall be submitted to Ohio EPA at least 30 days prior to submitting the results of the first statistical comparison of ground water analytical data to the updated background data set

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Hazardous Constituents	Contingency Standards
SW846 8260 (modified)	
Tetrachloroethylene	See Attachment 1
Trichloroethylene	See Attachment 1
1,1,1 Trichloroethane	See Attachment 1
Trans 1,2 Dichloroethylene	See Attachment 1
Cis 1,2 Dichloroethylene	See Attachment 1
Chloroethane	See Attachment 1
1,1 Dichloroethane	See Attachment 1
Methylene Chloride	See Attachment 1
Vinyl Chloride	See Attachment 1
Acetone	See Attachment 1
2 Butanone (MEK)	See Attachment 1
Methyl Iso-Butyl Ketone (MIBK)	See Attachment 1
4-Methyl-2-Pentanone	See Attachment 1
Ethyl Benzene	See Attachment 1
Toluene	See Attachment 1
Xylenes	See Attachment 1

In addition to the hazardous constituents listed above, the Permittee must monitor the following parameters to show the effectiveness of the monitored natural attenuation remedial solution:

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Natural Attenuation Ground Water Quality or Field Parameters:

Total Phosphorus	o-Phosphate
Ethane	Ethene
Sulfate	Sulfide
Nitrate	Nitrite
Carbon Dioxide	Methane
Total Iron	Dissolved Iron
Total Manganese	Dissolved Manganese
Alkalinity	Chloride
Dissolved Organic Carbon	Total Organic Carbon
Dissolved Oxygen	Oxidation Reduction Potential
Temperature	Specific Conductivity
pH	Turbidity
Water Level	

(c) Point of Compliance and Point of Exposure

The Permittee has integrated the ground water monitoring programs for three units due to their close proximity to each other. The combined point of compliance (POC) at which the GWCS applies is indicated on Figure E-1 in the Permit Application. The Permittee must monitor the following wells [Wells A, B, G, and F] representing the quality of ground water passing the point of compliance. The Permittee must also monitor the ground water between the point of compliance and the downgradient property boundary at the Point of Exposure (POE) Wells [MW-E, SW-2, SW-3, MW-H, and MW-J] to determine if the clean-up standard has been exceeded at any point between the compliance point and the downgradient property boundary. MW-C and SW-4 shall also be monitored to track the degradation of contaminants.

(d) Post Closure Period

During the permit period the Permittee must establish and implement a monitoring program that will detect, respond, and report as necessary to protect human health and the environment all releases of hazardous constituents above the GWCS at the point of compliance and between the

point of compliance and the downgradient facility boundary. The Permittee shall implement corrective action beyond the facility property boundary, where necessary, to protect human health and the environment.

G.3 Well Location, Installation, Maintenance, and Removal

- (a) The Permittee's ground water monitoring system must consist of a sufficient number of wells, installed and screened at appropriate locations and depths to yield ground water samples from the fractured weathered shale zone which is considered to be the uppermost aquifer. A perched water zone has also been identified on site. The samples must:
- (i) Represent the quality of background water that has not been affected by leakage from the units;
 - (ii) Represent the quality of ground water passing the point of compliance, between the point of compliance and the downgradient property boundary, and beyond the property boundary, where necessary, to protect human health and the environment;
 - (iii) Allow for the detection and measurement of contamination for all potential release pathways to the uppermost aquifer from the waste management units based on site-specific hydrogeologic characterization when hazardous constituents have migrated from the unit to the uppermost aquifer; and
 - (iv) Demonstrate the effectiveness of any corrective action program. The well system should be as effective in determining compliance with the GWCS and in determining the success of the monitored natural attenuation process.
- (b) The monitoring system consists of the ground water wells as specified on Figure E-1 found in the Permit Application and in conformance with the following list:

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Well Identifier	Upgradient/ Downgradient	Purpose
MW-C	In unit	On-site Maximum
MW-A	Downgradient	POC
MW-B	Downgradient	POC
MW-G	Sidegradient	POC
MW-F	Upgradient	POC
MW-H	Sidegradient	POE
MW-J	Downgradient	POE
SW-2	Downgradient	POE
SW-3	Downgradient	POE
MW-E	Downgradient	POE
MW-I	Background	Background
SW-4	In unit	On-site Maximum

- (c) Wells identified in Permit Condition G.3(b) must be cased in a manner that maintains the integrity of the monitoring well bore hole and complies with the detailed plans and specifications presented in Section E of the Permit Application. The casing must be screened and packed with gravel or sand, where necessary, to enable collection of ground water samples. The annular space above the sampling depth must be sealed to prevent contamination of samples and the ground water.

Section E of the Permit Application contains ground water monitoring well construction diagrams which illustrate compliance with this Permit Condition.

- (d) The Permittee must remove or replace any monitoring well in Permit Condition G.3(b) in accordance with the Appendix to OAC Rule 3745-50-51 permit modification process. Each change must be accompanied by a revised map as specified on Figure E-1 for Permit Condition G.3(b). Proper abandonment of wells shall be accomplished as specified in the revised Closure Plan, Section 4.2.4.
- (e) Whenever any of the wells specified in Permit Condition G.3(b) are replaced, the Permittee must demonstrate to Ohio EPA that the ground water quality

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at the replacement well meets the criteria in Permit Condition G.3(a) within a two year time period of the date of replacement using means appropriate to the reason for replacement.

G.4 Sampling and Analysis Procedures

- (a) The Permittee must implement an IGWMP per Section E of the Permit Application. This program includes consistent sampling and analysis procedures designed to ensure monitoring results that provide a reliable indication of ground water quality below the units and is in compliance with this Permit Condition.
- (b) The Permittee's IGWMP per Section E of the Permit Application includes sampling and analytical methods that are appropriate for ground water sampling and that accurately measure hazardous constituents in ground water samples.
- (c) Field and analytical data must be validated in accordance with the procedures specified in Section E of the Permit Application.

G.5 Ground Water Surface Elevation

The Permittee must determine the ground water surface elevation at each well identified in the table in Permit Condition G.3(b) each time ground water is sampled using the methods in Section 4.2.4.1 of the Permit Application.

G.6 Sampling Frequency

Data on each hazardous constituent specified in Permit Condition G.2(a) will be collected from all wells listed in Permit Condition G.3(b). The sampling procedure and interval for each constituent is described in Section 4.2.4.2 of the Permit Application.

- (a) The number and kinds of samples collected to establish background must be appropriate for the form of statistical test employed, following generally accepted statistical principles.
- (b) The sample size must be as large as necessary to ensure with reasonable confidence that a contaminant release/increase in the ground water from a facility will be detected.
- (c) Background data may be updated as necessary in accordance with the

points outlined below to provide an accurate representation of background ground water quality. New or revised background values must be established in the permit through the permit modification process in OAC Rule 3745-50-51.

- (i) Analytical data from each well may be added to the background 95% UPL only in blocks of four or more statistically independent samples. A statistical outlier test followed by a trend test must be performed before data may be added to background. Due to semi-annual sampling, the Permittee may only update their intra-well background 95% UPL concentration limit every two years at the least.
- (ii) An outlier test using Dixon's test, for datasets of 25 data points or less, or Rosner's Test, for greater than 25 data points, or another test deemed acceptable by the Director, must be performed on the entire background dataset for each individual well. The statistical outlier test shall be performed at a 0.01 level of significance for each well contributing new data. Data points failing the outlier test shall be excluded from background.
- (iii) Once four or more new data points pass the outlier test, a statistical trend analysis shall be performed on the entire background dataset for each individual well using either Sens' Estimate of Slope, Spearman's Test, Mann-Kendall Test or another test deemed appropriate by the Director. The statistical trend test shall be performed at a 0.01 level of significance for each well. If a statistically significant increasing trend is identified, then the existing background data set shall not be updated unless the owner/operator submits a demonstration that the trend is not due to waste or waste-derived constituents from the regulated unit.
- (iv) The Permittee shall submit a demonstration documenting the outlier and trend analytical comparisons.

G.7 Statistical Procedures

The Permittee must use the following statistical procedures in evaluating ground water monitoring results for each hazardous constituent in Permit Condition G.2(a) in each well in Permit Condition G.3(b) to identify statistically significant evidence of increased contamination, the exceedance of the GWCS, and/or the effectiveness of corrective action:

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- (a) For those constituents for which background values have not been collected and established at the time of Permit Application, the Permittee must choose and submit to Ohio EPA the appropriate statistical method within 45 days after the receipt of the last background sampling event data through the permit modification process in OAC Rule 3745-50-51.

For those constituents for which background values have been collected, the Permittee must conduct statistical procedures as presented in Section E of the Permit Application.

- (b) The Permittee's statistical procedures must be protective of human health and the environment, provide reasonable confidence that the increased concentration and migration of hazardous constituents from a unit into and through the aquifer will be indicated, and will determine whether such leakage of hazardous constituents into the ground water exceeds specified GWCS. The statistical procedures must comply with the following performance standards:
- (i) The statistical evaluation of ground water monitoring data must be conducted separately for each hazardous constituent specified in Permit Condition G.2(a) in each well.
 - (ii) The statistical method must be appropriate for the distribution of the data used to establish background or GWCS. If the distribution for the constituents differ, more than one statistical method may be needed.
 - (iii) The statistical method must provide a reasonable balance between the probability of falsely identifying a non-contaminating and/or exceeding well and the probability of failing to identify a contaminating and/or exceeding well.
 - (iv) If a control chart approach is used, the specific type of control chart and its associated parameter values must be proposed by the Permittee and approved in the permit.
 - (v) If a prediction interval procedure is used, the levels of confidence and the percentage of the population that the interval must contain, must be proposed by the Permittee and approved in the permit. These parameters must be determined after considering the number of samples in the background data base, the data distribution, and the range of concentration values for each constituent of concern.

- (vi) The statistical method must account for data below the limit of detection with one or more statistical procedures. Any practical quantitation limit (PQL) approved in the permit that is used in the statistical method must be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the Permittee.
- (vii) If necessary, the statistical method must include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

G.8 Operating Record and Reporting
OAC Rules 3745-54-73, 3745-54-75, and 3745-54-77

(a) Operating Record

The Permittee must enter all of the following information obtained in accordance with Permit Module G. in the operating record:

- (i) Ground water monitoring data collected in accordance with this permit including actual levels of constituents.
- (ii) The laboratory results from each of the wells and their associated qualifiers including the laboratory sheets for the full volatile and semi-volatile analyses (must include method codes, method detection limits, and units of measurement);
- (iii) The date each well was sampled (tabulated);
- (iv) The date, time, and identification of all blanks and duplicates;
- (v) Any field log documentation of deviation from the procedures in Section E of the Permit Application, including documentation of parameter omissions during the sampling event;
- (vi) The date the Permittee received the results from the laboratory;
- (vii) The date the owner or operator completed their review of the analytical laboratory's verification of the accuracy and precision of the analytical data and determined its quality.

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- (viii) The results of the data validation review per Permit Condition G.8(a)(vi) including: report completeness, chain of custody, sample receipt form, signed statement of validity, technical holding time review, data qualifiers including their definitions, dilutions, blank data, spikes, spike recovery %, surrogate recovery, and an explanation of any rejected results;
 - (ix) Results of all blanks and duplicates (trip, field, equipment, and method);
 - (x) Results of the field parameters;
 - (xi) The statistical evaluation of the data (must include all computations, results of statistical tests, and date the statistical evaluation was completed);
 - (xii) Any change in well status (i.e., going from unaffected to affected status and vice versa);
 - (xiii) Ground water surface elevations taken at the time of sampling each well;
 - (xiv) Data and results of the annual determination of the ground water flow rate and direction;
 - (xv) The results of the last three years of all inspections required under OAC Rule 3745-54-15(D) related to ground water monitoring and equipment as required under OAC Rule 3745-54-73(B)(5).
 - (xvi) Evaluation of the efficiency of any corrective actions performed to bring the ground water quality into compliance with the GWCS per Permit Condition G.2.

(b) Annual, Semi-Annual & Other Periodic Required Reporting

(i) Required Annual Reporting

The Permittee must submit an annual report to the Director by March 1st of the following year as specified in Section 4.2.4.3 of the Permit Application. The annual reports must reference the titles and dates of any other periodic reports required by the permit or any updates to

those reports, but generally do not need to include duplicates of hard copies previously submitted.

The annual reports must include, at a minimum, the analytical results required by Permit Conditions G.6 and G.9, the ground water elevation data required by Permit Condition G.5 and G.8(a)(xii)&(xiii), and the results of any statistical analyses required by Permit Condition G.7 and G.9. In addition, a copy on disk of all ground water and blank data must be submitted electronically in the format supplied by the Director, a hard copy of well-specific information (location (latitude and longitude), depth, construction, etc.) for any new/replacement wells, and any other information specified in the instructions for the annual report not addressed in this Permit Condition must be submitted in accordance with OAC Rules 3745-54-75.

(ii) Required Semi-Annual Reporting

The Permittee must report, in writing, semi-annually to the Director on the effectiveness of the corrective action program as specified in Section 4.2.4.3 of the Permit Application. These reports must be submitted on March 1 and September 1 of each year until the corrective action program has been completed. Each report must reference the titles and dates of any other periodic reports required by the permit or any updates to those reports, but generally does not need to include duplicates of hard copies previously submitted. The semi-annual reports must include, at a minimum, the analytical results required by Permit Conditions G.5, G.6, and G.9, and the results of the statistical analyses required by Permit Condition G.7.

(iii) Other Reports

The Permittee must comply with any other reporting requirements that become necessary under Permit Condition G.9 in accordance with the schedules covered by that permit condition and as required by OAC Rule 3745-54-77(C).

G.9 Integrated Ground Water Monitoring Program
OAC Rules 3745-54-101

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- (a) The Permittee is required to establish and implement a ground water corrective action program under OAC Rule 3745-54-101 and must take corrective action, as necessary, to ensure that units are in compliance with the GWCS as specified in Permit Condition G.2.
- (b) The Permittee must implement, as necessary, a corrective action program that prevents hazardous constituents specified in Permit Condition G.2(a) from exceeding their respective GWCS specified in Permit Condition G.2(a) at the compliance point specified in Permit Condition G.2(b), between the compliance point and the downgradient property boundary, and beyond the property boundary during the permit period specified in Permit Condition G.2(c) by removing the hazardous constituents or by treating them in place.
- (c) The Permittee shall continue to implement monitored natural attenuation in the ground water as the remediation strategy with a contingency plan should natural attenuation fail per the April 2001 Revised RCRA Closure Plan & RCRA Corrective Measures Implementation Plan (CP/CMI) which was approved by Ohio EPA on June 12, 2001, and incorporated into the permit.
- (d) Contingency Plan Components
- (i) First Level of Response:
- (a) POC Wells: If a hazardous constituent listed in Permit Condition G.2(a) is detected above its GWCS listed in Permit Condition G.2(b) at a Point of Compliance well listed in Permit Condition G.2(c) and is confirmed, the Contingency Plan shall be implemented immediately. Ohio EPA will be notified within fourteen days of receipt of the confirmation. A confirmatory sampling event will be initiated immediately upon exceeding the GWCS concentration. The resampling event shall be completed within thirty (30) days or as soon as technically feasible. The concentration will be compared to the GWCS and if it again exceeds, the next level of the Contingency Plan will be initiated. If during re-sampling concentrations in excess of the respective GWCS are not confirmed, routine monitoring will be continued.
- (b) POE Wells: If any hazardous constituent listed in Permit Condition G.2(a) is detected in a Point of Exposure well listed

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in Permit Condition G.2(c) and confirmed, the Contingency Plan shall be implemented immediately for responsive corrective action. Ohio EPA shall be notified within fourteen days of receipt of the confirmation. Plumes of contamination may not be allowed to expand in size or concentration during post-closure. A confirmatory sampling event will be initiated immediately upon detection. The resampling event shall be completed within thirty (30) days or as soon as technically feasible. If concentrations are again detected, the next level of the Contingency Plan will be initiated. If during re-sampling concentrations are not confirmed, routine monitoring will be continued.

- (c) If a GWCS is exceeded at SW-3, the Permittee shall install a ground water monitoring well downgradient of this location at the property boundary to evaluate whether contamination is leaving the site in this area. The initial sampling event shall be for the constituents listed in the Appendix to OAC Rule 3745-54-98 excluding herbicides and pesticides.

(ii) Second Level of Response:

- (a) **Statistical Trend Analysis:** A statistical trend analysis shall be performed on the entire dataset for each individual well that exceeded the GWCS using either Sens' Estimate of Slope, Spearman's Test, Mann-Kendall Test or another test deemed appropriate by the Director. The statistical trend test shall be performed at a 0.01 level of significance for each well. If a statistically significant increasing trend is identified, then the next level of the Contingency Plan will be initiated. If an increasing trend is not identified, the Permittee will resume the monitoring program in place prior to activation of the trigger.
- (b) **Increased Monitoring Frequency:** If an increasing trend is determined, then the monitoring frequency shall be increased to quarterly if at the time the frequency is less. Quarterly monitoring shall occur for a one-year period, during which time a report will be prepared to specify the contingency corrective actions proposed as a result of the trigger and increasing trend. Should it be deemed necessary to implement active

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corrective actions, the Permittee will implement these measures within 60 days of approval from Ohio EPA.

- (iii) Third Level of Response:
 - (a) Oxygen Release Compound (ORC) and/or Hydrogen Release Compound (HRC): If an increasing trend is determined, the Permittee shall submit a proposal to Ohio EPA to enhance or supplement the natural attenuation process by utilizing ORC and/or HRC in downgradient monitoring wells and/or injecting it along the northern property boundary.
 - (b) Extraction and Treatment: In the event that ORC and/or HRC do not demonstrate stable or decreasing concentrations of the constituents listed in Permit Condition G.2(b)(iv), and/or increasing end products, a proposal for a ground water extraction and treatment system will be submitted to Ohio EPA, and/or
 - (c) The Permittee shall propose other active means of prohibiting the plume from increasing in size or concentration over the GWCS for approval by Ohio EPA.
- (e) Reserved.
- (f) The Permittee must establish and implement a ground water monitoring program to demonstrate the effectiveness of the corrective action program. Ground water monitoring must be effective in determining compliance with the GWCS in Permit Condition G.2 and in determining the success of any corrective action program in this condition. The ground water monitoring program must include:
 - (i) Installation and maintenance of a ground water monitoring system at the compliance point as defined in Permit Condition G.2(b), and, as necessary to protect human health and the environment, between the compliance point and the downgradient property boundary and beyond the property boundary. The ground water monitoring system must comply with the requirements in Permit Condition G.3.
 - (ii) Collection, preservation, and analysis of samples pursuant to Permit Conditions G.4, G.5, and G.6. Statistical analysis must be conducted pursuant to Permit Condition G.7

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- (iii) The Permittee must conduct a semi-annual sampling program for each chemical parameter and hazardous constituent specified in Permit Condition G.2(a) from each well (background, POC and POE) specified in Permit Condition G.3(b) during the permit period and any extensions due to corrective action implementation.

Any additional sampling shall be taken at an interval (frequency) that assures, to the greatest extent feasible, that an independent sample is obtained, by reference to the uppermost aquifer's effective porosity, hydraulic conductivity, hydraulic gradient, and the fate and transport characteristics of the potential contaminants.

- (iv) The Permittee shall compare the concentration of each hazardous constituent measured at each well specified in Permit Condition G.3(b) with its GWCS each time ground water quality is determined in accordance with the procedures specified in Permit Condition G.7.

Wells beyond the property boundary may be installed and sampled where necessary to protect human health and the environment, unless the Permittee demonstrates to the Agency that, despite the Permittee's best efforts, the Permittee was unable to obtain the necessary permission to undertake such action. 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 determined on a case-by-case basis.

- (v) The Permittee must maintain a record of ground water analytical data as measured and in a form necessary for the determination of statistical increase under Permit Conditions G.7 and G.8 for the permit period.
- (vi) The Permittee must determine the ground water flow rate and direction in the uppermost aquifer at least annually using the procedures specified in Section E of the Permit Application.
- (vii) The Permittee has collected ground water samples from monitoring wells MW C, MW B, and MW I and submitted them for analysis of all constituents contained in Appendix to OAC Rule 3745-54-98,

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excluding pesticides and herbicides, to determine whether additional hazardous constituents are present in the uppermost aquifer.

- (a) If the Permittee finds additional constituents present (i.e., not listed in Permit Condition G.2(a)), the Permittee must, if desired, re-sample the affected well(s) within one month for the detected constituent(s) in the Appendix to OAC Rule 3745-54-98. If the results of the second analysis confirm the presence of new hazardous constituents, then their concentrations must be reported to the Director in writing within seven (7) days from completion of the second analysis. If the Permittee chooses not to re-sample, then he or she must report the concentrations of the additional constituents to the Agency within seven days after completion of the initial analysis. Additional corrective action measures may be required and the Permittee must comply with Permit Condition G.9(a).
 - (b) Within 90 days the Permittee must submit to Ohio EPA an application for a permit modification to incorporate the additional constituent(s) identified in Permit Condition G.9(f)(vii) into Permit Condition G.2(a). The application must include an identification of the concentration of each new Appendix to OAC Rule 3745-54-98 constituent detected at the compliance point and/or at any well downgradient between the compliance point and the downgradient property boundary and a proposed GWCS for each new constituent under Permit Condition G.2(a).
 - (c) The Permittee must begin sampling and analyzing for the new constituents at the next regularly scheduled sampling event.
- (g) Response Action
- (i) Based on the results of the Permittee's ground water monitoring program, the GWCS detailed in Permit Condition G.2(a) have not been exceeded. Therefore, the Permittee shall continue under routine IGWMP monitoring.
 - (ii) Reserved.

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- (iii) Reserved.
- (h) The Permittee must report in writing to the Director on the effectiveness of the corrective action monitoring program semi-annually according to Permit Condition G.8.
- (i) If the Permittee determines the corrective action program established by this permit no longer satisfies the requirements of OAC Rule 3745-54-101, the Permittee must, within ninety (90) days of that determination, submit an application for a permit modification per OAC Rule 3745-50-51 to make any appropriate changes to the program.

END OF PERMIT CONDITIONS

December 12, 2006 (12:44pm)
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