

OHIO ENVIRONMENTAL PROTECTION AGENCY
OHIO HAZARDOUS WASTE FACILITY
INSTALLATION AND OPERATION PERMIT RENEWAL

OHIO E.P.A.

SEP 20 2011

ENTERED DIRECTOR'S JOURNAL

Permittee: Materion Brush Inc.

Mailing Address: Materion Brush Inc.
14710 West Portage River South Road
Elmore, Ohio 43416

Owner: Materion Brush Inc.
6070 Parkland Boulevard
Mayfield Heights, Ohio 44143

Operator: Materion Brush Inc.
6070 Parkland Boulevard
Mayfield Heights, Ohio 44143

Location: 14710 West Portage River South Road
Near State Routes 105 & 590
Elmore, Ohio 43416

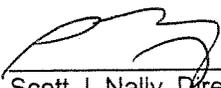
US EPA ID:	OHD 004 212 999
Issue Date:	September 20, 2011
Effective Date:	September 20, 2011
Expiration Date:	September 20, 2021

AUTHORIZED ACTIVITIES

In reference to the application of Materion Brush Inc. 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:

- Container storage of hazardous waste
- Post-closure of surface impoundments
- Corrective Action

PERMIT APPROVAL



Scott J. Nally, Director
Ohio Environmental Protection Agency

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

Entered into the Journal of the Director this 20 day of September, 2011.

By Don Cassler of the Ohio Environmental Protection Agency.

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.

By Don Cassler Date: 9-20-11

SEP 20 2011

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 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. In the instance of inconsistent language or discrepancies between the above, the language of the more stringent provision shall govern.

Ground water monitoring for the Triangular Lagoon, Lagoon No. 3, and Lagoon No. 6 is integrated with the following waste management units: Lagoon No. 2, Lagoon No. 4, Lagoon No. 5 and with a PCE release area (PCE AOC) at the facility. The renewal of the hazardous waste installation and operation permit for the Triangular Lagoon, Lagoon No.3 and Lagoon No.6 is for the purpose of accomplishing post-closure and corrective action activities. These units are currently inactive and subject to post-closure and corrective action requirements. These units shall not be reactivated for management of hazardous waste. The permit application, as submitted to Ohio EPA on December 13, 2010, and last updated on April 1, 2011, is hereby incorporated into this permit.

- (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
 - (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:
 - (i) 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
 - (ii) 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.

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 (including video) 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)

- (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, EPA Publication SW-846, Third Edition (November 1986), 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 and Information Repository
OAC Rules 3745-50-40(G), 3745-50-58(J), 3745-50-58(M) and 3745-50-58(N)

- (a) The Permittee must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this permit, the certification required by OAC Rule 3745-54-73(B)(9), and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report, certification, or application.
- (b) The record retention period may be extended by request of the Director at any time and is automatically extended during the course of any unresolved enforcement action regarding the facility.
- (c) The Permittee must maintain, in accordance with the Ohio hazardous waste rules, records of all data used to complete the permit application and any amendments, supplements or modifications of such application. The Permittee must retain a complete copy of the current application for the effective life of the permit as indicated in Permit Condition A.3.
- (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) The director may require the Permittee to establish and maintain an information repository at any time, based on the factors set forth in OAC rule 3745-50-39(C)(2). The information repository will be governed by the provisions in OAC rules 3745-50-39(C)(3) through (C)(6).
- (f) 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 3745-53-11, 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 Environmental Response and Revitalization 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.
- (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 Environmental Response and Revitalization and the Division of Materials and Waste Management Northwest 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, Disposal, and Treatment Fees
OAC Rules 3745-50-33 through 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 Rules 3745-50-50 and 3745-50-51

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

Ohio EPA, Director
c/o Division of Materials and Waste Management
Engineering Remediation and Authorizations Section
P.O. Box 1049
Columbus, Ohio 43216-1049

Northwest District Office
Division of Materials and Waste Management
347 North Dunbridge Road
Bowling Green, Ohio 43402

(b) Reserved

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 3745-55-43, the following documents (including amendments, revisions and modifications):
- (i) waste analysis plan, developed and maintained in accordance with OAC Rule 3745-54-13 and the terms and conditions of this permit;
 - (ii) contingency plan, developed and maintained in accordance with OAC Rule 3745-54-53 and the terms and conditions of this permit;
 - (iii) closure plan, developed and maintained in accordance with OAC Rule 3745-55-12 and the terms and conditions of this permit;
 - (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 this permit.
- (b) The Permittee shall submit to the Director all amendments, revisions and modifications to any plan required by the terms and conditions of this permit or the Ohio hazardous waste rules. No such change shall be made unless the Permittee has received approval in accordance with the Ohio hazardous waste rules.
- (c) The Permittee shall maintain copies of all inspection logs at the facility for a period not less than three (3) years from the date of inspection.
- (d) The Permittee shall maintain all corrective action reports and records as required by Modules E and F of this permit. These reports and records must be maintained for at least three (3) years after all Corrective Action Activities have been completed.

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

- (a) The Permittee must submit a Waste Minimization Report describing the waste minimization program required by OAC Rules 3745-54-75(H), (I), and (J); 3745-54-73(B)(9); and 3745-52-20(A) at least once every five years. The provisions of OAC Rules 3745-54-75(H), (I) and (J); and 3745-54-73(B)(9) must be satisfied annually.
- (b) The Permittee must submit the Waste Minimization Report to Ohio EPA's Office of Compliance Assistance and Pollution Prevention within one hundred eighty (180) days of the effective date of this permit, and must submit updates to this report once every five years thereafter.

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 store more than 10,000 pounds of Hazardous Waste No. P015 - Beryllium Powder in any one calendar year from on-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. The Permittee must only store this Hazardous Waste No. P015 - Beryllium Powder in Container Storage Building No. 49.

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

- (a) The Permittee must not receive hazardous waste from off-site sources.
- (b) The Permittee must not receive hazardous waste from foreign sources.

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

- (a) Before an owner or operator treats, stores, or disposes of any hazardous wastes, or nonhazardous wastes if applicable under OAC Rule 3745-55-13(D), he must obtain a detailed chemical and physical analysis of a representative sample of the wastes. At a minimum, this analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with the requirements of Chapters 3745-54 to 3745-57, 3745-205, 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 inspect the facility in accordance with OAC Rule 3745-54-15 and 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 Reserved

B.8 Reserved

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

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

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

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

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

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

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

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

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

- (a) The Permittee must comply with the requirements of OAC Rule 3745-54-37 (A) by making a diligent effort to:
- (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 spill or release of hazardous waste or hazardous waste constituents that may result in a fire or explosion hazard; or
- (b) any spill on-site that may potentially cause on or off-site soil and/or ground or surface water contamination; or
- (c) any spill or release of hazardous waste or hazardous waste constituents that exceeds the "RQ" limits; or
- (d) any fire involving hazardous waste; or
- (e) any explosion involving hazardous waste; or

- (f) 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
- (g) any fire or explosion that has increased potential to threaten human health or the environment due to its proximity to a hazardous waste management unit; or
- (h) 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; or
- (j) 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.

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.
- (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 Environmental Response and Revitalization.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- (a) The Permittee must decontaminate or dispose of all contaminated facility equipment, structures, and soils, as required by OAC Rule 3745-55-14, the closure plan and the terms and conditions of this permit.
- (b) The Permittee must notify the Ohio EPA Northwest District Office within seven (7) 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 submittal 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 began post-closure care for Triangular Lagoon, Lagoon No.3 and Lagoon No.6 on July 30, 1994. Post-Closure care must continue for 30 years after July 30, 1994. 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) 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 Rules 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 cost estimate and post-closure cost estimate for inflation within 30 days after the close of the Permittee's fiscal year and before submission of updated information to the Director, as specified in OAC Rule 3745-55-42(B) and OAC Rule 3745-55-44(B).
- (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
OAC Rules 3745-55-43, 3745-55-45 and 3745-55-46

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

The Permittee also must demonstrate compliance with OAC Rule 3745-55-47(B) by maintaining liability coverage for non-sudden accidental occurrences in the

amount of at least \$3 million per occurrence, with an annual aggregate of at least \$6 million, exclusive of legal defense costs.

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

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

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

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

MODULE C - CONTAINER STORAGE

C. CONTAINER STORAGE AND MANAGEMENT

- Description and Dimensions of the Container Storage Area

Container Storage Building No. 49 is an enclosed structure with a floor area of approximately fifty (50) feet by twenty-five (25) feet. It is equipped with two twenty (20) feet wide overhead doors. There is a sloped four (4) inch high ramp on the front and a four (4) inch dike on the other three sides which provide protection against run-on and secondary containment for the waste stored in this area. The floor design provides three liquid spill barriers: 1.) a plastic membrane under the concrete slab; 2.) a reinforced concrete slab floor; and 3.) a wear-and-chemical-resistant surface. The container storage building is designed for a maximum of 192 drums. Exhibit D-1 of the Part B Permit Application shows the construction details of the container storage building, including the secondary containment.

Exhibits B-1 and B-4 in Volume 3 of the permit application indicate the location of the container storage building.

- Maximum Amounts and Types of Wastes That May be Handled

Container Storage Building No. 49 is used for the storage of a maximum of 10,000 pounds per year of waste beryllium powder (P015) generated on-site, which contains no free liquids, prior to being recycled on-site. The Permittee can store up to 192 drums of hazardous waste in this building at any one time.

- Description of Containers Used

Waste beryllium powder (P015) generated on-site will be stored in standard 55-gallon, DOT multi-trip, steel drums. These will be clearly marked to identify the contents.

- Description of Secondary Containment Systems

Container Storage Building No. 49 has a secondary containment system equipped with a chemical and wear resistant coating. A sloped four (4) inch high ramp on the front and a four (4) inch dike on the other three sides provide protection against run-on and secondary containment for the waste stored in this area. The floor slopes to a containment sump for liquid collection. The building is enclosed so that rainwater will not enter. An excess containment volume of 122 gallons is available.

C.1 Container Storage / Quantity Limitation

- (a) The Permittee is authorized to store up to 192, 55-gallon drums (10,560 gallons) of containerized hazardous waste beryllium powder at any given time in the permitted Container Storage Building No. 49.

The Permittee must store hazardous waste beryllium powder in standard 55-gallon, DOT multi-trip, steel drums described in Section D of the permit application. Additional hazardous waste being accumulated for less than 90 days within Building 49 may be placed into any container meeting the general requirements of OAC Rule 3745-66-70 through 77.

- (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 Condition C.2 shall not apply to the Permittee's activities as a generator accumulating hazardous waste on-site for less than ninety (90) days in compliance with OAC Rule 3745-52-34 and 40 CFR Part 265, subparts AA, BB, and CC.

However, when accumulating waste within the permitted container storage area, in accordance with OAC Rule 3745-52-34 and 40 CFR Part 265, subparts AA, BB, and CC, 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.

- (d) The Permittee shall not store hazardous waste for a period which exceeds one year, except that upon good cause shown to Ohio EPA, the Agency may extend such time period in writing.
- (e) Storage of hazardous waste prohibited from land disposal shall be done in accordance with the requirements of OAC Chapter 3745-270.

C.2 Waste Identification

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

Hazardous Waste Codes Permitted for Container Storage Building No. 49:

P015 – Beryllium Powder

C.3 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.4 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.5 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.
- (b) All container storage shall be conducted within the container storage area described in Condition C.1. of this permit and Section D of the permit application.

C.6 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 in Container Storage Building No. 49 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. 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. The Permittee shall insure that the coating utilized in lining the secondary containment system is compatible with each waste stored in containers.

- (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.6(b) above.
- (e) Spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area in a timely manner. This time period is not to exceed twenty-four (24) hours from the time spilled and/or leaked waste is discovered to have reached the container storage building sump.

C.7 Prohibition of Container Storage
ORC Section 3734.02(F)

The Permittee must not store any container of hazardous waste received from any off-site source.

C.8 Inspection Schedules and Procedures
OAC Rules 3745-54-15 and 3745-54-73

The Permittee must inspect the container storage area 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.9 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.10 Closure and Post-Closure

OAC Rules 3745-55-10 through 3745-55-20, and 3745-55-78

- (a) At closure of the container storage area, the Permittee must 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 approved Part B permit application.
- (b) If the Permittee demonstrates that not all contaminated soils can be practically removed or decontaminated in accordance with the Closure Plan, Section I of the approved Part B permit application, the Permittee shall submit in accordance with OAC Rule 3745-50-51 an amended closure plan including post-closure care. The Permittee shall perform post-closure care following the amended plan approved by the Director of Ohio EPA.

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MODULE D - RESERVED

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MODULE E - CORRECTIVE ACTION REQUIREMENTS

E. CORRECTIVE ACTION SUMMARY

The Permittee began corrective action under the authority of U.S. EPA. A Visual Site Inspection (VSI) was conducted in August, 1987 and identified 37 Waste Management Units (WMUs). Of the original 37 WMUs, U.S. EPA determined that 24 WMUs should be included for further action during the RCRA Facility Investigation (RFI).

After further consideration, U.S. EPA ultimately determined that only 19 WMUs and one Area of Concern (AOC) must be included in the RCRA Facility Investigation (RFI). However, three additional WMUs were later added to the RFI, for a total of 22. These 22 WMUs and the AOC are listed in Permit Condition E.3(a) and can be found in Exhibit B-4, Volume 3 of the permit application.

Conditional approval of the RFI Workplan was provided by U.S. EPA on September 29, 1994. The Permittee submitted the final RFI Workplan on November 3, 1994. The facility investigation was conducted in two phases. Phase I was implemented between November 1994 and September 1995. The primary focus of Phase I was release verification at individual WMUs and the collection of data characterizing the environmental setting. Approximately 240 soil, sediment, sludge, groundwater, and surface water samples were collected. As a result, the facility's Interim RFI Report was submitted to U.S. EPA in September 1995. Based on the Phase I results, the Permittee elected to implement Interim Stabilization Measures (ISM) for the PCE AOC (release area) to minimize the further spread of contamination in soil and ground water and to reduce the potential threat to human health and the environment. More information concerning these actions can be found in the Final RFI Report dated August 8, 2000.

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The Phase II Scope of Work (SOW) was submitted to U.S. EPA in September 1995. The primary focus of Phase II was to determine the extent of contamination and to collect data necessary to support a baseline risk assessment. The Phase II field activities began in June 1996 and ended in December 1996. Over 200 soil, sediment, sludge, groundwater, and surface water samples were collected and analyzed. Aquifer testing, sludge depth determination, ground water modeling, ecological reconnaissance inventory, and a baseline risk assessment were part of Phase II. The Permittee submitted the Final RFI Report on August 27, 1997. U.S. EPA approved the Phase II Continuation Scope of Work on October 15, 1999. The results of the Ground Water Quality Assessment Report submitted on February 16, 2000, and subsequent amendments were included in a Revised RFI Report which was submitted by the Permittee on August 25, 2000.

Upon issuance of an Ohio Hazardous Waste Facility Installation and Operation Permit Renewal (renewal permit) on June 14, 2001, Ohio EPA assumed corrective action oversight at the facility. Therefore, the Permittee must follow the work schedule in this permit and submit all required reports to Ohio EPA.

The RFI Final Report was approved by US EPA on January 19, 2001 and was approved by Ohio EPA on February 2, 2005. This report concluded that 3 waste management units must be addressed in the Corrective Measures Study (CMS) phase of the project. A fourth waste management unit, WMU No. 28, the Oil Separator Pond, was also investigated and it was subsequently determined it that it should not be included in the CMS phase. Another WMU was added in 2009 at Ohio EPA's request.

The CMS workplan was approved by Ohio EPA on May 23, 2006. The CMS workplan and implementation schedule required submittal of a Vapor Intrusion Investigation Workplan, Unit 4 Supplemental Investigation Workplan and Project Management Plan. These plans were submitted on November 13, 2006, November 20, 2006 and May 11, 2006 respectively.

On May 26, 2009, the CMS workplan was revised to incorporate an evaluation of Lagoon 5 (WMU No. 9). This revision was necessary as a condition of the SWMU No. 9 interim measures approval letter of March 4, 2009. This CMS revision was approved by Ohio EPA on September 15, 2009.

Ohio EPA approved the Unit 4 Supplemental Investigation workplan on September 13, 2007. The Supplemental Investigation Report was approved by Ohio EPA on October 29, 2010. The facility submitted the corrective measures study report for unit 4 to Ohio EPA on February 25, 2011. A second revision to the Unit 4 CMS was received November 2, 2011.

The Vapor Intrusion Investigation workplan for non-residential buildings located above a ground water plume containing volatile organic compounds (VOCs) was submitted to Ohio EPA on October 18, 2006 and was approved by Ohio EPA on August 23, 2007. Phase I and Phase II investigations were completed between August 2007 and September 2008. The facility submitted results of sub-slab soil gas sampling on August 30, 2010. Ohio EPA approved the sub-slab soil gas sampling results in a letter dated October 26, 2010.

In addition to the waste management units investigated during the RFI, Materion Brush has identified waste management units (WMU) not previously identified. These WMUs are listed in Permit Condition E.3(b). In accordance with Permit Condition E.10, information pertaining to these new WMUs has been submitted. Ohio EPA has also identified a WMU listed in Permit Condition E.3(c). Ohio EPA will review the information provided by Materion Brush for the WMUs in Permit Condition E.3, paragraphs (b) and (c). Based on the results of this review, a RCRA Facility Investigation (RFI) may be required for these new WMUs. In accordance with Permit Condition E.5 of this permit, Ohio EPA will notify Materion Brush, in writing, of the need to submit an RFI workplan or additional information for the WMUs identified in Permit Conditions E.3(b) and E.3(c).

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), constructions and demolition debris (as defined in ORC Chapter 3714) industrial waste, or other waste (as those terms are defined in ORC Chapter 6111), has been placed at any time, irrespective of whether the unit was intended for the management of waste or hazardous waste. Such units include any area at a facility at which wastes have been routinely and systematically released. For the purpose of Corrective Action, facility is defined as all contiguous property under the control of the owner or operator seeking a permit under Subtitle

C of RCRA. The terms Interim Measure (IM), RCRA Facility Investigation (RFI), Corrective Measures Study (CMS) and Corrective Measure Implementation (CMI) are defined in U.S. EPA's Corrective Action Plan (CAP) (OSWER Directive 9902.3-2A, May 1994).

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

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 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

(a) U.S. EPA and the Permittee has identified the following WMUs (SWMUs) which have undergone investigation during the RFI:

1. North Tailings Lagoon No.1
2. North Tailings Lagoon No. 3
3. North Tailings Lagoon No. 5 / Landfill
4. Central Magnesium Fluoride Lagoon
5. South Landfill
6. Inactive Settling Lagoon No. 2 (Closed)
7. Copper Lagoon No. 3 (RCRA Closed)
8. Inactive Settling Lagoon No. 4 (Closed)
9. Active Settling Lagoon No. 5
10. Waste Lagoon No. 6 (RCRA Closed)
11. Lagoon No. 5 Storage Tank
12. Triangular Lagoon (RCRA Closed)
13. South Hyde Run Ditch
14. Oil Separator Pond
15. Alloy Make-up Pond

16. North Hyde Run Ditch
17. Alloy Cooling Pond Sludge Fill Area
18. Fluoride Furnace Rebuild Storage Pad
19. Cast Shop Skimmer Pond
20. Beryllium-Compound Contaminated Waste Drum Storage Area
21. Metallic Beryllium Contaminated Waste Drum Storage Area
22. Old Decontamination Building Solids Settling Tank
23. PCE AOC

Section 5 of the Final RFI Report lists all the WMUs presently evaluated. Exhibit B-4 is a topographical drawing which locates the WMUs. This figure can be found in Volume 3 of the Permit Application.

(b) The Permittee has also identified the following WMUs, which may undergo investigation:

1. Hazardous Waste Container Storage Building
2. Former Pad C
3. New Decontamination Building and Sump
4. Redruming in Oxide Area
5. Redruming in Whiting Area
6. Alloy By-Product Storage Pad
7. Waste Oil Drum Storage Area
8. Basins 7A, 7B, 7C
9. Basins 8A, 8B, 8C
10. Industrial Sewers
11. IWTP Sludge Staging Area
12. Trash Hopper
13. Used Graphite Storage Area
14. Used Fluorescent Bulb Satellite Accumulation Area
15. Landfill Office Septic Tank and Leach Field
16. Perchloroethylene Still Bottoms Satellite Accumulation Area at Scrap Reclamation
17. Perchloroethylene-contaminated Groundwater Satellite Accumulation Area at Perchloroethylene Spill Area
18. MEK/Collodion Waste Satellite Accumulation Area South of Sintering Airlock
19. Laboratory Solvents Satellite Accumulation Area at Analytical Laboratory
20. By-Product Storage Area West of Whiting and Alloy Offices
21. By-Product Storage Area Between Casting & ICC
22. By-Product Storage Area East of Whiting & West of W. Administration

23. By-Product Storage Area Between Resource Recovery & Outside Services
24. By-Product Storage Area Southwest of Sintering
25. By-Product Storage Area West of W. Butler Building
26. Electrical Substation No. 2

(c) Ohio EPA has identified the following WMUs, which may undergo investigation:

1. The Source Area for the Lead Waste Pile;

(d) The following WMUs are included in the IGWMP:

1. Inactive Settling Lagoon No. 2 (WMU #6) (Closed)
2. Copper Lagoon No. 3 (WMU #7) (RCRA Closed)
3. Inactive Settling Lagoon No. 4 (WMU #8) (Closed)
4. Active Settling Lagoon No. 5 (WMU #9)
5. Waste Lagoon No. 6 (WMU #10) (RCRA Closed)
6. Triangular Lagoon (WMU #17) (RCRA Closed)
7. PCE AOC (PCE Release Area)

E.4 Progress Reporting

Beginning the month after permit journalization, the Permittee shall submit a quarterly progress report for all corrective action activities. The report shall be due every three months by the 15th day of the month following the reporting period.

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

The purpose of conducting an RFI is to evaluate the nature and extent of releases of hazardous wastes and hazardous constituents from all applicable WMUs. Materion has conducted an RFI to address releases from WMUs identified in Permit Condition E.3 (a) above. Ohio EPA will notify Materion, in writing, of the need to submit an RFI workplan or additional information for the WMUs identified in Permit Conditions E.3(b) and E.3(c). In accordance with Permit Conditions E.10 and E.11, Ohio EPA will determine if an RFI is required for any newly identified WMUs. The major tasks and required submittal dates for any potential forthcoming RFIs are shown below. The scope of work for each of the tasks is found in U.S. EPA's CAP.

(a) RFI Workplan

The Permittee must submit a written RFI Workplan for any newly discovered unit(s) to Ohio EPA on a time frame established by Ohio EPA.

- (i) Within sixty (60) days of receipt of any Ohio EPA comments on the RFI Workplan, the Permittee must submit either an amended or new RFI Workplan that incorporates Ohio EPA's comments.
- (ii) Ohio EPA will approve or modify and approve, in writing, the amended or new RFI Workplan. The RFI Workplan, as approved or as modified and approved, shall be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved RFI Workplan must be authorized by Ohio EPA.

(b) RFI Implementation

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

(c) RFI Final Report

Within sixty (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 sixty (60) 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)

The following specific IM(s) have been identified by Ohio EPA:

Settling Lagoon No. 5 was identified as Unit 9 during the RFI. Lagoon No. 5 is an active settling lagoon that receives process waste water and storm water. During the week of August 4, 2008, a confirmed air release of beryllium occurred from this unit and was later attributed to dust from mowing activities along the sides of the lagoon walls. The facility has implemented a series of interim measures to prevent recurrence of beryllium releases from the lagoon. These actions include suspension of all mowing activities inside the lagoon dike walls; installation of a non-

woven geotextile and an approximately 12-inch soil layer to cover sediments along the western wall of the lagoon; and maintenance of water levels within the lagoon above the level of the sediments. These interim measures are to be maintained at Lagoon No. 5, at a minimum, until completion of the evaluation of the interim measures is complete (to be conducted subsequent to the CMS for Units 26 and 38).

Per the March 4, 2009 Interim Measures approval letter, Materion Brush is required to perform monthly inspections of the above-referenced interim measures to ensure that the geotextile/soil layer and water level within the lagoon are adequate to prevent sludge from becoming exposed along the dike wall.

In the event 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 additional IM(s) (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 or other relevant information, the Permittee may submit an application to Ohio EPA for a permit modification under OAC Rule 3745-50-51 to terminate Corrective Action tasks which are enumerated throughout Section E of the permit. Other Corrective Action tasks identified in Section E shall remain in effect. This permit modification application must conclusively demonstrate that there are no releases of hazardous waste or constituents from WMUs at the Facility that pose an unacceptable risk to human health and the environment.

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

(b) Periodic Monitoring

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

(c) Further Investigations

A determination of no further action shall not preclude Ohio EPA from requiring further investigations, studies, or remediation at a later date, if new information or subsequent analysis indicates that a release or potential release from a WMU at the Facility may pose an unacceptable risk to human health or the environment. In such a case, Ohio EPA shall initiate a modification to the terms of the permit to rescind the determination made in accordance with Permit Condition E.7(a). Additionally, in the event Ohio EPA determines that there is insufficient information on which to base a determination, the Permittee, upon notification, is required to develop a Work 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 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 ninety (90) days from the notification by Ohio EPA of the requirement to conduct a CMS.

- (i) Within sixty (60) 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 sixty (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.

- (i) Within sixty (60) days of receipt of any Ohio EPA comments, the Permittee must submit either an amended or new CMS Final Report that incorporates Ohio EPA's comments.
- (ii) Ohio EPA will approve or modify and approve, in writing, the amended or new CMS Final Report. The CMS Final Report, as approved or as modified and approved, must be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved CMS Final Report must be authorized by Ohio EPA.

E.9 Corrective Measures Implementation (CMI)

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

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

(a) Permit Modification

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

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

(b) Corrective Measures

Ohio EPA has determined that the combination of removal, engineering, institutional controls/environmental covenants and ground water monitoring will be effective and reliable corrective measures for Unit 4-Central Magnesium Fluoride Lagoon.

(i) The permittee shall implement corrective measures as described in Alternative ALT-U4D of the approved Corrective Measures Study, which are summarized below:

(a) Removal of soil and residual sludge to a minimum depth of two feet.

(b) Excavation of soil and residual sludge laterally until the lead and beryllium Preliminary Risk Goals (PRGs) of 945 mg/kg and 2,000 mg/kg, respectively, are confirmed by analytical testing

(c) Excavation, characterization, and disposal of soils in accordance with applicable federal and state laws and regulations.

(d) Filling and compacting of the excavated area to provide a suitable subgrade and elevation for the cover system.

(e) Design of the cover system in general accordance with Appendix G of Ohio EPA's Closure Plan Review Guidance. Specific cover design, grading, subgrade thickness and storm sewer configuration will be identified during the Corrective Measures Implementation (CMI) phase, but is expected to contain a 20 mil-thick HDPE barrier membrane overlain by a sand drainage layer, aggregate base, and asphalt. A storm sewer will drain the cover and surrounding area and be connected to an existing storm sewer.

(ii) Within ninety (90) days of issuance of this permit modification, the Permittee must submit a ground water monitoring program for Unit 4 for agency approval which contains at least the following provisions:

(a) Ground Water Sampling Procedures including:

- (i) sampling preparation and equipment maintenance
- (ii) well inspection
- (iii) ground water level measurements
- (iv) well purging
- (v) sample collection
- (vi) sample labeling
- (vii) field measurements and calibration
- (viii) field quality/quality control
- (ix) sample volume, preservation, containers, and holding times
- (x) sample handling, chain-of-custody control, and shipping procedures

(b) Monitoring well installation and abandonment activities including:

- (i) installation time-frame
- (ii) installation and abandonment techniques
- (iii) construction materials
- (iv) well installation
- (v) well development
- (vi) quality control for monitor well drilling and installation
- (vii) monitor well surveying

(c) Ground Water Monitoring Program including:

- (i) monitoring overview
- (ii) parameter list
- (iii) analytical methods and practical quantitation limits (PQLs)
- (iv) statistical analysis
- (v) provisions for characterizing and responding to statistical exceedances

- (iii) If the Permittee or Ohio EPA determines that the ground water monitoring program for Unit 4 established by Permit Condition E.9(b)(ii) requires a revision, then the Permittee must submit the revision(s) to Ohio EPA for approval within ninety (90) days of this determination.

(c) Environmental Covenant

The Permittee must obtain an Environmental Covenant in accordance with Ohio's Environmental Covenant law, Ohio Revised Code sections 5301.80 to 5301.92, that will declare the site is restricted to industrial use only and prohibit the use of on-site ground water for potable purposes.

(d) Financial Assurance

As part of the modification of this permit to incorporate CMI, the permittee shall 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 thirty (30) days of discovery, all available information pertaining to any release of hazardous waste(s) or hazardous constituent(s) from any new or existing WMU.

E.11 Corrective Action for Newly Identified WMUs and Releases
OAC Rule 3745-54-101

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.

**MODULE F - INTEGRATED GROUND WATER MONITORING PROGRAM
FOR THE TRIANGULAR LAGOON, EASTERN SETTLING LAGOON AOI
AND THE PCE AOC**

F. SUMMARY OF THE INTEGRATED GROUND WATER MONITORING PROGRAM

Permit Module F is the Integrated Ground Water Monitoring Program (IGWMP) for certain WMUs at the facility. The IGWMP combines the ground water monitoring requirements for three hazardous waste management units in post-closure with three RCRA waste management units and an area of concern. The WMUs included in the IGWMP are listed in Permit Condition E.3(d). Typically, the hazardous waste management units would be subject to post-closure ground water monitoring under OAC Rules 3745-54-90 through 3745-54-100 while the remaining units would be regulated under corrective action rules (OAC Rule 3745-54-101). However, for purposes of this IGMWP, all of the above units are combined because they are either contiguous or in close proximity of each other and may be contributing comingled contaminants to the same plume of contaminated ground water.

The technical details and performance standards for the IGWMP are listed primarily in Module F of this document and Section E of the approved application. The Permittee maintains that the plume of contaminated ground water associated with the above units has stabilized and is no longer "expanding". For the purposes of this IGWMP, the plume is considered to be "expanding" if the contaminant levels at certain wells on the Permittee's property exceed calculated risk levels. The goal of the IGWMP is to monitor these wells for plume expansion and provide a framework for action if risk levels are exceeded. Consequently, the IGWMP includes the following:

1. A description of the wells in the monitoring network, their locations and relevance to the monitoring plan.
2. Details of the sampling plan, including but not limited to, sampling frequency and test methods.
3. The basis and procedures for calculating risk levels and, consequently, whether the plume is expanding.
4. The steps to be taken if the above monitoring program reveals that the plume of contaminated ground water is expanding.

There are other waste management units at the site that are not included in the IGWMP. These units are being handled separately under the site-wide RCRA Corrective Action Program.

This module describes the ground water monitoring requirements for the following units (see figure in Attachment F-1 at the end of this module):

1. Inactive Settling Lagoon No. 2 (WMU #6) (Closed)
2. Copper Lagoon No. 3 (WMU #7) (RCRA Closed)
3. Inactive Settling Lagoon No. 4 (WMU #8) (Closed)
4. Active Settling Lagoon No. 5 (WMU #9)
5. Waste Lagoon No. 6 (WMU #10) (RCRA Closed)
6. Triangular Lagoon (WMU #17) (RCRA Closed)
7. PCE Release Area (AOC)

There are other waste management units at the site that are not included in this module. Those units are being handled separately under the site-wide RCRA Corrective Action Program outlined in Module E.

Of the units listed above, three WMU's are regulated hazardous waste management units that have been closed as landfills under applicable rules and would typically be subject to post-closure ground water monitoring under OAC Rules 3745-54-90 through 54-100. They are:

1. Copper Lagoon No. 3 (WMU #7) (RCRA Closed)
2. Waste Lagoon No. 6 (WMU #10) (RCRA Closed)
3. Triangular Lagoon (WMU #17) (RCRA Closed)

The four remaining units are subject to corrective action requirements in OAC Rule 3745-54-101 (but not post-closure ground water monitoring).

Five of the seven units listed above are contiguous and are jointly referred to as the Eastern Settling Lagoons Area of Investigation (AOI). They are:

1. Inactive Settling Lagoon No. 2 (WMU #6) (Closed)
2. Copper Lagoon No. 3 (WMU#7) (RCRA Closed)
3. Inactive Settling Lagoon No. 4 (WMU #8) (Closed)

4. Active Settling Lagoon No. 5 (WMU #9)
5. Waste Lagoon No. 6 (WMU #10) (RCRA Closed)

Tetrachloroethene, trichloroethene, cis-1,2-dichloroethene, and arsenic have been reported in downgradient water monitoring wells associated with the units included in this module at concentrations exceeding concentration limits identified in Table 4-1 of the Integrated Ground Water Monitoring Program.

The seven units listed above are either contiguous or in close proximity of each other and may be contributing the above mentioned contaminants to the same plume of contaminated ground water. Establishing standards for the three regulated hazardous waste management units under different rules from the remaining WMUs is duplicative and impractical. Therefore, through a permit modification request, this permit has been modified to describe an integrated ground water monitoring program for both sets of units. The detailed monitoring program is incorporated into this permit as Section E of the approved permit application and is, hereafter, referred to as the "Integrated Ground Water Monitoring Program" (IGWMP).

The IGWMP is based primarily on the elements in the December 11, 2001, "Ten Points of Agreement" letter from the Ohio EPA to the permittee (see Appendix F of the IGWMP). For the purposes of this monitoring program, the plume is considered to be "expanding" if the contaminant levels at the Point of Action (POA) wells (listed in Table F-1 of the permit terms and conditions) exceed calculated residential risk levels. Consequently, the IGWMP includes the following:

1. A description of the wells in the monitoring network, their locations and relevance to the monitoring plan.
2. Details of the sampling plan, such as, sampling frequency, test methods, etc.
3. The basis and procedures for calculating risk levels and, consequently, whether the plume is expanding.
4. The steps to be taken if the monitoring program reveals that the plume of contaminated ground water is expanding.

F.1 Well Location, Installation, and Construction

The Permittee shall maintain the ground water monitoring system in compliance with the requirements specified below:

- (a) The Permittee shall maintain a ground water monitoring network consisting of the wells listed in Table F-1 in this condition and shown on the figure in

Attachment F-1 of this Module. For the purposes of this Module the term "Network" is defined as those wells listed in Table F-1 and shown on the figure in Attachment F-1.

- (b) The Permittee shall conduct any additional monitoring well drilling, installation, and surveying activities in accordance with the procedures outlined in Appendix J of the IGWMP.
- (c) The Permittee shall maintain all wells in the monitoring well Network in accordance with Permit Condition G.5 and the plans and specifications presented in Section 5.2 of the IGWMP.
- (d) The Permittee may not remove or replace any monitoring well in the Network unless a permit modification request is submitted and approved in accordance with OAC Rule 3745-50-51. The modification request should include a revised summary table (Table F-1) and map (Attachment F-1 of this Module and Figure 1-2 of the IGWMP).
- (e) All wells in the Network that are removed or replaced shall be plugged and abandoned in accordance with the State of Ohio Technical Guidance for Sealing Unused Wells (State Coordinating Committee on Ground Water, 1996).
- (f) Whenever a Point of Action, Within the Plume, Plume Growth, or Background Well is replaced or any Point of Action, Within the Plume, Plume Growth, or Background Well is added to the monitoring well Network, the Permittee must:
 - (i) Within one year from the date of installation, sample the well for the applicable constituent groups of Appendix to OAC Rule 3745-54-98 (Appendix IX) at that well identified in Table F-1;
 - (ii) Within one year of the date of installation, collect from that well all ground water samples necessary to perform any statistical analysis of data to determine if the replacement well has met its intended objective;
 - (iii) For replacement wells, perform a statistical comparison of the water quality at the replacement well with that of the original well;
 - (iv) Submit a report to Ohio EPA detailing the results of activities described in Permit Condition F.1.(f)(i), (ii), and (iii). This report is due along with the sampling report for the event immediately following the end of the first year after the installation of the new well. The

schedule for sampling reports is in Permit Condition F.8(b). The Permittee shall enter the Appendix to OAC Rule 3745-54-98 ground water data generated pursuant to Permit Condition F.1(f)(i) into the Operating Record. The Operating Record is described in Permit Condition F.8(a);

- (v) If the comparison of ground water quality pursuant to Permit Condition F.1(f)(iii) shows a difference between that of the original well and the replacement well, then the report described in Permit Condition F.1(f)(iv) must also evaluate whether this difference has an effect on the ground water monitoring program, including the assessment of risk for the ground water medium;
- (vi) If, as the result of the evaluation conducted pursuant to Permit Condition F.1(f)(v), any changes to the ground water monitoring program are necessary, the Permittee shall submit a request for a permit modification in accordance with OAC Rule 3745-50-51 and Permit Condition F.9.

F.2 Constituent List

- (a) The Permittee shall semiannually (i.e., October or November) monitor POA wells for the site-specific constituents listed in Table F-1. The required practical quantitation limits (PQLs) for the constituents are identified in Table 5-1 of the IGWMP.
- (b) The Permittee shall annually (i.e., April or May) monitor POA, Plume Growth, Within the Plume, and Background wells for the constituents listed in Table F-1. The required PQLs for the constituents are identified in Tables 5-2, 5-3, 5-4, and 5-5 of the IGWMP.

F.3 Compliance Period

The compliance period for monitoring under the IGWMP is thirty (30) years beginning on July 30, 1994.

F.4 Sampling and Analysis Procedures

The Permittee shall use the following techniques and procedures when obtaining and analyzing samples from the ground water monitoring wells in the Network.

- (a) The Permittee shall collect samples using the techniques described in Section 5.0 of the IGWMP.

- (b) Samples shall be preserved and shipped in accordance with the procedures specified in Section 5.10 of the IGWMP.
- (c) Samples shall be analyzed according to the procedures specified in Section 6.0 of the IGWMP.
- (d) Samples shall be tracked and controlled using the Chain-of-Custody procedures specified in Sections 5.10 and 6.1 of the IGWMP.
- (e) Field and analytical data shall be validated in accordance with the procedures specified in Section 7.1 of the IGWMP.

F.5 Ground Water Surface Elevation

- (a) The Permittee shall determine the ground water surface elevation at each well identified in Table F-1 during sampling required under Permit Condition F.2. This requirement also applies to any specific well(s) being sampled or resampled.
- (b) Within 45 days of the date of installation of monitoring wells pursuant to Permit Condition F.1(b), the Permittee shall report in writing to Ohio EPA Northwest District Office, the surveyed measuring point elevation (top of casings), ground surface elevation, and area map location (x and y coordinates).

F.6 Statistical Procedures

The numbers and kinds of ground water samples collected to establish background must be appropriate for the form of any statistical test to be employed as part of the IGWMP, following generally accepted statistical principles. The minimum sample size for establishing background must be sufficient to yield results that are both statistically and hydrogeologically valid. Statistical background limits for fluoride and the metals in Appendix to OAC Rule 3745-54-98 are identified in Table 4-1 of the IGWMP.

F.7 Monitoring Program and Data Evaluation

Ground water monitoring under the integrated ground water monitoring program is intended to be as protective as the program for ground water monitoring under OAC Rule 3745-54-90 through OAC Rule 3745-54-99. The Permittee shall determine ground water quality as follows:

- (a) The Permittee shall collect, preserve, and analyze samples in accordance with Permit Condition F.4.

- (b) The Permittee shall determine the concentrations of the hazardous constituents specified in Permit Condition F.2, throughout the compliance period specified in Permit Condition F.3, and report the concentrations, including all estimated values above the method detection limit, to Ohio EPA per Permit Condition F.8.
- (c) The Permittee shall determine the ground water flow rate and direction in the uppermost aquifer at least annually, as outlined in Section 5.3 of the IGWMP, and report and ground water flow rate and direction to Ohio EPA per Permit Condition F.8(c).
- (d) The Permittee shall determine the ground water flow direction in the intermediate/deep aquifer during the annual (i.e., April or May) and semiannual (i.e., October or November) sampling events, and report the ground water flow direction to Ohio EPA per Permit Condition F.8.
- (e) The Permittee shall compare the results of the analysis of samples collected in compliance with Permit Condition F.2(b) to determine if constituents other than those identified as Hazardous Constituents, Possible Degradation Products or Other VOCs on Table F-1 ("Additional Hazardous Constituents") are present in the samples.
 - (i) If the Permittee determines that Additional Hazardous Constituents that are organic are present at any level or Additional Hazardous Constituents that are inorganic are present at levels exceeding the background limits specified in Table 4-1 of the IGWMP in the POA or Plume Growth Wells, the Permittee may resample the wells in questions for the Additional Hazardous Constituent(s) within 30 days of completing data validation.
 - (ii) If the resampling does not confirm the presence of the organic Additional Hazardous Constituent or the background exceedance of the inorganic Additional Hazardous Constituent, then those constituents will not be included as site-specific hazardous constituents identified in Table F-1 and, consequently, will not be included in the risk assessment calculations (outlined in Permit Condition F.7(f)).
 - (iii) If the analysis of the second sample confirms the presence of the organic Additional Hazardous Constituents or the background exceedance of the inorganic Additional Hazardous Constituent or if the Permittee chooses not to resample within 30 days of completing data validation, the Permittee must:

- (1) Report both the initial and confirmation concentrations of these Additional Hazardous Constituents to the director as part of the sampling reports in accordance with Permit Condition F.8(b).
 - (2) Submit a permit modification in accordance with OAC Rule 3745-50-51 to add the Additional Hazardous Constituent(s) to Table F-1, and Tables 5-1 and E-1 in the IGWMP.
 - (3) Include the new Additional Hazardous Constituent(s) in the risk assessment calculations outlined in Permit Condition F.7(f).
- (iv) The Permittee shall begin analyzing samples for the Additional Hazardous Constituents at the next sampling event required by Permit Condition F.2(a) following the event in which they were confirmed present or in exceedance of background limits, as applicable.
- (f) Following both the semi-annual (i.e., October or November) and annual (i.e., April or May) sampling events in Permit Condition F.2, the Permittee will conduct the forward risk calculation described in Appendix G of the IGWMP to determine if the plume is expanding.
- (i) Residential risk calculations will be used to determine if the additive concentrations of the site-specific constituents in the POA and Plume Growth wells exceed an Excess Lifetime Cancer Risk (ELCR) of 10⁻⁵ or a Hazard Index of 1.0.
 - (ii) If additive concentrations are found to exceed the levels as specified in Permit Condition F.7(f)(i) at these wells, all wells with the exceedance may be immediately resampled and the risk calculation repeated.
 - (iii) If additive concentrations do not exceed the risk levels at the resampled well(s), it will be considered that the plume is not expanding. If, however, the additive concentrations do exceed risk levels in the resample, or if the Permittee chooses not to resample, then the Permittee must notify the Director in writing within 7 days of determining the exceedance, and implement either the contingencies in Permit Condition F.7(g) or (h).
 - (iv) The Permittee will compare the analytical results from the Plume Growth Wells listed in Table F-1 to the most current EPA Region V Ecological Screening Levels (ESLs) for the constituents evaluated as part of the forward human health risk calculations in Permit Condition F.7(f)(i). If the ESLs are exceeded, the Permittee may resample the

wells in question within 30 days of completing data validation. If the resampling does not confirm the exceedance, no further action will be taken. If, however, the resample confirms the exceedance of the ESL, or if the Permittee chooses not to resample within 30 days of completing data validation, then the Permittee must notify the Director in writing within 7 days of such confirmation and either submit a report to Ohio EPA for review and approval within 45 days after such confirmation outlining the actions which the Permittee shall conduct for further investigation or implement the contingencies in Permit Condition F.7(h).

- (g) Within 180 days of notifying the Director of a risk level exceedance, the Permittee must submit to the Director, an application for a permit modification in accordance with OAC Rule 3745-50-51 to establish a remedial action program. The application will, at a minimum, include the following information:
- (i) A detailed description of the remedial actions that will remove or treat in place any hazardous constituents that exceed their respective risk-based limits, as defined in Permit Condition F.7(f), between the POA wells and the down-gradient facility property boundary. To the extent practicable, this remedial action shall be integrated with corrective action activities under Module E of this permit.
 - (ii) A plan for a ground water monitoring program that will demonstrate the effectiveness of the remedial action.
- (h) If the Permittee determines, pursuant to Permit Condition F.7(f)(iii) or (iv), that the concentrations at the POA or Plume Growth wells have exceeded a risk level or ESL, as applicable, the Permittee may demonstrate that a source other than the units covered by the IGWMP caused the exceedance or that the exceedance is an artifact caused by an error in sampling, analysis, statistical evaluation, or natural variation in ground water. In making such a demonstration, the Permittee shall:
- (i) Within 7 days of determining a POA or Plume Growth Well exceeds calculated risk levels or ESLs are exceeded at Plume Growth Wells, notify the director in writing of the intent to make an alternate source demonstration in accordance with OAC Rule 3745-54-99(I).
 - (ii) Within 90 days of determining a POA or Plume Growth Well exceeds calculated risk levels or ESLs are exceeded at Plume Growth Wells, submit a report to the director which demonstrates that a source other than a unit under the IGWMP caused the exceedance or that the

exceedance resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground water. If the exceedance is demonstrated to be an error in sampling, analysis, or statistical evaluation, the Permittee shall make appropriate changes to the present IGWMP at the facility.

- (iii) Upon determining that a source other than a unit under the IGWMP caused the exceedance, in addition to submitting the above report, the Permittee will comply with Permit Conditions E.10 and E.11 if applicable to the alternate source.
- (iv) Within 180 days of determining that a POA or Plume Growth Well exceeds a risk level or within 45 days of determining that a Plume Growth Well exceeds an ESL, and it cannot be demonstrated that the source is other than a unit covered by the IGWMP or that the exceedance is due to an error in sampling, analysis, statistical evaluation or natural variation in ground water, the Permittee shall either:
 - (a) If the exceedance is a risk level exceedance, submit to the director an application for a permit modification according to OAC Rule 3745-50-51 to establish a remedial action program meeting the requirements of OAC Rule 3745-54-100 as described in Permit Condition F.7(g); or
 - (b) If the exceedance is an ESL, submit a report to Ohio EPA for review and approval outlining the actions which the Permittee shall conduct for further investigation.
- (v) The Permittee shall continue to monitor ground water in accordance with the IGWMP established at the facility.

F.8 Recordkeeping and Reporting

(a) Operating Record

In addition to any other information required in Permit Condition F.7(b), the Permittee shall enter all of the following information in the operating record:

- (i) The laboratory results from each of the well samples, duplicates, blanks, and their associated qualifiers, including laboratory sheets for every sampling event (including laboratory method numbers, method detection limits, laboratory practical quantitation limits (PQLs), and units of measurement);

- (ii) The date each well was sampled;
- (iii) The date, time, and identification of all blanks and duplicates;
- (iv) Any field log or laboratory report documentation of deviation from the procedures in the IGWMP, including documentation of parameter omissions during the sampling event;
- (v) The values of the field parameters;
- (vi) The date the Permittee received the results from the laboratory;
- (vii) The date of completion of the data validation;
- (viii) A validation summary that includes qualifiers on the data, definitions for all qualifiers used, a listing of all relative percent differences greater than or equal to 20% for all field duplicate pairs, a signed statement of validity, technical holding time review, dilutions, blank data, spikes, spike recovery percentage, surrogate recovery, and an explanation of any rejected results and an overall assessment of the data;
- (ix) The date of completion of any statistical evaluation;
- (x) Chain-of-Custody documents;
- (xi) The Sample Receipt Form including the sample temperatures upon receipt by the laboratory;
- (xii) Ground water elevation data as specified in Permit Condition F.5(a);
- (xiii) Potentiometric surface maps based on the ground water elevation data;
- (xiv) Data and results of the semiannual and annual determination of the ground water flow rate and direction as specified in Permit Condition F.7(c) & (d);
- (xv) Data and results from the resampling and risk calculations in Permit Conditions F.7(e) & (f), and
- (xvi) 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).

(b) Sampling Reports

The Permittee shall report in writing the results of the sampling events required under Permit Condition F.2.

The Permittee shall submit the information required by Permit Conditions F.1(f)(iv) and (v), F.5(a), F.7(b), (d), (e) and (f), and the information contained in Permit Condition F.8(a)(i) through (xv) to Ohio EPA Northwest District Office. The Permittee must submit the Sampling Reports for the scheduled sampling events within 90 days of the completion of the original sampling event.

(c) Annual Reports

The Permittee must submit an annual report to the director by March 1st or the first business day thereafter if March 1st falls on a weekend. For the purposes of the IGWMP, the Permittee shall use the Supplementary Annual Report Form for Part B Permitted Status Facilities. The annual reports must reference the titles and dates of the sampling reports and any updates to those reports (for example, due to confirmation sampling, comments by Ohio EPA, etc.), 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 F.2, F.7(b), the ground water elevation data required by Permit Condition F.5(a) and F.7(c) and (d), any statistical analyses required by Permit Conditions F.1 and F.6, and the results of the evaluations required by Permit Conditions F.7(e) and (f). In addition, a copy on disk of all groundwater and blank data must be submitted electronically in the format supplied by Ohio EPA. 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 the schedule stated in Permit Condition F.8(b).

(d) Other Reports

The Permittee shall comply with any reporting requirements that become necessary under Permit Condition F.5(b) or F.7(e) through (h). If any of these dates falls on a weekend, the reports will be due no later than the next business day. Resampling reports must include the same types of information as the initial reports pertaining only to the resampled well(s).

(e) Laboratory Reports

Ohio EPA may require a copy of the full laboratory QA/QC report described below for a particular event if circumstances warrant, but in general QA/QC data will not be required except as specified in Permit Condition F.8(a). At a minimum, the full laboratory QA/QC report should include the following:

- (i) Laboratory case narrative;
- (ii) Quality assurance/quality control program elements;
- (iii) Analytical sample summary;
- (iv) Analytical method summary;
- (v) Gas chromatography/mass spectrometry volatiles data, including:
 - (1) Quality control summary data;
 - (2) Sample data;
 - (3) Standards data;
 - (4) Raw quality control data; and
 - (5) Instrument log sheets;
- (vi) Inorganics/metals data;
 - (1) Quality control summary data;
 - (2) Sample data;
 - (3) Calibration data;
 - (4) Instrument printouts; and
 - (5) Preparation logs;
- (vii) Cooler receipt forms;
- (viii) Internal Chain-of-Custody; and
- (ix) Chain-of-Custody documents.

F.9 Request for Permit Modification

If the Permittee or the director determines that the IGWMP established by this Permit no longer satisfies the regulatory requirements, then the Permittee must submit an application for a permit modification within 90 days of this determination to make any appropriate changes to the program.

F.10 Compliance Schedule

The Permittee shall, within ninety (90) days after permit renewal journalization, complete the following:

- (a) Submit to the director a complete copy of Appendix D "list of Pre-January 30, 2002 Correspondence and Reports Providing Analytical and/or Water-Level Data" for the IGWMP. The following dates of correspondences and reports are missing: January 26 and February 3, 1987, and September 5, 1997 through January 30, 2002.
- (b) Submit to the director a revised page viii of the IGWMP to correct the acronym msl to read Mean Sea Level.
- (c) Submit to the director a revised Section 5.3 of the IGMWP stating that water levels will be converted to mean sea level (msl)-based water-level elevations for preparation of a ground water flow map for each ground watersampling episode. The Permittee had removed this information from Section 4.1 of the IGWMP.
- (d) Submit to the director an application for a permit modification in accordance with OAC Rule 3745-50-51 to revise paragraph 1 on page 7-5 to read "As stated previously, the facility will utilize static background limits as established in Appendix H. The facility, however, will continue to collect background data and may request through a modification to revise the background data set as necessary. Background data will not be updated with less than four new data points at any one time. As part of the modification to incorporate new background data, an outlier evaluation and trend analysis will be conducted for each constituent. The outlier evaluation will utilize statistical methods acceptable to Ohio EPA. Background analytical results also will be visually compared to historical data to determine if VOCs are present at the background locations and to determine if concentrations of inorganic constituents are consistent with historical concentrations. If VOCs are detected in the background wells or inorganic constituents are present in the background wells at elevated levels (compared to historical data), Ohio EPA will be immediately notified and the well will be resampled for confirmation purposes.

- (e) Reserved
- (f) Reserved
- (g) Reserved
- (h) Reserved
- (i) Reserved

- (ii) Reserved
- (iii) Reserved
- (iv) Reserved

F.11 Property Use Restrictions

- (a) No Use of Ground Water: The Permittee shall not extract or use ground water underlying or within the zone of influence of the property or any portion of the property at the following approximate coordinates: 41.4870 degrees North latitude (southern boundary of the Eastern Settling Lagoons AOI) north to the property boundary (Portage River) and 83.2142 degrees West longitude (west of the PCE AOC) east to the property boundary for any purpose, potable or otherwise, except for monitoring or remediation of the ground water. For the purpose of this permit, remediation includes the pumping of Production Wells to maintain hydraulic capture.
- (b) No Construction of Buildings: The Permittee shall not construct a building or structure of any kind within the footprint of the ground water VOC plume for any purpose due to the potential of vapor intrusion from contaminated ground water volatilizing into an overlying structure causing an inhalation human health exposure pathway. For the purposes of this condition, the footprint of the VOC plume is defined as the area within the plume shown in the most recent VOC plume map provided to Ohio EPA annually as part of the Supplemental Report. Construction would be allowed in this area under two circumstances:
 - (i) If a risk evaluation (including a vapor intrusion model if appropriate), approved by the Ohio EPA, indicates that an exposure pathway from volatilizing compounds (including applicable VOCs and SVOCs) is not present based upon the proposed building construction or risk standards applicable to occupancy or activities within the proposed building having been met; or,
 - (ii) An engineering control has been approved by Ohio EPA and constructed and implemented at the site construction. An engineering

control must be used in conjunction with an operation and maintenance plan.

Table F-1									
Well ID	Semi-annual Sampling Event			Annual Sampling Event					
	Hazardous Constituents*	Possible Degradation Products*	Other VOCs*	APP IX VOCs plus cis-1,2-DCE and TICs	Appendix IX Metals plus fluoride	Cyanide	App IX PCBs	App IX SVOCs	Water Level
POA Wells									
MW-40	•	•	•	•	•	•			•
MW-41	•	•	•	•	•	•			•
MW-43	•	•	•	•	•	•			•
MW-36**	•	•	•	•	•	•	•	•	•
MW-37									•
MW-20	•	•	•	•	•	•			•
MW-44	•	•	•	•	•	•			•
MW-45	•	•	•	•	•	•			•
MW-50	•	•	•	•	•	•			•
MW-53	•	•	•	•	•	•			•
Plume Growth Wells									
MW-39				•	•	•			•
MW-16				•	•	•			•
MWRW-19				•	•	•			•
MW-52				•	•	•			•
MW-38				•	•	•			•
Within Plume Wells									
MW-27				•	•	•			•
MW-42				•	•	•			•
MW-32				•	•	•			•
MW-33				•	•	•			•
MW-26				•	•	•	•		•
MW-35				•	•	•	•	•	•
Background Wells									
MB-02				•	•	•			•
MW-34				•	•	•			•
MW-21				•	•	•			•
MW-22				•	•	•			•
Water Level Collection Only									
MW-17									•
MW-29									•
MW-30									•
MW-31									•
MW-46									•
MW-48									•
MB-01									•
MW-9D									•
MW-10D									•
MW-11D									•
MW-12D									•
MW-23D									•
MW-24D									•
MW-25D									•
MW-51D									•
P-03									•
P-04									•
P-05									•
P-06									•

* Hazardous Constituents – tetrachloroethene (PCE), trichloroethene (TCE), cis 1,2-dichloroethylene (Cis 1,2-DCE), and Arsenic
 * Possible Degradation Products – trans 1,2-dichloroethylene (Trans 1,2-DCE), 1,1-dichloroethylene (1,1-DCE), 1,1-dichloroethane (1,1-DCA), 1,2-dichloroethane (1,2-DCA), chloroethane, vinyl chloride
 * Other VOCs – 1,1,1-trichloroethane (1,1,1-TCA)
 TICs – Tentatively Identified Compounds
 ** Annual Sampling of MW-36 for Appendix IX SVOCs and PCBs will occur for three years and every other year following the third year.

MODULE G - POST-CLOSURE CARE

G. POST-CLOSURE CARE

This module covers the care and maintenance of three surface impoundments called Tri-Lagoon, Lagoon No. 3, and Lagoon No. 6. A substantial portion of the facility's wastewater was treated by precipitating and settling solids as the wastewater flowed sequentially through the three surface impoundments. The sludge in the surface impoundments was mixed with a waste water treatment sludge from nickel electroplating operations (F006). Because of this mixing, the sludge in all three units became hazardous waste. This electroplating operation is no longer performed at the facility. The Permittee ceased using these units and constructed an on-site wastewater treatment plant, rather than retrofit the three impoundments with liners by November 8, 1988.

On July 30, 1994, the three impoundments were closed by treatment and solidification of the sludge. The sludge was left in place and covered with a RCRA cap, consisting of a synthetic and earthen cover. The cover system consists of a twenty-four inch layer of recompacted clay, a 40 mil high density polyethylene (HDPE) geomembrane liner, a geonet drainage layer, a geotextile filter layer, and a thirty-six inch layer of vegetated topsoil. The cover is designed to minimize infiltration of liquids through the waste, minimize the need for maintenance, promote drainage, minimize erosion, and accommodate settling. The dimensions of the lagoons are the following: Tri-Lagoon - 0.617 acres; Lagoon No. 3 - 1.085 acres; and Lagoon No. 6 - 7.67 acres.

The post-closure care period began on July 30, 1994 and will last for thirty (30) years. The objective of the post-closure care plan is to provide care and maintenance procedures for the three closed hazardous waste surface impoundments to ensure the integrity and effectiveness of the final cover for the thirty year period. Inspections, maintenance, repairs, monitoring, and reporting will be conducted during the post-closure care period. The cover will be inspected periodically, and run-on/run-off protection will be maintained. Preventive measures will be taken for controlling erosion. Surveyed benchmarks will be maintained for monitoring settlement of the cover. Repairs will be made to the cover to correcting the effects of settling, subsidence, erosion, and other events. Access will be restricted during the post-closure period. Signs designating the area as containing hazardous waste will be inspected and maintained.

Ground water will be monitored, according to the permit application and Module F of this permit, for the thirty (30) year post-closure care period. Per OAC Rule 3745-55-17 (A)(2)(a & b) the Director may shorten or extend the post-closure care period as outlined in Permit Condition G.2(a).

The Permittee is also investigating these units under the corrective action process. See the permit application, referenced documents, and Module E of this permit for more information about corrective action at this facility.

G.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:

<i>Type of Waste Unit</i>	<i>Unit No. or Other Designation</i>	<i>Maximum Waste Inventory</i>	<i>Description of Wastes Contained</i>	<i>Hazardous Waste No.</i>	<i>Year Post-closure began</i>
Surface Impoundment	Tri-Lagoon	1,087 yd ³	Sludge from electroplating operation	F006	1994
Surface Impoundment	Lagoon No. 3	9,746 yd ³	Sludge from electroplating operation	F006	1994
Surface Impoundment	Lagoon No. 6	4,626, yd ³	Sludge from electroplating operation	F006	1994

G.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 G.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 3745-54-101 and Modules E & F during the post-closure period.

- (c) The Permittee must comply with the requirements for surface impoundments as follows:
 - (i) Maintain the integrity and effectiveness of the final cover, including making repairs to the final cover, as necessary, to correct the effects of settling, subsidence, erosion, and other events; and
 - (ii) Prevent run-on and run-off from otherwise damaging the final cover.
- (d) The Permittee must comply with all security requirements, as specified in the permit application.
- (e) The Permittee must not allow any use of the units designated in Permit Condition G.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.
- (f) 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.

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

- (a) The Permittee must inspect the components, structures, and equipment at the facility in accordance with the inspection schedule found in the post-closure plan.
- (b) The Permittee must conduct and record an inspection of at least the following:
 - (i) Security control devices;
 - (ii) Erosion control;
 - (iii) Cover settlement, subsidence and displacement;
 - (iv) Vegetative cover condition;
 - (v) Integrity of run-on/run-off control measures;
 - (vi) Cover drainage system functioning;
 - (vii) Monitor well condition; and
 - (viii) Benchmark integrity.

G.4 Maintenance and Repair

- (a) The Permittee must perform suitable repairs of any components, structures, or equipment at the site which are found to be inadequate as a result of

inspections conducted according to the permit application and Module G, Permit Condition G.3.

- (b) The Permittee must perform the repairs as soon as practicable after observing any problem with the three units.
- (c) The Permittee must indicate the corrective action it will take on the Notification of Repair form. This form must be submitted to Ohio EPA within one week after the Permittee determines that a corrective measure is necessary.

G.5 Notices and Certification
OAC Rules 3745-55-19 and 3745-55-20

- (a) 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 Rules 3745-50-40 to 3745-50-66. 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:

- a) The removal of the notation on the deed to the facility property or other instrument normally examined during title search or,
 - b) The addition of a notation to the deed or instrument indicating the removal of the hazardous waste.
- (b) 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 financial assurance requirements for post-closure care under OAC Rule 3745-55-45.

G.6 Financial Assurance
OAC Rule 3745-55-45

- (a) 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.
- (b) The Permittee must demonstrate to the Director that the value of the financial assurance mechanism exceeds the remaining cost of post-closure care, in order for the Director to approve a release of funds.
- (c) The Permittee must submit itemized bills to the Director when requesting reimbursement for post-closure care.

G.7 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 3745-50-66, 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.

END OF PERMIT