OHIO HAZARDOUS WASTE FACILITY
INSTALLATION AND OPERATION PERMIT RENEWAL

Permittee: PPG Industries, Inc.
Mailing Address: 4829 Fairland Road
Barberton, Ohio 44203
Owner: PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Operator: PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Location: PPG Industries, Inc.
4829 Fairland Road
Barberton, Ohio 44203

Ohio Permit No.: 02-77-0453
US EPA ID: OHD 004 198 917
Issue Date: Sept. 24, 2010
Effective Date: Sept 24, 2010
Expiration Date: Sept 24, 2020

AUTHORIZED ACTIVITIES

In reference to the application of PPG Industries, 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:


PERMIT APPROVAL

Chris Koneski, Director
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: ___________________________ Date: 9/24/10

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 24 day of Sept., 2010.

By ___________________________ of the Ohio Environmental Protection Agency.
MODULE A - GENERAL PERMIT CONDITIONS

A. GENERAL PERMIT CONDITIONS

A.1 Effect of Permit
ORC Sections 3734.02 (E) and (F) and 3734.05
OAC Rule 3745-50-58(G)

(a) The Permittee is authorized to store hazardous waste in containers in accordance with the terms and conditions of this Ohio hazardous waste permit (hereinafter “permit”), ORC Chapter 3734, all applicable Ohio hazardous waste rules, all applicable regulations promulgated under the Resource Conservation and Recovery Act (RCRA), as amended, and the permit application. The permit application was first submitted to Ohio EPA on March 30, 1998, but no final action was issued. The permit application, as resubmitted on September 4, 2008, and updated on July 6, 2009, and September 18, 2009, is hereby incorporated into this permit. In the instance of inconsistent language or discrepancies between the above, the language of the more stringent provision shall govern.

(b) Any management of hazardous waste not authorized by this permit is prohibited, unless otherwise expressly authorized or specifically exempted by law. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, or invasion of other private rights. Compliance with the terms and conditions of this permit does not obviate Permittee's obligation to comply with other applicable provisions of law governing protection of public health or the environment including but not limited to the Community Right to Know law under ORC Chapter 3750.

A.2 Permit Actions
OAC Rule 3745-50-58(F)

This permit may be modified or revoked as specified by Ohio law. The filing of a request by the Permittee for a permit modification, or the notification of planned changes or anticipated noncompliance on the part of the Permittee, does not stay any permit term or condition.
A.3 Permit Effective/Expiration Date
OAC Rule 3745-50-54

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

A.4 Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

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

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

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

(a) If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee must submit a completed permit application for a hazardous waste facility installation and operation permit renewal and any necessary accompanying general plans, detailed plans, specifications, and such information as the Director may require, to the Director no later than one hundred eighty (180) days prior to the expiration date of this permit, unless a later submittal date has been authorized by the Director upon a showing of good cause.

(b) The Permittee may continue to operate in accordance with the terms and conditions of the expired permit until a renewal permit is issued or denied if:
(i) the Permittee has submitted a timely and complete permit application for a renewal permit under OAC Rule 3745-50-40; and

(ii) through no fault of the Permittee, a new permit has not been issued pursuant to OAC Rule 3745-50-40 on or before the expiration date of this permit.

(c) The Corrective Action obligations contained in this permit will continue regardless of whether the facility continues to operate or ceases operation and closes. The Permittee is obligated to complete facility-wide Corrective Action under the conditions of this permit regardless of the operational status of the facility. The Permittee must submit an application for permit renewal at least 180 days before the expiration date of this permit pursuant to OAC Rule 3745-50-40(D) unless a) the permit has been modified to terminate the Corrective Action schedule of compliance and the Permittee has been released from the requirements for financial assurance for Corrective Action; or b) a later submittal date has been authorized by the Director.

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

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

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

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

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

The Permittee must at all times properly operate and maintain the facility (and related appurtenances) to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes effective management practices, adequate funding, adequate operator staffing and training, and where appropriate, adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of
back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the terms and conditions of this permit.

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

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

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

(a) The Permittee must allow the Director, or an authorized representative, upon stating the purpose and necessity of the inspection and upon proper identification, to:

(i) enter at reasonable times upon the Permittee’s premises where a regulated facility or activity is located or conducted, or where records must be kept under the terms and conditions of this permit;

(ii) have access to and copy, at reasonable times, any records required to be kept under the terms and conditions of this permit;

(iii) inspect and photograph at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under the terms and conditions of this permit; and

(iv) sample, document, or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by ORC Chapter 3734 and the rules adopted thereunder, any substances or parameter at any location.

(b) Any record, report or other information obtained under the hazardous waste rules or Chapter 3734 of the Revised Code shall not be available to the public upon the Permittee’s satisfactory showing to Ohio EPA that all or part
of the information would divulge methods or processes entitled to protection as trade secrets pursuant to Ohio Trade Secret Law and OAC Rule 3745-50-30.

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

(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), as amended by Updates I (dated July 1992), II (dated September 1994), IIA (dated August 1993), IIB (dated January 1995), III (dated December 1996) and IIIA (dated April 1998), 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 Emergency and Remedial Response within twenty-four (24) hours from the time the Permittee becomes aware of any noncompliance with this permit, ORC Chapter 3734 or the rules adopted thereunder, which may endanger human health or the environment, including:

(i) information concerning the release of any hazardous waste that may cause an endangerment to public drinking water supplies; and

(ii) any information of a release or discharge of hazardous waste or a fire or explosion from the hazardous waste facility, which could threaten the environment or human health outside the facility.

(b) The report must consist of the following information (if such information is available at the time of the oral report):

(i) name, address, and telephone number of the owner or operator;

(ii) name, address, and telephone number of the facility;

(iii) date, time, and type of incident;

(iv) name and quantity of material(s) involved;

(v) the extent of injuries, if any;

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

(vii) estimated quantity and disposition of recovered material that resulted from the incident.

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

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

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

A.22 Other Noncompliance
OAC Rules 3745-50-58(L)(10) and 3745-50-58(L)(4)

The Permittee must report to the Director all other instances of noncompliance not provided for in Permit Conditions A.19 and A.20. These reports must be submitted at the time monitoring reports are submitted, or, in cases in which there is no corresponding monitoring report relating to the compliance issue, within (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 DHWM, Regulatory and Information Services
P.O. Box 1049
Columbus, Ohio 43216-1049

Ohio EPA, DHWM
Northeast District Office
2110 East Aurora Road
Twinsburg, Ohio 44087

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

(i)  **Updated Closure/Post-Closure Cost Estimate**
OAC Rules 3745-55-42 and 3745-55-44

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

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

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

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

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

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

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

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

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

(a) Unless otherwise specified by the hazardous waste rules, the Permittee must maintain at the facility, until closure is completed and certified by an independent, registered professional engineer, pursuant to OAC Rule 3745-55-15, and until the Director releases the Permittee from financial assurance requirements pursuant to OAC Rule 3745-55-43, 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) annually-adjusted cost estimate for facility closure as required by OAC Rules 3745-55-42 and 3745-55-44 and the terms and conditions of this permit.

(ix) all other documents required by Module A, Permit Condition A.12

(b) The Permittee must maintain copies of all inspection logs at the facility for a period not less than three (3) years from the date of inspection.

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

(a) The Permittee must submit a Waste Minimization Report describing the waste minimization program required by OAC Rules 3745-54-75(H), (I), and (J); 3745-54-73(B)(9); and 3745-52-20(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.2 Required Notices
OAC Rule 3745-54-12

(a) Hazardous Waste from Off-Site Sources

The Permittee shall manage only wastes generated at the PPG Barberton
facility designated by USEPA identification number OHD 004 198 917.

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 General Requirements for Ignitable, Reactive, or Incompatible Wastes
OAC Rule 3745-54-17

(a) The Permittee must comply with the requirements of OAC Rule 3745-54-17 and must follow the procedures for handling ignitable, reactive, and incompatible wastes set forth in Section F of the permit application.

(b) The Permittee must provide electrical grounding for all containers and tanks, and transport vehicles during all operations involving the handling of ignitable or reactive wastes.

(c) The Permittee must provide, and require the use of, spark proof tools during all operations involving the handling of all ignitable or reactive wastes.
(d) The Permittee must prohibit smoking and open flames in each area where ignitable, reactive or incompatible hazardous wastes are managed and must post appropriate signs.

B.8 Reserved.

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

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

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

The Permittee must inspect, test and maintain the equipment required by Permit Condition B.9 as necessary to assure its proper operation in time of emergency, as specified in OAC Rule 3745-54-33, 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 fire involving hazardous waste; or

(b) Any explosion involving hazardous waste; or

(c) Any uncontrolled hazardous waste reaction that produces or has the potential to produce hazardous conditions, including noxious, poisonous, flammable and/or explosive gases, fumes, or vapors; harmful dust; or explosive conditions; or

(d) Any hazardous waste release, outside of a secondary containment system, that causes or has the potential to cause off-site soil and/or surface water contamination; or

(e) Any hazardous waste release that produces or has the potential to produce hazardous conditions, including noxious, poisonous, flammable and/or explosive gases, fumes, or vapors; harmful dust; or explosive conditions.

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

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

B.16 Contingency Plan - Released Material and Emergency Response Material and By-products
OAC Rule 3745-54-56(G)
(a) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

(b) All liquid or solid material resulting from fire, explosion, released material or emergency response material and by-products that the Permittee is required to evaluate to determine whether such material is hazardous waste in accordance with OAC Rule 3745-52-11, must be collected and managed as a hazardous waste unless the Permittee can demonstrate that such waste is not hazardous in accordance with OAC Rule 3745-51-03(C) and (D).

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

The Permittee must review the contingency plan at least annually and upon the occurrence of any event listed in OAC Rule 3745-54-54. If necessary or appropriate, the Permittee must amend the contingency plan as required by OAC Rule 3745-54-54 in accordance with OAC Rule 3745-50-51.

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

(a) The Permittee must comply with the requirements set forth in OAC Rule 3745-54-53 regarding contingency plan distribution. The Permittee must maintain at the facility a copy of the contingency plan and all revisions to the plan.

(b) The Permittee must, in accordance with OAC Rule 3745-54-53, submit a copy of the contingency plan to all local police departments, fire departments, hospitals and local emergency response teams that may be called upon to provide emergency services. The Permittee must notify such agencies and the local authorities, in writing of any significant changes to the plan which will impact their ability to respond to an emergency, within ten (10) days of the effective date of any amendments of, revisions to, or modifications to the contingency plan.
(c) The Permittee must, in accordance with OAC Rule 3745-54-53, submit a copy of the contingency plan to the Ohio Environmental Protection Agency's Division of Emergency and Remedial Response.

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

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

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

The Permittee must comply with the requirements regarding emergency procedures set forth in OAC Rule 3745-54-56, Section G 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 Northeast District Office within five (5) working days prior to all rinseate and soil sampling.
B.33 Certification of Closure
OAC Rule 3745-55-15

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

B.34 Reserved.

B.35 Reserved.

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

(a) The Permittee’s most recent closure cost estimate, prepared in accordance with OAC Rule 3745-55-42 is specified in Section I of the permit application.

(b) The Permittee must adjust the closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with OAC Rule 3745-55-43.

The Permittee must adjust the closure cost estimate for inflation within 30 days after the close of the Permittee’s fiscal year and before submission of updated information to the Director, as specified in OAC Rule 3745-55-42(B).

(c) The Permittee must revise the closure cost estimate whenever there is a change in the facility’s closure plan that increases the cost of closure, as required by OAC Rule 3745-55-42(C).

(d) The Permittee must submit to the Ohio EPA and keep at the facility the latest closure cost estimate as required by OAC Rule 3745-55-42(D) and (E).

B.37 Financial Assurance for Facility Closure

The Permittee must maintain continuous compliance with OAC Rule 3745 55-43 and 55-46 and provide documentation of financial assurance, which meets the
requirements of OAC Rule 3745-55-51, in at least the amount of the cost estimates required by Permit Condition B.36.

B.38 Liability Requirements

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

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

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.
C. CONTAINER STORAGE AND MANAGEMENT

The Hazardous Waste Storage Building (HWSB) is the only permitted storage area at the PPG Barberton Plant. It contains three rooms, the “north” and “south” rooms being used for hazardous waste container storage and the “middle” room being used for storage of operating supplies, spill clean-up materials, and tools.

The north container storage room in the HWSB is 73 feet by 20 feet. The maximum storage capacity of this room is 9,680 gallons (one hundred seventy-six (176) 55-gallon drums). Ignitable (D001), toxic (D004-D011, D018, D019, D022, D028, D029, D035, D039, D040, D043) and listed (F002, F003, F005, F027; U002, U080, U228, U239; P005) hazardous wastes are typically stored in this location. Secondary containment is provided by the concrete floor, coated with an impermeable coating, surrounded by a 1.75 inch concrete curb for a containment capacity of 1,500 gallons.

The south container storage room is 35 feet by 20 feet. Maximum storage capacity of this room is 3,960 gallons (seventy-two (72) 55-gallon drums). Corrosive (D002), toxic metals (D004-D011) and amines (D038), and listed (F005; U012, U196) hazardous wastes are typically stored in this location. Secondary containment is provided by the concrete floor, coated with an impermeable coating, and surrounded by a 1.75 inch concrete curb for a containment capacity of 700 gallons.

Waste will be stored in 55 gallon drums, 500 gallon portable containers, 250 gallon bulk containers, 30 gallon containers, and 5 gallon containers and other DOT approved containers. All drums must meet DOT specifications.

C.1 Container Storage/Quantity Limitation

(a) The Permittee is authorized to store 6,500 gallons of hazardous waste at any given time in the permitted container area located in the north room and the south room of the permitted container area located in the Hazardous Waste Storage Building.

(b) For the purpose of compliance with the capacity limitation of this permit, each container will be considered to be storing an amount of hazardous waste equal to its capacity, regardless of the actual quantity stored in the container.

(c) Permit Conditions C.1(a) and C.2 shall not apply to the Permittee’s activities as a generator accumulating hazardous waste on-site in compliance with OAC Rule 3745-52-34 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.

C.2 Reserved.

C.3 Waste Identification

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

D001, D002, D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D022, D028, D029, D032, D033, D034, D035, D038, D039, D040, D043; F002, F003, F005, F024, F039; K016, K030, K073; P005; U002, U012, U080, U196, U228, U239.

C.4 Condition of Containers

OAC Rule 3745-55-71

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

C.5 Compatibility of Waste with Containers

OAC Rule 3745-55-72

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

C.6 Management of Containers

OAC Rule 3745-55-73

(a) The Permittee must keep all containers closed during storage, except when it is necessary to add or remove waste, and must not open, handle, or store containers in a manner which may rupture the container or cause it to leak.
(b) All container storage shall be conducted within the container storage containment system described in Condition C.1. of this permit and Section D of the permit application.

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

(a) The Permittee must maintain the containment system in accordance with the plans and specifications contained in Section D of the permit application.

(b) The Permittee must maintain the containment system as described in the permit application, designed with sufficient capacity to contain ten percent of the total volume of the containers or the volume of the largest container, whichever is greater. The containment system must be free of cracks and gaps and sufficiently impervious to contain leaks and spills and accumulated precipitation until the collected material is detected and removed.

(c) The base of the containment system must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids.

(d) Run-on into the containment system must be prevented unless the collection system has sufficient excess capacity in addition to that required in Permit Condition C.7(b) above.

(e) Spilled or leaked waste and accumulated precipitation must be removed from the 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 hazardous waste pad sump.

C.8 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.9 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.10 Recordkeeping
OAC Rule 3745-54-73

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

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

(a) The Permittee must not store ignitable or reactive waste except in accordance with OAC Rules 3745-54-17 and 3745-55-76.

(b) The Permittee must not locate containers holding ignitable or reactive waste within 15 meters (50 feet) of the facility's property line.

(c) The Permittee must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste and shall follow the storage procedures specified in Section F of the permit application.

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

(a) The Permittee must not store incompatible waste except in accordance with OAC Rules 3745-54-17(B) and 3745-55-77.

(b) The Permittee must not place hazardous waste in an unwashed container that previously held an incompatible waste or material.

(c) The Permittee must separate or protect (by means of a dike, berm, wall, or other device) a storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments.
C.13 Reserved.

C.14 Closure and Post-Closure

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

At closure of the container area, the Permittee shall remove all hazardous waste and hazardous waste residues from the containment system, in accordance with the procedures in the closure plan set forth in Section I of the permit application.
MODULE D – RESERVED
MODULE E - CORRECTIVE ACTION REQUIREMENTS

PPG and U.S. EPA entered into an Administrative Order on Consent ("AOC"), on April 5, 1991. Pursuant to the implementation of the AOC, PPG is in compliance with the Corrective action requirements of the orders, including requirements set forth in Ohio Administrative Code Rule 3745-54-101.

The AOC scope of work included seven Interim Measures (IM's), a RCRA Facility Investigation (RFI) and a Corrective Measures Study (CMS). Ohio EPA has participated in the review of PPG's implementation of the AOC, which included commenting on the IM's, RFI and CMS, as well as other submittals. Five of the seven IM's have been completed. The active IM's are IM-II (Leachate Collection and Treatment) and IM-III (Public Access Controls). The final RFI report was approved by U.S. EPA on May 19, 1997. As a voluntary effort, PPG conducted site-specific human health and ecological risk assessments. These risk assessments were used to assess the data collected during the RFI and develop the CMS. A Draft CMS report was submitted to U.S. EPA on September 19, 1997, but it was never formally approved. U.S. EPA left the traditional Corrective Action administrative process at this point, and instead authorized PPG to implement a performance based approach.

Beginning in 1999, the U.S. EPA established reforms to the RCRA Corrective Action Program (RCRA Reforms). Progress at the Barberton Facility under these RCRA Reforms has been measured by two initial nationwide environmental indicators. Indicator CA-725 was established to determine if exposures to human health were currently under control. PPG achieved a "YES" determination on December 20, 2001. Indicator CA-750 was established to determine if the migration of contaminated groundwater is currently under control. PPG achieved a "YES" determination on January 22, 2007.

Another element of the RCRA Reforms was to allow the use of a performance-based approach to corrective action. The performance-based concept is to initially reach agreement on the goals for a remedial action site, as well as the specific measurements to demonstrate achievement of those goals. A facility would then be allowed to design and implement a remedial action based on the pre-determined goals and measurements. PPG and U.S. EPA entered into the Performance Based Approach (PBA) Agreement in August 2001. Ohio EPA provided a letter of support to the PBA Agreement. The PBA Agreement is a voluntary program used to implement RCRA Corrective Action. Several remedies have been implemented under the PBA Agreement.

A Media Focus Document (MFD) was developed to outline the various WMU's and other areas identified for corrective action. The MFD summarized the goals of a
remedial action as further elaborated in the Draft CMS. Additionally, the MFD identified the specific performance measurements used to evaluate compliance with the goals and summarized relevant project milestones. The latest version of the MFD was dated July 2007.

With the issuance of a renewed RCRA Permit by the State of Ohio, the Ohio EPA will become the lead agency working with PPG with respect to the remaining Corrective Action activities. PPG will attempt to terminate the AOC and the Performance Based Agreement with U.S. EPA after the issuance of the renewed Ohio Permit according to the termination sections provided by the agreements. Additional Corrective Action activities will be continued under the Ohio Permit.

Goals may be achieved through the implementation of corrective measures, the assessment and management of risk, institutional controls, monitored natural attenuation or a combination thereof.

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

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

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

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

The Permittee must implement Corrective Action beyond the Facility property boundary, where necessary to protect human health and the environment, unless
the Permittee demonstrates to the satisfaction of Ohio EPA that, despite the Permittee's best efforts, the Permittee was unable to obtain the necessary permission to undertake such actions. The Permittee is not relieved of all responsibility to clean up a release that has migrated beyond the Facility boundary where off-site access is denied. On-site measures to address such releases will be 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 major tool created to guide the performance based approach to the corrective action activities at PPG was a Media Focus Document (MFD), which grouped selected WMUs into several primary media focus areas. The draft CMS report formed the basis of the selected areas for the MFD. The MFD document, used as a project planning tool, evolved as corrective action data gathering, planning and measure implementation proceeded. The WMUs are grouped based on the primary media focus areas and the progress that has been made. There are three progress groupings: (1) Remedy Complete/ No Further Action; (2) Remedy construction with long-term operation and maintenance; and (3) Ongoing Remedy Evaluation and/or Implementation. A summary of activities conducted thus far is also included.

Category 1 – Remedy Complete/No Further Action

West Plant WMU 92
Former Ohio Brass Settling Ponds WMU 110
North Spoils Area WMU 96
South Spoils Area WMU 97

Category 2 – Remedy Construction Complete with long-term operation and maintenance

Lower Hudson Run Surface Water Focus Area
Hudson Run Reservoir
Contractor's Landfill
Main Plant Soils Focus Area, which includes:
   Sand Quarry WMUs 83, 84, 87, 88, and 89
   WMUs #9, 61, 66, 81, and 90
Sitewide Groundwater, which includes for this purpose:
   Main Plant Ground Water Focus Area
   South Facility Focus Area
   Lime Lakes #3, #4, and #5
Tuscarawas River Dredge Spoils
Category 3 – Ongoing Remedy Evaluation and/or Implementation

Lower Hudson Run Sediment Focus Area
Tuscarawas River and Wolf Creek
Impounding Reservoir
Lime Lakes #1 and #2
Lime Lake #6

CATEGORY 1: REMEDY COMPLETE/NO FURTHER ACTION

WEST PLANT WMU 92

DESCRIPTION: The West Plant was developed in the 1940's as a source of limestone for soda ash production. The mine operated from 1942 until 1976. Other operations included asphalitic concrete manufacture, Portland cement manufacture, refractory brick reclamation, and stockpiling.

STATUS: 96 acres of the property, and three of the four WMUs, were sold to Norton Energy Storage LLC in 1999. The remaining unit was formerly a coal and waste brick pile. All materials had been removed prior to the RFI. Results from the RFI showed slightly elevated levels of metals and aromatics commonly associated with coal. The draft CMS evaluated the data, and concluded that no further action was necessary for that WMU. Ohio EPA concurs with that conclusion.

FORMER OHIO BRASS SETTLING PONDS WMU 110

DESCRIPTION: Two settling ponds formerly used for wastewater treatment by a lessee. After termination of the lease, the ponds were re-graded. Currently, the unit is an open, grassy field.

STATUS: The RFI found no evidence of contamination in surface soils or ground water, and no further action is required.

NORTH SPOILS AREA WMU 96

DESCRIPTION: An approximately 3 acre unit. The unit was used for the disposal of slaker sands, clean fill, and demolition debris. It was also used as a staging area for pipe salvage during well abandonment activities. In 1991, during Facility characterization activities, drum fragments were observed. Geophysical investigation found magnetic anomalies. In April 1996, under Interim Measure VII,
remediation activities were conducted. Approximately 1800 cubic yards of PCB - contaminated soil and seven drums were removed. Samples of soil, drum contents, surface water and excavation water were sampled and analyzed. Confirmatory sampling completed, the excavation was backfilled and re-vegetated.

STATUS: Remedy completed. No further action.

SOUTH SPOILS AREA WMU 97

DESCRIPTION: This unit was used for general disposal from 1980 until 1992. The materials consisted of soil, concrete, asphalt, sand, limestone, brick, clay tile and silt. It covers approximately 45,000 square feet. In July 1996, the unit was re-graded and vegetated under authorization received pursuant to OAC Rule 3745-27-13. The ground surface was cleared, re-graded and seeded. Swales were excavated to control precipitation runoff, and to minimize horizontal infiltration. Seeps were also eliminated under this measure. The unit is fenced to restrict access.

STATUS: Remedy completed. No further action.

CATEGORY 2: REMEDY CONSTRUCTION COMPLETE WITH LONG-TERM OPERATION AND MAINTENANCE

LOWER HUDSON RUN (LHR) Surface Water Focus Area

DESCRIPTION: A channelized stream running approximately 2,275 feet from the outlet of Hudson Run Reservoir to Wolf Creek, between Lime Lake One and Lime Lake Two. There are two low head dams in the channel.

REMEDIAL GOAL: Meet applicable Ohio ambient water quality standards for Constituents of Concern (COCs).

CORRECTIVE MEASURES COMPLETED UNDER PBA AND INTERIM MEASURE 2: PPG separated surface water from contaminated ground water infiltrating from Lime Lakes #1 and #2 by raising the surface water elevation above the ground water potentiometric surface in designated areas of the stream. The surface water elevation was raised by installing a low head dam in November 2006 similar to the Low Head Impoundment installed in 1997 near the mouth of this waterway. Interim Measure 2 also actively diverts leachate (from the lime lakes) from entering the waterway. The subsurface capping of the Hudson Run Reservoir described above also prevented a source of constituents of concern from entering Lower Hudson Run from upstream.
STATUS: Engineering Controls which were installed to contain potential sources of contamination to LHR will require ongoing operation and maintenance and performance monitoring to ensure performance standards continue to be met. In August 2008, hexachlorobenzene was detected in surface water above Water Quality Criteria. The source was most likely contaminated sediments in the Lower Hudson Run. Therefore, sediment contamination needs to be addressed.

HUDSON RUN RESERVOIR (HRR) Sediment Focus Area

DESCRIPTION: A four to seven foot deep reservoir covering approximately 36 acres. Inflow is controlled by the upstream dam creating Lake Dorothy. Water level and outflow are controlled by a low to medium rise dam at the eastern end of the reservoir.

REMEDIAL GOAL: Eliminate, to the extent necessary, potential human and ecological exposure to contaminated sediment. Meet applicable Ohio ambient water quality standards.

CORRECTIVE MEASURE COMPLETED UNDER PBA: A sediment cap was installed on 7 acres in late fall 2003. The purpose of the in-situ subaqueous capping was to separate clean surface water from the contaminated sediments.

STATUS: Engineering Controls installed to contain contaminated sediments will require ongoing inspection and maintenance and performance monitoring (as needed) to ensure performance standards are maintained.

CONTRACTOR’S LANDFILL

DESCRIPTION: A former open-pit clay mine that subsequently served as a disposal site for contractors' construction and demolition debris. The ground water is known to be contaminated with volatile organic compounds. For some compounds, concentrations exceed the Maximum Contaminant Limit for drinking water (OAC 3745-81-12 and OAC 3745-54-94) (MCLs).

REMEDIAL GOAL: Isolate to extent practicable sources of chlorinated organic compounds from Contractor’s Landfill to Main Plant area ground water by reduction of leachate production and Monitored Natural Attenuation (MNA) in the regional aquifer.

RATIONALE FOR GOAL: Contractor’s Landfill has been identified as a source area affecting Main Plant area ground water.
CORRECTIVE MEASURES COMPLETED: Leachate and ground water are intercepted by French drains, and conveyed to the on-site Waste Water Treatment Plant. A low permeability cover system and an upgradient ground water diversion system were installed in the summer of 2008, and completed in 2009.

PERFORMANCE STANDARDS: Permanent leachate flow reduction; Permanent leachate elevation reduction in key piezometers with historical baseline elevation data. Meet appropriate performance goals in the French drain discharges. Meet MCLs or risk-based standards in ground water.

STATUS: Further action (maintenance and monitoring) is required.

MAIN PLANT SOILS FOCUS AREA

DESCRIPTION: The plant is divided by Hudson Run into the North Plant and South Plant, containing chemical manufacturing facilities, storage areas, tanks, offices and other structures. Areas not covered by structures are generally paved. Contaminated soils are present below the paving. The vapor intrusion pathway was modeled, and excess lifetime cancer risks meet Ohio EPA performance standards. Exposures may occur during invasive activities.

REMEDIAL GOAL: Eliminate the risk to on-site excavation workers engaged in infrequent and short term activity for dermal exposure to hexachlorobenzene (HCB), dioxins (TCDD), and other contaminants when excavation is required.

STATUS: Currently, exposures are eliminated by implementation of a Health and Safety Plan (Barberton Excavation Plan) during invasive activities. PPG is maintaining institutional controls. Engineering and Institutional Controls such as maintaining the pavement covering the contaminated soils are required.

SAND QUARRY WMUs 83, 84, 87, 88, 89

DESCRIPTION: The sand quarry occupies approximately 31 acres, and is surrounded on three sides by nearly vertical high walls. Sand is no longer being mined. Five WMUs have been identified in this area.

WMU 83 is the permitted hazardous waste storage building (HWSB), which is subject to closure requirements, and the conditions of this permit’s Module C. WMU 84, HWSB Outdoor Container Storage Area, was an outside pad previously used (all drums were removed prior to the RFI) for temporary storage of drummed waste generated during pre-RFI monitoring well installation and investigative activities. WMU 87 is the Sand Quarry Holding Basin, which formerly received storm water and may have received sand quarry wash water and a one-time historical release from the Catalyst Sump (WMU 78) overflow. WMU 88 is the
Former Sand Quarry Pond that was used for sand washing and is currently backfilled. WMU #89, the Former Catalyst Detonation Area was closed following RCRA and Ohio EPA regulations in 1985. The RFI concluded that there is no indication of a release from these five WMUs.

STATUS Further action to address potential soil contamination will be addressed under the Main Plant Soils Focus Area excavation plan (Barberton Excavation Plan) as outlined in E.10(f). The permitted unit will have to undergo closure according to the approved closure plan in the permit when it is taken out of service.

WMUs #’s 9, 61, 66, 81, and 90

DESCRIPTION: Wastewater tanks, floor drains, trenches and sumps in the Multi-Purpose Building (WMU #9 Multi Purpose Plant Floor Drains and Sumps), Chloroformate Process Area (WMU #61 Chloroformate Sump), CR-39 Process Area (WMU #66 CR-39 Sump and Trench System), and the Air Pollution Control system (WMU #81 APC Wastewater Tanks). Also, the former trichloroethene manufacturing plant (WMU #90 Former TCE Plant).

REMEDIAL GOAL: Address historical soil contamination, and prevent future releases.

RATIONALE FOR GOAL: Analysis of soils during the RFI showed evidence of potential contaminant release by the materials of the type historically and currently managed in these areas.

CORRECTIVE MEASURES COMPLETED: The units were inspected, and repaired as needed to prevent releases. The units are covered by buildings or concrete, limiting direct contact exposures. The vapor intrusion pathways were evaluated, and excess lifetime cancer risks meet Ohio EPA performance standards. Exposures may occur during invasive activities.

STATUS: Further action to address soil contamination will be addressed under the Main Plant Soils Focus Area excavation plan as outlined in E.10(g). Institutional controls will be evaluated.

MAIN PLANT GROUND WATER FOCUS AREA

DESCRIPTION: The main plant is divided by Hudson Run into the North Plant and South Plant, containing chemical manufacturing facilities, storage areas, tanks, offices and other structures. Areas not covered by structures are generally paved. In general, the ground water across the Facility at all depths above the shale confining layer has been affected by various Facility specific contaminants of
concern including organic chemicals and metals. The bedrock high area has been identified as source area contributing to Main Plant area ground water. Ground water is contaminated at levels unacceptable for potable use and also is a potential source of contamination to surface water.

The main contaminants of concern in the ground water include perchloroethene, trichloroethylene, cis-1, 2-dichloroethylene, vinyl chloride, chloride, dissolved solids, barium, calcium, and sodium. Source areas for the ground water contamination include the Lime Lakes, the production areas (e.g., North and South Plants), and the former waste disposal areas (e.g., Contractors’ Landfill).

REMEDIAL GOAL: Restoration of ground water to meet all regulatory standards. Continued control of migration of contaminated ground water (Corrective Action Environmental Indicator Determination 750 - Yes). Prevent surface water contamination above water quality standards. Prevent extraction except for monitoring and remediation.

CORRECTIVE MEASURES COMPLETED UNDER PBA: Surface paving, utility repair, and storm water management improvements were implemented to reduce vertical infiltration into the subsurface. This was conducted for the purpose of isolating to the extent practicable a source of chlorinated organic compounds from the bedrock high area, and to reduce the release of contaminants to surface water and sediments in Hudson Run and the Main Plant Area ground water.

STATUS: Ground water level measurements did not achieve the predicted elevation reduction following the paving improvements. Migration of contaminated ground water is under control (Corrective Action Environmental Indicator Determination 750 - Yes). Indications suggestive of reductive dechlorination of halogenated Constituents of Concern (COCs) have been observed in some of the wells. Ground water contamination remains. Condition E.10(h) details the action required to address the ground water contamination.

LIME LAKES #3 THROUGH #5 – Southern Facility Ground Water

DESCRIPTION: Three Solvay soda ash process waste impoundments. Lime Lake #3 covers approximately 56 acres, rises about 38 feet above grade, and holds around 2.6 million tonnes of waste. Lime Lake #4 covers approximately 117 acres, rises about 40 feet above grade, and holds around 5.1 million tonnes of waste. Lime Lake #5 covers approximately 113 acres, rises about 30 feet above grade, and holds around 3.1 million tonnes of waste.
STATUS: These units were reclaimed under Ohio EPA Approved Sludge Management Plans and Permits to install under Ohio EPA’s Division of Surface Water. The reclamation was contouring to facilitate surface water run-off, amending surface materials with wastewater treatment plant sludge, and then establishing a vegetative cover. PPG has been providing habitat enhancements in the process.

Lime Lake #4 was reclaimed under consensual Findings and Orders. Lime Lakes #3, #4, and #5 have completed the reclamation activities.

TUSCARAWAS RIVER DREDGE SPOILS

DESCRIPTION: In 1965, the Ohio Department of Public Works dredged the Tuscarawas River for flood control, and deposited the material on the banks of the river. Material was placed on PPG property in several locations. Materials consisted of sediments as well as bank materials from the widening and straightening of the river.

REMEDIAL GOAL: Eliminate unacceptable risks to human health and the environment due to the presence of contaminants (hexachlorobenzene) in the dredge spoils.

CORRECTIVE MEASURES COMPLETED: Fencing was installed in areas where hexachlorobenzene was detected in dredge spoil surface samples at concentrations greater than 100 mg/kg. Two areas of the Tuscarawas River bank were armored with riprap to prevent dredge spoil from re-entering the river due to river bank erosion.

STATUS: Maintain current controls. Condition E.10(j) describes the additional action required to ensure restricted access and to evaluate ecological risk.

CATEGORY 3: ONGOING REMEDY EVALUATION AND/OR IMPLEMENTATION

LOWER HUDSON RUN SEDIMENTS FOCUS AREA

DESCRIPTION: Contaminated sediments in the Lower Hudson Run Channel

REMEDIAL GOAL: Eliminate, to the extent necessary, potential human and ecological exposure to contaminated sediment. The sediment quality criteria are to be determined.
CORRECTIVE MEASURES COMPLETED UNDER PBA: Characterization activities have been conducted, and some limited removal of sediments has taken place.
STATUS: Contaminated sediments may have an impact on surface water and biota. Condition E.10(k) describes the additional activities required to address the possible impact on surface water and biota.

TUSCARAWAS RIVER AND WOLF CREEK

DESCRIPTION: The Tuscarawas River is Modified Warm Water Habitat, runs roughly six stream miles through the PPG Facility, and is a major tributary to the Muskingum River, part of the Ohio River watershed. It has been partially channeled by dredging in the 1960’s.

Wolf Creek is a tributary of the Tuscarawas, and is also Modified Warm Water Habitat. Approximately the last 1.1 miles of the creek are adjacent to PPG. Contamination of the water column was found during the RFI. Subsequent investigations in conjunction with a remedial study (phytoremediation pilot) demonstrated that the Wolf Creek surface waters are currently in attainment of chemical Water Quality Standards. A 1994 Ohio EPA study reported biological impairment of the stream.

The Tuscarawas River sediments and surface water are contaminated with volatile and semi-volatile organics (VOCs and SVOCs), metals and dissolved solids (TDS). Wolf Creek sediments may also be contaminated with VOCs and SVOCs.

REMEDIAL GOAL: Attainment of chemical and biological criteria suitable for surface water and sediments in a Modified Warm Water Habitat.

CORRECTIVE MEASURES COMPLETED UNDER PBA: Chemical and Biological surveys of the Tuscarawas River were performed in 1994 (by Ohio EPA), 2001, and 2006. A chemical survey of Wolf Creek was performed over four quarters in 2002 and 2003.

STATUS: PPG conducted an updated assessment of the Tuscarawas River in 2006. The findings convey that the river has not attained the desired biocriteria, and is in partial nonattainment.

Wolf Creek sediments have not been investigated in over 15 years. The sediments must be re-examined to determine current contamination. Further action for both waterways is required as described in Condition E.10(l) which may require a Corrective Measures Study if a remedy selection is needed.
IMPOUNDING RESERVOIR

DESCRIPTION: An area of approximately 240 acres immediately north of Lime Lake 6. Between 1959 and 1985, it was used to store and then release decant waters from Lime Lake 6.

REMEDIAL GOAL: Eliminate unacceptable risks to human health and the environment due to soil exposures.

STATUS: Evaluation of risk to the environment is required through a review of the existing Preliminary Ecological Risk Assessment, and completion of a Tier 1 Ecological Screening assessment. Current human exposures are under control.

LIME LAKE #1:

DESCRIPTION: A 74 acre surface impoundment rising 40 feet from local grade. Approximately 3.6 million tonnes of waste are disposed here, mostly Solvay soda ash process wastes. Some chlorinated solvent process wastes, coal ash, and cinders are also disposed here.

REMEDIAL GOAL: Isolate to the extent practicable sources of chlorinated organic compounds from Lime Lake 1 to Main Plant area ground water, and nearby surface waters, by reduction of leachate production and dispersion. Prevent direct contact and wind dispersal.

CORRECTIVE MEASURES COMPLETED: A horizontal well leachate collection system was installed to control seep discharges to adjacent water bodies.

PERFORMANCE STANDARDS: Meet Ohio Surface Water Quality Standards for selected organic and inorganic constituents in adjacent surface water bodies (Wolf Creek and Lower Hudson Run). Eliminate impact to Main Plant ground water. Meet human health and ecological risk based standards.

STATUS: Migration of contaminated ground water is under control (Corrective Action Environmental Indicator Determination 750). Additional measures as described in Condition E.10(n) are required to control unit and minimize risk to human health and the environment.

LIME LAKE #2

DESCRIPTION: A 41 acre surface impoundment rising 55 feet from local grade. Approximately 2.3 million tonnes of waste are disposed here, mostly Solvay soda ash process wastes. Some chlorinated solvent process wastes, coarse asbestos,
and coal and ash cinders are also disposed here. Dense Non-Aqueous Phase Liquids from chlorinated solvent manufacturing waste are known to be present within Lime Lake 2.

REMEDIAL GOAL: Isolate to extent practicable sources of chlorinated organics from Lime Lake 2 to Main Plant area ground water, and nearby surface waters, by reduction of leachate production and dispersion. Prevent direct contact and wind dispersal.

CORRECTIVE MEASURES COMPLETED: A horizontal well leachate collection and Dense Non-Aqueous Phase Liquids removal system was installed to control seep discharges.


STATUS: Migration of contaminated ground water is under control (Corrective Action Environmental Indicator Determination 750). Additional measures as described in Condition E.10(o) are required to control unit and minimize risk to human health and the environment.

LIME LAKE #6

DESCRIPTION: A Solvay soda ash process waste impoundment that covers approximately 228 acres.

STATUS: This unit is being remediated under an Ohio EPA Approved Sludge Management Plan, and Permits to Install under Ohio EPA’s Division of Surface Water. The remedy is contouring to facilitate surface water run-off, amending surface materials with wastewater treatment plant sludge, and then establishing a vegetative cover. PPG has been providing habitat enhancements in the process.

PPG has been remediating the unit since 2000. The estimated date of completion is 2016.

E.4 No Corrective Action Required at this Time
OAC Rule 3745-54-101

Reserved

E.5 RCRA Facility Investigation (RFI)
OAC Rule 3745-55-011
In the event of a newly discovered unit, the Permittee must conduct an RFI to thoroughly evaluate the nature and extent of any release of hazardous waste(s) and hazardous constituent(s) from all applicable WWUs identified in Condition E.10. The major tasks and required submittal dates are shown below. The scope of work for each of the tasks is found in U.S. EPA’s CAP.

(a) **RFI Workplan**

The Permittee must submit a written RFI Workplan to Ohio EPA, in case of a newly discovered waste management unit, on a timeframe established by Ohio EPA.

(i) Within 45 days of receipt of any Ohio EPA comments on the RFI Workplan, the Permittee must submit either an amended or new RFI Workplan that incorporates Ohio EPA’s comments.

(ii) Ohio EPA will approve or modify and approve, in writing, the amended or new RFI Workplan. The RFI Workplan, as approved or as modified and approved, shall be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved RFI Workplan must be authorized by Ohio EPA.

(b) **RFI Implementation**

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

(c) **RFI Final Report**

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

(i) Within 45 days of receipt of any Ohio EPA comments on the RFI Final Report, the Permittee must submit either an amended or new RFI Final Report that incorporates Ohio EPA’s comments.

(ii) Ohio EPA will approve or modify and approve, in writing, the amended or new RFI Final Report. The RFI Final Report, as approved or as modified and approved, shall be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved RFI Final Report must be authorized by Ohio EPA.
E.6 Interim Measure (IM)

The following specific IM(s) have been identified and conducted:

- Develop and implement a sampling and analysis plan to monitor municipal waste water treatment plant sludge being accepted for amending the surface of Lime Lake Four.
- Install a leachate collection system in Lime Lakes One and Two, and Contractors’ Landfill, and a waste water treatment plant to treat the collected leachate.
- Install fencing and security as needed to control and restrict public access.
- Investigate previously plugged and abandoned brine extraction wells. Four wells met criteria for re-plugging, which was done per Ohio Department of Natural Resources guidance.
- Evaluate risks to human health and the environment, identify sources and transport mechanisms, and identify appropriate remedial actions for contaminated sediments in affected adjacent waterways.
- Remove cement kiln dust from Waste Management Unit 94.
- Remove PCB contaminated materials in North Spoils Area.

The interim measures were implemented by PPG. The leachate collection and treatment systems and the inspection and maintenance of the fencing are on-going activities. All other Interim Measures are complete.

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 and other relevant information, the Permittee may submit an application to Ohio EPA for a permit modification under OAC Rule 3745-50-51 to terminate the Corrective Action tasks of the Schedule of Compliance. Other tasks identified in the Schedule of Compliance shall remain in effect. This permit modification application must conclusively demonstrate that there are no releases of hazardous waste or constituents from WMUs at the Facility that pose an unacceptable risk to human health and the environment.
If, based upon review of the Permittee's request for a permit modification, the results of the completed RFI, and other information, Ohio EPA determines that releases or suspected releases which were investigated either are nonexistent or do not pose an unacceptable risk to human health and the environment, Ohio EPA will approve the requested modification. Decisions regarding the completion of RCRA Corrective Action and no further action may be made for the entire Facility, for a portion of the Facility, or for a specific unit or release.

(b) **Periodic Monitoring**

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

(c) **Further Investigations**

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

(i) Within 45 days of receipt of any Ohio EPA comments, the Permittee must submit either an amended or new CMS Workplan that incorporates Ohio EPA’s comments.

(ii) Ohio EPA will approve or modify and approve, in writing, the amended or new CMS Workplan. The CMS Workplan, as approved or as modified and approved, must be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved CMS Workplan must be authorized by Ohio EPA.

(b) **CMS Workplan Implementation**

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

(c) **CMS Final Report**

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

(i) Within 45 days of receipt of any Ohio EPA comments, the Permittee must submit either an amended or new CMS Final Report that incorporates Ohio EPA’s comments.

(ii) Ohio EPA will approve or modify and approve, in writing, the amended or new CMS Final Report. The CMS Final Report, as approved or as modified and approved, must be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved CMS Final Report must be authorized by Ohio EPA.

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

The Corrective Measure selected for implementation must: (1) be protective of human health and the environment; and as applicable (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.

In authorizing the proposed Corrective Measures, Ohio EPA may also consider such other factors as may be presented by site-specific conditions.

(a) Permit Modification

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

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

(b) Financial Assurance

OAC Rule 3745-54-101

Within 45 days after receiving approval of the CMI, the Permittee must provide financial assurance in the amount necessary to implement the corrective measure(s) as required by OAC Rule 3745-54-101 (B) and (C).

E.10 Current Corrective Measures

The following Corrective Measures are a culmination of activities conducted under the PBA Agreement between the U.S.EPA and the Permittee, rather than through a more conventional CMS/CMI process. The Permittee must implement corrective measures as described below. A table of the schedule for deliverable documents is included at the end of Module E.
(a) The Permittee shall initiate entering into an Environmental Covenant with Ohio EPA pursuant to Ohio Revised Code Sections 5301.80 through 5301.92 within one year after the issuance of this Permit Renewal/Modification. The Environmental Covenant will restrict some portions of the property to industrial use. Other non-residential reasonable anticipated uses may also be considered, such as commerce, agriculture and recreation, for portions of the Facility. This restriction will run with the land and will remain binding upon all future Facility owners should the Facility be transferred. The Environmental Covenant will include a legal description of the subject Facility, identifying the contaminated areas and describe acceptable and unacceptable land uses. The Permittee shall submit a survey plat and legal description with the Environmental Covenant, specifying the areas of the facility to be restricted, and indicating the anticipated future use for each parcel. Ohio EPA will monitor the Facility owner’s adherence to the Environmental Covenant to ensure continued protection of human health and the environment. The types of limitations for this Facility may include:

(i) Industrial land use limitations. The Facility shall not be used for residential, commercial (other than those associated with and incidental to industrial operations) or agricultural activities, but may be used for certain industrial activities. The term “residential activities” shall include, but not be limited to, the following:

(A) Single and multi-family dwelling and rental units;
(B) Day care centers and preschools;
(C) Hotels and motels;
(D) Educational (except as a part of industrial activities within the Facility) and religious facilities;
(E) Restaurants and other food and beverage services (except as a part of industrial activities within the Facility);
(F) Entertainment and recreational facilities (except as a part of industrial activities within the Facility);
(G) Hospitals and other extended care medical facilities (except as a part of industrial activities within the Facility); and
(H) Transient or other residential facilities.

The term “industrial activities” includes manufacturing, processing operations and office and warehouse use, including but not limited to production, storage and parking/driveway use.

(ii) Agricultural land use limitations. The Facility shall not be used for residential or commercial activities, but may be used for certain
agricultural activities, such as growing crops, fruit production, or animal grazing, to be determined on a case-by-case basis, in consensus with the Facility.

(iii) The Facility may only be used for certain commercial activities, to be determined on a case-by-case basis, in consensus with the Facility.

(iv) The Facility may only be used for certain recreational activities, such as baseball or soccer fields, to be determined on a case-by-case basis, in consensus with the Facility.

(v) Prohibit the extraction of ground water for any purpose other than monitoring, disposal at the waste water treatment plant, or pursuant to a ground water remedial action on designated portions of the Facility.

CATEGORY 2: REMEDY CONSTRUCTION COMPLETE WITH LONG-TERM OPERATION AND MAINTENANCE

(b) Lower Hudson Run Surface Water Focus Area

Periodic inspections, particularly after major storm events, will be needed for the low head dams, as well as a plan for repairing the dams if they are damaged.

The Permittee shall prepare and submit an Inspection and Maintenance Plan (IMP) within one year after the issuance of this permit renewal.

(i) Within 45 days of receipt of any Ohio EPA comments on the IMP, the Permittee must submit either an amended or new plan that incorporates Ohio EPA's comments.

(ii) Ohio EPA will approve or modify and approve, in writing, the amended IMP or new IMP. The IMP, 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 IMP must be authorized by Ohio EPA.
(c) Hudson Run Reservoir

The sediment cap is the remedy in place for this focus area. However, periodic inspection, particularly after major storm events, will be needed, as well as a plan for repairing the submarine cap if it is damaged.

The Permittee shall prepare and submit an Inspection and Maintenance Plan (IMP) within one year following the effective date of this permit renewal.

(i) Within 45 days of receipt of any Ohio EPA comments on the IMP, the Permittee must submit either an amended or new plan that incorporates Ohio EPA’s comments.

(ii) Ohio EPA will approve or modify and approve, in writing, the amended IMP or new IMP. The IMP, 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 IMP must be authorized by Ohio EPA.

(d) Contractors’ Landfill

The Permittee shall prepare and submit an Operation and Maintenance (O&M) Plan for the cover system and the southern (base-of highwall) run-on diversion system within one year following the effective date of this permit renewal.

(i) Within 45 days of receipt of any Ohio EPA comments on the O&M plan, the Permittee must submit either an amended or new plan that incorporates Ohio EPA’s comments.

(ii) Ohio EPA will approve or modify and approve, in writing, the amended O&M plan or new O&M plan. The O&M plan, 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 O&M plan must be authorized by Ohio EPA.

The Permittee shall implement the work plan entitled Contractors’ Landfill Infiltration Control Performance Measures and Post Construction Monitoring, approved April 11, 2008 by Ohio EPA with the concurrence of USEPA.

The Permittee shall continue to monitor the natural attenuation of pollutants in ground water, and ensure that the spatial extent of contamination is not
expanding. This would be a part of a larger, periodic, Facility-wide ground water monitoring program. The Permittee shall continue implementation of the existing Facility-wide ground water monitoring plan.

(e) Main Plant Soils Focus Area

The Permittee shall continue implementation of the Barberton Excavation Plan during invasive activities such as construction or utility repairs. The plan addresses preventing unacceptable exposures to workers conducting invasive activities at the Facility. The plan also addresses the safe and legal management of excavated contaminated soils.

Direct contact exposures to on-site personnel at the North and South Plants are currently limited by the presence of permanent structures and pavement over contaminated and potentially contaminated soils. The permittee shall maintain these permanent structures and paved areas over contamination in a manner consistent with preventing direct contact exposures to personnel engaged in routine, non-invasive activities at the North and South Plants.

Demolition and new construction addressed by the Barberton Excavation Plan shall be completed, at the end of the demolition/construction activities, in a manner which prevents direct contact of non-invasive workers with contaminated soils.

(f) Sand Quarry WMUs 84, 87, 88, 89

The Permittee shall address potentially affected soils on a Facility-wide basis, as part of the Main Plant Soils Focus Area. (Unit 83 is addressed in Module C.)

(g) WMU's #’s 9, 61, 66, 81, and 90.

The Permittee shall address affected soils on a Facility-wide basis, as part of the Main Plant Soils Focus Area.

(h) Main Plant Ground Water Focus Area

Surface paving, utility repair, and storm water management improvements were implemented as remedies to limit vertical infiltration. However, periodic inspection and maintenance of these remedies is required. The Permittee shall prepare and submit an Inspection and Maintenance Plan (IMP) within one year following the effective date of this permit renewal.
(i) Within 45 days of receipt of any Ohio EPA comments on the IMP, the Permittee must submit either an amended or new plan that incorporates Ohio EPA's comments.

(ii) Ohio EPA will approve or modify and approve, in writing, the amended IMP or new IMP. The IMP, 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 IMP must be authorized by Ohio EPA.

The Permittee shall continue to monitor the natural attenuation of pollutants in ground water, and ensure that the spatial extent of contamination is not expanding. This would be a part of a larger, periodic, Facility-wide ground water monitoring program. The Permittee shall continue implementation of, the July 2003 Sitewide Groundwater Monitoring Program Plan (SWGWMP) and sampling and analysis procedures as documented in the March 2004 Sitewide Groundwater Monitoring Program Quality Assurance Project Procedures Addendum (QAPPA), and subsequent approved modifications.

Periodically the Permittee shall evaluate potential biological and chemical enhancements to natural attenuation in areas where the ground water plume may begin to migrate downgradient, or natural attenuation is stalled or not proceeding at an acceptable rate. The Permittee shall prepare a ground water attenuation enhancement feasibility study and report its findings within one year following the effective date of the permit renewal, and implement those enhancements which are considered beneficial. The Permittee shall initiate additional ground water attenuation enhancement feasibility studies upon notification by Ohio EPA of the requirement to conduct such.

(i) Lime Lakes #3 through #5

The Permittee shall continue O&M and GWM requirements for each Lime Lake.

The Permittee shall investigate the feasibility of improving the Qualitative Habitat Evaluation Index (QHEI) along the adjacent reach of Tuscarawas River. The Permittee will submit a report, and a work plan if improvements are feasible, by the end of three years of the effective date of this permit renewal.

(j) Tuscarawas River Dredge Spoils
The Permittee shall prepare and submit an Inspection and Maintenance Plan (IMP) for the existing security and river bank erosion control measures by the end of the first year following the effective date of this permit renewal.

(i) Within 45 days of receipt of any Ohio EPA comments on the IMP, the Permittee must submit either an amended or new plan that incorporates Ohio EPA’s comments.

(ii) Ohio EPA will approve or modify and approve, in writing, the amended IMP or new IMP. The IMP, 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 IMP must be authorized by Ohio EPA.

The Permittee will conduct a scoping level ecological risk assessment per Ohio EPA Guidance to ensure that potential negative effects to sensitive receptor species are within acceptable boundaries. The remedies for this unit may need to be re-evaluated if the risk assessment documents unacceptable exposures. A report on these assessments shall be submitted by the end of three years of the effective date of this permit renewal.

CATEGORY 3: ONGOING REMEDY EVALUATION AND/OR IMPLEMENTATION

(k) Lower Hudson Run Sediments Focus Area

There is remaining contaminated sediment at higher concentrations which are primarily viewed as a potential contamination source that could affect surface water quality in the LHR or farther downstream. The Permittee shall be solely responsible for designing and implementing the corrective measure (focused dredging of sediment that has accumulated at the Low Head Impoundment as well as the sediment mounds). The Permittee will inform Ohio EPA five business days prior to beginning work, so that Ohio EPA can provide on-site oversight. The contaminated material must be disposed off-site. Water levels in LHR may be lowered temporarily to facilitate sediment removal. Water that may be generated during sediment removal actions or by solids dewatering must be treated on-site at the IM-II Plant. This will be accomplished according to a workplan and schedule developed by the Permittee and provided to Ohio EPA by the end of the first year following the effective date of this permit renewal. The Permittee shall use good faith efforts to reach consensus with Ohio EPA on corrective measures design and implementation issues.
PPG must submit a remedy construction completion report within 90 days after the corrective measures are implemented.

(I) Tuscarawas River and Wolf Creek

1) The Permittee shall evaluate the riparian zone, specifically the Qualitative Habitat Evaluation Index for both streams, and determine if habitat enhancements would be feasible and beneficial. The Permittee shall submit a report of these findings and, if enhancements are feasible, a work plan to Ohio EPA for approval within three years from the issuance of this permit renewal.

2) The Permittee shall develop a work plan to determine if sediments in Wolf Creek are contaminated with volatile organic compounds (per SW-846 Method 8260B), to Ohio EPA by the end of one year following the effective date of this permit renewal. The Permittee shall implement the plan following approval by the Ohio EPA, and submit a report to Ohio EPA upon completion, no later than three years following the effective date of this permit renewal. This report shall contain an evaluation of the need for remedial actions. If corrective measures are indicated, the Permittee shall develop and implement an Agency approved remedial action plan following Permit Condition E.8.

3) The Permittee shall evaluate the need for further remedial action following the completion of the Total Maximum Daily Loads for the Tuscarawas River Watershed process, and submit a report to Ohio EPA, by the end of three years following the effective date of this permit renewal, or the final issuance of the TMDL, whichever comes last. If corrective measures are indicated, the Permittee will follow Permit Condition E.8.

4) Determining the effectiveness of the remedies:

(a) Tuscarawas River. The 2006 and 2001 surveys of the Tuscarawas River between Long Lake and Chippewa Creek (RM 114.1-104.3) were performed to establish baseline conditions in this river reach. Following implementation of any required remedies and feasible enhancements, the permittee shall re-investigate this portion of the stream using methods which will enable direct comparison to the baseline studies. This study shall include an evaluation of the post-enhancement Qualitative Habitat Evaluation Index. Following completion and
evaluation of the studies, the permittee shall submit a report to Ohio EPA for approval. The timing of this re-evaluation will be negotiated based on the nature of the remedies and/or enhancements, e.g., an enhancement which takes a significant time to develop will not require a re-evaluation until after the stream is likely to be affected by the enhancement.

(b) Wolf Creek. A survey of the lower mile of Wolf Creek was performed by Ohio EPA in 1993 (report dated July 30, 1994). Using the results of this survey as a baseline, the permittee shall evaluate post-enhancement conditions in Wolf Creek using the methods employed for the 1993 study. The permittee will also evaluate the post-enhancement (or remedy if required) Qualitative Habitat Evaluation Index for comparison to the survey required in permit Condition E.1.1. Following completion and evaluation of the studies, the permittee shall submit a report to Ohio EPA for approval. The timing of this re-evaluation will be negotiated based on the nature of the enhancements, e.g., an enhancement which takes a significant time to develop will not require a re-evaluation until after the stream is likely to be affected by the enhancement.

(m) Impounding Reservoir

The Permittee shall re-evaluate existing ecological and human health risk assessment data to ensure that potential negative affects to sensitive receptors are within acceptable boundaries. The remedies for this unit may need to be re-evaluated if the risk assessments document unacceptable exposures. A report on these assessments shall be submitted by the end of four years following the effective date of this permit renewal.

(n) Lime Lake #1

The permittee shall pursue an Environmental Covenant per Section E.10. (a) of this permit.

The Permittee shall continue to operate and maintain the existing leachate collection system, until and unless such time as a remedy or pilot study workplan is approved which does not require continued operation of this Interim Measure. The Permittee shall maintain and update the existing Operation and Maintenance Plan as necessary to ensure optimal operation of the system. An updated Operation and Maintenance Plan shall be
submitted for approval by the end of one year following the effective date of this permit renewal.

The Permittee shall continue to monitor the natural attenuation of pollutants in ground water, and ensure that the spatial extent of contamination is not expanding. This would be a part of a larger, periodic, facility-wide ground water monitoring program. The Permittee shall continue implementation of the July 2003 SWGWMP and sampling and analysis procedures as documented in the March 2004 Sitewide Groundwater Monitoring Program QAPPA, and subsequent approved modifications, per Module Z of this permit.

The Permittee shall investigate the feasibility of improving the Qualitative Habitat Evaluation Index (QHEI) along the adjacent reach of Wolf Creek per Section E.10. (I) (1) of this permit.

The Permittee shall maintain the low head dams in Lower Hudson Run to prevent the unacceptable releases to surface water from this unit per Section E.10 (b) of this permit.

By the end of one year following the effective date of this permit renewal, the permittee shall:

- Complete a review of existing studies and data for this WMU
- Establish performance based goals, for example, meet Ohio Water Quality Standards, minimize leachate generation or release, enhance run-on/run-off control, maximize unit stability, enhance habitat quality
- Propose a final remedy
- Propose an appropriate cover design
- Propose (if deemed appropriate) a pilot study to evaluate the effects of discontinuing operation of the leachate collection system, including a detailed evaluation of the potential for negative impacts to the environment during the test period and the means to monitor and mitigate such impacts
- Submit reports and workplans for these tasks to Ohio EPA for consensus and approval

By the end of two years following the effective date of this permit renewal, the permittee shall:

- Initiate the pilot study of shut down of the leachate collection system, if approved
Monitor the implementation of the pilot study per the approved workplan

Implement any other investigations identified by PPG to provide information relevant to the design of a final remedy

By the end of four years following the effective date of this permit renewal, the permittee shall:

• Submit a report of the pilot study implementation, and any other investigations undertaken, to Ohio EPA

• Complete the final remedy design, and submit an implementation workplan to Ohio EPA for approval

• Submit a schedule for remedy implementation to Ohio EPA

• Begin implementation of the final remedy

By the end of five years following the date of this permit renewal, the permittee shall complete construction of the final remedy. PPG may opt to implement any of these tasks earlier than called for in this permit, at its discretion.

PPG must submit a remedy construction completion report within 90 days after the final remedy is constructed.

(o) Lime Lake #2

The permittee shall pursue an Environmental Covenant per Section E.10.(a) of this permit.

The Permittee shall continue to operate and maintain the existing leachate collection system, until and unless such time as a remedy or pilot study workplan is approved which does not require continued operation of this Interim Measure. The Permittee shall maintain and update the existing Operation and Maintenance Plan as necessary to ensure optimal operation of the system. An updated Operation and Maintenance Plan shall be submitted for approval by the end of one year following the effective date of this permit renewal.

The Permittee shall continue to monitor the natural attenuation of pollutants in ground water, and ensure that the spatial extent of contamination is not
expanding. This would be a part of a larger, periodic, facility-wide ground water monitoring program. The Permittee shall continue implementation of the July 2003 SWGWMP and sampling and analysis procedures as documented in the March 2004 Sitewide Groundwater Monitoring Program QAPPA, and subsequent approved modifications, per Module Z of this permit.

By the end of two years following the effective date of this permit renewal, the permittee shall:

- Complete a review of existing studies and data for this WMU
- Establish performance based goals, for example meet Ohio Water Quality Standards, minimize leachate generation or release, enhance run-on/run-off control, maximize unit stability, enhance habit quality
- Develop conceptual corrective measures for dense non-aqueous phase liquids present in the WMU
- Initiate any required pilot studies and other investigations identified by PPG to provide information relevant to the design of a final remedy.
- Submit reports and workplans for these tasks to Ohio EPA for consensus and approval

By the end of three years following the date of this permit renewal, the permittee shall:

- Submit a report of the pilot study implementation, and any other investigations undertaken, to Ohio EPA for approval
- Propose a final remedy
- Propose an appropriate cover design
- Finalize DNAPL corrective measure(s) conceptual design
- Submit reports and workplans for these tasks to Ohio EPA for consensus and approval

By the end of five years following the effective date of this permit renewal, the permittee shall:

- Complete the final remedy design, and submit an implementation workplan to Ohio EPA for approval
- Submit a schedule for remedy implementation to Ohio EPA
- It is understood that the remedy implementation may require a staged approach due to the complex and interrelated issues of infiltration
control, leachate collection, DNAPL recovery, and the possibility of DNAPL mobilization

Permittee shall implement the final remedy following Ohio EPA’s approval of the final remedy design and implementation workplan such that the remedy construction is completed by the end of the permit period. PPG may opt to implement any of these tasks earlier than called for in this permit, at its discretion.

PPG must submit a remedy construction completion report within 90 days after the final remedy is constructed.

(p) Lime Lake #6

The on-going reclamation of Lime Lake #6 is a part of the voluntary reclamation program applicable to Lime Lakes #3 thru #6 and is an element of the overall corrective action remedy for the waste management unit. The reclamation is currently being implemented and monitored pursuant to an approved January 2000 Sludge Management Plan and Permits to Install issued by Ohio EPA’s Division of Surface Water. For as long as Permittee conducts reclamation and remains in substantial compliance with the requirements of the Division of Surface Water’s Sludge Management Plan and Permits to Install, the Corrective Action obligations for this component of the remedy for Lime Lake #6 are met.

The Permittee shall investigate the feasibility of improving the Qualitative Habitat Evaluation Index (QHEI) along the adjacent reach of Tuscarawas River. The Permittee will submit a report, and a work plan if improvements are feasible, by the end of three years of the effective date of this permit renewal.

If PPG fails to complete the reclamation by the date nine (9) years after the effective date of this permit or the reclamation and other measures do not achieve Corrective Action goals and requirements, the remedy and remedial goals will be re-evaluated per Subsection E.8. of this permit.

PPG must submit a remedy construction completion report within 90 days after the final remedy is constructed.

(q) Summary of Facility-Wide Remedies and Obligations

The following summarizes remedies which apply to the facility as a whole, which are detailed in the relevant sub-sections of this permit.
The Permittee shall continue the inspection and maintenance of the Public Access Interim Measure. The Permittee may review the need for continued inspection and maintenance of the Public Access Interim Measure. There may be justification to discontinue some or all of this Interim Measure.

The Permittee shall address affected soils on a Facility-wide basis, through continued and on-going implementation of the Barberton Excavation Plan.

The Permittee shall restrict future use of the Facility, where appropriate, to specific land uses, and restrict the extraction and use of ground water in specific areas of the Facility, through an Environmental Covenant per Ohio Revised Code 5301.80 through 5301.92. (See § E.10. (a).)

The Permittee shall continue implementation of the Facility-wide ground water monitoring plan. (See Module Z)

All operations and maintenance plans, inspection and maintenance plans, soil management plans (excavation plans), ground water monitoring plans, and health and safety plans mentioned in this permit are hereby incorporated by reference into this permit.

Beginning with the month following the effective date of this permit renewal, PPG shall provide Ohio EPA with progress reports every other month on or before the tenth day of the month for which it is required. The progress reports shall conform to the format of the current reports required under the U.S. EPA Administrative Order on Consent.

(r) Financial Assurance
OAC Rule 3745-54-101

Within 18 months of the issuance of this Permit Renewal, the Permittee must provide financial assurance in the amount necessary to implement the corrective measures of Permit Condition E.10 as required by OAC Rule 3745-54-101 (B) and (C).

E.11 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 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.12 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.11.

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.13 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.14 **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.
## PPG Barberton RCRA Permit

### Module E Section E.10 Current Corrective Measures - Schedule of Tasks and Deliverables

<table>
<thead>
<tr>
<th>Task / Deliverable</th>
<th>Schedule of Submittal Dates (End of year X following permit issuance)</th>
<th>Subsection of Permit Section E.10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiate entering Environmental Covenant</td>
<td>1</td>
<td>a</td>
</tr>
<tr>
<td>Hudson Run Reservoir sediment cap inspection and maintenance plan</td>
<td>1, resubmit within 45 days of OEPA comments</td>
<td>c</td>
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<tr>
<td>Lower Hudson Run low head dam inspection and maintenance plan</td>
<td>1, resubmit within 45 days of OEPA comments</td>
<td>b &amp; n</td>
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<tr>
<td>Lower Hudson Run sediment removal workplan and schedule</td>
<td>1</td>
<td>k</td>
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<tr>
<td>Tuscarawas River and Wolf Creek riparian zone and QHEI evaluation report and work plan</td>
<td>3, If corrective measures are indicated, enter Section E.8.</td>
<td>l (1) &amp; n</td>
</tr>
<tr>
<td>Wolf Creek work plan for sediment evaluation</td>
<td>1</td>
<td>l (2)</td>
</tr>
<tr>
<td>Implement Wolf Creek work plan for sediment evaluation and submit report</td>
<td>3, If corrective measures are indicated, enter Section E.8.</td>
<td>l (2)</td>
</tr>
<tr>
<td>Tuscarawas River TMD evaluation and report</td>
<td>3</td>
<td>If corrective measures are indicated, enter Section E.8.</td>
</tr>
<tr>
<td>Tuscarawas River, Hudson Run and Wolf Creek Re-Evaluation of Remedy Performance versus base-line</td>
<td>4</td>
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<tr>
<td>North and South Plants infiltration control inspection and maintenance plan</td>
<td>1</td>
<td>resubmit within 45 days of OEPA comments</td>
</tr>
<tr>
<td>Groundwater attenuation enhancement FS and report, and implementation schedule if corrective measures are indicated</td>
<td>1</td>
<td>Implement if corrective measures are indicated</td>
</tr>
<tr>
<td>Interim Measure II operation and maintenance Plan</td>
<td>1</td>
<td></td>
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<tr>
<td>Lime Lake 1: Submit reports and workplans for these tasks: review existing information, propose performance based goals, propose final remedy, propose a cover design, propose IM II shut-down pilot if appropriate</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Lime Lake 1: (Implement pilot study if approved, monitor pilot study, implement other investigations deemed necessary) No specific deliverables.</td>
<td>2</td>
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<tr>
<td>Task Description</td>
<td>Task Number</td>
<td>Notes</td>
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<tr>
<td>Lime Lake 1: Submit pilot study and additional investigation reports, complete final remedy design and submit implementation workplan, submit remedy implementation schedule</td>
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<tr>
<td>Lime Lake 1: Complete construction of final remedy.</td>
<td>5</td>
<td>n</td>
</tr>
<tr>
<td>Lime Lake 2: Submit reports and workplans for these tasks: review existing information, propose performance based goals, propose conceptual corrective measures for DNAPL</td>
<td>1</td>
<td>o</td>
</tr>
<tr>
<td>Lime Lake 2: Submit reports and workplans for these tasks: propose final remedy, propose a cover design, finalize conceptual corrective measures for DNAPL</td>
<td>2</td>
<td>o</td>
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<tr>
<td>Lime Lake 2: Complete final remedy design and submit implementation workplan, submit remedy implementation schedule</td>
<td>3</td>
<td>o</td>
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<tr>
<td>Lime Lake 2: Complete construction of final remedy.</td>
<td>5</td>
<td>o</td>
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<tr>
<td>Lime Lakes 3 - 6 Tuscarawas River qualitative habitat evaluation, report, and possible work plan</td>
<td>3</td>
<td>If corrective measures are indicated, enter Section E.8.</td>
</tr>
<tr>
<td>Contractors' Landfill operation and maintenance plan</td>
<td>1</td>
<td>resubmit within 45 days of OEPA comments</td>
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<tr>
<td>Tuscarawas River Dredge Spoils inspection and maintenance plan</td>
<td>1</td>
<td>resubmit within 45 days of OEPA comments</td>
</tr>
<tr>
<td>Tuscarawas River Dredge Spoils Ecological Risk Assessment and report</td>
<td>3</td>
<td>j &amp; l (4)</td>
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<tr>
<td>Impounding Reservoir revaluation of existing human health and ecological risk assessments</td>
<td>4</td>
<td>m</td>
</tr>
<tr>
<td>Progress reporting</td>
<td>1 month</td>
<td>every other month thereafter</td>
</tr>
</tbody>
</table>
MODULE Z - INTEGRATED GROUND WATER MONITORING
OAC Rule 3745-54-101

The PPG Barberton facility historically covered approximately 3,250 acres of land in Summit County within the cities of Barberton, New Franklin, and Norton. The surrounding land uses include residential, industrial/commercial, agricultural, and forest/field/wetlands areas. The uppermost bedrock in the area consists of lower Pennsylvanian Age sandstones and shales of the Sharon Conglomerate, the lowest unit of the Pottsville Group. Below the Sharon Conglomerate lie Mississippian Age shales. These shales prevent or reduce the movement of ground water and contaminants from the Sharon Conglomerate into the underlying bedrock units. Erosion and glaciation has created deep buried valleys in the bedrock units. The area experienced a series of advances of continental glaciers during the Pleistocene Epoch. The final glacial advance occurred during the Wisconsin Stage. In its retreat, the glacier deposited a layer (10 to 30 feet thick) of sandy, silty till over the bedrock highs. It also filled the deep bedrock valleys with a heterogeneous mixture of tills and outwash deposits of silts, clays, sands and gravel on the valley floors overlain in some areas by lacustrine silts and clays.

Ground water occurs within the glacial deposits and in the Sharon Conglomerate. Shale layers within the Sharon Conglomerate create perched zones of ground water. Some of the perched ground water flows laterally toward outcrop areas at the edges of the bedrock forming local seeps and springs. The flow of ground water below the perched zones of the Sharon Conglomerate is mainly laterally toward the bedrock valleys filled with glacial outwash. Monitoring wells at the facility monitor several ground water zones including shallow bedrock, shallow glacial outwash, the base of the Sharon Conglomerate; the mid glacial outwash; the deep glacial outwash in the valleys; the source areas (leachate wells); the perched bedrock; the perched zones in the glacial outwash/fill; and other miscellaneous areas in the Sharon and sub-Sharon bedrock. In general, the ground water across the facility at all depths above the shale confining layer has been impacted by various facility specific contaminants of concern including organic chemicals and metals. The main contaminants of concern in the ground water include tetrachloroethylene, trichloroethylene, cis-1,2-dichloroethylene, vinyl chloride, hexachlorobenzene, chloride, dissolved solids, barium, calcium, and sodium. Source areas for the ground water contamination include the Lime Lakes, the production areas (e.g., North and South Plants), and the former waste disposal areas (e.g., Contractors’ Landfill).

With respect to surface water, PPG is located within the Upper Tuscarawas River watershed. Streams that pass through or directly adjacent to the PPG facility include the Tuscarawas River plus two of its tributaries, Wolf Creek and Hudson Run. Based upon water level elevations in nested wells in the glacial outwash materials, it was determined that the ground water generally has an upward vertical flow direction in the vicinity of the streams. Therefore, it is assumed that the streams in the vicinity of the facility are mainly gaining streams with the ground water generally discharging into the surface water bodies.
PPG has completed various investigative and remedial activities at the site since the 1980s including an RFI/CMS, a sitewide human health risk assessment, and various interim measures. As a part of these projects, PPG has installed over 500 monitoring wells to monitor ground water at the multiple waste management units at the facility. Currently approximately 400 of these wells still exist at the site. The available ground water data collected periodically since the 1980s indicate that the facility has affected the quality of ground water at the site and that the documented ground water contamination plumes are intermingled and, thus, unit specific ground water monitoring is not practical. Appendix IX Volatile Organic Compounds and Semi-Volatile Organic Compounds, inorganic compounds, and Target Analyte List metals have been analyzed numerous times during the historic sampling of the site monitoring wells.

Based upon information gathered and processed during the RFI/CMS and the human health risk assessment, it was determined that the ground water exposure pathway is incomplete. This conclusion is based mainly upon the fact that current domestic wells and areas which may be developed and require domestic wells are upgradient of the source areas or are separated from the source areas by an hydraulic divide such as the Tuscarawas River, Wolf Creek, and Hudson Run. The ultimate receptors of the contaminated ground water are the surface water bodies located in or running through the PPG property. In addition, in December 2001, it was determined through an indicator CA-725 that exposures to human health were currently under control. In January 2007, it was determined through an indicator CA-750 that the migration of contaminated ground water is currently under control.

In August 2001, PPG and U. S. EPA entered into a Performance Based Corrective Action Agreement (PBA). Under the PBA, a long term sitewide ground water monitoring program was approved in September 2003. Details of the monitoring program are documented in the July 2003 Sitewide Groundwater Monitoring Program Plan (SWGWMP) and sampling and analysis procedures are documented in the March 2004 Sitewide Groundwater Monitoring Program Quality Assurance Project Procedures Addendum (QAPPA). The original ground water monitoring program included quarterly sampling of 25 monitoring wells and semi-annual sampling of an additional 56 wells. Eleven additional wells were included for static water level measurements, only. The first year of monitoring began in December 2003. During the first year of monitoring, samples from wells in the area around Lime Lake 2 also were analyzed for gross alpha, gross beta, and organochlorine compounds including pesticides and PCBs. The expanded list of analytes for LL-2 was part of a suspected buried drum investigation at that unit, only. In 2005 and 2006, the monitoring wells were sampled on an annual basis in July of each year. In 2007, PPG proposed moving to a triennial sampling program because the contaminant and MNA parameter concentrations are relatively stable. It was agreed that an evaluation of the data
from each subsequent sampling event will be used to determine if triennial sampling is still appropriate or if a different sampling frequency is indicated.

The purpose of the long term sitewide ground water monitoring program is to evaluate the effectiveness of intrinsic bioremediation and monitored natural attenuation (MNA) at reducing the concentrations of contaminants in the ground water and to ensure that the spatial extent of the ground water contamination is not expanding. The rationale for monitoring well selection included:

- Wells were selected to provide a manageable sitewide ground water monitoring network. Unit specific sampling was not included. If required, additional remedy specific ground water sampling will be conducted as part of this or another program.

- Wells were selected at locations in or downgradient of the source areas to allow monitoring of intrinsic bioremediation/MNA processes over the long term and over a large area. Concentrations within source areas (e.g., North and South Plants, Lime Lake 2) are not expected to change appreciably in the short term, as long as free product remains present.

- Monitoring is focused on the shallow ground water since all ground water flows up through this zone prior to discharging into the local streams. However, wells are also included that monitor the deeper ground water in specific areas.

- Monitoring wells included in the program are all in or downgradient of the source areas. Because site specific background values for inorganic constituents were established statistically for both the bedrock and outwash aquifers during the RFI, no background sampling is performed as part of this program.

The original sitewide ground water monitoring program has been revised several times. These revisions include:

- Cyanide was added as an analyte for LL-2 and Contractors Landfill, only.

- Semi-volatile analyses were reduced to HCB, only. This applies to selected wells in the North and South plants and Lime Lake 2.

- Well NP-10 was found to be damaged. It was abandoned and replaced with a new well, NP-10*.
Wells LL2-06B, LL2-06B-V2, and LL2-15A were replaced in the monitoring network by LL2-02B\(^*\), LL2-03B\(^*\) and LL2-06B\(^*\)-V1. The original wells had integrity problems and were abandoned.

The Target Analyte List metals analyzed was reduced to arsenic, manganese, nickel, lead, copper, antimony, and thallium.

Monitoring well TRN-02C was removed from the monitoring network because of an obstruction in the casing that hindered sampling activities. A replacement well was not added to the monitoring network.

Sampling frequency was changed to triennial beginning with the sampling event conducted in 2009. Triennial sampling is sufficient at this time because concentrations of contaminants and MNA indicators are not changing rapidly. However, sampling frequency will be re-evaluated when each current sampling event data are evaluated.

Well CLF-16B was added to the monitoring network as part of the post-construction infiltration control monitoring at the Contractors Landfill.

This module presents permit conditions addressing the requirements for an integrated ground water monitoring program at the PPG facility. Ground water contamination plumes from a number of units regulated under OAC Rule 3745-54-101 have cominged at the site. The units currently undergoing corrective actions in accordance with OAC 3745-54-101 include waste management units that closed prior to 1980 and manufacturing units not requiring hazardous waste permitting. All plumes are the result of pre-1980 activities at the facility. The only unit currently requiring a permit is a hazardous waste storage building (HWSB). This unit does not require ground water monitoring in accordance with OAC 3745-54-90 through 100 because it is completely enclosed and has secondary containment.

Because the contaminant plumes from the various units undergoing corrective actions are intermingled, it is not practical to separate them for ground water monitoring purposes. A more efficient multifaceted approach is a sitewide ground water monitoring program in accordance with OAC 3745-54-101, the July 2003 Sitewide Ground Water Monitoring Program Plan as modified by subsequent correspondence between PPG and U. S. EPA/Ohio EPA, and the March 2004 Sitewide Groundwater Monitoring Program Quality Assurance Project Procedures Addendum (QAPPA). This combined approach is hereafter referred to as the Integrated Ground Water Monitoring Program or IGWMP.
Z.1. Applicability
OAC Rule 3745-54-101

(a) The units currently undergoing corrective action in accordance with OAC 3745-54-101 include waste management units that closed prior to 1980 and manufacturing units not requiring hazardous waste permitting. All plumes are the result of pre-1980 activities at the facility. The only unit currently requiring a permit is a hazardous waste storage building (HWSB). This unit does not require ground water monitoring in accordance with OAC 3745-54-90 through 100 because it is completely enclosed and also has secondary containment. The Permittee must comply with the applicable requirements in OAC Rule 3745-54-101 and institute corrective action as necessary to protect human health and the environment for all releases of hazardous wastes or constituents from any waste management unit/area at the facility, regardless of the time at which waste was placed in such unit/area for the following units/areas:

Main Plant Area Ground Water including:
- Contractors Landfill (CLF)
- North Plant (NP)
- South Plant (SP)
- Lime Lake 1 (LL-1)
- Lime Lake 2 (LL-2)
- Former Sand Quarry (SQ)
- Tuscarawas River North (TRN)

Southern Facility Ground Water including:
- Lime Lakes 3 through 6 (LL-3 through LL-6)
- Tuscarawas River South (TRS)

These units/areas have previously been regulated under a Performance Based Corrective Actions Agreement that was entered into by PPG and U.S. EPA with Ohio EPA concurrence in August 2001. The ground water monitoring at these units has been in accordance with the Performance Based Corrective Action Agreement Sitewide Groundwater Monitoring Program Plan dated July 2003.

The Performance Based Corrective Action Agreement Sitewide Groundwater Monitoring Program Plan dated July 2003, and any subsequent modifications
approved by the Ohio EPA (and those modifications approved by USEPA prior to termination of the Administrative Orders on Consent) is hereby incorporated by reference as a permit condition.

(b) Reserved.

(c) The owner or operator must implement corrective actions beyond the facility property boundary, where necessary, to protect human health and the environment, unless the owner or operator demonstrates to the satisfaction of the director that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such actions. The owner/operator is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis. Assurances of financial responsibility for such corrective action must be provided.

Z. 2. Ground Water Remediation Standard (GWRS)

Based upon the work done during the RFI/CMS, the Human and Ecological Risk Assessments, the CA-725 and CA-750, and a 2006 assessment of the Tuscarawas River, the ground water contamination is not moving offsite and the ground water contaminant plumes are not expanding. The risk assessment concluded that the ground water pathway is incomplete because the site ground water discharges to various surface water bodies prior to the surface water exiting the site. Chlorinated solvents were detected in the Tuscarawas River during the 2006 sampling event, but at levels below aquatic life water quality standards and human health drinking water quality standards. The GWRS has been established in this Permit due to hazardous constituents being detected in the ground water. Because the ground water exposure pathway is incomplete, the GWRS are included as remediation goals for the site ground water. In the future, if the GWRS can be met at a particular unit, the Permittee may pursue a clean or risk based 'no further action' for that unit.

(a) List of Hazardous Constituents and Ground Water Clean-up Standards

The hazardous constituents listed in the Appendix to OAC Rule 3745-54-98 detected in the ground water underlying a unit/area and reasonably expected to be contained in or derived from the waste contained in the unit/area to

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1 Hexachlorobenzene was detected at concentrations exceeding human health drinking and non-drinking water standards, but it is believed that this is historical contamination, and not due to a current discharge of ground water to surface water. There is no aquatic life criterion for hexachlorobenzene.
which the GWRS applies and their ground water clean-up standards are
listed in the attached Table 1.

In addition to the hazardous constituents listed in Table 1, the Permittee
must monitor the following target analytes:

**Intrinsic Bioremediation/Natural Attenuation and Field Analytes:**

- Chloride
- TDS
- Dissolved methane
- Dissolved ethene
- Dissolved ethane
- Nitrate/nitrite
- Total organic carbon (TOC)
- pH (field)
- Dissolved Oxygen (field)
- Oxidation Reduction Potential (Eh, field)
- Dissolved ferrous iron (field)

(b) **Point of Action:** At this time, it appears the ground water is discharging to
on-site surface water bodies and, therefore, not leaving the site. If the
routine evaluations required by Permit Condition Z-5 indicate that the ground
water flow directions have changed and ground water does begin moving off
site, then the Permittee will ensure that the GWRS is met at the property
boundary throughout the upper most aquifer.

(c) **Permit Period**

The permit period, during which the GWRS applies, is equal to 10 years. The
permit period must begin on the effective date of this permit renewal and
must end 10 years after the effective date of this permit renewal. During the
permit period the Permittee must continue its sitewide ground water
monitoring program. The Permittee shall implement corrective action beyond
the facility property boundary, where necessary, to protect human health and
the environment.

Z.3. **Well Location, Installation, Maintenance, and Removal**

(a) The Permittee's ground water monitoring system is documented in the
Sitewide Ground Water Monitoring Program Plan as modified by various
correspondences between PPG and U. S. EPA and/or Ohio EPA. The
uppermost aquifer at the site is comprised of the bedrock units of the Sharon
Conglomerate and the overlying glacial deposits. No background water quality samples will be collected as part of this program. Background water quality for inorganic constituents was determined statistically during the RFI. Samples must:

(i) Represent ground water quality at locations in and downgradient of source areas.

(ii) Demonstrate the effectiveness of intrinsic bioremediation/MNA processes.

(iii) Demonstrate that the spatial extent of ground water contamination is not expanding horizontally or vertically.

(iv) If required, additional remedy specific ground water sampling will be conducted as part of this or another program.

(b) The monitoring system consists of the ground water wells as specified in the Permit Application on Table 2. The locations of these wells are shown on Figures 1 and 2 in the Site Wide Ground Water Monitoring Plan.

(c) Wells included in the sitewide ground water monitoring program and identified in Permit Condition Z.3(b) must be cased in a manner that maintains the integrity of the monitoring well bore hole. The casing must be screened and packed with gravel or sand, where necessary, to enable collection of ground water samples. The annular space above the sampling depth must be sealed to prevent contamination of samples and the ground water.

(d) Removal or replacement of any monitoring well in Permit Condition Z.3(b) will be in accordance with the Appendix to OAC Rule 3745-50-51 permit modification process. Each change must be accompanied by a revised map showing the location of the well removed from and/or added to the monitoring network.

(e) Whenever any of the wells specified in Permit Condition Z.3(b) are replaced, the Permittee must demonstrate to Ohio EPA that the ground water sample quality at the replacement well meets the criteria in Permit Condition Z.3(a) within 60 days of the date of replacement using means appropriate to the reason for replacement.
Z.4. **Sampling and Analysis Procedures**

(a) The Permittee must implement an IGWMP that complies with the July 2003 Sitewide Ground Water Monitoring Program plan as modified by various correspondences between PPG and U. S. EPA and/or Ohio EPA and includes the procedures in the March 2004 Sitewide Groundwater Monitoring Program Quality Assurance Project Procedures Addendum (QAPPA). The sitewide ground water monitoring program includes consistent sampling and analysis procedures that ensure monitoring results that provide a reliable indication of ground water quality below the facility and are in compliance with this Permit Condition.

(b) The Permittee's IGWMP as per the March 2004 QAPPA includes sampling and analytical methods that are appropriate for ground water sampling and that accurately measure hazardous constituents in ground water samples.

(c) Data validation will be performed in accordance with the Ohio EPA Tier 1 data validation guidance and checklist. In the event that a more extensive validation is required, the Ohio EPA Tier 2 data validation guidance and checklist will be used.

Z.5. **Ground Water Surface Elevation**

The Permittee must determine the ground water surface elevation at each well identified in Table 2 in Permit Condition Z.3(b) each time ground water is sampled using the methods in the QAPPA.

Z.6. **Sampling Frequency**

Ground water sampling is currently conducted on a triennial basis. The next sampling event will take place in the summer of 2012.

After each sampling event, the sampling frequency will be evaluated by the Permittee and Ohio EPA to determine if triennial monitoring is still applicable. Sampling frequency may change during the life of the permit with Ohio EPA approval. Samples will be collected from each well listed on Table 2 each time the ground water is sampled, unless the "Rationale for Inclusion" indicates that the well is used for SWL (static water level), only.
The compounds to be sampled and analyzed at each well are documented on Table 2 and include the following:

- Appendix IX Volatile Organic Compounds, selected dissolved Target Analyte List metals (arsenic, manganese, nickel, lead, copper, antimony, and thallium), chloride, pH, TDS, and intrinsic bioremediation/MNA analytes including dissolved gases will be collected from each of the wells during each of the sampling events.

- Hexachlorobenzene samples will be collected from a subset of wells in the LL-2, North Plant, and South Plant areas during each sampling event. These wells are NP-08A, NP-12, NP-16, NP-19A, NP-29, NP-29V1, NP-29V2, LL2-02B*, LL2-03B*, LL2-06B*V1, LL2-14B*, SP-01B, SP-03B, SP10C, and SP-22B.

- Semi-volatile organic compounds, in addition to HCB, have been detected historically in the wells listed in the above bullet. Because the detections of Semi-Volatile Organic Compounds other than HCB have tended to be sporadic, these constituents have been omitted from the sitewide ground water monitoring program since 2005. However, periodic sampling of select wells should be performed to evaluate if the concentrations of these constituents are remaining stable. During the second ground water sampling event conducted during the permit period, samples from the wells listed in the above bullet shall also be analyzed for Appendix IX Semi-Volatile Organic Compounds.

- Organochlorine compounds including pesticides and PCBs historically were detected in some wells from the LL-2 area. During the second ground water monitoring event conducted during the permit period, the Permittee shall analyze samples from the following wells for these compounds: LL2-03B*, LL2-06B*V1, and LL2-14B*.

- Metals other than the selected Target Analyte List metals listed above historically have been detected in the site wells. During the second ground water monitoring event conducted during the permit period, the Permittee shall analyze samples from all the wells for the complete list of dissolved Target Analyte List metals.

The sampling procedures for each constituent are described in the March 2004 QAPPA.

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

(a) **Operating Record**

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

(i) Ground water monitoring data collected in accordance with this permit including actual levels of constituents.

(ii) The laboratory results from each of the wells and their associated qualifiers including the laboratory sheets for the metals and full volatile and semi-volatile analyses (must include method codes, method detection limits, and units of measurement);

(iii) The date each well was sampled (tabulated);

(iv) The date, time, and identification of all blanks and duplicates;

(v) Any field log documentation of deviation from the procedures in the QAPPA, including documentation of parameter omissions during the sampling event;

(vi) The date the Permittee received the results from the laboratory;

(vii) The date the owner or operator completed their review of the analytical laboratory’s verification of the accuracy and precision of the analytical data and determined its quality.

(viii) The results of the data validation review per Permit Condition Z.8(a)(vii) including: report completeness, chain of custody, sample receipt form, signed statement of validity, technical holding time review, data qualifiers including their definitions, dilutions, blank data, spikes, spike recovery %, surrogate recovery, and an explanation of any rejected results;

(ix) Results of all blanks and duplicates (trip, field, equipment, and method);

(x) Results of the field analyses;
(xi) Reserved: The statistical evaluation of the data (must include all computations, results of statistical tests, and date the statistical evaluation was completed);

(xii) Any change in well status (e.g. well integrity issues make the well unsuitable for sampling);

(xiii) Ground water surface elevations taken at the time of sampling each well;

(xiv) Data and results of the determination of the ground water flow rate and direction;

(xv) Evaluation of the efficiency of any corrective actions performed to bring the ground water quality into compliance with the GWRS per Permit Condition Z.2.

(xvi) Evaluation of aquifer conditions with respect to intrinsic bioremediation/MNA including whether the subsurface conditions continue to support reductive dechlorination.

(xvii) Recommendations for biological and/or chemical enhancements to bioremediation/MNA or other remedial options in areas where the ground water plume begins to migrate downgradient.

(b) Required Reporting

(i) Required Reporting

After each sitewide ground water monitoring event, the Permittee must submit a report to the Director within 60 days of receiving all analytical data from the laboratory.

The reports must include, at a minimum, the following:

(A) A summary of the analytical results including tables and text as needed;

(B) Presentation of ground water elevations and flow directions including a ground water flow map(s).
(C) Laboratory QA/QC information needed to perform a Tier 1 Data Validation.

(D) An electronic copy on disk using the Microsoft Excel platform of all ground water and blank data.

(E) A summary of the evaluation of the data including any graphs or maps needed to explain data trends or other conclusions drawn from the data.

(F) An evaluation of the effectiveness of bioremediation/MNA as a corrective action at the site. The facility will present an analysis based on the method found on pages 13 through 16 of Wiedemeier², as well as any other evidence the facility may wish to include to support its evaluation.

(G) If necessary, recommendations for biological and/or chemical enhancements to bioremediation/MNA or other remedial options in areas where the ground water plume begins to migrate downgradient or bioremediation/MNA processes are not proceeding at an acceptable rate, based on the screening analysis.

(H) Recommendations for future sampling frequency.

(ii) Required Annual Reporting: Reserved.

(iii) Required Semi-annual Reporting: Reserved.

(iii) Other Reports

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

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

(a) The Permittee is required to establish and implement a ground water corrective action program under OAC Rule 3745-54-101 and must take corrective action, as necessary, to ensure the GWRS as specified in Permit Condition Z.2 are not exceeded at the property boundary should the ground water pathway become complete in the uppermost aquifer.

(b) The Permittee must implement, as necessary, a corrective action program that prevents hazardous constituents specified in Permit Condition Z.2(a) from exceeding their respective clean-up standards specified in Permit Condition Z.2(a) at the downgradient property boundary, and beyond the property boundary during the permit period specified in Permit Condition Z.2(c) by removing the hazardous constituents or by treating them in place.

(c) Reserved

(d) The Permittee must establish and implement a ground water monitoring program to fully characterize the contaminated ground water as required by OAC Rule 3745-50-44(B)(8)(a) and to demonstrate the effectiveness of the corrective action program. Ground water monitoring must be effective in determining compliance with the GWRS in Permit Condition Z.2 and in determining the success of any corrective action program in this condition. The ground water monitoring program must include:

(i) Installation and maintenance of the ground water monitoring system documented in the Sitewide Groundwater Monitoring Program plan and as defined in Permit Condition Z.2(b), and, as necessary to protect human health and the environment, at and beyond the downgradient property boundary. The ground water monitoring system must comply with the requirements in Permit Condition Z.3.

All ground water monitoring wells at the site that are not included in the sitewide ground water monitoring program as defined in Permit Condition Z.2(b) also shall be cased and maintained in a manner that prevents contamination of the ground water. Alternatively, these wells may be properly abandoned following the standards in the Technical Guidance Manual. By the end of the first year following the effective date of this permit renewal, PPG will provide Ohio EPA with an
inventory of all of the monitoring wells still present at the site and a plan that identifies the wells to be maintained and their current conditions, a schedule for implementing any repairs needed to ensure that the integrity of the wells is maintained, documentation of the maintenance procedures to be followed in repairing the wells, and a schedule for regular inspections and maintenance of the wells in the future. The plan also should identify wells that will be abandoned, and should include a schedule for implementing and completing abandonment activities following the procedures included in the Technical Guidance Manual.

(ii) Collection, preservation, and analysis of samples pursuant to Permit Conditions Z.4, Z.5, and Z.6 and the approved QAPPA.

(iii) The Permittee must conduct a sampling program triennially or as mutually agreed upon by PPG and Ohio EPA for each chemical parameter and hazardous constituent specified in Permit Condition Z.2(a) and Z.6, from each well specified in Permit Condition Z.3(b) and Z.6 during the permit period and any extensions due to corrective action implementation.

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

(v) Wells beyond the property boundary shall be sampled where necessary to protect human health and the environment, unless the Permittee demonstrates to the Agency that, despite the Permittee’s best efforts, the Permittee was unable to obtain the necessary permission to undertake such action. The Permittee is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis.

(vi) The Permittee must maintain a record of ground water analytical data as measured for the permit period.

(vii) The Permittee must determine the ground water flow rate and direction in the uppermost aquifer during each ground water monitoring event using the procedures specified in the QAPPA.
(e) Response Action

(i) Based on the results of the Permittee’s ground water monitoring program, intrinsic bioremediation/MNA are working as expected and contaminant concentrations are decreasing in areas of the plume and the plumes are not expanding spatially. Therefore, the Permittee shall continue under routine IGWMP monitoring.

(ii) If the ground water plume begins to migrate downgradient and/or intrinsic bioremediation/MNA processes stall and/or are not proceeding at an acceptable rate based on the analysis in Z.8 (b) (i) (f), the Permittee shall evaluate, propose, and (if practical) implement biological and/or chemical enhancements to the intrinsic bioremediation/MNA or shall evaluate, propose, and (if practical) implement other remedial options necessary to prevent the migration of the plume and/or increase the rate of contaminant degradation.

(iii) The Permittee must continue corrective action measures during the permit period to the extent necessary to ensure that the GWRS is not exceeded at the facility boundary. If the Permittee is conducting corrective action at the end of the permit period, the Permittee must continue corrective action for as long as necessary to achieve compliance with the GWRS.

At any time, the Permittee may conclude that a unit has met the remedial goal(s), and further monitoring is unnecessary. The Permittee may then initiate an accelerated monitoring program, and demonstrate that the clean-up standards listed in Permit Condition Z.2(a) have not been exceeded for eight consecutive quarters at any well in Permit Condition Z.3(b) that monitors the subject unit for any analyte listed in Permit Condition Z.2(a). At that point, the Permittee may submit a permit modification under OAC Rule 3745-50-51 to cease corrective action and ground water monitoring for that unit. Any monitoring wells associated with the unit at which corrective actions have been completed should be properly abandoned following the standards in the Technical Guidance Manual. If the company chooses to maintain these wells, such a request should be included in the Permit modification along with the rationale for keeping the wells, provisions for future inspections and maintenance of the structural

integrity of the wells, and provisions for the proper abandonment of
the wells when PPG decides they are no longer needed.

(f) The Permittee must report in writing to the Director on the effectiveness of
the corrective action monitoring program after each sitewide ground water
monitoring event according to Permit Condition Z.8.

(g) If the Permittee determines the corrective action program established by this
permit no longer satisfies the requirements of OAC Rule 3745-54-101, the
Permittee must, within ninety (90) days of that determination, submit an
application for a permit modification per OAC Rule 3745-50-51 to make any
appropriate changes to the program.
Table 1
Hazardous Constituents and Clean-up Standards

The following contaminants have been detected in ground water samples at PPG Barberton.

VOLATILE ORGANIC COMPOUNDS detected historically include:

<table>
<thead>
<tr>
<th>Hazardous Constituents</th>
<th>Clean-up Standards (ug/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetrachloroethene</td>
<td>5</td>
</tr>
<tr>
<td>Trichloroethene</td>
<td>5</td>
</tr>
<tr>
<td>Cis-1,2-dichloroethene</td>
<td>70</td>
</tr>
<tr>
<td>Trans-1,2-dichloroethene</td>
<td>100</td>
</tr>
<tr>
<td>1,1-dichloroethene</td>
<td>7</td>
</tr>
<tr>
<td>1,1-dichloroethane</td>
<td>TBD</td>
</tr>
<tr>
<td>1,2-dichloroethane</td>
<td>5</td>
</tr>
<tr>
<td>1,1,1,1-trichloroethane</td>
<td>200</td>
</tr>
<tr>
<td>1,1,2-trichloroethane</td>
<td>5</td>
</tr>
<tr>
<td>1,1,2,2-trichloroethane</td>
<td>TBD</td>
</tr>
<tr>
<td>1,1,2,2-tetrachloroethane</td>
<td>TBD</td>
</tr>
<tr>
<td>1,1,1,2-tetrachloroethane</td>
<td>TBD</td>
</tr>
<tr>
<td>Vinyl chloride</td>
<td>2</td>
</tr>
<tr>
<td>Carbon disulfide</td>
<td>TBD</td>
</tr>
<tr>
<td>Carbon tetrachloride</td>
<td>5</td>
</tr>
<tr>
<td>Acetone</td>
<td>TBD</td>
</tr>
<tr>
<td>Methylene chloride</td>
<td>5</td>
</tr>
<tr>
<td>Benzene</td>
<td>5</td>
</tr>
<tr>
<td>Chlorobenzene</td>
<td>100</td>
</tr>
<tr>
<td>Toluene</td>
<td>1,000</td>
</tr>
<tr>
<td>Xylene</td>
<td>10,000</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>700</td>
</tr>
<tr>
<td>Chloroform</td>
<td>80</td>
</tr>
<tr>
<td>1,4-dioxane</td>
<td>TBD</td>
</tr>
<tr>
<td>Isobutyl alcohol</td>
<td>TBD</td>
</tr>
<tr>
<td>Methyl methacrylate</td>
<td>TBD</td>
</tr>
<tr>
<td>Acetonitrile</td>
<td>TBD</td>
</tr>
<tr>
<td>Chloromethane</td>
<td>TBD</td>
</tr>
<tr>
<td>Chloroethane</td>
<td>TBD</td>
</tr>
<tr>
<td>Styrene</td>
<td>100</td>
</tr>
<tr>
<td>1,2-dichloropropane</td>
<td>5</td>
</tr>
<tr>
<td>2,4-dimethylphenol</td>
<td>TBD</td>
</tr>
<tr>
<td>2-hexanone</td>
<td>TBD</td>
</tr>
<tr>
<td>2-butanone</td>
<td>TBD</td>
</tr>
<tr>
<td>2-methyl-2-pentanone</td>
<td>TBD</td>
</tr>
<tr>
<td>1,2,3-trichloropropene</td>
<td>TBD</td>
</tr>
</tbody>
</table>
Semi-Volatile Organic Compounds detected historically include:

<table>
<thead>
<tr>
<th>Hazardous Constituents</th>
<th>Clean-Up Standards (ug/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hexachlorobenzene (HCB)</td>
<td>1</td>
</tr>
<tr>
<td>Hexachlorobutadiene</td>
<td>TBD</td>
</tr>
<tr>
<td>Hexachloroethane</td>
<td>TBD</td>
</tr>
<tr>
<td>1,2-dichlorobenzene</td>
<td>600</td>
</tr>
<tr>
<td>1,2,3-trichlorobenzene</td>
<td>TBD</td>
</tr>
<tr>
<td>1,2,4-trichlorobenzene</td>
<td>TBD</td>
</tr>
<tr>
<td>1,2,3,5-tetrachlorobenzene</td>
<td>TBD</td>
</tr>
<tr>
<td>1,2,4,5-tetrachlorobenzene</td>
<td>TBD</td>
</tr>
<tr>
<td>Pentachlorobenzene</td>
<td>TBD</td>
</tr>
<tr>
<td>1,3-dichlorobenzene</td>
<td>TBD</td>
</tr>
<tr>
<td>1,4-dichlorobenzene</td>
<td>75</td>
</tr>
<tr>
<td>Pentachloronitrobenzene</td>
<td>TBD</td>
</tr>
<tr>
<td>4-chloroaniline</td>
<td>TBD</td>
</tr>
<tr>
<td>Aniline</td>
<td>TBD</td>
</tr>
<tr>
<td>2-methylphenol</td>
<td>TBD</td>
</tr>
<tr>
<td>3-methylphenol</td>
<td>TBD</td>
</tr>
<tr>
<td>4-methylphenol</td>
<td>TBD</td>
</tr>
<tr>
<td>2,4-dichlorophenol</td>
<td>TBD</td>
</tr>
<tr>
<td>2,6-dichlorophenol</td>
<td>TBD</td>
</tr>
<tr>
<td>2,3,4,6-tetrachlorophenol</td>
<td>TBD</td>
</tr>
<tr>
<td>2-chlorophenol</td>
<td>TBD</td>
</tr>
<tr>
<td>di-n-octyl-phthalate</td>
<td>TBD</td>
</tr>
<tr>
<td>Diethyl phthalate</td>
<td>TBD</td>
</tr>
<tr>
<td>Bis-(2-ethylhexyl) phthalate</td>
<td>TBD</td>
</tr>
<tr>
<td>Bis-(2-chloroethyl) ether</td>
<td>TBD</td>
</tr>
<tr>
<td>Benzyl alcohol</td>
<td>TBD</td>
</tr>
<tr>
<td>Acetophenone</td>
<td>TBD</td>
</tr>
<tr>
<td>Isophorone</td>
<td>TBD</td>
</tr>
<tr>
<td>Indeno(1,2,3-cd) pyrene</td>
<td>TBD</td>
</tr>
<tr>
<td>m-cresol</td>
<td>TBD</td>
</tr>
<tr>
<td>o-cresol</td>
<td>TBD</td>
</tr>
<tr>
<td>p-cresol</td>
<td>TBD</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>TBD</td>
</tr>
<tr>
<td>Phenol</td>
<td>TBD</td>
</tr>
</tbody>
</table>
Pesticides detected historically include:

<table>
<thead>
<tr>
<th>Hazardous Constituents</th>
<th>Clean-up Standards (ug/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4'-DDD</td>
<td>TBD</td>
</tr>
<tr>
<td>4,4'-DDE</td>
<td>TBD</td>
</tr>
<tr>
<td>4,4'-DDT</td>
<td>TBD</td>
</tr>
<tr>
<td>Endrin</td>
<td>2</td>
</tr>
<tr>
<td>Endrin ketone</td>
<td>TBD</td>
</tr>
<tr>
<td>di-endrin</td>
<td>TBD</td>
</tr>
<tr>
<td>Endrin aldehyde</td>
<td>TBD</td>
</tr>
<tr>
<td>Endosulfan II</td>
<td>TBD</td>
</tr>
<tr>
<td>Alpha BHC</td>
<td>TBD</td>
</tr>
<tr>
<td>Beta BHC</td>
<td>TBD</td>
</tr>
<tr>
<td>Delta BHC</td>
<td>TBD</td>
</tr>
<tr>
<td>gamma chlordane</td>
<td>TBD</td>
</tr>
<tr>
<td>Heptachlor</td>
<td>0.4</td>
</tr>
<tr>
<td>Methoxychlor</td>
<td>40</td>
</tr>
</tbody>
</table>

Within one year of the permit approval, PPG will provide to Ohio EPA for approval, risk-based GWRS for all compounds that do not have MCLs (i.e., all compounds on Table 1 that currently have TBD listed as the GWRS). The risk-based GWRS must be unrestricted use and must take the additive affects of the compounds into consideration.
Inorganic constituents detected historically:

<table>
<thead>
<tr>
<th>Hazardous Constituents</th>
<th>Clean-up Standards (ug/L)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>10</td>
</tr>
<tr>
<td>Aluminum*</td>
<td>1,240/31</td>
</tr>
<tr>
<td>Antimony*</td>
<td>19/21</td>
</tr>
<tr>
<td>Iron*</td>
<td>1,570/3,400</td>
</tr>
<tr>
<td>Manganese*</td>
<td>1,274/2,390</td>
</tr>
<tr>
<td>Copper</td>
<td>1300</td>
</tr>
<tr>
<td>Nickel*</td>
<td>43/12</td>
</tr>
<tr>
<td>Lead</td>
<td>15</td>
</tr>
<tr>
<td>Thallium*</td>
<td>6/12.3</td>
</tr>
<tr>
<td>Beryllium</td>
<td>4</td>
</tr>
<tr>
<td>Cadmium*</td>
<td>5/6</td>
</tr>
<tr>
<td>Cobalt</td>
<td>13</td>
</tr>
<tr>
<td>Mercury</td>
<td>2</td>
</tr>
<tr>
<td>Selenium</td>
<td>50</td>
</tr>
<tr>
<td>Barium</td>
<td>2000</td>
</tr>
<tr>
<td>Cyanide</td>
<td>200</td>
</tr>
<tr>
<td>Chloride*</td>
<td>85,000/126,000</td>
</tr>
</tbody>
</table>

* Background concentrations derived during the RFI are used as clean-up standards for these target analytes. The first concentration is for the glacial outwash and the second concentration is for the Sharon bedrock. If the background concentrations were greater than the MCL, the background concentration was listed as the clean-up standard. If the MCL was greater than background, the MCL was used. In cases where there is no MCL, the background concentration was used.
Table 2.
Monitoring Wells Information

The following monitoring wells are included in the sitewide ground water monitoring program. Several aquifer zones are monitored including shallow, mid outwash, deep outwash, lower perched ground water, and the base of the Sharon Conglomerate. Some wells are used for static water level measurements, only.

<table>
<thead>
<tr>
<th>Monitoring well ID</th>
<th>Depth monitored</th>
<th>Analytes</th>
<th>Rationale for inclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>NP-05</td>
<td>Shallow GW</td>
<td>None</td>
<td>SWL, only</td>
</tr>
<tr>
<td>NP-08A</td>
<td>Shallow GW</td>
<td>Group B</td>
<td>MNA</td>
</tr>
<tr>
<td>NP-10*</td>
<td>Mid Outwash</td>
<td>Group A</td>
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- **Group A**: Analytes include Appendix IX VOLATILE ORGANIC COMPOUNDS, selected dissolved Target Analyte List metals (arsenic, manganese, nickel, lead, copper, antimony, and thallium), chloride, pH, TDS, and intrinsic bioremediation/MNA indicator analytes including dissolved gases will be collected from each of the wells during each of the sampling events. Cyanide will also be collected from wells located in LL-2 and CLF, only.

- **Group B**: All analytes from Group A plus HCB by SIMs or some other high resolution method at each sampling event.

- **SWL, only**: Wells with this designation are used to get water level elevation data, only.

- **As per Permit Condition Z.6**, during the second ground water sampling event conducted during the permit period, all wells will be sampled for the complete list of Target Analyte List metals. Subsets of wells, as defined in Permit Condition Z.6, will also be sampled for Appendix IX Semi-Volatile Organic Compounds and organochlorine compounds during this sampling event.
- Upper and lower perched zones are in the bedrock. BSC stands for Base of the Sharon Conglomerate.

END OF PERMIT CONDITIONS
PPG GENERAL COMMENT 1A:
INCLUSION OF LIME LAKES #3 THROUGH #6 WITHIN THE PERMIT

“Ohio EPA expressed the view during our October 26 meeting that the Lime Lakes meet the definition of “waste management units” and thus are properly included within the scope of required corrective action in the Permit. We do not disagree that the historic management of waste from the former soda ash manufacturing operations at the Lime Lakes meets the regulatory definition. Indeed, the Lime Lakes were included within the scope of the investigation and corrective measures study stages of RCRA corrective action under the April 5, 1991 Administrative Order on Consent (“AOC”) between PPG and U.S. EPA, as well as the continuation of those activities pursuant to the voluntary August 2001 Performance Based Corrective Action Agreement (“PBA”). Our point is not that the Lime Lakes
need to be excluded from the scope of the Permit, but rather that the ongoing voluntary reclamation activities at Lime Lakes #3, #4, #5 and #6 should not be included. As set forth in greater detail below, continuing the reclamation activities on a voluntary basis recognizes PPG’s broader commitment to habitat restoration, of which the Lime Lakes reclamation activities are a significant and highly successful part, while also remaining consistent with the requirements of the RCRA corrective action program.

- Inclusion of the reclamation activities at Lime Lakes #3 through #6 would disregard PPG’s long history of voluntarily undertaking these activities.

The voluntary Lime Lakes reclamation program began well before PPG and U.S. EPA entered into the AOC for corrective action in 1991, and has continued throughout the various corrective action activities as a voluntary program with Ohio EPA’s approval. This is evident throughout the prior reports submitted pursuant to the AOC and the PBA. See e.g., Corrective Measures Study, at 4-9 through 4-15. After voluntarily undertaking the Lime Lake reclamation (or surface amendment) program for 25 years, it is unnecessary for Ohio EPA to suddenly pull that program into the RCRA Permit.

As set forth in the Corrective Measures Study - Description of Current Situation, PPG initially investigated and pioneered the reclamation technology for the “Voluntary Lime Lake Surface Amendment Program” with several test plots in 1983 and 1984. See Corrective Measures Study (“CMS”), Vol. 1, at 4-12. Combining the lime material with sewage sludge at a predetermined ratio created a synthetic soil medium that could be planted with native vegetation. The reclamation activities have been completed at three of the Lime Lakes to date, such that sustainable vegetation has been established at Lime Lakes #3, #4 and #5. Currently, only wildlife habitat monitoring and maintenance activities are ongoing at these three Lime Lakes. Reclamation is proceeding at Lime Lake #6, with completion anticipated in the next 7-14 years (the timing is largely dependent on the availability of acceptable wastewater treatment sludge). The current rate of reclamation is approximately 15 acres per year that is transferred from lime spoil material to native plant communities. As a result, the Lime Lake reclamation activities have significantly enhanced the local biota, creating a sustainable environment of native grasses and wildflowers, which in turn facilitates the return of native birds and other wildlife.

As Ohio EPA knows, the Lime Lakes Reclamation Project is hugely successful, winning a number of conservation environmental awards, including the following:
- 1987 Izaak Walton League of America Honor Roll Award
- 1987 Ohio Water Pollution Control Nominee for Thomas R. Camp Award
- 1988 Beneficial Use of Sludge Award Honorable Mention from USEPA
- 1992 Summit County High Point Award Presented by Summit County Executive Tim Davis
- 1995 Wildlife Habitat Council Certification and subsequent recertifications

The Lime Lakes Reclamation Project, together with PPG’s Artificial Nesting Structure Program, also located at the Lime Lakes, was recently re-certified for the next three-year period (2010-2012) by the Wildlife Habitat Council. The initial certification in 1995 and subsequent re-certifications are noteworthy because criteria are stringent, requiring detailed demonstration of goals, objectives and prescriptions. PPG has participated in the nest box monitoring program since 1995, and has recruited the help of volunteers from the Greater Akron Audubon Society to participate in the annual Greater Akron Audubon Society Summit County Bird Count, whose data are submitted to the Ohio Ornithological Society. In addition, since 2003, PPG has been working with the Ohio Department of Natural Resources Division of Wildlife to facilitate the reintroduction of osprey to Ohio.

As a result of the restored natural habitat and thriving bird and other wildlife populations, what was once best described as a “lunar landscape” is now a wildlife landscape that can be enjoyed by the public. Recently, a four-mile trail through PPG-owned property (a portion of which runs along the restored Lime Lake #5) was dedicated, linking sections of the Ohio & Erie Canal Towpath Trail. An additional mile of trail is currently under construction through the restored Lime Lake #3 area. In addition to making the restored lands available to the general public in this way, PPG periodically hosts educational, civic and environmental groups to visit the reclaimed Lime Lakes and to study the native grasses, birds and other wildlife. All access to PPG-owned property is, of course, carefully controlled as part of the maintenance and monitoring of the reclamations efforts to ensure the sustained success of the program.

There is also an important unintended consequence relating to inclusion of the Lime Lakes Reclamation Program in the Permit. In effect, Ohio EPA is proposing to convert what has been a voluntary program into a mandatory permit obligation. Doing so triggers an accompanying obligation to establish cost estimates and financial assurance associated with the reclamations efforts, which has never been required previously and which is not a step even arguably necessitated by a lack of performance or commitment by PPG to date. In other words, Ohio EPA’s desire to include Lime Lakes #3 - #6, even for the sake of completeness, has a direct effect
on the company’s financial “bottom line.” The reclamation activities have always been voluntary, and they should continue to be voluntary.

- The corrective action program does not require inclusion of the Lime Lakes Reclamation Project which is not an element of the selected risk-based final remedy, and which is being adequately implemented pursuant to other applicable regulatory programs.

The investigation of releases from Lime Lakes #3 through #6 was conducted from November 1993 to August 1995, and the agreed upon conclusion was that the only releases triggering the need for any further action were detectable levels of constituents of concern in the groundwater. The results of the RFI are summarized in the Corrective Measures Study. As reported in that document, “[t]here is no evidence that routine releases are occurring from continuing operations or that current continuing operations have contributed to the historical nature or extent of contamination identified in the RFI.” See, CMS Vol. 1 at 2-4. Instead, what we find is the presence of dissolved solids (i.e., inorganics) in the groundwater, with most of the mass of dissolved solids found deeper in the aquifer. See, CMS Vol. 1 at 2-5. This is consistent with the fact that the lime lakes are no longer in active use, and that they have largely dried out. Id.; see also Id. at 3-7 (discussion of transport mechanism for inactive lime lakes). In addition, the concentrations of organics in the area of Lime Lakes #3 - #6 are generally low, id. at 2-6, and do not indicate the presence of unacceptable risks.

The 1997 Corrective Measures Study for Lime Lakes #3 through #6 specifically found that “[t]he results of the risk assessments indicate that neither the lime lake spoils nor the lime spoil/sewage sludge mixture pose a threat to human health or targeted ecological receptors under the proposed use scenarios.” See CMS App. 3-K (Limes Lakes #3, #4, #5, and #6), at 1-6. The Summary of Findings further states that “waste lime spoils in their current states do not present unacceptable risks to human health or to the environment under the potential exposure scenarios considered.” Id. at 1-8 (emphasis added). In other words, the un-reclaimed lime lakes do not pose an unacceptable risk. More specifically, as reported in the CMS with respect to Lime Lakes #3 - #6: “The results of the human health risk assessments indicated that the non-cancer hazard indices for any of the scenarios presented above were at least an order of magnitude below the regulatory benchmark of 1. The carcinogenic risks were below or within the acceptable risk range 10^{-4} to 10^{-6} and were based upon conservative assumptions.” Id. at 1-6. The final conclusion in the CMS was that “(r)estricted access, land use restrictions, development of a risk management policy and continued monitoring to evaluate natural attenuation [in the groundwater] is the recommended corrective measure
for Lime Lakes #3, #4, #5, and #6.” Id, at 5-1. The subsequent iteration of the human health risk assessment (dated June 5, 1998), which reflected a number of methodological changes and responses to agency comments and thus is presented somewhat differently than the earlier version upon which the CMS was based, is consistent with these earlier risk conclusions. See Final Human Health Risk Assessment (1998), Section 5.3.

Thus, the previously completed reclamation of Lime Lakes #3, #4 and #5 and the ongoing reclamation of Lime Lake #6 were not mandated by the risk assessments. Rather, as noted earlier, the reclamation of Lime Lakes #3 - #6 is occurring in order to put these areas into a condition where they can be beneficially reused for wildlife habitat and associated recreational purposes. With regard to elevated contaminants found in the groundwater associated with the Lime Lakes, Monitored Natural Attenuation has been selected as the site-wide remedy, and requirements for continuing the implementation of Monitored Natural Attenuation will be set forth in Module E of the final Permit. Maintenance of the existing access controls, such as the perimeter fencing, and future land use restrictions will all be part of the broader site-wide institutional controls to be memorialized in Environmental Covenants. Simply put, the final remedies have been selected and are underway independent of the reclamation project. There is no further remedy action to be taken specific to these four Lime Lakes. At most, a description of Lime Lakes #3 - #6, and the past and ongoing reclamation activities, could be included in the Permit as part of the narrative background/historical description, but not as a required element of corrective action.”

OHIO EPA GENERAL RESPONSE 1A:

This comment requests that the “[t]he ongoing voluntary reclamation projects associated with Lime Lakes #3 through #6 should not be included in the Permit.” There are two main concerns:

“Inclusion of the reclamation activities at Lime Lakes #3 through #6 would disregard PPG’s long history of voluntarily undertaking these activities.”

And:

“The corrective action program does not require inclusion of the Lime Lakes Reclamation Project, which is not an element of the selected risk-based final remedy, and which is being adequately implemented pursuant to other applicable programs.”
Ohio EPA agrees that PPG has been proactive in the voluntary reclamation activities of Lime Lakes #3 through #6 and the list of accomplishments, as PPG notes, is lengthy.

Since the 1980s, the permittee has been engaged in a voluntary reclamation program associated with Lime Lakes 3, 4, 5 and 6. Reclamation activities, consisting of applying a vegetative cover which utilizes a mixture of lime fill and sewage sludge, have been completed at Lime Lakes 3, 4 and 5 by voluntary action on the part of the permittee. Completion by permittee of these reclamation activities at Lime Lake 6 is anticipated within the ten-year term of this Permit. The permittee is conducting these reclamation activities pursuant to an NPDES Permit and a Permit to Install/Sludge Management Plan issued by Ohio EPA pursuant to Chapter 6111 of the Ohio Revised Code.

The Lime Lakes are also Waste Management Units as defined in Chapter 3734 of the Ohio Revised Code, and thus are also subject to Ohio EPA’s corrective action authority.

OAC Rule 3745-54-101 states that “[c]orrective action will be specified in the permit” which “protects human health and the environment for all releases of hazardous waste or constituents from any waste management unit at the facility, regardless of the time at which waste was placed in such unit.” A waste management unit is defined as a “unit at which solid waste [or] hazardous waste... has been placed at any time, irrespective of whether the unit was intended for the management of [the waste].” While the agency recognizes the permittee’s voluntary efforts to date and expressed intention to continue those efforts, the on-going reclamation of the Lime Lake #6 is also an element of the overall corrective action remedy for the waste management unit and must be included in the permit by law. Therefore, Ohio EPA will be including the activities completed for Lime Lakes #3 through #5 and the activities currently being implemented for Lime Lake #6. This permit acknowledges the completion of reclamation at Lime Lakes #3 through #5, and establishes that continued reclamation of Lime Lake #6 may continue under the NPDES and Permit to Install/Sludge Management plan, while still including the activities in the context of RCRA regulation.

Regarding the final remedy, PPG references the 1997 CMS that Lime Lakes #3 through #6 should only need “[r]estricted access, land use restrictions, development of a risk management policy and continued monitoring to evaluate natural attenuation...” Neither U.S. EPA nor Ohio EPA have approved the CMS prior to the issuance of this permit. Ohio EPA believes that in addition to the remedies indicated in the CMS, the reclamation is needed to achieve the criteria of increasing the long term reliability and effectiveness of preventing direct contact with wastes, and reducing their mobility.
PPG GENERAL COMMENT 1B:

“Moreover, the reclamation activities at Lime Lakes #3 - #6 are adequately governed under a different regulatory program — the state’s water pollution control program — through issuance of a Permit to Install and Sludge Management Plan (“SMP”) and issuance of a NPDES permit relative to stormwater runoff. As set forth in the SMP, the Lime Lake #6 reclamation project is described as: “Reclamation of Lime Lake (LL6), a 250 acre site along the Tuscarawas River. Lime spoil will be regraded to produce a gently sloping terrain and the surface will be covered with a lime spoil/sewage sludge mix and vegetated.” This method of reclamation for Lime Lake #6 follows the same procedures that produced the successful reclamation of Lime Lakes #3, #4 and #5. The SMP also sets forth the monitoring and reporting requirements for both groundwater and surface water. Consistent with Ohio EPA regulations, surface water monitoring is conducted under the requirements of the NPDES Permit No. 3110189 (effective date of July 1, 2006; expires June 30, 2011), which sets forth a three-page list of priority pollutants that must be monitored on a semi-annual basis. Thus, the reclamation of Lime Lake #6 is occurring under both the sludge management and NPDES programs, and Ohio EPA will continue to receive information and have oversight opportunities pursuant to the agency’s authorities under ORC Chapter 6111. Therefore, including the reclamation activities at Lime Lake #6 into the corrective action permit is unnecessary.”

OHIO EPA GENERAL RESPONSE 1B:

In addition to the two main concerns, the comment also stated that PPG was concerned about possible double regulation between DHWM and Division of Surface Water (DSW) dealing with the sludge. While DHWM does not agree with this statement, DHWM has been satisfied with the progress that PPG has made on the Lime Lakes while being regulated under DSW. Therefore, Ohio EPA will issue the permit stating that the Corrective Action requirements of Lime Lake #6 will be partially addressed through continued voluntary reclamation under the DSW Sludge Management Plan. DHWM will not impose any additional obligations on PPG while the reclamation proceeds in a timely and lawful manner. In the event that the reclamation cannot proceed, for whatever reason, Ohio EPA will modify the permit to require specific remedy re-evaluation and Corrective Action at Lime Lake #6.

PPG GENERAL COMMENT 1C:

“Furthermore, even if the Lime Lakes reclamation activities were deemed to be a required final remedy (which they are not), Ohio EPA has the regulatory flexibility to exclude the Lime Lakes reclamation efforts from
this Permit. For example, OAC 3745-54-90 provides the Director with authority to limit application of ground water monitoring and corrective action requirements if “alternative requirements will protect human health and the environment.” In this case, the SMP and NPDES Permit provide the alternative requirements that are protective of human health and the environment. Therefore, because the reclamation activities are fully addressed by another regulatory program, they should be excluded from the Permit.

In summary, as set forth above, the voluntary implementation of the Lime Lakes Reclamation Project has produced extraordinary results with tremendously beneficial impacts for wildlife and the people of Summit County. The reclamation efforts at Lime Lakes #3 - #6 have been and should continue to be separate and distinct from the corrective action process. Therefore, PPG believes that it is inappropriate to include the reclamation activities for Lime Lakes #3 - #6 (i.e., lime spoil reclamation, contouring, vegetation, and habitat restoration) in the Permit.”

OHIO EPA GENERAL RESPONSE 1C:

The provisions cited by PPG (OAC Rule 3745-54-90 Applicability of Ground Waste Protection) provides the states with alternatives to post-closure permits and is designed to allow Ohio EPA to use its site-wide corrective action process to achieve unit-specific closure or post-closure activities (i.e., where closure units are in close proximity to WMUs and contamination is commingled). Specifically, this rule gives Ohio EPA the flexibility to address closure/post-closure units and issue a post-closure permit to a facility, or to impose the same regulatory requirement in an “enforceable document” issued by the state under an alternative non-permit authority. The enforceable document would regulate the site remediation in lieu of a post-closure permit. By rule, each enforceable document (OAC Rule 3745-66-21 and 3745-50-45(G)) must include post-closure permit application (Part A and B) information and site-wide corrective action mandates (OAC Rule 3745-54-101) among other things.

The Lime Lakes have been characterized as WMUs to be addressed under the corrective action portion of a hazardous waste storage permit renewal and are not closure or post-closure units; thus the rule cited by PPG is inapplicable to the Lime Lakes reclamation. Accordingly, the Ohio EPA does not have the regulatory flexibility to exclude the Lime Lakes reclamation efforts from this permit in the manner advocated by the Permittee.

With respect to the issues raised in this and the two previous comments, Ohio EPA has amended Permit Condition E.10(i) as follows:
E.10(i)(p)
Lime Lakes #3 through #6

The ongoing reclamation of Lime Lake #6 is a part of the voluntary reclamation program applicable to Lime Lakes #3 thru #6 and is an element of the overall corrective action remedy for the waste management unit. The reclamation is currently being implemented and monitored pursuant to an approved January 2000 Sludge Management Plan and Permits to Install issued by Ohio EPA’s Division of Surface Water. For as long as Permittee conducts reclamation and remains in substantial compliance with the requirements of the Division of Surface Water's Sludge Management Plan and Permits to Install, the Corrective Action obligations for this component of the remedy for Lime Lake #6 are met.

The Permittee shall continue reclamation under the approved Sludge Management Plan and Permits to Install.

The Permittee shall investigate the feasibility of improving the Qualitative Habitat Evaluation Index (QHEI) along the adjacent reach of Tuscarawas River. The Permittee will submit a report, and a work plan if improvements are feasible, by the end of three calendar years of the date of this permit renewal within one year of the issuance of this permit.

If PPG fails to complete the reclamation by the date nine (9) years after the effective date of this permit or the reclamation and other measures do not achieve Corrective Action goals and requirements, the remedy and remedial goals will be re-evaluated per Subsection E.8. of this permit.

PPG must submit a remedy construction completion report within 90 days after its final remedy is constructed.

PPG GENERAL COMMENT 2:
CONTINUATION OF “PERFORMANCE BASED” CORRECTIVE ACTION

“The final Permit should maintain the flexible ‘performance based’ approach to corrective action that has been in place for 10 years.

PPG has actively worked to investigate and undertake remedial activities at this facility since entering into the April 5, 1991 AOC with U.S. EPA. Beginning in 1999, U.S. EPA and PPG voluntarily entered into an agreement to implement further site investigation and corrective action activities under the RCRA Reforms that allowed the use of a performance-based approach to corrective action. That agreement, while still voluntary, was memorialized in the PBA in August 2001. As set forth in the PBA, under the performance-based approach, PPG has been allowed to “act in a self-
directed and independent manner.” Under this arrangement, working in cooperation with U.S. EPA and Ohio EPA (even though Ohio EPA was not a party to the PBA), PPG has achieved a great deal of progress and success at the facility. At least in part, this progress and success can be attributed to the flexibility allowed under the PBA whereby PPG has been able to approach environmental concerns creatively, conducting pilot studies in order to evaluate those creative solutions. We trust that Ohio EPA would agree that PPG has acted in good faith under the terms of the PBA and that the voluntary, cooperative framework established with U.S. EPA under the PBA is a success story. While we understand the desire to shift the regulatory framework for the corrective action activities from the PBA to the facility’s hazardous waste facility permit in order to shift the oversight from U.S. EPA to Ohio EPA, we believe it is important not to lose sight of the successes to date and to maintain the flexible performance-based approach that has now been in place for over 10 years. Simply put, the situation at PPG’s Barberton facility does not present the “norm,” and we believe it to be appropriate to stay on the path already set and followed for over 10 years even if oversight is to shift to Ohio EPA.

Consistent with the flexible performance-based approach to corrective action, the level of detail contained in the draft Permit relative to corrective action is unnecessary and inconsistent with the manner in which corrective action has been undertaken at this site. Most notably, the detailed set of deadlines and due dates is excessive and creates an inflexible program. We ask that only the bare minimum of scheduling be included in the Permit, perhaps certain outside dates, and that those dates be characterized as goals rather than firm deadlines. Inclusion of a detailed schedule in the Permit itself is not required by the regulations or the corrective action program, and should be left to PPG submissions of work plans and the like. Ohio EPA will have ample opportunity to comment upon PPG’s various proposed schedules for the tasks yet to be performed, without setting forth a series of deadlines now. Doing so eliminates the flexibility PPG has enjoyed for over 10 years. Nothing in PPG’s performance to date provides a justification for changing the approach now.”

OHIO EPA GENERAL RESPONSE 2:

While Ohio EPA agrees that PPG has acted in good faith under the terms of the PBA, schedules for completing Corrective Action is required. OAC Rule 3745-54-101(B) requires that permits “will contain schedules of compliance for such corrective actions ... for completing such corrective action.” All of the facilities that have been granted a hazardous waste permit have been required to have schedules for corrective action which are included within the permit under Module E. The Permit will not be changed but the proposed schedules provided
by PPG will be discussed in a different comment. See also Ohio EPA response to Module E specific comment 7.

PPG GENERAL COMMENT 3: Grouping of WMUs into media focus areas

“Given the substantial work that has already been completed, the Permit would be clearer if the various media focus areas identified in the Media Focus Document pursuant to the PBA were grouped into the categories described below.

We agree that it is useful and thus appropriate to summarize activities to date to memorialize approved remedies and to recognize completed remedies. PPG is interested in moving forward, not backwards, and PPG does not want to re-tread old ground. However, the final Permit will be more readily understood by the public, the agency and PPG’s team if it more clearly distinguishes the media focus areas based upon the status of the remedy. PPG suggests the following groupings:

**Category 1 — Remedy Complete/No Further Action**

West Plant WMU 92  
Former Ohio Brass Settling Ponds WM1J 110  
North Spoils Area WMU 96  
South Spoils Area WM1J 97

**Category 2 — Remedy Construction Complete’**

Lower Hudson Run Surface Water Focus Area  
Hudson Run Reservoir  
Contractor’s Landfill  
Main Plant Soils Focus Area, which includes:  
   Sand Quarry WMUs 84, 87, 88, and 89  
   WMUs#9, 61, 66, 81 and 90  
Sitewide Groundwater, which includes for this purpose:  
   Main Plant Ground Water Focus Area  
   South Facility Focus Area  
   Limes Lakes #3, #4, #5, and #6  
[SEE, GENERAL COMMENT #1 ABOVE]  
Tuscarawas River Dredge Spoils

**Category 3 — Ongoing Remedy Evaluation and/or Implementation**

Lower Hudson Run Sediments Focus Area  
Tuscarawas River and Wolf Creek Impounding Reservoir
The placement of the WMUs into these three categories reveals the substantial progress that PPG has made through the voluntary implementation of corrective action over the last 10-15 years. PPG recognizes that there is additional investigation and implementation that needs to occur at the facility, but the amount and extent of progress to-date should be plainly set forth in the final Permit partly to ensure that past progress is not unnecessarily re-visited and partly to ensure an . . . .

Category 2 is intended to include those areas where selection and construction of the chosen remedy have been completed, but where — in contrast to Category 1 (“remedy complete/no further action”) — the final remedy contemplates long-term operation and maintenance, monitoring and/or institutional controls.”

OHIO EPA GENERAL RESPONSE 3:

Ohio EPA agrees that PPG’s proposal groupings would better summarize the status of the units. Therefore, the groupings will be included within Condition E.3.

Category 1 – Remedy Complete/No Further Action

West Plant WMU 92
Former Ohio Brass Settling Ponds WMU 110
North Spoils Area WMU 96
South Spoils Area WMU 97

Category 2 – Remedy Construction Complete with long-term operation and maintenance

Lower Hudson Run Surface Water Focus Area
Hudson Run Reservoir
Contractor’s Landfill
Main Plant Soils Focus Area, which includes:
  Sand Quarry WMUs 83, 84, 87, 88, and 89
  WMUs #9, 61, 66, 81, and 90
Sitewide Groundwater, which includes for this purpose:
  Main Plant Ground Water Focus Area
  South Facility Focus Area
  Lime Lakes #3, #4, and #5
Tuscarawas River Dredge Spoils
Category 3 – Ongoing Remedy Evaluation and/or Implementation

Lower Hudson Run Sediment Focus Area
Tuscarawas River and Wolf Creek
Impounding Reservoir
Lime Lakes #1 and #2
Lime Lake #6

PPG GENERAL COMMENT 4:
INCORPORATION BY REFERENCE OF VARIOUS DOCUMENTS

“Clarification is needed in connection with the “incorporation by reference” of various documents.

Throughout Modules A, B, and C, Ohio EPA has stated that the contents of the permit application are incorporated by reference into the terms and conditions of the Permit. While specific issues related to the incorporation by reference are identified below, PPG believes that incorporating the permit application by reference could lead to confusion among Ohio EPA, facility personnel, and the public as to the enforceable obligations under the Permit. Therefore, PPG requests that Ohio EPA add a provision stating that nothing contained in Module A, Module B, or Module C of the Permit is intended to impose restrictions or conditions more stringent than set forth in the cited Ohio regulations.”

OHIO EPA GENERAL RESPONSE 4:

The hazardous waste permitting process is founded upon rules promulgated in the Ohio Administrative Code (OAC) and an application prepared by the applicant/permittee. The rules set forth general performance standards for the acceptable management of hazardous waste. The application, developed by the applicant/permittee, establishes and commits to site-specific practices which tend to meet the regulatory standard. Each Ohio Hazardous Waste Installation and Operation Permit consists of terms and conditions based on applicable hazardous waste management rules and the incorporation of the specific activities PPG has committed to undertake in order to comply with the applicable rules.

Ohio EPA does not agree with the comment “that incorporating the permit application by reference could lead to confusion.” Part B applications are required for review before new permits or permit renewals are issued. The permits are granted to the Permittee with a duty to comply with the Part B application. As such, Ohio EPA has always incorporated the permit applications for all of its permits. In PPG’s original permit, the Part B application was also
incorporated by reference and any discrepancies could be resolved by the permit modification process. No changes will be made to the permit.

PPG GENERAL COMMENT 5: CONTINUATION OF PERMIT AFTER CLOSURE OF HAZARDOUS WASTE STORAGE BUILDING

“The Permit should be clarified to indicate that all or a portion of Modules A, B, and C will terminate after the closure of the HWSB is certified. PPG believes that once the HWSB is closed the only remaining obligations under the Permit should be those corrective action requirements contained in Module E and Module Z. To the extent that Ohio EPA believes specific Conditions within Modules A, B, and C will continue in effect after closure of the HWSB is certified, PPG requests that those Conditions be specifically identified in the final Permit. For example, the provision within Module A relating to record preservation (Condition A. 14) would presumably continue in effect after closure of the HWSB (see also Module A, Specific Comment #2, below).”

OHIO EPA GENERAL RESPONSE 5:

Ohio EPA agrees that the closure certification of the HWSB would mean that some conditions of Modules A and B would be rendered inapplicable and all of Module C would no longer be applicable to the closed unit. However, it is unnecessary to add a statement to indicate which Conditions would be terminated after the HWSB is certified closed. Instead PPG may submit a permit modification to remove conditions which relate to the HWSB after final closure is achieved. No changes will be made to the permit.

PPG GENERAL COMMENT 6: CLARIFICATION OF PBA AND AOC TERMINATION

“It would be helpful if the final Permit clarified how and when the PBA and the AOC will be terminated. For example, does Ohio EPA contemplate that it -- or PPG — will seek, obtain and document the consent of U.S. EPA to the termination of both documents? In some manner, it will be important to document the formal transfer of oversight authority from U.S. EPA to Ohio EPA, to ensure that PPG is not faced with any possibility of overlapping and potentially inconsistent authorities. While PPG would like to discuss the termination process, we suspect that ultimately this information may not be necessary to include in the Permit itself.”

OHIO EPA GENERAL RESPONSE 6:

PPG started to implement corrective action at the facility in accordance with a 1991 federal Administrative Order on Consent (AOC). US EPA in an effort to
facilitate implementation of corrective action activities incorporated the AOC into PPG’s 1993 Part B permit. PPG was required, by permit conditions, to continue the corrective action at the facility in accordance with the AOC and other conditions of the permit until corrective measures are selected pursuant to Section VI.J. of AOC. This section of the AOC requires US EPA to select the appropriate corrective measure and implement the corrective measure either through the permit or a newly negotiated order. Although the federal permit expired on November 13, 1998, PPG timely filed a renewal application on March 30, 1998. As a result, the conditions of the expired permit continue in force until the effective date a new RCRA permit is issued. Ohio is prepared to renew PPG’s hazardous waste permit in the near future. And once the permit is renewed to continue with corrective measures, it would be Ohio EPA’s suggestion that the Consent Order and Performance Based Agreement be terminated. With such termination, Ohio EPA will become the only agency working with PPG with respect to the remaining Corrective Action activities.

Both the PBA and AOC contain termination provisions describing the process. For example, the AOC states that “U.S. EPA shall consider terminating this Consent Order upon the issuance of a RCRA permit for the facility which may incorporate the substantive requirements of the Consent Order.” Once Ohio EPA’s permit renewal becomes effective, PPG should contact U.S. EPA to terminate the PBA and AOC.

Ohio EPA agrees that the process of terminating the orders should not be discussed within the narrative portion of the Ohio permit. However, the permit will be modified to reflect that Ohio EPA’s future status as the lead agency working with PPG for CA. The permit (Module E – Narrative) is updated as follows:

“With the issuance of a renewed RCRA Permit by the State of Ohio, the Ohio EPA will become the lead agency working with PPG with respect to the remaining Corrective Action activities. PPG will attempt to terminate the AOC with USEPA and the Performance Based Agreement with U.S. EPA after coincident with the issuance of the renewed Ohio Permit according to the termination sections provided by the agreements. Additional and/or continuation of Corrective Action activities will be conducted continued under the Ohio Permit.”

PPG GENERAL COMMENT 7: SCHEDULE OF REQUIRED DELIVERABLES

“PPG believes that the Permit should reflect a commitment by Ohio EPA to provide comments related to PPG submittals within 60 days of receipt. This commitment from Ohio EPA is needed to keep the corrective action process going and to eliminate schedule delays and overlapping review cycles.”
OHIO EPA GENERAL RESPONSE 7:

Ohio EPA does not agree with the comment. The hazardous waste permit consists of the Terms and Conditions and the Application which define the obligations or duties with which the Permittee must comply in order to continue operating as a treatment, storage, or disposal facility. Ohio EPA, is not the owner or operator of the facility and has no duty under Ohio law to assume obligations within the PPG’s permit. No changes will be made to the permit.

PPG GENERAL COMMENT 8:
DEFINITION OF FACILITY NEEDS TO BE CLARIFIED

“PPG believes that there is some ambiguity with respect to the definition and use of the term “facility” in the draft Permit that needs to be clarified. The facility is described in the Public Notice as being situated on approximately 3,250 acres (we note that PPG currently owns approximately 2,450 acres). Under Condition E. 1., the facility “with respect to Corrective Action” is defined as “all contiguous property under the control of the owner or operator seeking a permit under Subtitle C of RCRA.” The term “facility” is used in Modules A, B, and C without a definition, although we believe these Modules apply only to the HWSB. Therefore, it is unclear whether the Module A, B, and C requirements apply to the same “facility” as is defined in Condition E. 1. This ambiguity could create problems for determining which obligations apply to the HWSB, the WMUs or to other portions of the PPG property at Barberton.”

OHIO EPA GENERAL RESPONSE 8:

Ohio EPA does not believe that “facility” needs further clarification. The complete definition of facility found within Condition E.1 is:

“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.” (Emphasis added.)

The definition of facility for non-corrective action purposes is stated in OAC rule 3745-50-10(A)(39)(a) which states that the facility is the land used for treating, storing, or disposing of hazardous waste. Therefore, PPG was right in believing that Modules A, B, and C were only applicable to the HWSB and any ancillary equipment relating to the HWSB. No changes will be made to the permit.
MODULE A SPECIFIC COMMENTS

PPG MODULE A COMMENT 1: CONDITION A.1(A) EFFECT OF PERMIT

“PPG requests that references to the permit application which create an enforceable permit obligation be removed as it creates a legal ambiguity on PPG’s obligations under the final Permit and is confusing. For example, the draft Permit states that the “language of the more stringent provision shall govern.” PPG submitted a comprehensive update of the permit application on September 4, 2008 with minimal updates on July 6, 2009 and September 18, 2009. The final Permit should be clear on its face as to the compliance obligations that must be met by PPG and any reference to the permit application that creates a legal obligation should be stricken. See also, General Comment 4 and Module B Specific Comment 1.”

OHIO EPA MODULE A RESPONSE 1:

Ohio EPA does not agree with this comment. The entire condition PPG quoted reads: “In the instance of inconsistent language or discrepancies between the above, the language of the more stringent provision shall govern.” It is the burden of the Permittee to update all references during the permit modification process. However, in the event that discrepancies arise, the Permittee would be able to submit a self-implementing Class 1 modification to update the outdated portions of the permit since the change would have previously been approved by Ohio EPA. See also Ohio EPA Response to General Comment #4.

PPG MODULE A COMMENT 2:
CONDITION A.14(F) RETENTION OF RECORDS AND INFORMATION REPOSITORY

“This Condition is redundant as PPG is already required to maintain records and data as specified in A. 14(a)-(d). PPG requests that Condition A. 14(f), stating that “Corrective Action records must be maintained for at least three (3) years after all Corrective Action activities have been completed,” be deleted due to this redundancy. However, if Ohio EPA believes that the Condition should remain, a number of clarifications would be needed. First, the draft Permit does not define the term “Corrective Action records.” This Condition could be broadly interpreted to mean all records generated after the AOC was signed and all records related to reclamation of the Lime Lakes. These records represent a tremendous volume of paper that will make storage of those records exceedingly difficult. There is also an ambiguity created by reference to the “completion” of corrective action, since long-term monitoring obligations will remain at the site. Therefore, if there are specific, additional records that Ohio EPA believes should be kept for the three year period, then those records should be stated with some degree of specificity in order to
prevent confusion as to what records PPG is required to maintain and for how long.”

OHIO EPA MODULE A RESPONSE 2:

Condition A.14 requires general categories records identified be retained for three years unless otherwise specified or extended.

Thus, Permit Condition A.14 (a) requires retention:

“for a period of at least three (3) years from the date of the sample, measurement, report, certification, or application.”

Permit Condition A.14.(f) requires Corrective Action records be maintained for longer than the three years required in A.14(a) to a period:

“at least three (3) years after all Corrective Action activities have been completed.”

Condition A14 (f) is not redundant of A.14(a).

Corrective Action records in Condition A.14(f) refer to any document prepared, or created by Permittee under the jurisdiction of the RCRA permit which serves to document the decisions, procedures, operations, or other activities related to Corrective Action at the site. All Corrective Action activities have been completed when all remediation and stabilization has been completed at the facility and all requirements in the facility permit have been satisfied for the facility or area.

PPG MODULE A COMMENT 3: CONDITION A.16 WASTE SHIPMENTS

“PPG requests that the term “in accordance with all applicable laws and rules” be deleted from this Condition because it could be interpreted to include statutes and regulations involving general transportation requirements for transporters of any materials. Since PPG has no statutory or regulatory obligation to investigate a transporter’s compliance with “all applicable laws and rules,” this term should be removed.”

OHIO EPA MODULE A RESPONSE 3:

This intention of this condition is not to require a compliance investigation of transporters. Instead, this condition requires PPG to use properly registered and permitted transporters to remove wastes from the PPG facility. The permit language will not be changed.
PPG MODULE A COMMENT 4: CONDITION A.18(A) TRANSFER OF PERMITS

“PPG’s property in the Barberton vicinity comprises approximately 2,450 acres. Much of this property contains no Waste Management Units, and no Corrective Action has been or ever will be required under the hazardous waste permit. Consequently, the language in Condition A. 18(a) needs to be clarified to state that it only applies to the HWSB and the Corrective Action WMUs described in Module E, and not to the remainder of PPG’s property that is neither subject to Corrective Action nor closure. PPG requests that the last sentence of this Condition be revised as follows:

Before transferring ownership or operation of any part of the facility subject to closure or Corrective Action as specified in this Permit, 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).”

OHIO EPA MODULE A RESPONSE 4:

Ohio EPA does not agree with this comment. OAC rule 3745-50-10(A)(39)(b) defines facility for corrective action purposes as “all contiguous property under the control of the owner or operator seeking a permit under the hazardous waste rules.” OAC rule 3745-54-12(C) states: “Before transferring ownership or operation of a facility during its operating life… the owner must notify the new owner or operator in writing of [all applicable regulations].” Therefore, all of PPG’s property that meets this definition of facility requires prior notification to potential buyers. When PPG has sold land in the past, it is the understanding of Ohio EPA that PPG has sold the land while maintaining environmental liability. Although the chance of discovering a new WMU on the property is very small due to the extensive amount of investigation, potential buyers of the property have the right to know about the site-wide Corrective Action being done at the facility by law. No changes will be made to the permit.

PPG MODULE A COMMENT 5:
CONDITION A.20(A) IMMEDIATE REPORTING OF NONCOMPLIANCE

“This Condition states in part that PPG must report noncompliance ‘with this permit, ORC Chapter 3734 or the rules adopted thereunder’ within 24 hours. While PPG understands that noncompliance with the Permit should be reported within 24 hours, there is no general obligation in the regulations to report noncompliance with ORC Chapter 3734 or the rules adopted thereunder. PPG requests that the reference to ‘ORC Chapter 3734 or the rules adopted thereunder’ be deleted from this Condition. This language is not contained within OAC Rule 3745-50-58(L)(6), which is the citation given for the proposed Condition.”
OHIO EPA MODULE A RESPONSE 5:

Ohio EPA does not agree with this comment. As stated under condition A.1(a), PPG is required to report any noncompliance that endangers human health or the environment and relates to hazardous waste rules. The condition does not require PPG to report all instances of noncompliance with the permit or ORC Chapter 3734 within twenty-four hours. Instead, the condition only requires PPG to report any noncompliance with the permit or ORC Chapter 3734 which may endanger human health or the environment within twenty-four hours. The condition is clarifying the requirements of OAC rule 3745-50-58(L)(6). The permit will not be changed.

PPG MODULE A COMMENT 6:
CONDITION A.22 OTHER NONCOMPLIANCE

“PPG requests that the terms of this Condition, stating that ‘within thirty (30) days of the time at which the Permittee is aware of such noncompliance,’ be changed to ‘at the time monitoring reports are submitted.’ This language change would conform to the language of OAC Rule 3745-50-58, which is the citation given for the proposed Condition.”

OHIO EPA MODULE A RESPONSE 6:

Ohio EPA agrees with the proposed change in part. OAC Rule 3745-50-58(L)(10) states: “The permittee must report all instances of noncompliance not reported under paragraphs (L)(4), (L)(5), and (L)(6) of this rule at the time monitoring reports are submitted.” Instances of noncompliance which have a logical corresponding monitoring report should be reported “at the time monitoring reports are submitted.” However, there may be instances of noncompliance which are not determined from monitoring reports. In these cases, the permittee will be required to notify Ohio EPA “within thirty (30) days of the time at which the Permittee is aware of such noncompliance.” This will provide clarification to the rule and will remove any ambiguity when to report instances of noncompliance reporting. The permit is changed as follows:

“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 at the time monitoring reports are submitted, or, in cases in which there is no corresponding monitoring report relating to the compliance issue, within (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.”
PPG MODULE A COMMENT 7:
CONDITION A.27(B)(II) COMPLIANCE SCHEDULE – DOCUMENTS

“PPG requests that this Condition be revised to allow PPG to submit the financial assurance mechanism within 60 days after journalization of the Permit or by March 31, 2010, whichever is later. PPG also requests a clear statement within this Condition that it applies only to financial assurance for the HWSB and clarification that the financial assurance mechanism specified in this Condition does not include financial assurance for the corrective actions set forth in Module E, which contains a different timeline for submission of financial assurance associated with corrective actions.”

OHIO EPA MODULE A RESPONSE 7:

Ohio EPA agrees with the first part of the comment but there is no need to change it now as 60 days from permit journalization would be after March 31, 2010. Ohio EPA does not agree that additional language is needed for clarification as the title of the condition is “Updated Financial Assurance Mechanism for Closure.” (Emphasis added.) No changes will be made to the permit.

PPG MODULE A COMMENT 8:
CONDITION A.28(A) INFORMATION TO BE MAINTAINED AT THE FACILITY & A.29 WASTE MINIMIZATION REPORT

“These two conditions need to be clarified to reflect that the facility does not need to maintain this information or submit a Waste Minimization Report once it has completed closure of the HWSB as contemplated in the draft Permit. Once the HWSB is closed, which is currently planned to occur within the next 1-2 years, PPG will thereafter operate according to the applicable standards for hazardous waste generators. PPG requests that language be inserted into the draft Permit indicating that these two Conditions no longer apply once the HWSB has been certified as closed.”

OHIO EPA MODULE A RESPONSE 8:

Ohio EPA does not agree with this comment. There is no need to include provisions based on future events. See Ohio EPA response to General Comment #5 for more details. No changes will be made to the permit.
MODULE B – GENERAL FACILITY CONDITIONS

PPG MODULE B COMMENT 1:
GENERAL COMMENT ON MODULE B

“At least 14 Conditions in Module B reference a section of the permit application and incorporate the contents of the permit application into the permit by reference. The referenced permit application sections contain descriptions of operating conditions at the facility that inevitably change from time to time. Based on the requirements of Module A concerning modifications to the permit, the incorporation of the permit application by reference would require a request for a permit modification any time one of the underlying operating conditions in the permit application is changed at the facility. This would greatly increase the regulatory burden and make compliance onerous. The following situations provide excellent examples of the scope of the modification problem if the permit application is incorporated by reference into the final Permit.

The first example concerns the security and access control details outlined in Sections F-1b (1-4) of the permit application. Since the PPG manufacturing plant is governed by the Department of Homeland Security, these provisions are set forth in PPG’s security manual. If a security level changes, the site may decide or be required to change security practices. With such details incorporated into the permit by reference, PPG would need a RCRA permit modification to make changes to - for example - the following security provisions:

‘.. ..and a security guard during daytime hours (7:00 a.m. to 4:30 p.m.).’

‘Vehicle operators or visitors requiring entrance during daytime working hours must register at the South gate guard station where they are issued a visitor ID card, hard hats, goggles, and other required safety equipment. The security guard will ask for a photo ID in exchange for the visitor ID card that is issued. Vehicle operators are given a numbered vehicle pass, which is attached to the roof of the vehicle while in the facility. After registering, the security guard opens the South gate for the vehicle.’

Changes to operating hours for security guards, changes in the methods for issuing visitor ID cards or a decision to require that the vehicle pass be attached to the front of the car could trigger a permit modification.

The second example concerns Table F-1, which is included in the permit application. This table sets forth the inspection schedule for a wide variety
of inspections that take place at the Barberton facility, not all of which relate to operation of the HWSB. For example, the items listed below in Table F-1 do not relate to the HWSB and there is no justification for inclusion (by referencing the entire permit application) in the Permit.

<table>
<thead>
<tr>
<th>Area/Equipment Item</th>
<th>Types of Problems</th>
<th>Frequency of Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gates and locks</td>
<td>Corrosion, damage to chain-link fence…</td>
<td>Each workday</td>
</tr>
<tr>
<td>Remote Control to gates</td>
<td>Transmitter or receiver; sticking of gate</td>
<td>Each workday</td>
</tr>
<tr>
<td>Warning signs on gates</td>
<td>Missing or illegible</td>
<td>Each workday</td>
</tr>
<tr>
<td>Sprinklers</td>
<td>Water pressure, leaking, structural damage</td>
<td>Semiannually</td>
</tr>
<tr>
<td>Hydrants</td>
<td>Water pressure, leaking, structural damage</td>
<td>Semiannually</td>
</tr>
</tbody>
</table>

The third example concerns communication methods at the facility that are detailed in the permit application. The following language is found in the permit application and thus, through a broad incorporate by reference, become affirmative Permit obligations:

‘Dialing 5555 from any of the telephones located throughout the plant causes an emergency alarm to sound over the intercom system and rings the telephones in the Safety Supervisor’s office, the South gate guard station, and the four production operating stations.’

‘Hand-held two-way radios are used by employees who enter the HWSB.’

Changes to any of these communications methods could trigger a permit modification since the permit application is incorporated by reference.

The fourth example relates to Section F-3c(4) of the permit application, which details specifications of the fire water control system. Specifically, the application states:

‘A static-head pressure of 140 psi is maintained throughout the plant by a continuously-running pump. One electrical and two diesel back-up pumps supply this pressure if the primary pump fails. An emergency connection to the municipal system is made automatically should the in-plant system fail. The municipal system supplies water at 70 to 90 psi.’

These provisions are governed under PPG’s Loss Prevention program which is overseen by FM Global. Changes to the Loss
Prevention program could necessitate a permit modification because of this incorporation by reference.

The fifth example concerns Section F-3f(1) of the permit application, which discusses Community Advisory Panel meetings. In a description of the interactions with local community safety officials, the application states: ‘in addition, the local safety forces are represented on the plant’s Community Advisory Panel, which meets at least quarterly.’ These meetings are part of a voluntary program designed to meet PPG’s responsibilities under its Responsible Care® initiatives. The schedule and timing of these meetings may change based on the needs or desires of the participants. These meetings are not mandated under Ohio’s hazardous waste management regulations. Therefore, this incorporation by reference creates a binding obligation where none otherwise exists, and would trigger a permit modification based on a change in schedule for these voluntary meetings.

The sixth and final example relates to Section G 1.1 of the contingency plan, which currently lists all of the individuals trained to the incident command level. This list contains six primary and 22 alternate contacts with their titles, plant phone numbers, pager numbers and home phone numbers. A permit modification could be triggered if a person is added or removed from this list, if their title or position changes, or if their home phone number changes. While it may be appropriate, and indeed required, to periodically review, update and modify the facility’s contingency plan, the independent obligation to also seek and obtain a Permit modification is unnecessary and not warranted.

The scope of the problem grows given that the permit application, incorporated by reference in the draft Permit, in turn incorporates internal PPG documents by reference. As currently written, the incorporation of the contingency plan by reference could trigger a permit modification if the documents incorporated in the contingency plan by reference are revised or changed. The ultimate result of incorporating the permit application by reference, without any limitation, could trigger an onerous compliance burden as a permit modification could be required when any number of documents referenced in the permit application and subsequently referenced in an underlying document are revised.

If Ohio EPA incorporates the permit application by reference as binding affirmative obligations, PPG needs some measure of flexibility to allow for alterations to operating conditions at the facility, consistent with the hazardous waste rules, without having to obtain a
modification of the permit. The sheer recordkeeping associated with frequent and numerous ‘modifications’ will overwhelm PPG’s plant personnel charged with implementation, as well as Ohio EPA’s personnel charged with overseeing and monitoring PPG’s activities under the hazardous waste program. It will become nearly impossible to identify at any point in time the actual Permit with all ‘modifications.’ This outcome can, and should, be avoided by deletion of some of the detail from the Permit and by including language in the Permit stating that incorporation of the Permit Application by reference is not intended to create affirmative legal obligations that are not otherwise required by the regulations or a specific provision of the Permit.”

OHIO EPA MODULE B RESPONSE 1:

Ohio EPA does not agree with this comment. The current permit, originally issued in September 1993 with which PPG is operating in accordance, incorporates the permit application by reference. PPG has diligently updated the permit application and Ohio EPA has been satisfied by the manner in which the permit application has been modified. With the exception of the second example (cited in the comment), all of the examples provided would be classified as Class 1 modifications. Class 1 modifications are self-implementing and do not need prior Ohio EPA approval. The second example would require a Class 2 modification as listed within the appendix to OAC rule 3745-50-51 C.4.

PPG believes that some of the information included within the permit application is supplemental information and not related to the operation of the HWSB or Corrective Action. If the information is not related to Corrective Action or activities relating to the HWSB, then PPG may submit a permit modification application in an attempt to delete the information from the permit. However, the second example is required security to prevent unauthorized entry to the facility and must not be removed. No changes will be made to the permit. For more information relating to incorporating the permit-by-reference, see also Ohio EPA response to PPG General Comment #4. For more information on updating the contingency plan, see also Ohio EPA response to PPG Module B Comment #7.

PPG MODULE B COMMENT 2:
CONDITION B.3(C) GENERAL WASTE ANALYSIS PLAN

“This Condition contains a requirement that PPG “verify the analysis of each waste stream annually as part of its quality assurance program....” PPG requests that this requirement be deleted from the Permit because it is
unsupported by the text of OAC Rule 3745-54-13, which allows waste identification based on generator knowledge. Furthermore, an annual waste analysis should not be required for a captive generation facility that only manages waste generated on-site.”

**OHIO EPA MODULE B RESPONSE 2:**

Ohio EPA disagrees with this comment in part. A waste analysis plan is needed for each owner and operator of a hazardous waste facility even if wastes have been characterized by generator knowledge. Condition B.3 describes in detail what must be included within the waste analysis plan and does not preclude using generator knowledge. Verification of the analysis does not necessarily mean re-analysis; each analysis based on analytical tests or generator knowledge must be reviewed or repeated to ensure it is current. In fact, the Part B application PPG submitted includes a WAP which states that the frequency of analysis of existing wastes is reviewed at least annually. Therefore, the Condition will remain unchanged.

**PPG MODULE B COMMENT 3:**

**CONDITION B.7 GENERAL REQUIREMENTS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTES**

“Subpart (e) of this Condition states that ‘all wiring and electrical equipment at the facility must meet the National Fire Protection Association’s standards for hazardous locations.’ PPG believes subpart (e) should be deleted since such a requirement is unsupported by the text of OAC Rule 3745-54-17 and was not contained within the permit application.”

**OHIO EPA MODULE B RESPONSE 3:**

Ohio EPA agrees with the comment. The Condition will be deleted.

**PPG MODULE B COMMENT 4:**

**CONDITION B.10 TESTING AND MAINTENANCE OF EQUIPMENT:**

“This Condition cross-references Condition B.8 which is “Reserved.” PPG believes that the correct cross-reference is Condition B.9 (Required Equipment).”

**OHIO EPA MODULE B RESPONSE 4:**

Ohio EPA agrees and will make the proposed change.

“The Permittee must inspect, test and maintain the equipment required by Permit Condition B.9 as necessary to …”
PPG MODULE B COMMENT 5:
CONDITION B.13(A) AND (A)(I) ARRANGEMENTS WITH LOCAL AUTHORITIES

“The phrase ‘making a diligent effort’ should be changed to ‘attempting’ in order to be consistent with OAC Rule 3745-54-37. Similarly, the phrase ‘which are likely to respond in an emergency’ should be deleted in order for this Condition to be consistent with OAC Rule 3745-54-37.”

OHIO EPA MODULE B RESPONSE 5:

The requirement for preparedness and prevention and contingency planning were discussed in the preamble to the final rule (45-FR 33153, May 1980). The preparedness and prevention rules “are intended to minimize the possibility of and effect of a release, fire, or explosion which could threaten human health and the environment.” In order to minimize the effect of a fire or explosion, Ohio EPA believes OAC rule 3745-54-37 requires the owner and operator to make a diligent effort to make arrangements with local authorities for potential emergency response. The phrase of “which are likely to respond in an emergency” will remain because this provides clarification to the rule and requires no additional burden on the permittee. The permit language will remain unchanged.

PPG MODULE B COMMENT 6:
CONDITION B.17 AMENDMENTS TO PLAN

“This Condition further illustrates the problems associated with incorporating documents, such as the contingency plan, by reference. PPG agrees that the current contingency plan calls for an annual review. But, the annual review of a contingency plan is not required for an owner or operator to demonstrate compliance with OAC Rule 3745-54-54. By incorporating the current contingency plan by reference, the Permit creates a legally binding obligation to review the contingency plan annually where none exists. At the very least, the phrase “at least annually” should be deleted from this Condition as an annual review of the contingency plan is not required under OAC Rule 3745-54-54.”

OHIO EPA MODULE B RESPONSE 6:

The annual review requirement is not associated with incorporating documents as suggested by PPG’s comment. The annual review requirement originated as Condition B.16 of PPG’s 1993 Hazardous Waste Installation and Operation Permit.

The contingency plan rules are intended to minimize hazards to human health and environment in the event of fires, explosions, or unplanned releases (OAC
rule 3745-54-51). To be effective, the contingency plan must be periodically examined to update information as required.

The director has the authority to issue renewals with terms and conditions which he finds are reasonable to ensure continued operation are conducted in accordance with the rules, and such additional terms and conditions that are necessary to protect human health and the environment (OAC rule 3745-50-40(D)(6)).

The language in Condition B.17 will remain unchanged.

PPG MODULE B COMMENT 7:  
CONDITION B.18 (B) COPIES OF PLAN

“This Condition requires PPG to “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.” This provision should be deleted because the rule does not require notifying local authorities of amendments, revisions, or modifications to the contingency plan within any specific period of time. Alternatively, if Ohio EPA believes that a deadline for submitting amendments, revisions, or modifications to the contingency plan is necessary, PPG requests that the notification requirement be changed to within thirty (30) days of the effective date of any amendments of, revisions to, or modifications to the contingency plan.”

OHIO EPA MODULE B RESPONSE 7:

By rule, the contingency plan is required to be a part of a facility’s hazardous waste permit (OAC rule 3745-50-44) as are any formal revisions (OAC rule 3745-50-51). The plan and its revisions are to be maintained at the facility and copies submitted to local responders (OAC rule 3745-54-53). Ohio EPA believes that in order to protect human health and the environment in emergencies it is vital that local authorities have up-to-date contingency plans in their possession. The requirement to submit a copy of the contingency plan to local responders includes the notion that the copies are current. Thus as the contingency plan is formally revised with Ohio EPA thru the permitting process a copy of the changes must be provided to local responders. The language of the permit condition will remain unchanged

PPG MODULE B COMMENT 8:_CONDITION B.31 TIME ALLOWED FOR CLOSURE:

“PPG requests that this Condition be clarified in terms of applicability. Specifically, PPG currently anticipates that it will undergo closure of the permitted HWSB pursuant to the approved closure plan, and thereafter
manage its hazardous waste container storage activities pursuant to the generator requirements (i.e., storing any containers for less than 90 days and meeting the other requirements of the generator rules). This particular Condition, it seems to us, applies only if the permitted unit (the HSWB) is going to be permanently shut down with no generator storage activities taking the place of permitted storage. PPG asks that Ohio EPA clarify if and to what extent Condition B.31 applies to the scenario of an initial closure followed by generator accumulation activities.”

OHIO EPA MODULE B RESPONSE 8:

This Condition addresses only the closure plan and does not prevent PPG from generator storage in the building after the storage unit is closed. In other words, after closure is achieved PPG can use the building for generator storage in accordance with all applicable regulations.

PPG MODULE B COMMENT 9:
CONDITION B.32(B) DISPOSAL OR DECONTAMINATION OF EQUIPMENT, STRUCTURES, AND SOILS

“This Condition sets forth that PPG must notify Ohio EPA NEDO within five working days prior to all rinseate and soil sampling. This Condition is both impractical and unsupported by OAC 3745-55-14. For example, if the facility undertakes multiple rounds of sampling, the five-day advance notice is impractical. Furthermore, nothing in OAC 3745-55-14 requires PPG to give the Ohio EPA five day advance notice that it intends to dispose of or decontaminate equipment, structures, or soil. For both of these reasons, PPG requests that the live-day notification requirement be deleted from this Condition.”

OHIO EPA MODULE B RESPONSE 9:

OAC rule 3745-55-12(A)(6) requires a schedule to be included within the closure plan. Therefore, the schedules of the disposal or decontamination of equipment, structures, and soils should be known prior to the five-day notification that is required by this Condition. Therefore this Condition is not burdensome to the Permittee. The Permit will not be changed.

PPG MODULE B COMMENT 10: B.36 COST ESTIMATE FOR FACILITY CLOSURE

“PPG believes this Condition is redundant given that Condition A.27(b)(ii) requires that the “facility must submit the financial assurance mechanism documentation to the Director of Ohio EPA in accordance with the parameters set forth in OAC Rules 3745-55-43.” To ensure consistency, PPG requests that Condition B.36 simply cross-reference Condition A.27.”
OHIO EPA MODULE B RESPONSE 10:

Ohio EPA disagrees with this comment. Condition A.27(b)(ii) requires the Permittee to update the permit and part B application as needed. Condition B.36 specifies the timeframe and procedure that the Permittee must follow to update the cost estimate for closure. The Permit will not be changed.

PPG MODULE B COMMENT 11:
CONDITION B.37 FINANCIAL ASSURANCE FOR FACILITY CLOSURE:

“This Condition cross-references Condition B.33 (Certification of Closure), which appears to be wrong. PPG believes the proper cross-reference is Condition B.36 (Cost Estimate for Facility Closure).”

OHIO EPA MODULE B RESPONSE 11:

Ohio EPA agrees with this comment. The Permit is changed as follows:

“The Permittee must maintain continuous compliance with OAC Rule 3745-55-43 and 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.”

MODULE C – CONTAINER STORAGE AND MANAGEMENT

PPG MODULE C COMMENT 1:
CONDITION C.3 WASTE IDENTIFICATION

“PPG identified several hazardous waste codes that it intends to store in the HWSB. The list contained in Condition C.3 is missing the following codes that PPG wishes to store in the HWSB: D032, D033, D034, F024, F039, K016 and P005. Please add these codes to the list of wastes allowed to be stored in the HWSB.”

OHIO EPA MODULE C RESPONSE 1:

The waste codes have been previously added to the permit. The permit language will be changed to include these waste codes.

“D001, D002, D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D022, D028, D029, D032, D033, D034, D035, D038, D039, D040, D043; F002, F003, F005, F024, F039; K016, K030, K073; P005; U002, U012, U080, U196, U228, U239.”
PPG MODULE C COMMENT 2:  
C.6 MANAGEMENT OF CONTAINERS

“OAC Rule 3745-55-73 does not contain a requirement that lab-pack wastes must be handled in compliance with applicable storage regulations or that lab-pack wastes be packaged in drums containing absorbent material that is compatible with the waste. The lack of regulatory authority concerning the specific management of lab-pack wastes means that subparts (b) and (c) of Condition C.6 should be deleted. PPG recognizes its obligations to properly store, manage, transport, and dispose of any waste generated at the facility pursuant to applicable regulations, but that is not a reason for adding extra requirements through the Permit that are not found in those regulations.”

OHIO EPA MODULE C RESPONSE 2:

Ohio EPA agrees with this comment. Subparts (b) and (c) of draft Condition C.6 will be removed from the permit.

MODULE E – CORRECTIVE ACTION REQUIREMENTS

PPG MODULE E GENERAL COMMENT:

“Based on its review of the draft Permit Module E, PPG believes that this Module needs to be fundamentally reorganized. As currently structured, the draft Permit makes it difficult to identify which particular conditions apply to previously discovered WMUs and which conditions apply only to new WMUs that may be discovered during additional facility investigations. For example, Condition E.3 identifies WMUs, provides a description of the WMU, the remedial goal, the corrective measures completed under the PBA, and the status. While Condition E.5 states that an RFI will be conducted “in the event of a newly discovered unit,” the draft Permit does not make it clear that Conditions E.8 and E.9 are also limited to newly discovered units. PPG also has the same concern with respect to Conditions E.11 and E.12. Module E should clearly and definitively state which Conditions only apply to newly discovered WMUs. This can best be accomplished by re-organizing the Module.

As set forth in General Comment 3, PPG believes that all of the previously identified WMUs can be placed into three categories: (1) Remedy Complete – No Further Action; (2) Remedy Complete; and (3) Ongoing Remedy Evaluation and/or Implementation. The key category for this Permit should be those WMUs with ongoing remedy implementation (as identified in General Comment 3 this category includes those areas where additional
evaluation prior to remedy implementation is still needed). While PPG believes that it is important to recognize those WMUs where the remedy has been completed, such recognition should occur as part of the introduction to Module E. By placing the Remedy Complete – No Further Action WMUs in the Introduction, rather than in Condition E.3, the agency both gives the public notice that such WMUs exist and gives PPG credit for the work completed to-date under the PBA.”

OHIO EPA MODULE E GENERAL COMMENT RESPONSE:

Ohio EPA agrees that the module can be reorganized to better summarize the activities accomplished and the activities which still need to be done. In part, Ohio EPA will combine the summaries of draft Conditions E.3 and E.10. The end result will be further split into the categories proposed within the comment. See response to General Comment #3 for the categories.

Conditions E.5, E.8, E.9, E.11, and E.12 apply to both newly discovered units and those WMUs that may still require additional investigation. As a result of an investigation, a remedy selection process might be required meaning that a CMS or CMI also could be required. Thus, any Category 3 WMU listed could require a CMS or CMI with the exception of Sand Quarry WMU 83.

Therefore, Condition E.9 will be changed to no longer include the phrase “For Newly Identified Units.”

PPG MODULE E GENERAL COMMENT 1: E.3 IDENTIFICATION OF WMUS

“This section provides a description of the primary media focus areas used for corrective action planning and implementation at the facility. Open-ended and nonspecific language, such as ‘further action required’ should be removed because it provides little, if any, useful information. Rather, for those areas where remedy evaluation/implementation is ongoing (i.e., PPG’s proposed Category 3 as set forth in General Comment 3), this Condition should cross-reference Condition E. 10 where the corrective measures to be implemented are described. PPG requests that ‘further action required’ be replaced with ‘the corrective measures to be implemented are described in Section E.10.’”

OHIO EPA MODULE E GENERAL RESPONSE 1:

Ohio EPA agrees and will change the permit to reflect this comment.
PPG MODULE E GENERAL COMMENT 2:
E.3 IDENTIFICATION OF SAND QUARRY WMU 83

“As set forth in the draft Permit, Sand Quarry WMU 83 is the HWSB this is subject to the closure requirements as set forth in Module C. PPG expects to begin implementation of closure at the HWSB in the near future. PPG requests that the reference to Sand Quarry WMU 83 be removed from Module E as this area of the facility will be closed in accordance with the requirements of Module C.”

OHIO EPA MODULE E GENERAL RESPONSE 2:

Ohio EPA does not agree with the comment. In Condition E.3, WMU 83 is identified as the storage building and will be addressed by the closure plan and Module C. In Condition E.10(o), it is stated that WMU 83 will be addressed in Module C. Nothing within Module E requires additional activities to be done by the Permittee at WMU 83 beyond the stipulations of the closure plan. The references to WMU 83 in Module E are part of the overall discussion of waste management units present at the facility, and thus will remain within Module E. No changes will be made to the permit.

PPG MODULE E GENERAL COMMENT 3:
E.3 IDENTIFICATION OF SWMU’S #’S 9, 61, 66, 81, AND 90 (PAGE 39 OF DRAFT PERMIT)

“The names of the WMUs identified in this Condition of the draft Permit are different from those in the CMS and AOC. Based on the AOC, the correct names are: WMU #9 Multi Purpose Plant Floor Drains and Sumps; WMU #61 Chloroformate Sump; WMU #66 CR-39 Sump and Trench System; WMU #81 APC Wastewater Tanks; and WMU #90 Former TCE Plant. The use of the proper names for these WMUs will clarify the relationship of these WMUs to the Main Plant Soils Focus Area discussed in General Comment 3 above.”

OHIO EPA MODULE E GENERAL RESPONSE 3:

Ohio EPA agrees with this comment and will change the names as suggested to help with continuity from the AOC and CMS to the Ohio EPA permit.

“SWMU’s #’s 9, 61, 66, 81, and 90

DESCRIPTION: Wastewater tanks, floor drains, trenches and sumps in the Multi-Purpose Building (WMU #9 Multi Purpose Plant Floor Drains and Sumps), Chloroformate Process Area (WMU #61 Chloroformate Sump 61), CR-39 Process Area (WMU #66 CR-39 Sump and Trench System 66), and the Air Pollution Control System (WMU #81 APC Wastewater...
Tanks 84). Also, the former trichloroethene manufacturing plant (WMU #90 Former TCE Plant 90).

…”

PPG MODULE E GENERAL COMMENT 4:
E.6 IMPLEMENTATION OF INTERIM MEASURES

“Similar to the concern expressed above on including completed corrective measures in Condition E.3, the inclusion of completed Interim Measures in Condition E.6 is confusing. The discussion about completed IMs should be placed in the Introduction to Module E where background information is provided about the previous correction action work that has been completed at the site.”

OHIO EPA MODULE E GENERAL RESPONSE 4:

Ohio EPA believes that putting the completed Interim Measures in the introduction is not necessary. The paragraph following the list of Interim Measures states which Interim Measures are ongoing and which Interim Measures are complete. No changes will be made to the permit.

PPG MODULE E GENERAL COMMENT 5:
E.7 DETERMINATION OF NO FURTHER ACTION

“This Condition needs to be clarified to state that the RFI/CMS/CMI process is unnecessary for any existing WMUs. This is because PPG has already undertaken the investigation and study of the previously identified WMUs under the AOC and PBA. PPG also believes that there should be a streamlined process for recognizing when no further action is required for the existing WMUs.”

OHIO EPA MODULE E GENERAL RESPONSE 5:

Ohio EPA believes that Condition E.7 might be confusing because of the progress PPG has already made with regards to Corrective Action. When first obtaining a permit, most facilities have performed an RFI or CMS. In these cases, the RFI might show that there is no further action or remedy required for a unit and the facility would not need to submit a CMS.

This is not the case for PPG. Extensive investigation has already been done at the facility and units which have not required further action have already been eliminated from the Corrective Action process. Condition E.7 does not apply to WMUs which have undergone a remedy and require no additional remedies. Regardless, PPG is far enough in the process that Condition E.7 would only apply to newly discovered units.
No changes will be made to the permit due to this comment. See also Ohio EPA response to PPG Module E General Comment for more information on how the certain units may require a CMS/CMI.

PPG MODULE E GENERAL COMMENT 6:
E.8 CORRECTIVE MEASURE STUDY (CMS):

“This Condition needs to be clarified to indicate that it only applies to newly discovered units.”

OHIO EPA MODULE E GENERAL RESPONSE 6:

Ohio EPA does not agree with this comment. There is additional investigation that is needed on some of the WMUs and as a result of the investigation, a Corrective Measures Study might be necessary. No changes will be made to the permit.

PPG MODULE E GENERAL COMMENT 7:
E.10 CURRENT CORRECTIVE MEASURES

“The permit implementation schedule for the first year will be a burden. As set forth in General Comment 2, PPG believes that continuing the voluntary, flexible, performance based approach agreed to with U.S. EPA is the best method for implementing corrective action at this facility, and that much of the detailed schedule should be deleted from the Permit. Alternatively, PPG believes that the schedule should be revised to spread submittals over a longer time period and account for responding to Agency comments and implementing required corrective measures. A proposed revised schedule is attached hereto as Attachment A, in the event Ohio EPA does not agree to removal of much of the detailed schedule as suggested in General Comment 2.”

OHIO EPA MODULE E GENERAL RESPONSE 7:

As stated in the response to general comment 2, Ohio EPA requires a schedule for Corrective Action. Ohio EPA evaluated the schedule for each submittal based on a February 4, 2010 meeting with PPG, and as detailed in this responsiveness summary has made extensive revisions to the permit. A revised summary schedule of deliverables is attached.

PPG MODULE E GENERAL COMMENT 8:
E.10(A)(V) CURRENT CORRECTIVE MEASURE/ENVIRONMENTAL COVENANT

“This restriction should apply to off-site groundwater extraction that could alter the distribution of on- and off-site contamination in the aquifer.”
OHIO EPA MODULE E GENERAL RESPONSE 8:

Ohio EPA does not have the authority to restrict ground water outside the property boundaries of the facility. No changes will be made to the permit.

PPG MODULE E GENERAL COMMENT 9:
E.10(G) LIME LAKE 1 AND (H) LIME LAKE 2

“The draft Permit mandates the placement of a vegetative cap on Lime Lakes #1 and #2 within 2 years of permit issuance. The agency’s stated objective in requiring these covers is to “minimize the potential for direct contact, to reduce further vertical infiltration, prevent wind dispersal of contaminated soils and enhance the value of the space as habitat.” While the construction of a vegetative cap via mixing lime material and sewage sludge has contributed to achieving similar objectives at Lime Lakes #3 - #6, PPG believes it may not necessarily be the appropriate remedy for Lime Lakes #1 and #2. First of all, these two Lime Lakes are perhaps the most complicated WMUs at the Barberton facility. Lime Lake #1 is 74 acres in size and Lime Lake #2 is 41 acres in size. Both generate leachate, some of which is being removed and treated by existing leachate collection systems. Though the Permit states that elimination of leachate generation is an objective of corrective action at these units, it is not clear that this is technically practicable. If it is practical to reduce leachate formation by reducing rainfall infiltration, it is not clear that a vegetative cap is the most appropriate means to accomplish this. In addition, the location of these lime lakes to adjacent water courses raises construction and design considerations that need to be carefully evaluated. [Lime Lake #1 is surrounded on three sides by Wolf Creek and Lower Hudson Run and Lime Lake #2 has Lower Hudson Run and a roadway to the North and Wolf Creek to the Northeast.] Such considerations include the feasibility of regrading the surface and stabilizing the steep side slopes, assuming that would be required as part of cap construction. Slope stability is an important consideration for both lime lakes because of the additional weight that would be added to the surface by the construction of a cap. Further, the DNAPL (Dense Non-Aqueous Phase Liquid) in Lime Lake #2 will have to be considered since it is currently in equilibrium with pore water and may become more mobile if the lime spoil is drained due to reduced infiltration as a result of a cap. Another consideration is that there are numerous vertical wells, 12 horizontal wells, and leachate collection system piping that will have to be accounted for in the design and accommodated for [raised well heads] in the construction of the cap. Finally, while some of these design issues might be addressed with a thinner vegetative cap, a flat or thin vegetative cap will not be effective in leachate reduction since
little or no surface runoff will occur and the growing season is not long enough to control infiltration.

In summary, PPG has continued to investigate and revise its analysis of the most effective remedies for Lime Lakes #1 and #2 since installation of a vegetative cap was first considered. Given the limitations of a vegetative cap as discussed above, PPG believes it is appropriate to take a marginal step back and further evaluate the remedial options at Lime Lakes #1 and #2, prior to proceeding with an effective remedy. To that end, PPG believes that it would be appropriate to develop a scope of work and timeline for further evaluation of the remedial options at Lime Lakes #1 and #2.”

OHIO EPA MODULE E GENERAL RESPONSE 9:

Ohio EPA evaluated the schedule and remedy decision approach for Lime Lakes #1 and #2 based on a February 4, 2010 meeting with PPG, and has made extensive revisions to the permit. These revisions are based on both technical considerations and the understanding that remedy selection and implementation will require a substantial level of effort by both PPG and Ohio EPA. To the extent possible, a performance based approach was incorporated. The permit has been revised as follows:

“(g)(n) Lime Lake #1

The permittee shall pursue an Environmental Covenant per Section E.10. (a) of this permit.

The Permittee shall continue to operate and maintain the existing leachate collection system, until and unless such time as PPG can develop a remedy or pilot study workplan to eliminate the generation of leachate is approved which does not require continued operation of this Interim Measure. The Permittee shall maintain and update the existing Operation and Maintenance Plan as necessary to ensure optimal operation of the system. An updated Operation and Maintenance Plan shall be submitted for approval within one year of this permit renewal.

The Permittee shall continue to monitor the natural attenuation of pollutants in ground water, and ensure that the spatial extent of contamination is not expanding. This would be a part of a larger, periodic, facility-wide ground water monitoring program. The Permittee shall continue implementation of the July 2003 SWGWMP and sampling and analysis procedures as documented in the March 2004 Sitewide Groundwater Monitoring Program QAPPA, and subsequent approved modifications, per Module Z of this permit.
The Permittee shall place an additional vegetative cap to minimize the potential for direct contact, to reduce further vertical infiltration, prevent wind dispersal of contaminated soils, and enhance the value of the space as habitat, within two years of issuance of this permit.

This remedy will be implemented according to a schedule developed by the Permittee and provided to Ohio EPA. The Permittee shall use good faith efforts to reach consensus with Ohio EPA on corrective measures design and implementation issues within one year of the permit renewal.

The Permittee shall investigate the feasibility of improving the Qualitative Habitat Evaluation Index (QHEI) along the adjacent reach of Wolf Creek. The Permittee will submit a report and a work plan if improvements are feasible, within one year of the issuance of this permit. per Section E.10. (l) (1) of this permit.

The Permittee shall maintain the low head dams in Lower Hudson Run to prevent the unacceptable releases to surface water from this unit per Section E.10(b) of this permit. The Permittee shall prepare and submit an Inspection and Maintenance Plan (IMP) within 90 days of the date of this permit renewal.

(i) Within 45 days of receipt of any Ohio EPA comments on the IMP, the Permittee must submit either an amended or new plan that incorporates Ohio EPA’s comments.

(ii) Ohio EPA will approve or modify and approve, in writing, the amended IMP or new IMP. The IMP, 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 IMP must be authorized by Ohio EPA.

By the end of one year following the date of this permit renewal, the permittee shall:

- Complete a review of existing studies and data for this WMU
- Establish performance based goals, for example meet Ohio Water Quality Standards, minimize leachate generation or release, enhance run-on/run-off control, maximize unit stability, enhance habitat quality
- Propose a final remedy
- Propose an appropriate cover design
- Propose (if deemed appropriate) a pilot study to evaluate the effects of discontinuing operation of the leachate collection system, including a detailed evaluation of the potential for negative impacts
to the environment during the test period and the means to monitor and mitigate such impacts

- Submit reports and workplans for these tasks to Ohio EPA for consensus and approval

By the end of two years following the date of this permit renewal, the permittee shall:

- Initiate the pilot study of shut down of the leachate collection system, if approved
- Monitor the implementation of the pilot study per the approved workplan
- Implement any other investigations identified by PPG to provide information relevant to the design of a final remedy

By the end of four years following the date of this permit renewal, the permittee shall:

- Submit a report of the pilot study implementation, and any other investigations undertaken, to Ohio EPA
- Complete the final remedy design, and submit an implementation workplan to Ohio EPA for approval
- Submit a schedule for remedy implementation to Ohio EPA
- Begin Implementation of the final remedy

By the end of five years following the date of this permit renewal, the permittee shall complete construction of the final remedy. PPG may opt to implement any of these tasks earlier than called for in this permit, at its discretion.

PPG must submit a remedy construction completion report within 90 days after the final remedy is constructed.

(6)(o) Lime Lake #2

The permittee shall pursue an Environmental Covenant per Section E.10. (a) of this permit.

The Permittee shall continue to operate and maintain the existing leachate collection system, until and unless such time as PPG can develop a remedy or pilot study workplan to eliminate the generation of leachate is approved which does not require continued operation of this Interim Measure. The Permittee shall maintain and update the existing Operation and Maintenance Plan as necessary to ensure optimal operation of the
system. An updated Operation and Maintenance Plan shall be submitted for approval within one year of this permit renewal.

The Permittee shall continue to monitor the natural attenuation of pollutants in ground water, and ensure that the spatial extent of contamination is not expanding. This would be a part of a larger, periodic, facility-wide ground water monitoring program. The Permittee shall continue implementation of the July 2003 SWGWMP and sampling and analysis procedures as documented in the March 2004 Sitewide Groundwater Monitoring Program QAPPA, and subsequent approved modifications, per Module Z of this permit.

The Permittee shall place an additional vegetative cap to minimize the potential for direct contact, to reduce further vertical infiltration, prevent wind dispersal of contaminated soil, and enhance the value of the space as habitat, within two years of issuance of this permit.

This remedy will be implemented according to a schedule developed by the Permittee and provided to Ohio EPA. The Permittee shall use good faith efforts to reach consensus with Ohio EPA on corrective measures design and implementation issues, within one year of the permit renewal.

By the end of two years following the date of this permit renewal, the permittee shall:

- Complete a review of existing studies and data for this WMU
- Establish performance based goals, for example meet Ohio Water Quality Standards, minimize leachate generation or release, enhance run-on/run-off control, maximize unit stability, enhance habit quality
- Develop conceptual corrective measures for dense non-aqueous phase liquids present in the WMU
- Initiate any required pilot studies and other investigations identified by PPG to provide information relevant to the design of a final remedy.
- Submit reports and workplans for these tasks to Ohio EPA for consensus and approval

By the end of three years following the date of this permit renewal, the permittee shall:

- Submit a report of the pilot study implementation, and any other investigations undertaken, to Ohio EPA for approval.
- Propose a final remedy
- Propose an appropriate cover design
Finalize DNAPL corrective measure(s) conceptual design
Submit reports and workplans for these tasks to Ohio EPA for consensus and approval

By the end of five years following the date of this permit renewal, the permittee shall:

- Complete the final remedy design, and submit an implementation workplan to Ohio EPA for approval
- Submit a schedule for remedy implementation to Ohio EPA
- It is understood that the remedy implementation may require a staged approach due to the complex and inter-related issues of infiltration controls, leachage collection, DWAPL recovery, and the possibility of DNAPL mobilizations.

Permittee shall implement the final remedy following Ohio EPA’s approval of the final remedy design and implementation workplan such that the remedy construction is completed by the end of the permit period.

PPG may opt to implement any of these tasks earlier than called for in this permit, at its discretion.

PPG must submit a remedy construction completion report within 90 days after the final remedy is constructed.

PPG MODULE E GENERAL COMMENT 10:
E.10(G) LIME LAKE #1

“On page 52 of the draft Permit, the 5th paragraph states that ‘[t]he Permittee shall maintain the low head dams in the Lower Hudson Run to prevent the unacceptable releases to surface water from this unit’ and further sets forth the process for preparing and submitting an Inspection and Maintenance Plan. PPG requests that this entire paragraph and subparagraphs (i) and (ii) be removed from Condition E. 10(g) because they are redundant. The requirement for developing an inspection and maintenance plan for the low head dams in the Lower Hudson Run is already set forth in Condition E.10(c) (Lower Hudson Run Surface Water Focus Area).”

OHIO EPA MODULE E GENERAL RESPONSE 10:

Ohio EPA does not agree with this comment. One Inspection and Maintenance Plan for the low head dams is required as a remedy for Corrective Action. Once the plan is implemented, PPG will have accomplished one selected remedy required for the Lower Hudson Run Water Focus Area and one selected remedy
for Lime Lake #1. The permit does not require two separate Inspection and Maintenance Plans. No changes will be made to the permit.

PPG MODULE E GENERAL COMMENT 11:
E.10(I) LIME LAKES 3 THROUGH 6

“The reclamation activities at Lime Lakes #3 through #6 should be removed from the draft Permit for the reasons set forth above in General Comment 1.”

OHIO EPA MODULE E GENERAL RESPONSE 11:

Ohio EPA does not agree with this comment. See Ohio EPA response to General Comment #1 for more detail. No changes will be made to the permit.

PPG MODULE E GENERAL COMMENT 12:
E.10(J) CONTRACTOR’S LANDFILL

“PPG requests clarification of the portion of this Condition that requires submission of an Operation and Maintenance Plan for the ‘ground water diversion system…’ There is no ground water diversion system at the Contractor’s Landfill.”

OHIO EPA MODULE E GENERAL RESPONSE 12:

Ohio EPA agrees with the comment and will change the phrase from “ground water diversion system” to “southern (base-of highwall) run-on diversion system.”

PPG MODULE E GENERAL COMMENT 13:
E.10(K) MAIN PLANT SOILS FOCUS AREA, (L) WMU’S #’S 9, 61, 66, 81, AND 90, (O) SAND QUARRY AND (P) FACILITY WIDE

“The statements in E. 10(k), E.10(p) and E. 10(o) that affected soils are to be addressed on a Facility-wide basis, as part of the Main Plant Focus Area, should be clarified. It is our understanding that this reference is to the existing ‘On-Site and SWMU Excavation and Management Plan,’ and not to some other as-yet-to-be-developed facility-wide plan. The final Permit should be clarified to state that the existing On-Site and SWMU Excavation and Management Plan is the selected remedy.”

OHIO EPA MODULE E GENERAL RESPONSE 13:

Conditions E.10(I) and E.10(o) both state that the soils will be addressed “on a Facility-wide basis, as part of the Main Plant Soils Focus Area.” Conditions E.10(k) and E.10(p) state that the Barberton Excavation Plan must continue to be
implemented. The “On-Site Excavation and SWMU Management Procedure” is the facility’s existing written procedure governing the environmental requirements, safety requirements, and waste management requirements for invasive activities. PPG is right to assume that these Conditions are not referencing to another as-yet-to-be-developed facility-wide plan. No changes will be made to the permit.

PPG MODULE E GENERAL COMMENT 14:
E.10(P) FACILITY WIDE, PARAGRAPHS 1-5

“The first five paragraphs of this Condition appear to be a summary of Conditions and obligations set forth elsewhere in the Permit, and PPG suggests that explicit language be added at the outset indicating that this is the case. In other words, the summary information provided in E. 10(p) is not intended to impose obligations in addition to those set forth elsewhere, and to the extent there is any inconsistency between the summary of E. 10(p) and the other specific provisions, the latter governs.”

OHIO EPA MODULE E GENERAL RESPONSE 14:

Ohio EPA agrees with this comment. The permit has been revised:

- (q)(p) Facility-Wide Summary of Facility-Wide Remedies and Obligations.

“The following summarizes remedies which apply to the facility as a whole, which are detailed in the relevant sub-sections of this permit.”

PPG MODULE E GENERAL COMMENT 15:
E.10(P) FACILITY WIDE, PARAGRAPH 6

“This Condition requires PPG to submit monthly progress reports to Ohio EPA. Given the current stage of remediation and implementation activities, PPG requests a change to this Condition allowing bi-monthly submission of progress reports.”

OHIO EPA MODULE E GENERAL RESPONSE 15:

Ohio EPA agrees with this comment and will change the permit as follows:

“Beginning with the month following the renewal of this permit, PPG shall provide Ohio EPA with progress reports every other for each month on or before the tenth day of the deadline for which the submittal is required following month. The progress reports shall conform to the format of the current reports required under the U.S.EPA Administrative Order on Consent.”
PPG MODULE E GENERAL COMMENT 16:
E.13 COMPLETION OF CORRECTIVE ACTION AND E.13 DOCUMENTS REQUIRING PROFESSIONAL ENGINEER STAMP

“There is a typographical error as both conditions are numbered E.13. The Condition concerning “Documents Requiring Professional Engineer Stamp” should be numbered Condition E.14.”

OHIO EPA MODULE E GENERAL RESPONSE 16:

Ohio EPA agrees with this comment and will modify the permit as follows:

“E.13 Documents Requiring Professional Engineer Stamp”

MODULE Z – INTEGRATED GROUND WATER MONITORING

PPG MODULE Z COMMENT 1:
Z.2 GROUNDWATER REMEDIATION STANDARDS (GWRS)

“PPG believes that it should be allowed to develop risk-based numbers for the GWRS. Based on the October 26th meeting, PPG understands the agency rationale to default to PQL under the draft Permit, but does not believe that the final Permit should be based on unproven assumptions. Under OAC Rule 3745-54-94, cleanup standards for hazardous constituents without MCLs or background numbers should be risk based. PPG believes that OAC Rule 3745-54-97 does not require that cleanup standards should be PQLs if no MCL is available. Using PQLs as cleanup standards is essentially accepting non-detect as the cleanup standard. The PQL may change in the future as analytical methods improve making it a moving target for cleanup. PPG would use PQLs if the analytical method cannot reach the risk-based number. As indicated in the draft Permit, Ohio EPA accepted MCLs or risk based numbers as the groundwater performance standards for the Contractors’ Landfill (Condition E.3). PPG does not see any distinction between the groundwater performance standards for Contractor’s Landfill and the GWRS under the Permit.”

OHIO EPA MODULE Z RESPONSE 1:

Ohio EPA agrees that the regulations allow for facilities to create risk-based standards. Therefore, Table 1 will be revised to state that all compounds without MCLs will be compared with risk-based numbers to be determined (i.e., PQL will be replaced with TBD). PPG will be required to submit risk-based GWRS for the compounds within one year following the date of this permit renewal. Approval
from Ohio EPA will be required for the standards and it should be noted that the risk-based standards must be for unrestricted use and must take the additive affects of the compounds into consideration.

**PPG MODULE Z COMMENT 2:**
**Z.3(C) WELL LOCATION, INSTALLATION, MAINTENANCE, AND REMOVAL**

“So as to avoid confusion, Ohio EPA should clarify that all the existing monitoring wells listed in subsection (b) Table 2, meet the requirements of this section.”

**OHIO EPA MODULE Z RESPONSE 2:**

Ohio EPA does not agree with this comment. The purpose of the permit is to provide the standards by which future compliance will be determined. It is not meant to determine current compliance. No changes will be made to the permit.

**PPG MODULE Z COMMENT 3:**
**Z.3(D) WELL LOCATION, INSTALLATION, MAINTENANCE, AND REMOVAL**

“PPG believes that operational flexibility needs to be a key aspect of the groundwater monitoring program for this site, which includes 89 wells. The current language of Z.3(d) states that a permit modification will be required to remove or replace individual monitoring wells that are part of the sitewide monitoring program. For example, if a monitoring well is accidentally damaged, its in-kind replacement will require a permit modification. PPG suggests a more flexible approach whereby it would provide periodic assessments of the effectiveness of the current monitoring system, and would notify the agency via such a report if removal, replacement or added wells are necessary to provide a more effective monitoring program. We have seen this approach successfully used at other corrective action sites with large numbers of wells in their monitoring systems and believe it makes sense at this site as well.”

**OHIO EPA MODULE Z RESPONSE 3:**

Ohio EPA does not agree with this comment. According to the Appendix to OAC Rule 3745-50-51 modification D.1.b, the replacement or repair of an existing monitoring well that has been damaged or rendered inoperable, without change to location, design, or depth is a class 1 modification. The facility must notify the director of changes within 7 days, and send notice of the modification to the facility mailing list within 90 days.
According to the Appendix to OAC Rule 3745-50-51 modification D.1.a, changes to the number, location, depth, or design of the wells are class 2 modifications and would require the prior approval of the director.

No changes will be made to the permit.

**PPG MODULE Z COMMENT 4:**
**Z.4(C) SAMPLING AND ANALYSIS PROCEDURES**

“This Condition requires that “[field and analytical data must be validated in accordance with the procedures specified in the March 2004 QAPPA.” This Condition needs to be revised because the U.S. EPA and PPG agreed to a different validation procedure after issuance of the March 2004 QAPPA. Analytical monitoring data is currently validated using the Ohio EPA Tier 1 procedures (Ohio EPA, Division of Hazardous Waste Management, Tier 1 Data Validation Manual, March 31, 2004). This change in the QA procedures was approved by Ohio EPA and USEPA to avoid confusion between Ohio EPA and USEPA and rework by Ohio EPA. PPG requests that this Condition be revised to reflect the change in the QA procedures.”

**OHIO EPA MODULE Z RESPONSE 4:**

The above referenced section of Module Z has been revised as follows:

“Field and analytical data must be validated in accordance with the procedures specified in the March 2004 QAPPA. Data validation will be performed in accordance with the Ohio EPA Tier 1 data validation guidance and checklist. In the event that a more extensive validation is required, the Ohio EPA Tier 2 data validation guidance and checklist will be used.”

It should be noted that the Ohio EPA Tier 1 and Tier 2 data validation guidance was incorporated into Section 3.9 of the QAPPA. In this section of the QAPPA, PPG states that the U.S. EPA Level 3 Data Validation and the U.S. EPA Level 4 Validation as documented in the QAPPA are essentially equivalent to the Ohio EPA Tier 1 and Tier 2 validations, respectively. Thus, if section Z.4(c) is modified to reference the Ohio EPA Tier 1 data validation guidance, then it must also reference the Ohio EPA Tier 2 data validation guidance in the event that a more robust validation is required.
PPG MODULE Z COMMENT 5:
Z.9(E)(III) INTEGRATED GROUNDWATER MONITORING PROGRAM RESPONSE ACTION

“The last sentence of this subsection appears to require that any monitoring well not included in the reduced monitoring program be abandoned. A significant number of wells that were installed by PPG, both on and off-site, as part of its investigation of the Barberton site are not part of the current groundwater monitoring program, which is described in Section Z.3 of the proposed permit. Ohio EPA should clarify that Section Z.9(e)(iii) does not require an immediate abandonment of these wells. Further, to the extent that PPG ceases to monitor for a unit that has met its remedial goals, the agency should clarify that Z.9(e)(iii) does not require abandonment of the affected wells, as PPG may choose to maintain them for purposes not directly related to corrective action. PPG has no objection to a requirement that if and when it chooses to abandon groundwater monitoring wells, it must do so according to applicable standards in the Technical Guidance Manual.”

OHIO EPA MODULE Z RESPONSE 5:

This section specifically refers to the abandonment of wells included in the sitewide groundwater monitoring program at units where the facility demonstrates that corrective action activities are completed. Ohio EPA will change the last sentence in section Z.9(e)(iii) with the following:

“All monitoring wells associated with the unit at which corrective actions have been completed not included in the reduced monitoring program should be properly abandoned following the standards in the Technical Guidance Manual. If the company chooses to maintain these wells, such a request should be included in the Permit modification along with the rationale for keeping the wells, provisions for future inspections and maintenance of the structural integrity of the wells, and provisions for the proper abandonment of the wells when PPG decides they are no longer needed.”

PPG’s comment concerning section Z.9(e)(iii) brings up an additional issue that should be addressed in the permit. There are several hundred monitoring wells at the site that were installed as part of the RCRA RFI/CMS and are not included in the sitewide groundwater monitoring program currently being conducted. Regular inspections of these wells should be performed. Any maintenance issues identified during these inspections should be addressed to ensure that the integrity of the wells is adequate to prevent the contamination of the groundwater. Therefore, the following paragraph will be added to section Z.9(d)(i).
“All ground water monitoring wells at the site that are not included in the sitewide ground water monitoring program as defined in Permit Condition Z.2(b) also shall be cased and maintained in a manner that prevents contamination of the ground water. Alternatively, these wells may be properly abandoned following the standards in the Technical Guidance Manual. By the end of the first year following the effective date of this permit renewal, PPG will provide Ohio EPA with an inventory of all of the monitoring wells still present at the site and a plan that identifies the wells to be maintained and their current conditions, a schedule for implementing any repairs needed to ensure that the integrity of the wells is maintained, documentation of the maintenance procedures to be followed in repairing the wells, and a schedule for regular inspections and maintenance of the wells in the future. The plan also should identify wells that will be abandoned, and should include a schedule for implementing and completing abandonment activities following the procedures included in the Technical Guidance Manual.”

PPG MODULE Z COMMENT 6:
TABLE 2 CORRECTIONS

“The well names should be corrected as follows; NP-O5, NP-10*, LL5-02.”

OHIO EPA MODULE Z RESPONSE 6:

This comment refers to wells being mislabeled in Table 2.

Ohio EPA agrees with the comment. The permit will be revised based on PPG’s comment.

PERMIT TYPOGRAPHICAL ERRORS

Summary

The draft permit was issued with several typographical errors and omissions. The following changes will be made.

1) PERMIT COVER PAGE

The summary of authorized activities does not state that PPG is authorized for container storage. The permit will be changed as follows:

“AUTHORIZED ACTIVITIES

In reference to the application of PPG Industries, 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:

Renewal: Container Storage of Hazardous Waste & Corrective Action

2) RESERVATION OF MODULES

After Module E, the permit reserves Module F but then skips to Module Z. Instead Modules F through Y will be reserved. The permit is changed as follows:

“MODULE F THROUGH MODULE Y – RESERVED”

3) END OF THE PERMIT

Most permits end with the phrase “End of Permit Conditions.” This phrase will be added at the end of Module Z.

END OF RESPONSE TO COMMENTS