

FEB 13 2009

OHIO ENVIRONMENTAL PROTECTION AGENCY

**OHIO HAZARDOUS WASTE FACILITY
INSTALLATION AND OPERATION PERMIT RENEWAL**

Permittee: BP-Husky Refining LLC
Toledo Refinery

Mailing Address: P. O. Box 696
Toledo, Ohio 43697-0696

Owner: BP-Husky Refining LLC
P. O. Box 696
Toledo, Ohio 43697-0696

Operator: BP Products North America
P. O. Box 696
Toledo, Ohio 43697-0696

Location: 4001 Cedar Point Road
Lucas County, Oregon, Ohio 43616

Ohio Permit No.: 03-48-0411

US EPA ID: OHD 005 057 542

Issue Date: May 23 2002

Effective Date: May 23, 2002

Expiration Date: May 23, 2012

AUTHORIZED ACTIVITIES

In reference to the application of BP-Husky Refining LLC, Toledo Refinery, 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:

- **Closure / Post-Closure**
- **Corrective Action**

FEB 13 2009

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 operate in accordance with the terms and conditions of this 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 approved hazardous waste facility installation and operation permit renewal application, as such application has been revised and supplemented and as such application may be modified pursuant to the hazardous waste rules. The renewal of the surface impoundments and the landfarms is for the purpose of accomplishing closure and post closure activities. These units are currently inactive and undergoing closure. These units shall not be reactivated for management of hazardous waste. The approved Part B permit application as submitted to Ohio EPA on March 26, 1997 and any subsequent amendment thereto, and last updated on January 19, 1999 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, revoked, suspended, or renewed as specified by Ohio law. The filing of a request for a permit modification, revision, revocation, suspension, or renewal of the notification of planned changes or anticipated noncompliance on the part of the Permittee, does not stay the applicability or enforceability of any permit term or condition.

FEB 13 2009

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 May 23, 2012.

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 shall 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 the rules adopted thereunder and is grounds for enforcement action, suspension, revocation, modification, revision, denial of a permit renewal application or other appropriate action.

A.6. Duty to Reapply and Permit Expiration
OAC Rules 3745-50-40(E); 3745-50-58(B); 3745-50-56 & 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 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 before to the expiration date of this permit or, upon approval of the director, a later date prior to the expiration date, if the Permittee can demonstrate good cause for late submittal.

FEB 13 2009

-
- (b) The Permittee may continue to operate in accordance with the terms and condition of the expired permit until a renewal permit is issued or denied if:
- (i) the Permittee has submitted a timely and complete 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 reissuance 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) permission for a later date has been granted by the Director. The Director shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

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 shall expeditiously take all reasonable steps necessary to minimize or correct any adverse impact on the environment or the public health resulting from noncompliance with this permit.

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

The Permittee shall at all times properly operate and maintain the facility (and related appurtenances) to achieve compliance with the terms and conditions of this permit.

FEB 13 2009

Proper operation and maintenance included, but is not limited to, 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 shall furnish the Director, within a reasonable time, any relevant information which the Director may request to determine whether cause exists for modifying, revising, revoking or suspending this permit or to determine compliance with this permit. The Permittee shall also furnish the Director, upon request, copies of records required to be kept by this permit.

A.11. Inspection and Entry
OAC Rule 3745-50-59(I), 3745-50-30 and ORC Section 3734.07

- (a) The Permittee shall allow the Director, or an authorized representative, upon stating the purpose and necessity of the inspection and upon, provision of 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 (including videotaping)), practices, or operations regulated or required under the terms and condition 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 of Chapter 3734 of the Revised Code shall not be available to the public upon the

FEB 13 2009

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 Rules 3745-50-58(J)

- (a) Any sample and measurement taken for the purpose of monitoring shall be a representative sample or measurement, as such term is defined and used in the Ohio hazardous waste rules. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of OAC Rule 3745-51-20, Laboratory Methods. Laboratory methods must be those specified in Test Methods for the Evaluation of Solid Waste: Physical/Chemical Methods; SW-846: Third Edition, November 1992; and additional supplements or editions thereof; Standard Methods for the Examination of Water and Wastewater: Seventeenth Edition, 1989; or an equivalent method as specified in the approved waste analysis plan, or as such term is defined and used in the Ohio hazardous waste rules.
- (b) Records of monitoring information shall 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 Rule 3745-50-58(K) and 3745-50-42

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

A.14. Retention of Records

OAC Rules 3745-50-58(J) and 3745-50-58(M)

- (a) The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for

FEB 13 2009

continuous monitoring instrumentation, copies of all reports and records required by this permit, the certification required by paragraph B(9) of Rule 3745-54-73 of the Administrative Code, 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 shall maintain, in accordance with the Ohio hazardous waste rules, records of all data used to complete the Part B permit application and any amendments, supplements, modifications or revisions of such application and shall retain a complete copy of the application for the life of the facility.
- (d) The Permittee shall maintain records from all ground water monitoring wells associated with the ground water monitoring network required by OAC rule 3745-54-98 and associated ground water surface elevations for the active life of the facility, and for disposal facilities, for the post-closure care period as well.
- (e) Corrective Action records must be maintained at least 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 shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. All such changes must be made in accordance with OAC Rule 3745-50-51.

A.16. Waste Shipments
OAC Rule 3745-52-12, ORC 3734.15(c)

The Permittee shall 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 shall 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 Condition A.5.

A.18. Transfer of Permits

OAC Rules 3745-50-52; 3745-50-58(L)(3) and 3745-54-12

- (a) This permit is not transferable to any person except after notice of the director.
- (b) 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 shall 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).
- (c) 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 Schedules

OAC Rule 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 shall be submitted 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 shall report orally to the Ohio Environmental Protection Agency's Division of Emergency and Remedial Response within two hours from the time the Permittee becomes aware of any noncompliance with this permit, ORC Chapter 3734 or the rules adopted thereunder, which endangers 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 shall consist of the following information (if such information is available at the time of the oral report):

FEB 13 2009

-
- (i) name, address, and telephone number of the owner or operator;
 - (ii) name, address, and telephone number of the facility;
 - (iii) name and quantity of material(s) involved;
 - (iv) the extent of injuries, if any;
 - (v) an assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and
 - (vi) 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 shall also be provided to the Ohio Environmental Protection Agency's Division of Emergency and Remedial Response and the Division of Hazardous Waste Management, Northwest District Office within five (5) days of the time the Permittee becomes aware of the circumstances reported in Condition A.20.
- (b) The written report shall address the items in A.20. and shall 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 the 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 Rule 3745-50-58(L)(10) and 3745-50-58(L)(4)

The Permittee shall report to the Director, all other instances of noncompliance not provided for in Condition A.20. These reports shall be submitted within a month of the time at which the Permittee is aware of such noncompliance. Such reports shall contain all information set forth within Condition A.20 of this permit.

A.23. Reserved.

FEB 13 2009

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, misleading, or incomplete information to the Director, the Permittee shall promptly submit such facts, information or corrected information to the appropriate entity.

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 of any information required to be submitted by the terms and conditions of this permit, including any information obtained by the Director, or an authorized representative, pursuant to the authority provided under condition A.11 of this permit.

A.26. Ohio Annual Permit Fee
OAC Rule 3745-50-36

The annual permit fee, calculated pursuant to OAC Rule 3745-50-36 and payable to the Treasurer of the State, shall 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 the Ohio Environmental Protection Agency. OAC Rule 3745-50-36(D) states, in part, "The holder of a hazardous waste permit shall not pay that portion of an annual permit fee that would apply to a hazardous waste management unit for which a permit has been issued but for which construction has not yet commenced." So long as BP Products, North America, Toledo Refinery does not commence construction of the greater than ninety (90) day storage pad, the five hundred dollar fee applicable to container storage facilities need not be paid.

A.27. Compliance Schedule – Documents

Unless specified otherwise, the Permittee shall submit the documents listed below to:

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

FEB 13 2009

and

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

- (a) Updated Closure/Post-Closure Cost Estimates
OAC Rules 3745-55-42, 3745-55-44

The Permittee shall submit to the Ohio EPA, within sixty (60) days after permit journalization, the following information to be incorporated in the Part B permit application:

Section I of the application containing the financial assurance mechanism for closure shall be updated to include a copy of the current closure cost estimates for each unit as set forth in OAC Rule 3745-55-42 and current post-closure cost estimates for each unit requiring post-closure care as set forth in OAC Rule 3745-55-44. The Permittee shall send copies of all closure and post-closure cost estimates to DHWM's Compliance Assurance Section and Engineering and Risk Assessment Section. The values of the closure cost estimate must be shown in current dollars.

- (b) Updated Financial Assurance Mechanism for Closure/Post-Closure
OAC Rules 3745-55-43, 3745-55-45, and 3745-55-46

The Permittee shall submit to Ohio EPA within sixty (60) days after permit journalization, in accordance with the Ohio hazardous waste rules, the following documentation.

Section I of the application containing the financial assurance mechanism for closure shall be updated to include copies of the current financial assurance mechanism as set forth in OAC Rule 3745-55-43 and 3745-55-45 or OAC Rule 3745-55-46, and as specified by the wording requirements of OAC Rule 3745-55-51. The value of the financial assurance mechanism must reflect the current amount of the closure cost estimate.

During the life of the Part B permit, the facility may change the financial assurance mechanism as stated in OAC Rules 3745-55-43 and 3745-55-45. The facility must submit the financial assurance mechanism documentation to the Director of Ohio EPA in accordance with the parameters set forth in OAC Rules 3745-55-43 and 3745-55-45. In addition, send copies of the mechanism to the Compliance Assurance Section, and the RCRA Engineering and Risk Assessment (ERAS) Section of DHWM.

FEB 13 2009

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

The Permittee shall submit to Ohio EPA, within sixty (60) days after permit journalization, in accordance with the Ohio hazardous waste rules, the following documentation:

Section I of the application containing the third party liability coverage shall 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 Part B 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. In addition, the Permittee shall send copies of the mechanism to the Compliance Assurance Section, and the RCRA ERAS of DHWM.

A.28. Information to be Maintained at the Facility
OAC Rule 3745-54-75

- (a) The Permittee shall maintain at the facility, until closure is completed and certified by an independent, registered professional engineer, pursuant to OAC Rule 3745-55-15, and until the Director releases the Permittee from financial assurance requirements pursuant to OAC Rule 3745-55-47, the following documents (including amendments, revisions and modifications):
- (i) waste analysis plan, developed and maintained in accordance with OAC Rule 3745-54-13 and the terms and conditions of this permit;
 - (ii) contingency plan developed and maintained in accordance with OAC Rule 3745-54-52 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) annually-adjusted cost estimate for facility closure, as required by OAC Rules 3745-55-42 and 3745-55-44 and this permit;
 - (v) personnel training plan and the training records, as developed and maintained in accordance with OAC Rule 3745-54-16 and the terms and conditions of this permit;

FEB 13 2009

-
- (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.
- (b) All amendments, revisions and modifications to any plan required by the terms and conditions of this permit or the Ohio hazardous waste rules shall be submitted to the Director. No such change shall be made unless the Permittee has received approval in accordance with the Ohio hazardous waste rules.
 - (c) The Permittee shall maintain copies of all inspection logs at the facility for a period not less than three (3) years from the date of inspection.
 - (d) Corrective Action reports and records as required by Conditions E.4, E.6, and E.7 of this permit. These reports and records must be maintained for at least 3 years after all Corrective Action Activities have been completed.

A.29. Waste Minimization Report
OAC Rule 3745-54-73

- (a) The Permittee shall submit a Waste Minimization Report describing the waste minimization program required by OAC Rules 3745-54-75(H), (I), and (J); 3745-54-73(B)(9); and 3745-52-20(B) at least once every two years. The provision of OAC Rules 3745-54-75(H), (I) and (J); and 3745-54-73(B)(9) must be satisfied annually.
- (b) In completing this report, the Permittee should refer to the following information: instructions prepared by Ohio EPA for completing the Waste Minimization Annual Report required by OAC Rules 3745-54-75(H), (I), and (J); the Federal Register notice of May 28, 1993, vol. 58, p. 31114, "Interim Final Guidance: Guidance to Hazardous Waste Generators on the Elements of a Waste Minimization Program;" and U.S. EPA's "Facility Pollution Prevention Guide" including planning and organization, assessment, feasibility analysis, implementation, measuring progress, and maintaining the program.
- (c) The Permittee shall submit the Waste Minimization Report to the Technical Assistance Section, Office of Pollution Prevention within one hundred eighty (180) days of journalization of this permit, and shall submit updates to this report biennially thereafter.

FEB 13 2009

MODULE B – GENERAL FACILITY CONDITIONS

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

- (a) The Permittee shall 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 constituents to air, soil, and ground or surface waters which could threaten human health or the environment.
- (b) The Permittee shall not accept hazardous waste from any off-site sources during the life of the permit, until such time as this Condition is modified, renewed, or revised. This is a facility wide limitation and includes all hazardous waste management units. However, this Condition shall not be interpreted as a prohibition on the Permittee's practice of accepting tank water draws from BP product terminals for treatment in Permittee's wastewater treatment system.

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

- (a) The Permittee shall notify the Director in writing at least four weeks in advance of the date the Permittee expects to receive hazardous waste from a foreign source, as required by OAC Rule 3745-54-12(A). Notice of subsequent shipments of the same waste from the same foreign source is not required.
- (b) If the Permittee transfers ownership or operation of the facility during its operating life, the Permittee shall notify the new owner or operator in writing of the requirements of the applicable Ohio hazardous waste rules.
- (c) The Permittee's failure to notify the new owner or operator of the requirements of the applicable Ohio hazardous waste rules does not relieve the new owner or operator of his obligation to comply with all applicable requirements.

B.3. Reserved.

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

The Permittee shall comply with the security provisions of OAC Rule 3745-54-14 (B)(1) and (2), and (C) and Section F of the Part B permit application.

FEB 13 2009

B.5. General Inspection Requirements
OAC Rules 3475-54-15 and 3745-54-73

The Permittee shall follow the inspection schedule set out in Section F-2 of the approved Part B permit application. The Permittee shall remedy any deterioration or malfunction discovered by an inspection, as required by OAC Rule 3745-5-415(C). Records of inspections shall be kept for a minimum of three years from the date of the inspection.

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

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

B.7. Reserved.

B.8. Reserved.

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

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

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

The Permittee shall inspect, test and maintain the equipment required by Condition B.9. as necessary to assure its proper operation in time of emergency, as specified in OAC Rule 3745-54-33; Section F, Table F-1 of the approved Part B 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 shall maintain access to the communications and alarm systems, as required by OAC Rule 3745-54-34, Section F of the Part B permit application, and the terms and conditions of this permit.

B.12. Reserved.

FEB 13 2009

B.13. Arrangements with Local Authorities

OAC Rule 3745-54-37

- (a) The Permittee shall comply with the requirements of OAC Rule 3745-54-37(A) by making a diligent effort to:
- (i) 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-7 of the approved Part B permit application;
 - (ii) inform such agencies of safety equipment, supplies, proper emergency safety procedures that are applicable to the facility, and any further requirements related to emergency response imposed by terms and conditions of this permit; and
 - (iii) familiarize the local police and fire departments, hospitals and any other local emergency service, with the properties of hazardous waste managed at the facility and the types of injuries or illness which could result from fires, explosions, or releases at the facility.
- (b) When a state or local agency declines to enter into the arrangements set forth in OAC Rule 3745-54-37(A), the Permittee shall 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 shall immediately carry out the provisions of the approved 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

FEB 13 2009

-
- (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 fire or explosion that has an increased potential to threaten human health or the environment due to its proximity to a hazardous waste management unit; or
 - (e) 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
 - (f) Any hazardous waste release that produces or has a 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 shall comply with OAC Rule 3745-54-52 and the contingency plan, as set forth in Section G of the approved Part B permit application.

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

Any 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, shall be collected and managed as a hazardous waste until such time as the Permittee can demonstrate that such waste is not hazardous in accordance with OAC Rules 3745-51-03(C) and (D).

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

The Permittee shall review the approved 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 shall 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 shall comply with the requirements set forth in OAC Rule 3745-54-53 regarding contingency plan distribution.

FEB 13 2009

-
- (b) The Permittee shall, in accordance with OAC Rule 3745-54-53, submit a copy of the approved 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 shall notify such agencies and the local authorities, in writing, within ten (10) days of the effective date of any amendments of, revisions to, or modifications to the contingency plan.
 - (c) The Permittee shall, in accordance with OAC Rule 3745-54-53, submit a copy of the approved 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 shall comply with the requirements set forth in OAC Rule 3745-54-55 regarding the emergency coordinator.

B.20. Emergency Procedures
OAC Rules 3745-54-56 and 3745-51-01

The Permittee shall comply with the requirements set forth in OAC Rule 3745-54-56, Section G-4 of the approved Part B permit application, and the conditions of this permit, regarding emergency procedures.

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

Upon Ohio EPA request, the Permittee shall furnish copies of all records, including plans, required under the hazardous waste facility standards chapters. These records shall be retained in accordance with OAC Rule 3745-54-74.

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

The Permittee shall 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 3745-54-73 and OAC Rule 3745-54-56(J)

The Permittee shall 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 of any such incident, the Permittee shall submit to the Director a written report of the incident containing the elements set forth in OAC Rule 3745-54-56(J).

FEB 13 2009

B.24. Manifest System

OAC Rules 3745-54-70, 3745-54-71, 3745-54-72 and 3745-54-76

- (a) In the management of waste at the facility the Permittee shall comply with the provisions of 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 Records

OAC Rule 3745-54-77 and 3745-54-75

The Permittee shall 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 shall implement the provisions of the approved closure plan, Section I, in such a manner as to achieve compliance with OAC Rule 3745-55-11. Compliance with OAC Rule 3745-55-11 will be facilitated by referring to the Division of Hazardous Waste Management's most recent Closure Plan Review Guidance for RCRA Facilities.

B.27. Closure of Remaining Units

OAC Rule 3745-55-10 through 55-14

Condition highlights: The Permittee is not requesting to permit any new units and has no fully permitted operating units yet to be closed. However, the Permittee has five (5) units (or groups of units) that were in existence at the time the implementing rules for RCRA were enacted and which never sought full permitted status. As such, these units were subject to the interim standards closure requirements of OAC Chapter 3745-66 but, for various reasons have not yet achieved final closure. The purpose of this condition is to put the Permittee on schedule to complete closure of these units. These units are outlined in the following table:

Unit Name (Type of Unit)	Type of Waste Managed/ Contained in the Unit	Status of Closure
North Stormwater Pond (Surface Impoundment)	D018, F037 – Wastewaters	The closure plan dated July 2004, as revised on February 20, 2003, and supplemented on April 24, 2003, is incorporated into the permit.

As detailed in the above table, Ohio EPA has generated deficiency comments for the closure plans submitted for each unit yet to be closed, and provided them to BP on March 25, 2002, except for the North Storm Water Pond as noted in the table above.

FEB 13 2009

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

Should a change in the facility closure plan become necessary, the Permittee shall amend the approved closure plan in accordance with OAC Rules 3745-55-12(C) and 3745-50-51.

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

The Permittee shall maintain the approved 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. Reserved.

B.31. Reserved.

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

(a) The Permittee shall decontaminate and/or dispose of all contaminated facility equipment, structures, and soils, as required by AOC Rule 3745-55-14, the approved closure plan and the terms and conditions of this permit.

(b) The Permittee shall notify the Ohio EPA Northwest District Office within five (5) working days prior to all critical activities, including all rinseate and soil sampling.

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

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

B.34. Survey Plat
OAC Rule 3745-55-16

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

B.35. Reserved.

B.36. Cost Estimate for Facility Closure

OAC Rule 3745-55-42 and 3745-55-44

(a) The Permittee's most recent closure cost estimate, prepared in accordance with OAC Rules 3745-55-42, 3745-55-44, 3745-55-97(C)(3) & (5), 3745-56-28(C)(3) and 3745-56-58(C)(2) is specified in Section I-4 of the Part B 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 and Permit Condition B.39.

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).

B.37. Financial Assurance for Facility Closure

The Permittee shall maintain continuous compliance with OAC Rule 3745- 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 Conditions A.27, A.29 and G.6.

B.38. Liability Requirements

The Permittee shall maintain continuous compliance with the requirement 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 required by the applicable rules, exclusive of the legal defense costs.

The Permittee also shall demonstrate compliance with OAC Rule 3745-55-47(B) by maintaining liability coverage for non-sudden accidental occurrences in the amount of at least \$3 million per occurrence, with an annual aggregate of at least \$6 million, exclusive of legal defense costs.

FEB 13 2009

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

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

MODULE C – RESERVED

MODULE D – RESERVED

FEB 13 2009

MODULE E – CORRECTIVE ACTION REQUIREMENTS

Corrective Action Summary

The United States Environmental Protection Agency (USEPA) issued the Permittee a Resource Conservation and Recovery Act (RCRA) hazardous waste management permit on December 27, 1988, effective January 30, 1989. As a condition of this permit, USEPA directed the Permittee to undertake corrective action for releases of hazardous waste or constituents from Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) at the Toledo Refinery as identified in the June 10, 1988 RCRA Facility Assessment (RFA) report (Jacobs, 1988).

The Permittee submitted a RCRA Facility Investigation (RFI) Workplan to USEPA in April 1989. After several rounds of review, USEPA issued final approval of the RFI Workplan on February 24, 1999. The Phase I RFI was conducted in April 1999. The Phase I Report and Phase II Workplan were submitted to USEPA on March 23, 2000. USEPA issued a Notice of Deficiency (NOD) for these submittals on June 19, 2000. Based upon the Permittee's August 11, 2000 response to this NOD, USEPA issued a Conditional Approval of the Phase I Report and Phase II Workplan on September 27, 2000. The Permittee responded to this Conditional Approval on October 26, 2000. The Permittee submitted a Final Phase I RFI Report and Final Phase II RFI Workplan to USEPA on November 21, 2000. USEPA granted approval of these submittals on February 5, 2001. On August 31, 2001, the Permittee submitted its Phase II RFI Report. On February 25, 2002, USEPA granted a conditional approval to the Phase II RFI Report. With one exception, Ohio EPA is in agreement with the conditions of USEPA's February 25, 2002 conditional approval. For purposes of the ecological evaluation in the Driftmeyer Ditch, Ohio EPA will require that additional sediment sampling be conducted on-site and down stream. The results of the sediment sampling we submitted in a May 2003 report, and showed that Driftmeyer Ditch does not pose a risk.

The transition of the corrective action program from the USEPA to Ohio EPA will occur on the effective date of this renewal permit. Ohio EPA will then assume the oversight role for Corrective Action at the facility. Ohio EPA will accept all documents and activities performed as part of workplans submitted to and approved under US EPA authority prior to issuance of this permit. Conditional approval of the Permittee's Final Phase II Report was granted by USEPA on February 25, 2002. BP subsequently submitted an RFI report in March of 2002, and a CMS April of 2002. On May 10, 2002, U.S. EPA approved both the RFI report and the CMS. In accordance with Condition E.8, Ohio EPA will review the CMS and authorize the CMI.

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

In accordance with OAC Rule 3745-50-10, "waste management unit" means any discernible unit at which solid waste, hazardous waste, infectious waste (as those terms are defined in ORC Chapter 3734), construction and demolition debris (as defined in ORC Chapter 3714), industrial waste or other waste (as those terms are defined in ORC

FEB 13 2009

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 (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) at which wastes have been routinely and systematically released. U.S. EPA uses the term "solid waste management unit" to describe the same type of unit. This term and 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) (OWSER Directive 9902.3-2A, May, 1994). Although the term solid waste management unit is used in the corrective action documents BP submitted to U.S. EPA pursuant to BP's federal permit, Ohio EPA will use the term waste management unit throughout this permit module to identify the same unit.

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.

The Permittee shall perform ground water investigation and monitoring as necessary in order to fulfill the requirements of OAC Rule 3745-55-011.

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

The Permittee must implement Corrective Actions 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 SWMUs
OAC Rules 3745-50-44(d) & 3745-55-011

The RFI and VSI conducted on March 28 and 29, 1988, identified fifty-four (54) SWMUs and fourteen (14) AOCs.

A visual representation of the SWMUs and AOCs may be found in Figure 1-2 of BP Products North America, Toledo Refinery's RCRA Facility Investigation: Task 3 Work Plan.

E.4. Reserved.

E.5. RFI
OAC Rule 3745-55-011

The Permittee is currently conducting an RFI to thoroughly evaluate the nature and extent of the release of hazardous wastes and hazardous constituents from all applicable WMUs identified in Condition E.3. above and 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 Attachment 1 (Ohio EPA's CAP).

(a) RFI Workplan

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

- 1) If necessary, Ohio EPA shall provide written comments on the RFI Workplan to the Permittee.
- 2) Within forty-five (45) days of receipt of Ohio EPA's comments, the Permittee shall submit either an amended or new RFI Workplan that incorporates Ohio EPA's comments.
- 3) Ohio EPA shall 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 shall implement the RFI Workplan according to the terms and schedule in the approved RFI Workplan.

(c) RFI Final Report

The Permittee shall submit an RFI Final Report to Ohio EPA. The RFI Final Report shall 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.

- (1) If necessary, Ohio EPA shall provide written comments on the RFI Report to the Permittee. If Ohio EPA has no comments, the Permittee shall receive an approval, in writing, for the RFI Report.

FEB 13 2009

-
- (2) Within 45 days of receipt of Ohio EPA's comments, the Permittee shall submit either an amended or new RFI Report that incorporates Ohio EPA's comments.
 - (3) Ohio EPA shall approve or modify and approve, in writing, the amended or new RFI Report. The RFI 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 Report must be authorized by Ohio EPA.

E.6. Reserved.

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 Class 3 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 a threat 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, including comments received during the initial (60-day) public comment period required for Class 3 permit modifications, Ohio EPA determines that releases or suspected releases which were investigated either are nonexistent or do not pose a threat to human health and the environment, Ohio EPA will approve the requested modification.

(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 potential or actual releases of hazardous waste or constituents are likely to occur.

(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 likelihood of a release from a

FEB 13 2009

WMU at the Facility is likely to pose a threat 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.5.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 perform additional investigations as needed.

E.8. Corrective Measures Study (CMS)

If Ohio EPA determines, based on the results of the RFI and any other relevant information, that corrective measures are necessary, Ohio EPA will notify the Permittee in writing that the Permittee shall 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 alternatives and to outline one or more alternative corrective measures that will satisfy the performance objectives specified by Ohio EPA.

(a) CMS Workplan

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

- (1) If necessary, Ohio EPA shall provide written comments on the CMS Workplan to the Permittee. If Ohio EPA has no comments, the Permittee shall receive an approval, in writing, for the CMS Workplan.
- (2) Within 45 days of receipt of Ohio EPA's comments, the Permittee shall submit either an amended or new CMS Workplan that incorporates Ohio EPA's comments.
- (3) Ohio EPA shall approve or modify and approve, in writing, the amended or new CMS Workplan. The CMS 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 CMS Workplan must be authorized by Ohio EPA.

(b) CMS Workplan Implementation

The Permittee shall 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 shall submit a CMS Final Report to Ohio EPA. The CMS Final Report shall summarize the

FEB 13 2009

results of the investigations for each remedy studied and must include an evaluation of each remedial alternative.

- (1) If necessary, Ohio EPA shall provide written comments on the CMS Report to the Permittee. If Ohio EPA has no comments, the Permittee shall receive an approval, in writing, for the CMS Report.
- (2) Within 45 days of receipt of Ohio EPA's comments, the permittee shall submit either an amended or new CMS Report that incorporates Ohio EPA's comments.
- (3) Ohio EPA shall approve or modify and approve, in writing, the amended or new CMS Report. The CMS 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 CMS Report must be authorized by Ohio EPA.

E.9. CMI

The Permittee shall submit a written Corrective Measures Implementation Conceptual Work Plan (CMICWP) by December 31, 2005. If necessary, Ohio EPA shall provide written comments on the CMICWP to the Permittee. Within thirty (30) days of receipt of Ohio EPA's comments, the Permittee shall submit either an amended or new CMICWP that incorporates Ohio EPA's comments.

Based on the results of the CMS for a newly discovered waste management unit, the Permittee shall implement one or more of the Corrective Measures authorized by Ohio EPA. Ohio EPA will select a Corrective Measure for implementation based on the following factors: The Corrective Measure selected for implementation must: (1) be protective of human health and the environment; (2) attain media cleanup standards; (3) control the sources of releases so as to reduce or eliminate further releases of hazardous wastes (including hazardous constituents); 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) and 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. The corrective measures described below are for the SWMUs identified in Condition E.3.

FEB 13 2009

(a) Corrective Action Objectives

The corrective action objectives the Permittee is required to meet are based on information gathered during previous investigations and are intended to protect human health and the environment. These objectives focus on shallow ground water, surface soil and subsurface soil contamination identified at the facility.

- (1) Based on the results of the RCRA Facility Investigation (RFI), Human Health Risk Assessment (HHRA), and Ecological Risk Assessment (ERA), Media Cleanup Standards (MCSs) were developed to help determine the specific areas of the facility that require corrective measures. A MCS is defined as a medium-specific, health- and environment-based contaminant concentration determined to be protective of human health and the environment. Table 1 presents the criteria upon which the action levels for each medium were based. Tables 2 and 3 present the MCSs for soil and ground water, respectively.

TABLE 1 MCS CRITERIA FOR EACH MEDIUM	
Medium	Action Level Criteria
Ground water	<ul style="list-style-type: none"> • U.S. EPA MCLs • Risk-based action levels based on HHRA results
Soil	<ul style="list-style-type: none"> • U.S. EPA Region 9 Industrial Preliminary Remediation Goals • Risk-based action levels based on HHRA results

TABLE 2 MCSs FOR SOIL	
COC	MCS (milligram per kilogram)
Benzene	1.5
Toluene	520
Xylene	210
Benzo(a)pyrene	0.29
Benzo(a)anthracene	2.9
Benzo(b)fluoranthene	2.9
Indeno(1,2,3-cd)pyrene	2.9
Dibenz(a,h)anthracene	0.361
Quinoline	0.21
Arsenic	13.8
Chromium	450
Lead	750

FEB 13 2009

**TABLE 3
 MCSs FOR GROUND WATER**

COC	MCS (milligram per liter)
Volatile Organic Compounds	
Benzene	0.005
Carbon disulfide	1.0
Chlorobenzene	0.1
Chloroethane	0.0046
Chloroform	0.16
1,2-Dichloroethane	0.005
1,1-Dichloroethane	0.007
1,4-Dioxane	0.0061
Ethylbenzene	0.7
Ethylene dibromide	0.00005
Methyl ethyl ketone	1.9
Styrene	0.1
Toluene	1.0
1,1,1-Trichloroethane	0.2
Trichloroethene	0.2
Tetrachloroethene	0.005
Vinyl chloride	0.002
Xylenes (total)	10.0
Semivolatile Organic Compounds	
Acenaphthene	0.37
Anthracene	1.8
Benzo(a)anthracene	0.000092
Benzo(b)fluoranthene	0.000095
Benzo(k)fluoranthene	0.000092
Benzo(a)pyrene	0.0002
Bis(2-ethylhexyl)phthalate	0.006
Chrysene	0.0092
Dibenz(a,h)phthalate	0.006
Di-n-butyl phthalate	3.6
1,2-Dichlorobenzene	0.6
1,3-Dichlorobenzene	0.0055
1,4-Dichlorobenzene	0.075
Diethyl phthalate	29
2,4-Dimethylphenol	0.73
Dimethyl phthalate	360
2,4-Dinitrophenol	0.073
Fluoranthene	1.5
Fluorene	0.24

**TABLE 3
 MCSs FOR GROUND WATER**

Indeno(1,2,3-cd)pyrene	0.000092
Methyl tertiary butyl ether	0.02
Naphthalene	0.0062
4-Nitrophenol	0.29
Phenanthrene	0.00075
Phenol	22.0
Pyrene	0.18
Pyrene	0.18
Pyridine	0.036
Metals	
Antimony	0.006
Arsenic	0.01
Barium	2.0
Beryllium	0.004
Cadmium	0.005
Chromium (total)	0.1
Cobalt	2.2
Cyanide	0.2
Lead	0.015
Mercury	0.002
Nickel	0.73
Selenium	0.05
Silver	0.18
Vanadium	0.26
Zinc	11.0

- (2) After implementing corrective measures for soils, samples will be collected, if necessary and applicable, to determine if contaminants are present at levels above the MCSs. Corrective measures for soil and soil sampling will be in accordance with the approved Corrective Measures Implementation Conceptual Work Plan (see Condition E.9).

If contaminants are present at levels above the MCSs, a post-remedial risk evaluation will be conducted. If contaminant levels do not exceed MCSs, but there are multiple contaminants whose aggregate risk may be unacceptable, a post-remediation risk assessment will be performed. If the post-remedial risk evaluation shows that the contaminant concentrations pose a risk above Ohio EPA's acceptable cancer risk level of 10^{-5} or acceptable Hazard Index of less than 1 for non-carcinogens, further corrective measures will be implemented. However, if the post-remedial risk evaluation shows that the contaminant concentrations do

FEB 13 2009

not pose unacceptable risks, no further corrective measures will be implemented.

(b) Selected Remedies

Based on the results of the completed RFI and the establishment of facility-wide institutional controls (Condition E.9(b)), Ohio EPA has determined that the SWMUs and AOCs listed below do not pose a threat to human health and the environment. Therefore, these SWMUs and AOCs do not require further action.

SWMU 3	Tetraethyl Lead Contaminated Valves
SWMU 4	Filled Cooling Tower Base
SWMU 10	South Stormwater Pond
SWMU 31	Leaded Sludge Weathering Pad
SWMU 34	Hazardous Container Storage Area
SWMU 35	Oily Ditch
AOC L	Underground Storage Tank (UST) 1 Area, Gasoline Dispensing Area
AOC M	UST 2 Area, Control Laboratory Area
AOC N	UST 3 & 4 Area, Gasoline Blending Area.

The human health risk assessment and ecological risk assessment performed during the RFI concluded that several SWMUs pose unacceptable potential risk to human health and/or the ecological receptors.

The human health risk assessment assumed industrial land use for the SWMUs. Institutional controls are required to ensure that site-wide land use remains industrial until such time when risk values for unrestricted land use are achieved. Under this permit, the institutional controls will consist of measures that limit the future use of the property in a manner that is consistent with the risk values for the site. This will be accomplished through one or more environmental covenants. An environmental covenant, as set forth in ORC §5301.80 and through §5301.92, is a written agreement between Ohio EPA and the property owner arising under an environmental response project that imposes activity and/or use limitations on specific portions of a site. The environmental covenant(s) must be filed with the County Recorder in accordance with state law governing recording and priority of interest in real property. The environmental covenant(s) will run with the land and be binding upon a future property owner should the property be sold. Monitoring the property owner's adherence to the environmental covenant(s) will help to ensure continued protection of human health and the environment. A violation of the environmental covenant(s) is enforceable by Ohio EPA. The environmental covenant(s) cannot be amended or terminated without the consent of Ohio EPA.

- (1) The Permittee must supply Ohio EPA with a legal description of each parcel to be restricted by an environmental covenant, and a list of all encumbrances on each parcel. In order to complete the environmental

FEB 13 2009

covenant(s), the Permittee must be prepared to enter into good faith negotiations with Ohio EPA at least ninety (90) days prior to the projected filing date for the covenant(s).

- (2) The Permittee must finalize and record the environmental covenant(s) prior to submitting the Corrective Measures Completion Report required by Condition E.9(e). A file and date stamped copy of the environmental covenant(s) must be included in the Corrective Measures Completion Report.
- (3) By March 5, 2006, the Permittee shall submit to the Ohio EPA a description of its policies and procedures for (a) providing a notice of hazards to those performing work in areas that pose unacceptable risk due to wastes left in place; and (b) protecting its workers from the hazards.
- (4) In accordance with the watershed approach for Otter Creek described in the Permittee's Otter Creek Problem Formulation (Phase I RFI Final Report, dated November 2000), the Permittee shall submit an annual report by May 1 of each year outlining any activities it has undertaken in support of a watershed partnership during the previous reporting period.

(c) Specific Remedies

Specific remedies for individual SWMUs, SWMU Groups, and Areas of Concern at the facility are summarized below. These remedies shall be implemented in accordance with the CMICWP to be submitted in accordance with Permit Condition E.9 and as approved by Ohio EPA.

- (1) SWMU 1 – Chemfix Landfill: ecological cover; environmental covenant [see Conditions E.9(b) and E.9(e)(1)]; notice of hazards present and work protection when excavation work is performed; explanation of low-frequency site worker risk scenario.
- (2) SWMU 10 – South Pond: selective excavation and disposal of contaminated sediment and soil; environmental covenant [see Conditions E.9(b) and E.9(e)(1)].
- (3) SWMU 14 – Acid Sludge Pits: selective excavation and disposal of contaminated soil and sludge; environmental covenant [see Conditions E.9(b) and E.9(e)(1)].
- (4) SWMU 16 – North Tank Field LTU: environmental covenant [see Conditions E.9(b) and E.9(e)(1)]; maintenance of 2 feet of clean soil over SWMU.

FEB 13 2009

-
- (5) SWMU 1 – LTU 2: ecological cover; environmental covenant [see Conditions E.9(b) and E.9(e)(1)].
 - (6) SWMU 36 – STUs 3 through 6: ecological cover; environmental covenant [see Conditions E.9(b) and E.9(e)(1)].
 - (7) SWMU 37 – Process refinery Sewers: investigate thermal infrared radiation survey anomalies and repair sewers if necessary; environmental covenant [see Conditions E.9(b) and E.9(e)(1)].
 - (8) SWMU 54 – Pure Oil Refinery: selective excavation and disposal of contaminated soil; removal of water from pit; demolition of structures; characterize and remove or treat underlying soil if necessary; environmental covenant [see Conditions E.9(b) and E.9(e)(1)].
 - (9) SWMU Group A: environmental covenant [see Conditions E.9(b) and E.9(e)(1)]; notice of hazards present and worker protection when excavation work is performed.
 - (10) AOC C – Tank Farms: environmental covenant [see Conditions E.9(b) and E.9(e)(1)]; notice of hazards present and worker protection when excavation work is performed at tank 152.

(d) Progress Reports

The Permittee shall submit month progress reports to Ohio EPA by the 12th of the month.

(e) Corrective Measures Completion Report

Within forty-five (45) days of completion of corrective measures implementation, the permittee shall submit to Ohio EPA a Corrective Measures Completion Report (CM Report) and Operation and Maintenance Plan (O&M Plan). Because the permittee has elected to complete corrective measures at SWMU's 1, 17 and 36 concurrently, the permittee shall submit the CM Report and O&M Plan for SWMU 1 within 45 days of completion of corrective measures at SWMU's 1, 17 and 36. The permittee shall submit the CM Report and O&M Plan for SWMU 17 within 90 days of completion of corrective measures at SWMU's 1, 17 and 36. The permittee shall submit the CM Report and O&M Plan for SWMU 36 within 135 days of completion of corrective measures at SWMU's 1, 17 and 36. The permittee shall submit the CM Report and O&M Plan for SWMU 54H by March 25, 2008. The permittee shall submit the CM Report and O&M Plan for SWMU 14 by December 18, 2008.

FEB 13 2009

-
- (1) Prior to the Permittee's submittal of the CM Report to Ohio EPA, the Permittee must finalize and record the environmental covenant(s) required by Condition E.9(b). A file and date-stamped copy of the environmental covenant(s) must be included in the CM Report.
 - (2) If necessary, Ohio EPA shall provide written comments on the CM Report and O&M Plan to the Permittee.
 - (3) Within forty-five (45) days of receipt of Ohio EPA's comments, the Permittee shall submit either an amended or new CM Report and O&M Plan.
 - (4) Ohio EPA shall approve or modify and approve, in writing, the amended or new CM Report and O&M Plan. The CM Report and 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 CM Report and O&M Plan must be authorized by Ohio EPA.

(f) Permit Modification

In case of a newly discovered waste management unit that requires corrective measures, Ohio EPA will initiate a permit modification, as provided by OAC Rule 3745-50-51 to require implementation of the corrective measures authorized.

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

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

As part of the modification of this permit to incorporate CMI, the Permittee shall provide financial assurance in the amount necessary to implement the corrective measures as required by OAC Rule 3745-55-011(b) and (c).

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

(a) General Information

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

- (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) specifications of all wastes that have been managed at the unit.

(b) Release Information

The Permittee shall submit to Ohio EPA, within 30 days of discovery, all available information pertaining to any release of hazardous wastes or hazardous constituents from any new or existing WMU.

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

The Permittee shall submit a written RCRA Facility Investigation Workplan to Ohio EPA upon a time frame established in written notification by Ohio EPA that further investigations or corrective measures are necessary.

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

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

E.12. Documents Requiring Professional Engineer Stamp
ORC 4733.01

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

Final Interim Measures Report
Corrective Measures Final Design
Corrective Measures Construction Completion Report
Corrective Measures Attainment of Groundwater Performance Standards Report
Corrective Measures Completion of Work Report

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

FEB 13 2009

E.13. Schedule of Submittals

The Permittee will provide Ohio EPA with the following items according to the schedule below:

Facility Submission	Due Date
Corrective Measures Implementation Conceptual Work Plan	60 days after effective date of permit modification
Policies and procedures for notice of hazards to excavation workers and protecting workers	45 days after effective date of permit modification
Report of progress toward achieving use attainment standard for Otter Creek	May 1 of each year
Finalize and record environmental covenant	Prior to submittal of Corrective Measures Completion Report
Corrective Measures Completion Report	45 days after completion of corrective measures
Progress reports	Monthly, by the 12 th of each month

FEB 13 2009

MODULE F – GROUND WATER DETECTION MONITORING

F.1. Module Highlights

This module addresses the uppermost aquifer ground water detection monitoring program associated with the surface impoundment, North Stormwater Pond, also known as North Pond, which is a hazardous waste management unit (HWMU) at the BP Oil Company – Toledo, Ohio Refinery. The HWMU is denoted as a discrete waste management area. The HWMU has been monitored under the Interim Status regulations OAC Rule 3745-65-90 through 94 and Consent Agreement and Final Order signed by the Administrator of Region V, US EPA on July 10, 1985.

The Permittee's ground water monitoring system consists of two monitoring wells which are screened in the Bedrock Zone, which is comprised of Silurian Age Lockport Formation Dolomite. This zone is considered to be the uppermost aquifer. The monitoring wells include one background well¹, M-15 and one downgradient well, M-17.

F.2. Well Location, Installation and Construction

OAC Rule 3745-54-97

The Permittee shall install and maintain a ground water monitoring system as specified below: [OAC Rule 3745-54-97]

- (a) The Permittee shall install and maintain, as part of a Ground Water Detection Monitoring System complying with OAC Rule 3745-54-97(A) and (B), the ground water monitoring wells on the map in Figure 4 presented in the document entitled "Uppermost Aquifer Ground-Water Detection Monitoring Plan, BP Products North America, Inc., Toledo, Ohio Refinery", Eagon & Associates, Inc., September 9, 2008 (which shall also be known as the UAGWDMP throughout the rest of this permit) and in conformance with the following list:

Background Wells ¹	Point of Compliance Wells
M-15	M-17
¹ – The flow direction of ground water in the bedrock is controlled by the on-site pumping of process wells. Flow in the area of the HWMU is in a south to southwest direction during the pumping season (generally April to September; sometimes continuing through November). During this period, the background monitoring well M-15 is upgradient. A determination of flow direction in the bedrock is not possible during non-pumping months as the water levels vary only slightly throughout the aquifer.	

The ground water monitoring system must: yield samples in upgradient wells that represent the quality of the background ground water unaffected by leakage from any regulated unit(s), and in downgradient wells, yield samples that represent the quality of water passing the point of compliance. The number and location of

FEB 13 2009

monitoring wells must be sufficient to identify and define all logical release pathways to the uppermost aquifer from the regulated units based on site-specific hydrogeologic characterization. Piezometers used to evaluate ground water flow conditions in accordance with OAC Rule 3745-54-97(F) and 3745-54-98(E) also are shown on Figure 4 of the UAGWDMG.

- (b) The Permittee shall maintain the monitoring wells and piezometers identified in Permit Condition F.2(a), in accordance with the detailed plans and specifications presented in the UAGWDMP. This document is hereby incorporated into the approved permit application.
- (c) The Permittee shall remove or replace any monitoring well or piezometer identified in Permit Condition F.2(a) in accordance with the Appendix to OAC rule 3745-50-51 permit modification process. Each change must be accompanied by a revised map as specified on Figure 4 of the UAGWDMP for Permit Condition F.2(a).
- (d) All wells removed or replaced in accordance with Permit Condition F.2(c), or other wells (investigation monitoring wells, unused ground water program wells, or piezometers) not referenced in this permit that are removed or replaced, shall be plugged and abandoned in accordance with the document entitled "State of Ohio Technical Guidance for Sealing Unused Wells" (State Coordinating Committee on Ground Water, 1996). Well plugging and abandonment methods, certification and justification shall be submitted to the Director within thirty (30) days from the date the wells are removed from the monitoring program. Within 30 days of completion of the installation of any new monitoring well(s), the Permittee will record (with as-built drawings) the total depth of the well(s), the surveyed elevation of the top of the well casing, ground-surface and/or apron elevation, and the protective casing elevation.
- (e) Whenever any of the wells specified in Permit Condition F.2(a) are replaced for any reason, the Permittee must demonstrate to Ohio EPA that the ground water quality at the replacement well meets the criteria in Permit Condition F.2(a) within a two year period of the date of replacement using means appropriate to the reason for replacement.

F.3. Indicator Parameters and Monitoring Constituents
OAC Rule 3745-54-98

- (a) The Permittee shall monitor all wells listed in Permit Condition F.2(a) for the following parameters and constituents: [OAC Rule 3745-54-98(A)]

FEB 13 2009

Parameter or Constituent	Established Background Concentrations; Milligrams per liter (mg/l)
Antimony	SL
Arsenic	SL
Barium	SL
Beryllium	SL
Cadmium	SL
Chromium	SL
Cobalt	SL
Lead	SL
Mercury	SL
Nickel	SL
Selenium	SL
Vanadium	SL

Parameter or Constituent	Established Background Concentrations; Milligrams per liter (mg/l)
Benzene	0.001
Carbon Disulfide	0.001
Chlorobenzene	0.001
Chloroform	0.001
1,2-Dichloroethane	0.001
1,4-Dioxane	0.010
Ethyl benzene	0.001
Ethylene dibromide	0.00003
Methylethyl ketone (2-butanone)	0.010
Styrene	0.001
Toluene	0.001
Xylene	0.001
Benzo(a)pyrene ¹	0.0002
1-Methyl naphthalene ¹	0.010
naphthalene ¹	0.010
Phenanthrene ¹	0.010
Pyrene ¹	0.010

SL – Statistical Limit listed in UAGWDMP Appendix C.

¹ – Samples will only be collected and analyzed for these semivolatile organic compounds (SVOCs) on an annual basis.

FEB 13 2009

The background concentrations. The listed established background concentrations for the VOCs and SVOCs are the anticipated reporting limits [equivalent to practical quantitation limits (PQLs)] for these compounds based on U.S. EPA methods 8260B, 8011, 8270C and 8270C SIM method detection limits (MDLs).

All Background Concentrations shall be below Maximum Contaminant Levels (MCLs).

In addition to the indicator parameters listed above, the Permittee shall sample annually for the parameters listed in Table 6 of the UAGWDMP. If any of the semi-volatile organic compounds are detected at the annual sampling event, then they will be added to the parameter list if: 1) the detection is confirmed by resampling; and 2) if it cannot be demonstrated that the compound(s) are attributable to a source(s) other than the regulated unit(s). In addition, upon the above stated confirmation and if it cannot be demonstrated that the compound(s) are attributable to a source(s) other than the regulated unit(s), then the Permittee will have determined statistically significant evidence of contamination per Condition F.7(d) Monitoring Program and Data Evaluation [OAC Rule 3745-54-98(F)(2)] and shall fulfill the requirements as stated in Condition F.10 Special Requirements if Significant Increases Occur in Values for Parameters or Constituents [OAC Rule 3745-54-98(G)].

- (b) For those parameters and constituents in Permit Condition F.3(a), for which no background values are established at the time the Permit is issued, the Permittee shall establish background values in accordance with the following procedures. [OAC Rule 3745-54-97(G)(1) and (2)]
- (i) During each sampling event, the Permittee shall take a minimum of one sample from each well (background and compliance point wells), and shall analyze for each parameter or constituent specified in the permit; [OAC Rule 3745-54-97(G)(1) and (2)] and
 - (ii) Background ground water quality for a monitoring parameter or constituent shall be based on data averaged from at least four semiannual sampling events of the background wells in order to provide at least eight (8) background data points. [OAC Rule 3745-54-97(G)(2)] or
 - (iii) If an intra well statistical method is to be used, then the Permittee shall collect at least eight data points from each well (background and compliance point wells). [OAC Rule 3745-54-97(G)(2)]
- (c) Background data collected in accordance with permit condition F.3(b) and OAC Rule 3745-54-97(G), for the establishment of background concentrations

FEB 13 2009

developed in accordance with OAC Rule 3745-54-97(H) and (I), may be updated in accordance with the following requirements:

- (i) Background is not updated with less than 4 new data points at any one time.
- (ii) The new background (previous background data plus new background data) should be checked for slowly increasing trends. If a slowly increasing trend is identified then the background should not be updated unless concurrence from Ohio EPA is received that it has been adequately demonstrated that the increasing trend is not the result of a release from the regulated unit.
- (iii) Background updates should be accumulative and not a moving window, unless a trend is identified in the background data. As required in permit condition F.3(c)(ii), the identified trends would have to be adequately demonstrated to not be the result of a release from the regulated unit otherwise the background update would not be permitted.
- (iv) When a trend in background data has been identified and it has been adequately demonstrated to not be the result of a release from the regulated unit, then a moving window background should be used. The size of the moving window will be dependent upon the rate of change and the best balance between background size and variance.

F.4. Sampling and Analysis Procedures
OAC Rule 3745-54-97

The Permittee shall use the following techniques and procedures when obtaining and analyzing samples from the ground water monitoring wells described in Permit Condition F.2.: [OAC Rule 3745-54-97(D) and (E)]

- (a) Ground water elevations shall be measured using the techniques described in Sections 3.2 Sample Collection, 3.2.1 Procedures Prior to Sampling, and 3.2.1.1 Measurement of Ground-Water of the UAGWDMP. [OAC Rule 3745-54-97(D)]
- (b) Each well shall be checked for the presence of immiscible layers prior to purging any monitoring wells where dissolved concentrations of any site-specific parameter indicate that immiscible layers could be present using the methods described in Sections 3.2 Sample Collection, 3.2.1 Procedures Prior to Sampling, and 3.2.1.2 Detection of Immiscible Layers of the UAGWDMP. [OAC Rule 3745-54-97(D)]

FEB 13 2009

-
- (c) Samples shall be collected and handled (including well evacuation, sample
 - (d) withdrawal, preservation, containerization, filtration and shipment) using the techniques and equipment described in Sections 3.2 Sample collection, 3.2.2 Sampling Procedures, 3.2.2.1 Sample Equipment, 3.2.2.3 Well Evacuation, 3.2.2.5 Sample Withdrawal and Filtration, and 3.2.2.6 Sample Containers, Preservation, and Holding Times of the UAGWDMP. [OAC Rule 3745-54-97(D)(1&2)]
 - (e) Field analysis shall be performed using instruments, procedures, and forms described in the UAGWDMP. Instruments shall be calibrated as described in Sections 3.2 Sample Collection, 3.2.2 Sampling Procedures, and 3.2.2.7 Field Analysis of the UAGWDMP. [OAC Rule 3745-54-97(D)(3)]
 - (f) Sampling equipment shall be decontaminated using techniques described in Sections 3.2 Sample Collection, 3.2.2 Sampling Procedures, and 3.2.2.2 Decontamination of Field Equipment of the UAGWDMP. [OAC Rule 3745-54-97(D)]
 - (g) Purge water shall be disposed of in accordance with procedures described in Sections 3.2 Sample Collection, 3.2.2. Sampling Procedures, and 3.2.2.4 Disposal of Purge Water of the UAGWDMP. [OAC Rule 3745-54-97(D)]
 - (h) Laboratory analytical methods, detection limits and sample holding times shall be in accordance with techniques described in Sections 3.3. Sample Parameters and Schedule, 3.3.1 Indicator Parameters, 3.3.2 Annual Parameters, 3.3.3 Background Data Collection schedule and 3.3.4 Detection Monitoring Schedule of the UAGWDMP as updated per Permit Condition F.7.(g). [OAC Rule 3745-54-97(D)]
 - (i) Quality assurance, including field/lab/equipment blanks, duplicate samples and identification of potential interferences, shall be in accordance with the methods described in Sections 3.3 Sample Parameters and Schedule, 3.3.6 Quality Assurance/Quality Control, 3.3.6.1 Field QA/QC and 3.3.6.2 Laboratory of the UAGWDMP. [OAC Rule 3745-54-97(D)]
 - (j) Chain of custody procedures, including standardized field tracking reporting forms, and sample labels, shall be in accordance with Section 3.3 Sample Parameters and Schedule, and 3.3.5 Chain-of-Custody Procedures of the UAGWDMP. [OAC Rule 3745-54-97(D)(4)]

F.5. Elevation of the Ground Water Surface

- (a) The Permittee shall determine the elevation of the ground water surface at each well each time the ground water is sampled, in accordance with Permit Condition F.7(b). [OAC Rule 3745-54-97(F)]
- (b) The Permittee shall record the total depth of any wells installed in accordance with Permit Condition F.2 and the surveyed elevation of the top of casing, ground surface and/or apron elevation, and the protective casing of the monitoring well(s) within thirty (30) days of the date of installation (with as-built drawings).

F.6. Statistical Procedures

When evaluating the monitoring results in accordance with Permit Condition F.7., the Permittee shall use the following procedures to identify statistically significant evidence of contamination:

- (a) The Permittee shall use an appropriate statistical procedure for determining whether a statistically significant change has occurred. The statistical procedure shall be determined in accordance with the most recently finalized U.S. EPA statistical guidance document. The Permittee may follow the flow chart for statistical analysis decision making as included in the ASTM guidance document number D 6312-98 entitled: "Standard Guide for Developing Appropriate Statistical Approaches for Ground-Water Detection Monitoring Programs." The Permittee may also follow the ASTM, where deemed appropriate by the Ohio EPA. Any statistical method that is chosen must comply with the following performance standards:
 - (i) The statistical method shall utilize a sample large enough to ensure with reasonable confidence that a contaminant released to the ground water from the facility will be detected. [OAC Rule 3745-54-97(G)]
 - (ii) The statistical procedure must be protective of human health and the environment and provide reasonable confidence that the migration of hazardous constituents from a regulated unit into and through the aquifer will be indicated. [OAC 3745-54-97(H)]
 - (iii) The statistical method must be used in evaluating ground water monitoring data for each hazardous constituent specified in Permit Condition F.3(a). [OAC Rule 3745-54-97(H)]
 - (iv) The statistical method must be appropriate for the distribution of the data used to establish background values or concentration limits. If the distribution for the constituents differ, more than one statistical method may be needed. [OAC Rule 3745-54-97(I)(1)]

FEB 13 2009

-
- (v) The statistical method must provide a reasonable balance between the probability of falsely identifying a non-contaminating unit and the probability of failing to identify a contaminating regulated unit. [OAC Rule 3745-54-97(I)(2)]
 - (vi) The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantitation limit (PQL) approved in the permit that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility using the methods outlined in the most recent version of SW-846. [OAC Rule 3745-54-97(I)(5)]
 - (vii) If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data. [OAC Rule 3745-54-97(I)(6)]
- (b) The Permittee shall choose the appropriate statistical method within 90 days of the receipt of the last background sampling event data.

F.7. Monitoring Program and Data Evaluation

The Permittee shall establish and implement a detection ground water monitoring program that will determine with reasonable confidence whether any hazardous constituents have entered the ground water as a result of activities from the unit/area covered by the Part B Permit. The Permittee shall determine ground water quality as follows:

- (a) The Permittee shall collect, preserve, and analyze samples pursuant to Permit Condition F.4.
- (b) The Permittee shall determine ground water quality at each monitoring well (See Figure 4 presented in the UAGWDMP) semiannually during the active life of a regulated unit, including the closure period (and post-closure care period for land disposal units which do not clean close). [OAC Rule 3745-54-98(D)]

The Permittee shall express the ground water quality at each monitoring well in a form necessary for the determination of statistically significant increases. [OAC Rules 3745-54-98(C) and 3745-54-99(C)(2)]

- (c) The Permittee shall determine the ground water flow rate and direction in the uppermost aquifer at least annually. [OAC Rule 3745-54-98(E)]

FEB 13 2009

-
- (d) The Permittee shall determine whether there are any statistically significant increases over the background values for all parameters identified in Permit Condition F.3(a), each time ground water quality is determined at the compliance point. In determining whether such increases have occurred, the Permittee must compare the ground water quality at each monitoring well specified in Permit Condition F.2(a) to the background ground water quality specified in Permit Condition F.3(a), in accordance with the statistical procedures specified in Permit Condition F.6. [OAC Rule 3745-54-98(F)]
 - (e) The Permittee shall sample annually for the semi-volatile organic compounds listed in Table 6, presented in the UAGWDMP and add semi-volatile organic compounds from Table 6 to the list of indicator parameters as presented in Condition F.3(a), if required per the procedure described in condition F.3(a).
 - (f) The Permittee shall perform the evaluations described in Permit Condition F.7(d) within ninety (90) days after completion of sampling. [OAC Rule 3745-54-98(F)(2)]
 - (g) The Permittee shall comply with the revised UAGWDMP dated September 9, 2008 (Revision 6).

F.8. Record Keeping and Reporting
OAC Rule 3745-54-97(J)

Operating Record

OAC Rule 3745-54-73(B)(5&6), OAC Rule 3745-54-97(J), & OAC Rule 3745-54-98(C)

- (a) Ohio EPA may request a copy of the full QA/QC report for a particular
- (b) sampling event if circumstances warrant, but in general, QA/QC data will not be required except as described in this Condition. The Permittee shall enter all of the following information obtained in accordance with Permit Condition F.7 in the operating record, as required by OAC Rules 3745-54-73(B)(5&6), 54-97(J), and 54-98(C):
 - (i) The laboratory results from each of the wells and their associated qualifiers, including the laboratory sheets for the full volatile and semi-volatile analyses (must include method codes, detection limits and units of measurement);
 - (ii) The date each well was sampled (tabulated);
 - (iii) The date, time, and identification of all blanks and duplicates;

FEB 13 2009

-
- (iv) Any field log documentation of deviation from the procedures in the UAGWDMP including documentation of parameter omissions during the sampling event;
 - (v) The date the Permittee received the results from the laboratory;
 - (vi) 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. This review shall be based upon the elements in Permit Condition F.8.(a)(vii).
 - (vii) The results of the data validation review per F.8(a)(vi) including: report completeness, chain of custody, sample receipt form, signed statement of validity, technical holding time review, data qualifiers including their definitions, dilutions, blank data, spikes, spike recovery %, surrogate recovery, and an explanation of any rejected results consistent with the USEPA and Ohio EPA guidelines for data review;
 - (viii) Results of all blanks (trip, field, equipment and method);
 - (ix) Results of the field parameters;
 - (x) All chains of custody;
 - (xi) The date the statistical evaluation was completed;
 - (xii) The statistical evaluation of the data according to the statistical tests(s) that the Director has specified (must include all computations and results of statistical tests) OAC Rule 3745-54-73(B)(6), 54-97(J) and 54-98(C);
 - (xiii) Any changes in well status (i.e., going from unaffected to affected status and vice versa);
 - (xiv) Ground water surface elevations taken at the time of sampling each well as required by OAC Rule 3745-54-73(B)(6);
 - (xv) Data and results of the annual determination of the ground water flow rate and direction as required by OAC Rule 3745-54-73(B)(6); and
 - (xvi) The results of the last three years for all inspections required under OAC Rule 3745-54-15(D) related to ground water monitoring and equipment, as required under OAC Rule 3745-54-73(B)(5).
- (c) The established background values and the computations necessary to determine background values must be included in the operating record and

FEB 13 2009

submitted to the Ohio EPA within ninety (90) days after the completion of the last background sampling event.

- (d) The Permittee must submit an annual report to the Director by March 1st or first business day thereafter, if this falls on a weekend. The annual reports must reference the titles and dates of any other periodic reports required by the Permit or any updates to those reports (for example, due to confirmation sampling, comments by Ohio EPA, etc.), but generally do not need to include duplicates of hard copies previously submitted. The annual reports must include, at a minimum, the analytical results required by Permit Condition F.7(b), the ground water elevation data required by Permit Conditions F.5(a) and F.7(c), the results of the initial statistical analyses required by Permit Condition F.7(d), and the results of the evaluations required by Permit Condition F.7(e). In addition, a copy on disk of all ground water and blank data must be submitted electronically in the format supplied by the Director. A hard copy of well-specific information [location (latitude and longitude), depth, construction, etc.] for any new/replacement wells, and any other information specified in the instructions for the annual report not addressed in this Condition must be submitted in accordance with the schedule stated in Condition F.8(d) as required by OAC Rule 3745-54-75 and 54-97(J).

(e) Other Reports

The Permittee shall comply with any reporting requirements that become necessary under Permit Condition F.10 in accordance with the schedule in that Condition and as required by OAC rule 3745-54-77(C). If any of these dates falls on a weekend, the reports will be due no later than the following business day. Resampling reports must include the same types of information as the initial reports pertaining only to the resampled well(s).

It is recommended that the Permittee submit the analytical results required by Permit Conditions F.7(b) and F.7(c), the results of the initial statistical analyses required by Permit Condition F.7(d), and the results of the evaluations required by Permit Condition F.7(e) in accordance with the following schedule and as required by OAC Rule 3745-54-77(C):

Samples to be Collected During the Preceding Months of :	Results Due to the Director By:
April – May	Within 90 days of completion of the sampling event.
October – November	

FEB 13 2009

F.9. Assurance of Compliance

The Permittee shall assure the Director that the ground water monitoring program will ensure the earliest possible detection of contamination leakage from the regulated units, that any contamination leakage would be characterized, and that the need for further action will be determined [OAC Rule 3745-54-98]

F.10. Special Requirements if Significant Increases Occur in Values for Parameters or Constituents

If the Permittee has determined that a statistically significant increase has occurred for any of the parameters or constituents identified in Permit Condition F.3(a), in accordance with the statistical procedures in Permit Conditions F.6. and F.7., the Permittee must:

- (a) Notify the Director in writing, within seven (7) days of that determination.
- (b) The notification must indicate what parameters of constituents have shown statistically significant increases and corresponding analytical results. [OAC Rule 3745-54-98(G)(1)]
- (c) Within 30 days of making the statistical exceedance determination, BP will sample the ground water in the nearest background well and the affected well and determine the concentration of all constituents identified in Tables 5 & 6 that were not analyzed during the most recent event at which the statistically significant increase occurred. [OAC Rule 3745-54-98(G)(2)]
- (d) If the Permittee desires, for any additional compounds detected per F.10(b), resample within one month of determining a statistically significant increase and repeat the analysis for any compounds identified in Tables 5 & 6 of the UAGWDMP that were detected. If the results of the second analysis confirm the initial results, then these constituents, in addition to those noted in F.10(a), will form the basis for compliance monitoring [OAC Rule 3745-54-98(G)(3)]. [Note: BP has replaced the ground water hazardous constituent list included in the Appendix to OAC 3745-54-98 with a site-specific indicator parameter list (Skinner List, Table 4 of the UAGWDMP) of refinery related constituents, which will be analyzed annually. In addition, all site specific parameters, except semivolatile organic compounds included on Tables 5 & 6 of the UAGWDMP, will be analyzed semiannually.]
- (e) Within ninety (90) days of determining a statistically significant increase, submit to the Director an application for a permit modification to establish a compliance monitoring program. [OAC Rule 3745-54-98(G)(4)] The application must include the following information:

FEB 13 2009

-
- (i) An identification of the concentration of each Skinner List (Table 4. of the UAGWDMP) constituent found in the ground water at each monitoring well at the point of compliance. [OAC Rule 3745-54-98(G)(4)(a)]
 - (ii) Any proposed changes to the ground water monitoring system at the facility necessary to meet the requirements of compliance monitoring as described in OAC Rule 3745-54-99. [OAC Rule 3745-54-98(G)(4)(b)]
 - (iii) Any proposed changes to the monitoring frequency, sampling and analysis procedures, or methods or statistical procedures used at the facility necessary to meet the requirements of compliance monitoring [OAC Rule 3745-54-99] and the Ground Water Protection Standard [3745-54-92]. [OAC Rule 3745-54-98(G)(4)(c)]
 - (iv) For each hazardous constituent detected at the compliance point, a proposed concentration limit, or a notice of intent to seek an alternate concentration limits for a hazardous constituent under OAC Rule 3745-54-94(B). [OAC Rule 3745-54-98(G)(4)(d)]
 - (v) The Permittee shall begin sampling and analyzing for the new constituents at the next regularly scheduled sampling event following the event in which they were determined to be present.
- (f) Submit to the Director an engineering feasibility plan (EFP) for corrective action and all data necessary to satisfactorily justify an alternate concentration limit within 180 days of determining a statistically significant increase, unless the concentrations of all hazardous constituents identified under permit condition F.3(a) do not exceed their respective values listed in Table 1 of OAC 3745-54-94 (or their respective MCLs), or the Permittee has sought an ACL variance for every hazardous constituent identified under F.3(a). If the Permittee's ACL request is denied the Permittee shall specify a timeframe for the submittal of the EFP. [OAC Rule 3745-54-98(G)(5)]
- (g) If the Permittee determines, pursuant to Permit Condition F.7., there is a statistically significant increase above the background values for the parameters specified in Permit Condition F.3(a), he may demonstrate that a source other than a regulated unit caused the increase or that the increase resulted from error in sampling, analysis, or evaluation. In such cases, the Permittee shall:
- (i) Notify the Director, in writing, within seven (7) days of determining a statistically significant increase, that he intends to make such a demonstration. [OAC Rule 3745-54-98(G)(6)(a)]
 - (ii) Within ninety (90) days of determining a statistically significant increase, submit a report to the Director which successfully demonstrates that a

FEB 13 2009

source other than a regulated unit caused the increase, or that the increase resulted from error in sampling, analysis, or evaluation. [OAC Rule 3745-54-98(G)(6)(b)]

- (iii) Within ninety (90) days of determining a statistically significant increase, submit to the Director an application for a permit modification to make any appropriate changes to the detection monitoring program at the facility. [OAC Rule 3745-54-98(G)(6)(c)]
- (iv) Continue to monitor in accordance with the detection monitoring program at the facility. [OAC Rule 3745-54-98(G)(6)(d)]

F.11. Request for Permit Modification
OAC Rule 3745-54-98(H)

If the Permittee or the Director determines the detection monitoring program no longer satisfies the requirements of the regulations, the Permittee must, within ninety (90) days of the determination, submit the date of the determination and an application for a permit modification to make any appropriate changes to the program which will satisfy the regulations. [OAC Rule 3745-54-98(H)]

FEB 13 2009

MODULE G – POST-CLOSURE CARE

G.1 Module Highlights

This section is applicable to units with in-place closure approval by Ohio EPA. The following units may be subject to post-closure care:

North Stormwater Pond

A surface impoundment that received wastewater that was characteristically hazardous because of benzene (D018) content. The pond contains primary sludge (F037), which is a listed hazardous waste. The unit ceased operation March 29, 1994, and will require thirty years of post-closure monitoring.

G.2 Unit Identification

The Permittee shall provide post-closure care for the following hazardous waste management units upon completion of the closure requirements as found in this Permit and OAC Chapter 55, subject to the terms and conditions of this permit, and as described as follows:

Type of Waste Unit	Unit No. or Other Designation	Maximum Waste Inventory	Description of Wastes Contained	Hazardous Waste No.
Surface Impoundment	North Stormwater Pond	19,000 yd ³	Wastewaters	D018, F037

* the 1981 annual loading of 17,700,000 lbs. ÷ 12 months

** annual loadings ÷ 12 for 1984, 1986, and 1982, respectively

G.3 Post-Closure Procedures and Use of Property

- (a) The Permittee shall conduct post-closure care for each hazardous waste management unit listed in Permit Condition G.2. above, to begin after completion of closure of the unit and continue for 30 years after that date, except that the 30-year post-closure care period may be shortened upon application and demonstration approved by EPA that the facility is secure, or may be extended by Ohio EPA if the Director finds this is necessary to protect human health and the environment. [OAC Rule 3745-55-17(A)]
- (b) The Permittee shall maintain and monitor the ground-water monitoring system and comply with all other applicable requirements of OAC Rule 3745-54-90 thru 99 and OAC Rule 3745-55-01 during the post-closure period.

FEB 13 2009

-
- (c) The Permittee shall comply with the requirements for surface impoundments as follows: [OAC Rule 3745-56-28(B)(1) & (3)]
- (i) maintain the integrity and effectiveness of the final cover, including making repairs to the cap, as necessary, to correct the effects of settling, subsidence, erosion, and other events; and
 - (ii) prevent run-on and run-off from eroding or otherwise damaging the final cover.
- (d) The Permittee shall comply with the requirements for land treatment units as follows: [OAC Rule 3745-56-80(C)]
- (i) continue all operations (including pH control) necessary to enhance degradation and transformation and sustain immobilization of hazardous constituents in the treatment zone to the extent that such measures are consistent with other post-closure care activities;
 - (ii) maintain a vegetative cover over closed portions of the facility;
 - (iii) maintain the run-on control system required under OAC Rule 3745-56-72 (B); and
 - (iv) maintain the run-off management system required under OAC Rule 3745-56-72(C).
 - (v) control wind dispersal of hazardous waste as required under OAC Rule 3745-56-72(E).
 - (vi) continue to comply with any prohibitions or conditions concerning growth of food-chain crops required under OAC Rule 3745-56-76.
- (e) The Permittee shall comply with all security requirements, as specified in the Part B permit application. [OAC Rule 3745-55-17(B)]
- (f) The Permittee shall not allow any use of the units designated in Permit Condition G.2. which will disturb the integrity of the final cover, liners, any components of the containment system, or the function of the facility's monitoring systems during the post-closure care period. [OAC Rule 3745-55-17(C)]
- (g) The Permittee shall implement the procedures as detailed in the Post-Closure Plan within Section I of the approved application. All post-closure care activities must be conducted in accordance with the provisions of the Post-Closure Plan. [OAC Rule 3745-55-17(D) and OAC Rule 3745-55-18(B)]

FEB 13 2009

G.4. Inspections

The Permittee shall inspect the components, structures, and equipment at the site in accordance with the Inspection Schedule, Section F of the permit application (Table F-2). [OAC Rule 3745-55-17(A)(1)(b)]

G.5. Notices and Certification

- (a) No later than 60 days after certification of closure of each permitted hazardous waste disposal unit, the Permittee shall submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Director, a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before January 12, 1981, the Permittee shall identify the type, location, and quantity of the hazardous wastes to the best of his knowledge and in accordance with any records he has kept. [OAC Rule 3745-55-19(A)]
- (b) Within 60 days of certification of closure of the first and the last hazardous waste disposal unit, the Permittee shall:
 - (i) Record, in accordance with Ohio law, a notation on the deed to the facility property, or on some other instrument that is normally examined during the title search, that will in perpetuity notify any potential purchaser of the property that:
 - (aa) The land has been used to manage hazardous wastes;
 - (bb) Its use is restricted under OAC Rule 3745-55-10 thru 20; and
 - (cc) The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility have been filed with the Director and Lucas County zoning authority.
 - (ii) Submit a certified to the Director, signed by the Permittee, that he has recorded the notation specified in Permit Condition G.3(b)(i), including a copy of the document in which the notation has been placed. [OAC Rule 3745-55-19(C)]
- (c) If the Permittee or any subsequent owner or operator of the land upon which the hazardous waste disposal unit is located, wishes to remove hazardous wastes and hazardous waste residues, the liner, if any; or contaminated soils, then he shall request a modification to this post closure permit in accordance with the applicable requirements in Chapter OAC 3745-50. The Permittee or any subsequent owner or operator of the land shall demonstrate that the removal of

FEB 13 2009

hazardous wastes will satisfy the criteria of OAC Rule 3745-55-17(C). [OAC Rule 3745-55-19(C)]

- (d) No later than 60 days after completion of the established post-closure care period for each hazardous waste disposal unit, the Permittee shall submit to the Director, by registered mail, a certification that the post-closure care for the hazardous waste disposal unit was performed in accordance with the specifications in the approved Post-Closure Plan. The certification must be signed by the Permittee and an independent, registered professional engineer. Documentation supporting the independent, registered professional engineer's certification must be furnished to the Director upon request until the Director releases the Permittee from the financial assurance
- (e) requirements for post-closure care under OAC Rule 3745-55-45. [OAC Rule 3745-55-20]

G.6. Financial Assurance

The Permittee shall continuously maintain financial assurance during the post-closure period and comply with all applicable requirements of OAC Rule 3745-55-40 thru 51. [OAC Rule 3745-55-45]

G.7. Post-Closure Permit Modifications

The Permittee must request a permit modification to authorize a change in the approved Post-Closure Plan. This request must be in accordance with applicable requirements of Chapter OAC 3745-50, and must include a copy of the proposed amended Post-Closure Plan for approval by the Director. The Permittee shall request a permit modification whenever changes in operating plans or facility design affect the approved Post-Closure Plan, there is a change in the expected year of final closure, or other events occur during the active life of the facility that affect the approved Post-Closure Plan. The Permittee must submit a written request for a permit modification at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the Post-Closure Plan. [OAC Rule 3745-55-18(D)]

END OF PERMIT CONDITIONS