INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
HAZARDOUS WASTE MANAGEMENT PERMIT

Name of Permittee: SABIC Innovative Plastics Mt. Vernon, LLC

Facility Location: One Lexan Lane, Mt. Vernon, IN

EPA Identification Number: IND006376362

Issuance Date: _____

Expiration Date: _____

Authorized Activities

Pursuant to the Indiana Environmental Statutes (IC 13) and the rules promulgated thereunder and codified in Title 329 of the Indiana Administrative Code, Article 3.1 (329 IAC 3.1), the State permit conditions (hereinafter called the permit) of the Resource Conservation and Recovery Act of 1976 (RCRA) permit are issued to SABIC Innovative Plastics Mt. Vernon, LLC (hereinafter called the Permittee) located in Mount Vernon, Indiana, Section 24, Township T7S, Range R14W at latitude 37º 54' 015" N and longitude 87º 56' 010" W, Mount Vernon Indiana Quadrangle, on the U.S. Geological Survey topographic map.

The State RCRA program is authorized under 40 CFR Part 271 and Section 3006 of RCRA to administer the delegated hazardous waste management program in lieu of the Federal program, including administration of authorized portions of the Hazardous and Solid Waste Amendments (HSWA) of 1984.

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The Permittee is authorized to conduct the following hazardous waste management activities:

	STORAGE		TREATMENT		DISPOSAL
	Container		Tank		Injection Well
	Tanks		Surface Impoundments		Landfill
	Waste Pile	X	Boiler		Land Application
	Surface Impoundment		Other		

Federal regulations 40 CFR Parts 260 through 270 have been incorporated by reference. Where exceptions to incorporated Federal regulations are necessary, these exceptions will be noted in the text of the State rule. 329 IAC 3.1-1-7

The conditions of this permit were developed in accordance with the following applicable provisions of 329 IAC 3.1:

☑ ID & Listing of Hazardous Waste
329 IAC 3.1-6
40 CFR 261 Subparts A, B, C, D, and
Appendices I, II, III, VII, VIII, IX, X

☑ Standards for Owners and Operators of
Treatment, Storage, and Disposal Facilities
329 IAC 3.1-9
40 CFR 264 Subparts A, B, C, D, and E

☐ Ground Water Protection
329 IAC 3.1-9
40 CFR 264 Subpart F

☑ Closure and Post-Closure
329 IAC 3.1-9
40 CFR 264 Subpart G

☑ Financial Requirements
329 IAC 3.1-15

☐ Use and Management of Containers
329 IAC 3.1-9
40 CFR 264 Subpart I

☐ Tank Systems
329 IAC 3.1-9
40 CFR 264 Subpart J

☐ Surface Impoundments
329 IAC 3.1-9
40 CFR 264 Subpart K

☐ Waste Piles
329 IAC 3.1-9
40 CFR 264 Subpart L

☐ Land Treatment
329 IAC 3.1-9
40 CFR 264 Subpart M

☐ Landfills
329 IAC 3.1-9
40 CFR 264 Subpart N

☑ Boilers and Industrial Furnaces
329 IAC 3.1-9
40 CFR 266 Subpart H

☑ Corrective Action for Solid Waste Management Units
329 IAC 3.1-9
40 CFR 264 Subpart S

☐ Drip Pads
329 IAC 3.1-9
40 CFR 264 Subpart W

☐ Air Emission Standards for
Process Vents
329 IAC 3.1-9
40 CFR 264 Subpart AA

☑ Air Emission Standards for
Equipment Leaks
329 IAC 3.1-9
40 CFR 264 Subpart BB

☐ Air Emission Standards for Tanks
Surface Impoundments and Containers
329 IAC 3.1-9
40 CFR 264 Subpart CC

☑ Hazardous Waste Permit Programs
329 IAC 3.1-13
40 CFR 270 Subparts A, B, C, and D

☑ Inspection and Investigation
329 IAC 3.1-1-3 and 329 IAC 3.1-1-4

☑ Enforcement
329 IAC 3.1-1-5

Permit Approval

The Permittee must comply with all terms and conditions of this permit. This permit consists of the conditions contained herein (including those in any Attachments) and the applicable rules and requirements contained in 329 IAC 3.1 and 40 CFR 260 through 270 as specified in the permit. Applicable rules are those which are in effect on the date of issuance of this permit. 329 IAC 3.1-13; 40 CFR 270.32

This permit is based on the assumption that the information submitted in the permit application attached to the Permittee's letter dated March 29, 2023 (VFC Content # 83454043), and any subsequent amendments (VFC Content #s 83603434, 83608298, 83608299, and 83609500) is accurate and that the facility has been or will be constructed and/or operated as specified in the application. The IDEM Virtual File Cabinet (VFC) may be viewed online from the IDEM homepage at www.in.gov/idem/legal/public-records/virtual-file-cabinet/.

Any inaccuracies found in the application may be grounds for the modification, revocation and reissuance, or termination of this permit (329 IAC 3.1-13-7), and potential enforcement action. The Permittee must inform the Indiana Department of Environmental Management (IDEM) of any deviation from, or changes in, the information in the application which would affect the Permittee's ability to comply with the applicable rules or permit conditions.

Pursuant to IC 13-15-5-3 and IC 4-21.5-3-5(f), this permit takes effect 15 days from receipt of this notice. If you wish to challenge this decision, IC 13-15-6-1 and IC 4-21.5-3-7 require that you file a Petition for Administrative Review. If you seek to have the effectiveness of the permit stayed during administrative review, you must also file a Petition for Stay. The petition(s) must be submitted to the Office of Environmental Adjudication, Government Center North, Room N103, 100 North Senate Avenue, Indianapolis, Indiana 46204, within 15 days after your receipt of this notice. The petition(s) must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision, or otherwise entitled to review by law. Identifying the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, or date of this notice will expedite review of the petition. Additionally, IC 13-15-6-2 requires that a Petition for Administrative Review must include:

1. The name and address of the person making the request.

2. The interest of the person making the request.

3. Identification of any persons represented by the person making the request.

4. The reasons, with particularity, for the request.

5. The issues, with particularity, proposed for consideration at the hearing.

6. Identification of the terms of the permit which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing licenses of the type granted or denied by the Commissioner.

Pursuant to IC 4-21.5-3-1(f) any document serving as a petition for review or review and stay must be filed with the Office of Environmental Adjudication. Filing of such a document is complete on the earliest of the following dates:

1. the date on which the petition is delivered to the Office of Environmental Adjudication, Government Center North, Room N103, 100 North Senate Avenue, Indianapolis, Indiana 46204;

2. the date of the postmark on the envelope containing the petition, if the petition is mailed by United States mail; or

3. the date on which the petition is deposited with a private carrier, as shown by a receipt issued by the carrier, if the petition is sent by private carrier.

The portions of the permit for which a Petition for Stay has been filed will take effect at the expiration of the additional 15-day period unless or until an Environmental Law Judge stays the permit in whole or in part. This permit will remain in effect until the expiration date unless revoked and reissued, modified, or terminated (329 IAC 3.1-13-7), or continued in accordance with IC 13-15-6-3.

This permit terminates and supersedes any other State hazardous waste management permit.

Issued this _____ day of _____ 2024.

By:

Donald W. Stilz, Chief
Hazardous Waste Permit Section
Permits Branch
Office of Land Quality

SABIC Innovative Plastics Mt. Vernon, LLC
Mt. Vernon, Indiana
IND006376362

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I. STANDARD CONDITIONS

A. EFFECT OF PERMIT

The Permittee is allowed to treat hazardous waste in accordance with the conditions of this RCRA permit. Any treatment of hazardous waste not authorized in this permit, or the regulations is prohibited.

Pursuant to 329 IAC 3.1 and 40 CFR 260 through 270 (for HSWA Provisions), compliance with the conditions of this RCRA Permit generally constitutes compliance for purposes of enforcement, with the Indiana Environmental Management Act and RCRA, as amended by HSWA, except for those requirements not included in the Permit which become effective by statute, or which are promulgated under 329 IAC 3.1 and 40 CFR 260 through 270, restricting the placement of hazardous wastes in or on the land.

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, any invasion of other private rights, or any infringement of Federal, State, or local laws or regulations.

Compliance with the terms of this permit does not constitute a defense to any Order issued or any action brought under Section 3013 or Section 7003 of RCRA; Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601), commonly known as CERCLA, as amended by the Superfund Amendments and Reauthorization Act of 1986 (42 U.S.C. 9606(a)), commonly known as SARA, or any other law providing for protection of public health or the environment.
329 IAC 3.1-13; 40 CFR 270.4; IC 13

B. PERMIT ACTIONS

This permit may be modified, revoked, and reissued, or terminated for cause as specified in 329 IAC 3.1-13-7. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.

C. SEVERABILITY

The provisions of the 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 will not be affected thereby. In the event a condition of this permit is stayed for any reason, all provisions of the permit severable from the stayed provisions will take effect. With regard to stayed provisions of the permit, the Permittee shall continue to comply with the related applicable and relevant standards from the previously issued federal or state permit until final resolution of the stayed condition, unless the Commissioner of the Indiana Department of Environmental Management (Commissioner) determines that compliance with the related applicable and relevant standards would be technologically incompatible with other conditions of this permit which have not been stayed. 329 IAC 3.1-13; 40 CFR 270.32

D. DUTIES AND REQUIREMENTS

1. Duty to Comply The Permittee must comply with all conditions of the RCRA permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance, other than noncompliance authorized by an emergency permit, constitutes a violation of IC 13 and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. 329 IAC 3.1-13; 40 CFR 270.30(a); 270.61

2. Duty to Reapply The Permittee must submit a complete application for a new permit at least 180 days before this permit expires unless: a) the Permittee no longer wishes to operate a hazardous waste management facility and all remaining corrective action obligations have been met; or, b) permission for submittal on a later date has been granted by the Commissioner. The Commissioner shall not grant permission for applications to be submitted later than the expiration date of the existing permit. 329 IAC 3.1-13; 329 IAC 3.1-13-3(h)

3. Permit Expiration The duration of this permit shall not exceed the expiration date of the permit, except as provided by 329 IAC 3.1-13-15. This permit and all conditions herein will remain in effect beyond the permit's expiration date if the Permittee has submitted a timely, complete application for a new permit and through no fault of the Permittee, the Commissioner has not issued a new permit with an effective date under 329 IAC 3.1-13-14 on or before the expiration date of the previous permit. 329 IAC 3.1-13-16

4. Need to Halt or Reduce Activity Not a Defense It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. 329 IAC 3.1-13; 40 CFR 270.30(c)

5. Duty to Mitigate In the event of non-compliance with this permit, the Permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment. 329 IAC 3.1-13; 40 CFR 270.30(d)

6. Proper Operation and Maintenance The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit. 329 IAC 3.1-13; 40 CFR 270.30(e)

7. Duty to Provide Information The Permittee shall furnish to the Commissioner, within a reasonable time, any relevant information which the Commissioner may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Commissioner, upon request, copies of records required to be kept by this permit. 329 IAC 3.1-13; 40 CFR 270.30(h); 264.74

8. Inspection and Entry The Permittee shall allow the Commissioner, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

    a. 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 conditions of this permit (329 IAC 3.1-13; 40 CFR 270.30(i)(1));

    b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit (329 IAC 3.1-13; 40 CFR 270.30(i)(2));

c. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit (329 IAC 3.1-13; 40 CFR 270.30(i)(3)); and

d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by IC 13, any substances or parameters at any location (329 IAC 3.1-13; 40 CFR 270.30(i)(4)).

9. Monitoring and Reporting

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from 329 IAC 3.1-6; 40 CFR 261, Appendix I. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846, (Third Edition, as amended by updates) (as referenced in 40 CFR 260.11); Standard Methods for the Examination of Water and Wastewater, (19th Edition, 1995); or an equivalent method as specified in the attached Waste Analysis Plan. 329 IAC 3.1-13; 40 CFR 270.30(j)(1)

b. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report, or record or for a period of time greater than 3 years as specified elsewhere in this permit. This period may be extended by request of the Commissioner at any time and is automatically extended during the course of any unresolved enforcement action regarding this facility. 329 IAC 3.1-13; 40 CFR 270.30(j)(2) and 40 CFR 264.74(b)

c. Records of monitoring information shall include:

i. The date(s), exact place, and times of sampling or measurements (329 IAC 3.1-13-1; 40 CFR 270.30(j)(3)(i));

ii. The individual(s) who performed the sampling or measurements (329 IAC 3.1-13-1; 40 CFR 270.30(j)(3)(ii));

iii. The date(s) analyses were performed (329 IAC 3.1-13-1; 40 CFR 270.30(j)(3)(iii));

iv. The individual(s) and laboratory who performed the analyses (329 IAC 3.1-13-1; 40 CFR 270.30(j)(3)(iv));

v. The analytical technique(s) or method(s) used. Analytical technique(s) or method(s) is defined as encompassing both the sampling technique (method) and method of chemical analysis used. This information must be provided in the Waste Analysis Plan (329 IAC 3.1-13-1; 40 CFR 270.30(j)(3)(v)); and

vi. The result(s) of such analyses, including QA/QC documentation (329 IAC 3.1-13-1; 40 CFR 270.30(j)(3)(vi)).

d. Monitoring results shall be reported to the Commissioner at the intervals specified elsewhere in this permit. 329 IAC 3.1-13; 40 CFR 270.30(l)(4)

10. Reporting Planned Changes The Permittee shall give notice to the Commissioner as soon as possible of any planned physical alterations or additions to the permitted facility. 329 IAC 3.1-13; 40 CFR 270.30(l)(1)

11. Certification of Construction or Modification The Permittee may not treat, store or dispose of hazardous waste in a modified portion of the facility except as provided in 40 CFR 270.42 until:

a. The Permittee has submitted to the Commissioner by certified mail or hand delivery, or electronically via IDEM's Hazardous Waste Permit SharePoint Portal a letter signed by the Permittee and a qualified professional engineer stating that the facility has been constructed or modified in compliance with the permit (329 IAC 3.1-13; 40 CFR 270.30(l)(2)(i)); and

b. IDEM's Commissioner has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit (329 IAC 3.1-13; 40 CFR 270.30(l)(2)(ii)(A)); or

Within 15 days of the date of submission of the letter described in I.D.11.a., the Permittee has not received notice from the Commissioner of his or her intent to inspect, prior inspection is waived and the Permittee may commence treatment, storage, or disposal of hazardous waste (329 IAC 3.1-13; 40 CFR 270.30(l)(2)(ii)(B)).

12. Transfer of Permits This permit may be transferred to a new owner or operator only if it is modified or revoked and reissued pursuant to 329 IAC 3.1-13; 40 CFR 270.40(b) or 40 CFR 270.41(b)(2) to identify the new Permittee and incorporate such other requirements as may be necessary under IC 13. Before transferring 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 329 IAC 3.1 and IC 13, including all applicable corrective action requirements. 329 IAC 3.1-13; 40 CFR 270.40

13. Reporting Anticipated Noncompliance The Permittee shall give advance notice to the Commissioner of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Such notification does not excuse the Permittee's duty to comply with permit requirements. 329 IAC 3.1-13; 40 CFR 270.30(l)(2)

14. Compliance Schedules Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. 329 IAC 3.1-13; 40 CFR 270.30(l)(5)

15. Twenty-four Hour Reporting The Permittee shall report to the Commissioner any noncompliance with the permit which may endanger health or the environment. Any such information must be reported orally to IDEM 24-hour emergency telephone number (888) 233-7745, within 24 hours from the time the Permittee becomes aware of the circumstances. This report must include the following:

    a. Information concerning the release of any hazardous waste which may endanger public drinking water supplies.

    b. Information concerning the release or discharge of any hazardous waste, or of a fire or explosion at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:

i. Name, address, and telephone number of the owner or operator;

ii. Name, address, and telephone number of the facility;

iii. Date, time, and type of incident;

iv. Name and quantity of material(s) involved;

v. The extent of injuries, if any;

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

vii. Estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided within 5 days of the time the Permittee becomes aware of the circumstances. The written submission shall contain: a description of the noncompliance and its cause; the period 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 reduce, eliminate, and prevent recurrence of the noncompliance. The Permittee need not comply with the 5-day written notice requirement if the Commissioner waives the requirement and the Permittee submits a written report within 15 days of the time the Permittee becomes aware of the circumstances. 329 IAC 3.1-13-1; 40 CFR 270.30(l)(6)

16. Other Noncompliance The Permittee shall report all instances of noncompliance not otherwise required to be reported under Condition I.D.15, at the time monitoring reports, as required by this permit, are submitted. The reports shall contain the information listed in Condition I.D.15. 329 IAC 3.1-13; 40 CFR 270.30(l)(10)

17. Other Information When the Permittee becomes aware that the facility failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Commissioner, the Permittee shall promptly submit such facts or information. 329 IAC 3.1-13; 40 CFR 270.30(l)(11)

18. Submittal of Reports or Other Information All reports, plans, and other submissions relating to or required by this permit must be submitted electronically via IDEM's Hazardous Waste Permit SharePoint Portal or as IDEM directs.

19. All other requirements contained in 40 CFR 270.30 not set forth herein are hereby fully incorporated in this permit.

E. SIGNATORY REQUIREMENT All reports or other information requested by the Commissioner shall be signed and certified. 329 IAC 3.1-13; 40 CFR 270.11

F. CONFIDENTIAL INFORMATION The Permittee may claim confidential any information required to be submitted by this permit. Confidential claims must be submitted in accordance with 329 IAC 6.1. 329 IAC 3.1-13-4; 329 IAC 6.1; IC 13-14-11-1

G. WASTE MINIMIZATION The Permittee must certify at least, and maintain the certification in the operating record, that:

1. A program is in place to reduce the volume and toxicity of hazardous waste that the Permittee generates to the degree determined by the Permittee to be economically practicable; and

2. The proposed method of treatment, storage, or disposal is the currently available practicable method that minimizes the present and future threat to human health and the environment. 40 CFR 264.73(b)(9)

H. DOCUMENTS TO BE MAINTAINED AT FACILITY SITE Except as noted in the regulations, until closure is completed and certified by the owner/operator and a qualified professional engineer, the Permittee must maintain at the facility the most recent version of the following documents required by this permit:

1. Waste Analysis Plan and any document(s) referenced therein to describe on-site procedures (329 IAC 3.1-9, 40 CFR 264.13);

2. Personnel Training documents and records (329 IAC 3.1-9, 40 CFR 264.16(d) and (e));

3. Contingency Plan (329 IAC 3.1-9, 40 CFR 264.53(a));

4. Closure Plan (329 IAC 3.1-9, 40 CFR 264.112(a)(2));

5. Cost estimate for facility closure (329 IAC 3.1-15-3);

6. Operating record (329 IAC 3.1-9, 40 CFR 264.73);

7. Inspection schedules (329 IAC 3.1-9, 40 CFR 264.15(b)(2));

8. Record of facility inspections kept for at least 3 years from the date of the inspection (329 IAC 3.1-9, 40 CFR 264.15(d));

9. Waste minimization certifications must be part of the operating record (40 CFR 264.73(b)(9));

10. Corrective Action reports and records as required by Permit Condition V. of this permit, maintained for at least 3 years after all Corrective Action Activities have been completed; and

11. Records regarding closed-vent systems and control devices, and equipment leaks, and/or tank, surface impoundments and containers as required by Permit Condition III. of this permit.

II. GENERAL FACILITY CONDITIONS

A. DESIGN AND OPERATION OF FACILITY The Permittee shall maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

B. GENERAL WASTE ANALYSIS The Permittee must comply with the procedures described in the attached Waste Analysis Plan, Attachment C, which is incorporated herein by reference.

C. SECURITY The Permittee must comply with the security provisions described in the Procedures to Prevent Hazards, Attachment F, which is incorporated herein by reference. 329 IAC 3.1-9; 40 CFR 264.14(b) and (c)

D. GENERAL INSPECTION REQUIREMENTS The Permittee must follow the inspection schedule in the Procedures to Prevent Hazards, Attachment F. The Permittee must remedy any deterioration or malfunction discovered by an inspection. 329 IAC 3.1-9; 40 CFR 264.15(c)

E. PERSONNEL TRAINING The Permittee must conduct personnel training. This training program must follow the attached outline in the Personnel Training Plan, Attachment H, which is incorporated herein by reference.
329 IAC 3.1-9; 40 CFR 264.16

F. GENERAL REQUIREMENTS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE The Permittee must comply with the requirements of 329 IAC 3.1-9 and 40 CFR 264.17.

H. PREPAREDNESS AND PREVENTION

1. Required Equipment The Permittee must equip the facility with the equipment set forth in the attached Contingency Plan, Attachment G, which is incorporated herein by reference. 329 IAC 3.1-9; 40 CFR 264.32

2. Testing and Maintenance of Equipment The Permittee must test and maintain the equipment specified in Attachment G (see the previous permit condition) as necessary to assure its proper operation in time of emergency. Such testing and maintenance activities are set forth in the inspection schedule in Attachment G. 329 IAC 3.1-9; 40 CFR 264.33

3. Access to Communications or Alarm System The Permittee must maintain access to the communications or alarm systems. 329 IAC 3.1-9; 40 CFR 264.34

4. Required Aisle Space The Permittee must maintain sufficient aisle space. 329 IAC 3.1-9; 40 CFR 264.35

5. Arrangements with Local Authorities The Permittee must attempt to make arrangements with State and local authorities. If State or local officials refuse to enter into preparedness and prevention arrangements, the Permittee must document this refusal in the operating record. 329 IAC 3.1-9; 40 CFR 264.37

I. CONTINGENCY PLAN

1. Implementation of Plan. The Permittee must immediately comply with the provisions of the Contingency Plan, Attachment G, and follow the emergency procedures described by 329 IAC 3.1-9-2(3) and (4) and 40 CFR 264.56 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.

2. Copies of Plan The Permittee must maintain a copy of the Contingency Plan at the facility and submit a copy to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services. 329 IAC 3.1-9; 40 CFR 264.53

3. Amendments to Plan The Permittee must review and immediately amend, if necessary, the Contingency Plan, when required by 329 IAC 3.1-9 and 40 CFR 264.54.

4. Emergency-Coordinator The Permittee must comply with the requirements of 329 IAC 3.1-9 and 40 CFR 264.55, concerning the Emergency Coordinator.

J. MANIFEST SYSTEM The Permittee must comply with the manifest requirements. 329 IAC 3.1-9; 40 CFR 264.71, 264.72, 264.76

K. RECORD KEEPING AND REPORTING In addition to the record keeping and reporting requirements specified elsewhere in this Permit, the Permittee must comply with the following record keeping and reporting requirements:

1. Operating Record Maintain a written operating record at the facility. 329 IAC 3.1-9; 40 CFR 264.73

2. Sampling and Analysis Records Keep original or exact copies of all sampling and analysis records available for inspection. 329 IAC 3.1-9; 40 CFR 264.74

3. Biennial Report Comply with the biennial report requirements. 329 IAC 3.1-9; 40 CFR 264.75

L. CLOSURE

1. Performance Standard The Permittee must close the facility as required by 329 IAC 3.1-9, 40 CFR 264.111 and the Closure Plan, Attachment I, which is incorporated herein by reference.

2. Amendment to Closure Plan The Permittee must amend the Closure Plan whenever necessary, and whenever requested by the Commissioner. 329 IAC 3.1-9; 40 CFR 264.112(c)

3. Notification of Closure The Permittee must notify the Commissioner in writing at least 45 days prior to the date on which he expects to begin final closure of a facility with only treatment or storage tanks, container storage, or boiler units to be closed. 329 IAC 3.1-9; 40 CFR 264.112(d)

4. Time Allowed for Closure After receiving the final volume of hazardous waste, the Permittee must treat or remove from the site all hazardous waste in accordance with the schedule specified in the Closure Plan, Attachment I. After receiving the final volume of hazardous waste, the Permittee must complete closure activities in accordance with the schedule specified in the Closure Plan. 329 IAC 3.1-9; 40 CFR 264.113

5. Disposal and/or Decontamination of Equipment When closure is completed, the Permittee must properly decontaminate and/or dispose of all facility equipment contaminated with hazardous waste as required by the Closure Plan. 329 IAC 3.1-9, 40 CFR 264.114

6. Certification of Closure When closure is completed, the Permittee and a qualified professional engineer must certify to the Commissioner that the facility has been closed in accordance with the specifications in the Closure Plan. 329 IAC 3.1-9; 40 CFR 264.115

   For a partial closure, the Permittee shall submit a permit modification no later than 45 days after certification approval that removes the unit from service, replaces the unit, proposes new unit to be permitted, or requests to the Commissioner that a time extension to submit the permit modification be granted for good cause.

M. COST ESTIMATE FOR FACILITY CLOSURE The Permittee's closure cost estimate, prepared in accordance with 329 IAC 3.1-15-3, is specified in the Closure Plan. The Permittee must comply with the following:

1. Adjust the closure cost estimate for inflation within 60 days prior to each anniversary date of the establishment of the financial instrument. 329 IAC 3.1-15-3(b)

2. When using the financial test or corporate guarantee, adjust the closure cost estimate for inflation within 30 days after the close of the Permittee's fiscal year and before the submission of updated information to the Commissioner. 329 IAC 3.1-15-3(b)

3. Revise the closure cost estimate whenever there is a change in the facility's closure plan. 329 IAC 3.1-15-3(c)

4. Keep at the facility the latest closure cost estimate. 329 IAC 3.1-15-3(d)

N. FINANCIAL ASSURANCE FOR FACILITY CLOSURE The Permittee must maintain financial assurance in at least the amount of the cost estimates required by Permit Condition II.M., and provide documentation as required. Changes in financial assurance mechanisms must be approved by the Commissioner. 329 IAC 3.1-15-4

O. INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS The Permittee must comply with 329 IAC 3.1-15-9 whenever necessary.

P. LIABILITY REQUIREMENTS The Permittee must maintain liability coverage for sudden accidental occurrences in the amount of at least $1 million per occurrence

with an annual aggregate of at least $2 million, exclusive of legal defense costs. 329 IAC 3.1-15-8

Q. LAND DISPOSAL RESTRICTIONS

1. The Permittee shall comply with all the applicable self-implementing requirements of 40 CFR Part 268 and all applicable land disposal requirements which become effective by federal statute.

2. The Permittee shall comply with the dilution prohibition requirements described in 40 CFR 268.3.

3. The Permittee shall comply with all testing, tracking, and recordkeeping requirements for treatment facilities described in 40 CFR 268.7.

4. The Permittee shall comply with all the applicable prohibitions on storage of restricted wastes specified in 40 CFR 268 Subpart E.

5. If the Permittee applies to the Administrator of the EPA for an exemption from land disposal restrictions described in 329 IAC 3.1-12-2, the Permittee must submit copies of such request and all supporting documents to the IDEM Commissioner. If the Permittee obtains an exemption from the administrator of the EPA, the Permittee must apply to the Commissioner for concurrence that such an exemption is consistent with the policies outlined in IC 13.

III. AIR EMISSION STANDARD CONDITIONS

A. EQUIPMENT LEAKS

The Permittee must comply with all applicable requirements of 40 CFR Part 264, Subpart BB, regarding air emission standards for equipment. Subpart BB application information is referenced in Attachment D, section D-11b. The documentation of compliance under Subpart BB must be kept with or made readily available with the facility operating record.

B. DUTY TO COMPLY WITH FUTURE REQUIREMENTS

The Permittee must comply with all self-implementing provisions of any future air regulations promulgated by RCRA, as amended by HSWA.

C. RECORDKEEPING

The Permittee must comply with all applicable recordkeeping and reporting requirements described in 40 CFR 264.1035, 264.1036 and 40 CFR 264.1064, 264.1065.

IV. BOILER TREATMENT CONDITIONS

A. GENERAL

1. The Permittee is authorized to treat hazardous waste in two boilers in accordance with this permit. The Permittee has submitted a copy of the Notification of Compliance with 40 CFR 63, Subpart EEE. The emission standards of 40 CFR 266, Subpart H no longer apply. A Part 70 Operating Permit Renewal, No. T129-45722-0002, was issued by the Indiana Department of Environmental Management, Office of Air Quality on June 15, 2023.

2. If, as the result of information collected in accordance with 40 CFR 270.10 regarding the site specific risk assessment, the Commissioner determines that conditions are necessary in addition to those required under 40 CFR Parts 63, Subpart EEE, or 40 CFR 266, to ensure protection of human health and the environment, the Commissioner may propose a modification to this permit to include those terms and conditions, in accordance with 329 IAC 3.1-9 and 40 CFR 270.32(b)(3), or the Permittee may propose a modification in accordance with 40 CFR 270.42.

3. The Commissioner may require additional information in order to determine whether additional controls are necessary to ensure protection of human health and the environment in accordance with 40 CFR 270.10(l)(1).

4. The Permittee must operate the hazardous waste combustion units in a manner which minimizes the possibility of a fire, explosion, or any unplanned, sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water that might threaten human health or the environment (40 CPR § 264.31).

5. Compliance with the operating conditions specified in this permit will be regarded as compliance with the above performance standards. However, any evidence that compliance with such permit conditions is insufficient to ensure compliance with the above performance standards may be "information" justifying modification, revocation, or reissuance of the permit pursuant to 329 IAC 3.1-13-7.

B. Limitations

The Permittee may treat hazardous waste generated from the following process sources:

1. Hazardous Waste

   - Phenol manufacturing distillation cracker bottoms (K022)
   - Heavy end cracking byproduct light overheads (D001, D018)
   - Alpha-Methyl styrene (AMS) distillation column bottoms (D001)
   - Oil purge from dephenolation (D001)

2. Co-Firing with Non-Hazardous Waste The hazardous wastes described above may be mixed with Bis-phenol A (BPA) manufacturing distillation tars and acetophenone distillation column bottoms, which are non-hazardous wastes.

C. Unit Location

The boilers are located as shown in the site plan map in Attachment B.

D. CLOSURE REQUIREMENTS

1. At closure, the owner or operator must remove all hazardous waste and hazardous waste residues from the boilers. 329 IAC 3.1-9, 40 CFR 266.102

2. Upon certification by the owner/operator and a registered professional engineer that part or both boilers have been properly closed, those provisions of this permit which allow for the continued operation of the closed portion of the facility are terminated. Waste types which were only authorized for burning in these units at the closed portion of the facility are deleted from this permit.

V. CORRECTIVE ACTION CONDITIONS

A. STANDARD REQUIREMENTS

1. Corrective Action At The Facility

In accordance with Section 3004(u) of RCRA (IC13-22-2-5) and the regulations promulgated pursuant thereto, the Permittee must institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste(s) and hazardous constituent(s) from any solid waste management unit (SWMU) or area of concern (AOC) at the facility, regardless of the time the waste was placed in such units.

2. Corrective Action Beyond The Facility Boundary

In accordance with Section 3004(v) of RCRA (IC 13-22-2-5) and the regulations promulgated pursuant thereto, the Permittee must implement corrective action(s) beyond the facility property boundary, where necessary to protect human health and the environment, unless the Permittee demonstrates to IDEM's satisfaction 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.

3. Applicable Guidance

The Permittee shall use the principles and procedures set forth in IDEM's 2022 Risk-based Closure Guide, and all revisions and additions thereto, or other risk-based methodologies approved by IDEM's Office of Land Quality Permits Branch, as the basis for selecting risk-based endpoints that will be used for the investigations, studies, interim measures, and corrective measures under the permit. Additional guidance includes IDEM's Remediation Program Guide, USEPA's "Test Methods for Evaluating Solid Waste" (SW-846, the 3rd Edition, or most recent edition, and the most recent updates), and Standard Methods for the Examination of Water and Wastewater (the 23rd Edition, or most recent edition).

4. Notification

a. Field Activities

The Permittee must notify IDEM at least 7 days before engaging in any field activities, such as well drilling, installation of equipment, or sampling.

At the request of IDEM, the Permittee must provide IDEM, or its authorized representative, split samples of all samples collected by the Permittee pursuant to this permit. Similarly, at the request of the Permittee, IDEM will allow the Permittee or its authorized representatives to take split or duplicate samples of all samples collected by IDEM under this permit.

b. Submittals

All reports, plans, and other submissions relating to or required by this permit must be submitted electronically via IDEM's Hazardous Waste Permit SharePoint Portal or as IDEM directs.

B. IDENTIFICATION OF SWMUs

1. Definitions

a. "Area of concern (AOC)" means a unit or area that could potentially produce unacceptable exposures or be a potential source of ground water contamination, but the unit or area does not meet the definition of a solid waste management unit.

b. "Facility" means all contiguous property under the control of the owner/operator of a facility seeking a permit under RCRA Subtitle C.

c. "Hazardous waste," as defined in IC 13-11-2-99, means a solid waste or combination of solid wastes that may cause or significantly contribute to an increase in: mortality, serious irreversible illness, or an incapacitating reversible illness; or pose a substantial present or potential hazard to human health or the environment. This term is further defined in 40 CFR Part 261.3.

d. "Hazardous constituent" means any constituent identified in Appendix VIII of 40 CFR Part 261, or any constituent identified in Appendix IX of 40 CFR Part 264.

e. "Release" means any spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of hazardous wastes or hazardous constituents into the environment, including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents.

f. "Solid waste" means any garbage, refuse, sludge, or other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, or agricultural operations or from community activities. This term is further defined in 40 CFR Part 261.2.

g. "Solid waste management unit (SWMU)" means any discernable unit, permitted or unpermitted, existing or historical, at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released.

2. SWMUs and AOCs Requiring Corrective Action

Based on the information contained in the administrative record, corrective action is required at the SWMUs and AOCs listed below. Maps showing the location of these SWMUs are included in Attachment J.

SWMU or AOC #	SWMU NAME	Corrective Action Required
61	Closed Landfill	Continue ground water extraction and sampling operations in accordance with the Operation and Maintenance and Groundwater Monitoring Plans in Attachment J.
188	Remnant Valley Extraction Wells	Continue ground water extraction and sampling operations in accordance with the Operation and Maintenance and Groundwater Monitoring Plans in Attachment J.

C. CONDITIONS PERTAINING TO ALL SWMUs AND AOCs

1. Notification Requirements

The Permittee must notify IDEM, within 30 days of discovery of the following information for any new SWMU identified at the facility, in accordance with 329 IAC 3.1-13-1 and 40 CFR 270.14(d):

a. the location of the unit on the site topographic map;

b. designation of the type of unit;

c. general dimensions and structural description (supply any available drawings);

d. when the unit was operated; and

e. specifications of all waste(s) that have been managed at the unit.

2. Release Information

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

3. Corrective Action

IDEM will review the information provided as required in the above permit conditions and may as necessary, require further investigations or corrective measures. The Permittee must submit a written RFI Work Plan to the Section Chief of the Hazardous Waste Permit Section in accordance with Condition V.D.2.

D. CORRECTIVE ACTION ACTIVITIES

The major tasks and required submittal dates are shown below. Additional tasks and associated submittal dates may also be specified in the Corrective Action Activities Schedule (Condition V.F.).

1. Interim Measures (IM)

a. The Permittee may undertake interim measures to prevent or minimize the further spread of contamination while long-term remedies are pursued. An IM Work Plan must be submitted to IDEM for approval before the Permittee initiates any remedial activity. The interim measure(s) must be capable of being integrated into any long-term solution at the facility.

b. In the event the Permittee identifies an immediate threat to human health or the environment, the Permittee must immediately notify the

Section Chief orally and in writing within 7 days summarizing the immediacy and magnitude of the potential threat to human health or the environment. This notification must be submitted electronically via IDEM's Hazardous Waste Permit SharePoint Portal or as IDEM directs.

c. Upon receiving this information, IDEM will determine if an IM Work Plan is necessary. If one is necessary, the Section Chief will send a notice to the Permittee requiring the submission of an IM Work Plan. Within 21 days after receiving this notice, the Permittee must submit to the Section Chief a work plan for approval that identifies the interim measure(s).

The work plan should be consistent with and integrated into any long-term solution at the facility. In addition, the following IM schedule must be initiated:

i. Within 5 days of identifying an immediate threat to human health or the environment, the Permittee must provide an alternate water supply to parties that have a contaminated water supply well;

ii. Within 7 days of identifying an immediate threat to human health or the environment, the Permittee must submit a report to the Section Chief detailing the activity pursued and a plan for further IM activity;

iii. Within 7 days following the Section Chief's transmission of comments, the Permittee must revise the plan in accordance with the comments; and

iv. Within 7 days following IDEM's approval or modification of the plan, the Permittee must implement the revised plan in accordance with the schedule therein.

2. <u>RCRA Facility Investigation (RFI)</u>

The Permittee must conduct an RFI to thoroughly evaluate the nature and extent of the release of hazardous waste(s) and hazardous constituent(s) from all SWMUs and AOCs identified as requiring an RFI.

a. RFI Work Plan

The Permittee must submit a written RFI Work Plan to the Section Chief within 90 days after written notification by the Section Chief that further investigation is necessary.

IDEM will approve, modify and approve, or disapprove and provide comments on the Work Plan in writing to the Permittee. Within 60 days of receipt of such comments, the Permittee must provide a response to IDEM's comments.

b. RFI Implementation

Within 30 days of IDEM's written approval of the RFI Work Plan, the Permittee must implement the plan according to the terms and schedule contained therein.

c. RFI Report

Within 90 days after the completion of the RFI, the Permittee must submit an RFI Report to the Section Chief. The RFI Report must describe the procedures, methods, and results of the RFI. The report must contain adequate information to support further corrective action decisions at the facility. After the Permittee submits the RFI Report, IDEM will either approve or disapprove the report in writing. If IDEM disapproves the report, the Section Chief will notify the Permittee in writing of the deficiencies. The Permittee has 60 days after receipt of IDEM's comments to submit a revised RFI Report to the Section Chief.

3. Determination of No Further Action

a. Permit Modification

After completion of the RFI, and based on its results and other relevant information, the Permittee may submit an application to the Section Chief for a permit modification under 40 CFR 270.42 to terminate the corrective action tasks of the Corrective Action Activities Schedule for all or a portion of the facility. Tasks identified in Permit Condition V.F. for the SWMUs, solid waste management areas (a group of SWMUs in an area to be addressed as a single unit), and/or the AOCs identified in the modification (for a

determination of no further action) will be stayed pending a decision by IDEM. This permit modification must demonstrate that there are no releases of hazardous waste(s), including hazardous constituents, from SWMUs or AOCs at the facility that pose a threat to human health or the environment.

If, based upon review of the Permittee's request for a permit modification, the results of the completed RFI, and other information, IDEM determines that releases or suspected releases that were investigated either are nonexistent or do not pose a threat to human health or the environment, IDEM will grant the requested modification.

b. Further Investigations

A determination of no further action will not preclude IDEM 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 SWMU or AOC at the facility is likely to pose a threat to human health or the environment. In such a case, IDEM will initiate a modification to the Corrective Action Activities Schedule to rescind the determination made in accordance with the above permit condition. Additionally, IDEM may determine that there is insufficient information on which to base a determination, and may require the Permittee to perform additional investigations as needed to generate the needed information.

4. Community Relations Plan

The Permittee must prepare and submit to IDEM for review and approval a Community Relations Plan for the dissemination of information to the public regarding investigation activities and results for offsite activities. The plan must be consistent with “IDEM’s Guide for Citizen Participation” and U. S. EPA’s “1996 RCRA Public Participation Manual.”

5. Corrective Measures Study (CMS) and Remedy Selection

If IDEM determines, based on the results of the RFI and other relevant information, that corrective measures are necessary, the Section Chief will notify the Permittee in writing that the Permittee must conduct a CMS. The purpose of the CMS is to develop and evaluate the corrective action alternative(s) that will satisfy the performance objectives specified by

IDEM. The CMS must be conducted within 60 days of notification by the Section Chief that the CMS is required. This period of time may be extended by the Section Chief if necessary to adequately complete the CMS. Note that this process can be significantly shortened by the selection of presumptive remedies (i.e., remedies that are known to be effective). Additional tasks and associated submittal dates may also be specified in the Corrective Action Activities Schedule (Condition V.F.).

a. CMS Report

Within 60 days after the completion of the CMS, the Permittee must submit a CMS Report to the Section Chief. The CMS Report must summarize the results of the investigations for each remedy studied and must include an evaluation of each remedial alternative. After the Permittee submits the CMS Report, IDEM will either approve, modify and approve, or disapprove the Report. If IDEM disapproves the Report, the Section Chief will notify the Permittee in writing of the deficiencies. The Permittee has 60 days after receipt of IDEM's comments to submit a revised CMS Report to the Section Chief. The CMS Report, as approved, becomes an enforceable condition of this permit.

b. CMS Remedy Selection

IDEM will approve 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 source(s) of releases so as to reduce or eliminate further releases of hazardous waste(s) (including hazardous constituent(s)); (4) minimize the transfer of contamination from one environmental medium to another; and (5) 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, IDEM will choose among alternatives for 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; (3) the corrective measure's short-term effectiveness; (4) the corrective measure's implementability; and (5) the relative cost associated with the alternative. In selecting the

corrective measure(s), IDEM may also consider such other factors as may be presented by site-specific conditions.

6. Permit Modification

Within 30 days of IDEM's approval of a corrective measure, the Permittee will initiate a permit modification, pursuant to 40 CFR 270.41 or 40 CFR 270.42, respectively, for the implementation of the corrective measure(s) selected. No permit modification fees are required for any modifications submitted under this condition.

7. Corrective Measures Implementation (CMI)

a. If the corrective measure(s) recommended in the Corrective Measures Study Report is (are) not the corrective measure(s) approved by IDEM after consideration of public comments, the Section Chief will inform the Permittee in writing of the reasons for such decision. Within 30 days after the effective date of the permit modification, the Permittee must begin implementing the corrective measure(s).

b. Financial Assurance

As part of the permit modification of this permit to incorporate the CMI, the Permittee must provide financial assurance in the amount specified in the IDEM-approved CMS Report as required by 40 CFR 264.101(b) and (c).

8. Incorporation of Plans and Reports

All approved plans and reports prepared for this permit will be incorporated into this permit on the date the Section Chief or his/her designee approves such plan or report.

E. DISPUTE RESOLUTION

1. If IDEM disapproves or modifies and approves any submission required by Condition V. of the permit, IDEM will provide the Permittee with a written notice setting forth the reasons for the disapproval or modification and approval.

2. If the Permittee disagrees, in whole or in part, with any written decision concerning IDEM's disapproval or modification and approval of any submission required by Condition V. of the permit, the Permittee must notify IDEM of the dispute. The Permittee and IDEM must informally, and in good faith, endeavor to resolve the dispute.

3. If the Permittee and IDEM cannot resolve the dispute informally, the Permittee may pursue the matter formally by submitting a written statement of position to the Commissioner or his/her designee, within 28 days of receipt of IDEM's written disapproval or modification and approval. The Permittee's statement of position must set forth the specific matters in dispute, the position that the Permittee asserts should be adopted as consistent with the requirements of the permit, the basis for the Permittee's position, and must include any supporting documentation. If the Permittee fails to follow any of the requirements contained in this paragraph, then it will have waived its right to further consideration of the disputed issue. IDEM's decision to discontinue further consideration under this condition will constitute a final agency action.

4. IDEM and the Permittee will have an additional 14 days from the date of the Commissioner's receipt of the Permittee's statement of position to meet or confer to attempt to resolve the dispute. This time period may be extended by IDEM for good cause. If agreement is reached, the Permittee must submit a revised submission, if necessary, and must implement the submission in accordance with such agreement.

5. If IDEM and the Permittee are not able to reach agreement within the 14-day period, or such longer period corresponding to IDEM's extension for good cause, the Permittee may submit any additional written arguments and evidence not previously submitted, or further explain any arguments or evidence previously submitted, to the Commissioner. Based on the record, the Commissioner, or delegate, will thereafter issue a written decision that will include a response to the Permittee's arguments and evidence. This written decision will constitute final agency action.

6. Notwithstanding the invocation of this dispute resolution procedure, the Permittee must proceed to take any action required by those portions of the submission and of the permit that IDEM determines are not substantially affected by the dispute. The activity schedule for those portions of the submission and of the permit which are substantially affected by the dispute will be suspended during the period of dispute resolution.

F. CORRECTIVE ACTION ACTIVITIES SCHEDULE

	Activity	Due Date
1.	IM Work Plan	21 days after notice by the Section Chief or his/her designee
2.	RFI Work Plan	90 days after notice by the Section Chief or his/her designee
3.	Notification of newly identified SWMUs	30 days after discovery
4.	RFI Work Plan for newly identified SWMUs	90 days after receipt of Section Chief's notification
5.	RFI Work Plan modification	60 days after receipt of Section Chief's comments
6.	RFI Implementation	30 days after RFI Work Plan approved
7.	RFI Report	90 days after completion of RFI
8.	RFI Report Modification	60 days after receipt of Section Chief's comments
9.	Progress Reports	Semi-annually; to coincide with ground water reporting if possible
10.	CMS Report	60 days after receipt of Section Chief's notification
11.	CMS Report modification	60 days after receipt of Section Chief's comments
12.	Permit Modification for Corrective Measure Implementation	30 days after receipt of Section Chief's notification (Modification may be a Class 1, 2, or 3 at Section Chief's discretion)
13.	CMI Program Plan	30 days after effective date of permit modification

14.	CMI Program Plan Modification	30 days after receipt of Section Chief's comments
15.	CMI Reports	Semi-annually; to coincide with ground water reporting if possible
16.	CMI Report Modification	30 days after receipt of Section Chief's comments
17.	Operation and Maintenance Progress Reports	Semi-annually; to coincide with ground water reporting if possible

IDEM may, at the facility's request, grant extensions to the time frames listed in this section. IDEM-approved time extensions will not require a permit modification.

G. FORCE MAJEURE

"Force Majeure," for purposes of this Permit, is defined as any event arising from causes beyond the control of the Permittee that delays or prevents the performance of any obligation under this Permit despite Permittee's best efforts to fulfill the obligation. The requirement that the Permittee exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force majeure event as it is occurring and best efforts to address the effects of any potential force majeure event as it is occurring and following the potential force majeure event, such that the delay is minimized to the greatest extent practicable. "Force Majeure" does not include financial inability to complete the work required by this Permit nor any increases of costs to perform the work.

The Permittee must notify IDEM by calling within 3 calendar days and by writing no later than 7 calendar days after any event which the Permittee contends is a force majeure. Such notification must describe the anticipated length of the delay, the cause or causes of the delay, the measures taken or to be taken by the Permittee to minimize the delay, and the timetable by which these measures will be implemented. The Permittee must include with any notice all available documentation supporting its claim that the delay was attributable to a force majeure. Failure to comply with the above requirements will preclude the Permittee from asserting any claim of force majeure for that event. The Permittee will have the burden of demonstrating that the event is a force majeure. The decision of whether an event is a force majeure will be made by IDEM. Said decision will be communicated to the Permittee.

If a delay is attributable to a force majeure, IDEM will extend, verbally or in writing, the time period for performance under this Permit by the amount of time that is attributable to the event constituting the force majeure. Any final determination by IDEM under this section will be reviewable under IC 4-21.5. However, if the Permittee appeals an IDEM decision concerning force majeure, such appeal will not toll the accrual of penalties during the review of that appeal.

VI. COMPLIANCE SCHEDULE

A. Within 270 days of IDEM's approval of the protocol for a site-specific risk assessment, the Permittee shall submit a predictive site-specific risk assessment in accordance with the specifications of the protocol.

See beginning at page 12 of VFC 83603434

ATTACHMENT B

FACILITY DESCRIPTION

ATTACHMENT B

FACILITY DESCRIPTION

This section provides a general description of the hazardous waste management facility as required by 40 CFR 270.14(b). More complete details can be found in subsequent sections of this RCRA Permit Renewal Application.

B-1 GENERAL DESCRIPTION: 40 CFR 270.14(b)(1)

General Facility Description

SABIC Innovative Plastics Mt. Vernon, LLC (SABIC) operates a thermoplastics manufacturing facility in southwest Posey County, Indiana, approximately 20 miles west of Evansville, Indiana. The manufacturing site borders the Ohio River to the south and extends for approximately two miles southwest of Mt. Vernon, Indiana. The facility has two separate RCRA ID numbers: IND006376362 assigned to the legal/operating entity named SABIC Innovative Plastics LLC and INR000149112 assigned to the legal/operating entity named SHPP US LLC.

The facility primarily manufactures Lexan®, Ultem™, and Valox engineering plastic resins. These plastics are high strength and high-performance- thermoplastics used in diverse specialized applications such as molded products, films, structural parts, non-breakable windows, streetlight globes, and household appliances. SABIC also manufactures many commodity chemicals for use in the production of thermoplastic resins or for commercial sale. Research in product development is also conducted at the site. RCRA hazardous wastes are generated from several of these operations at the facility.

Process Description

The major plants at the SABIC manufacturing facility with the potential to generate hazardous waste include phenol, brine recovery, bisphenol-A (BPA), phosgene, Lexan, Valox Polymer Products, and Ultem. A brief description of the main products manufactured by each plant and the type of hazardous wastes generated is provided for general information purposes.

Phenol Plant and Phenol Waste Fuel Boilers

The Phenol Plant produces phenol and acetone from the oxidation of cumene, which is received from offsite sources. Phenol is used as raw material in the BPA and Lexan Plants, as well as sold to off-site customers. Acetone is also used as a raw material in the BPA Plant, as well as being sold to offsite customers. The phenol manufacturing operation generates waste fuel streams defined as hazardous waste under 40 CFR 261 (i.e., EPA waste codes D001, D018, and K022). These hazardous waste streams are combined with one non-hazardous stream, BPA waste fuel, in two less-than-90-day RCRA accumulation tanks (V-525A and V-525B). The combined stream is burned for energy recovery in two boilers at the phenol manufacturing operation (H-530A and H-530B) to produce steam necessary to supplement steam requirements for phenol manufacturing.

Other hazardous wastes generated by the Phenol Plant include laboratory wastes, materials contaminated with phenol, acetone, cumene or heavy ends column bottoms, and the ash residue and furnace refractory brick removed from the H-530A and H-530B boilers during the periodic turnaround of the facility. These wastes are shipped off-site for disposal as hazardous waste and are not the subject of this RCRA Permit Renewal Application, per 40 CFR 262.34.

H-530A and H-530B are identical, captive boilers burning only the wastes described above. Both units operate simultaneously and share a common stack. There is no air pollution control (APC) system utilized on either boiler. Each boiler system consists of a forced draft combustion chamber and heat recovery boiler. Natural gas is fired as auxiliary fuel to maintain combustion temperature when the units are operating with low waste fuel feed rates.

Both boilers are subject to emission and operational limits under 40 CFR 63 Subpart EEE, National Emissions Standards for Hazardous Air Pollutants from Hazardous Waste Combustors. The specific emission and operational limits derived from 40 CFR 63 Subpart EEE are codified and enforced via Section E.10 of the facility's Part 70 Air Operating Permit.

In accordance with the Administrative Consent Order issued on May 14, 2021 by the Director of Enforcement and Compliance Assurance Division, U.S. Environmental Protection Agency (EPA), Region 5, to SABIC Innovative Plastics LLC, under Clean Air Act Sections 113 (a)(3) and 114(a)(1), US Code 7413(a)(3) and 7414(a)(1), the previous RCRA permit conditions that addressed the provisions of 40 CFR 264 Subpart H to boilers H-530A and H-530B were removed via the Class I RCRA permit modification issued on January 17, 2023.

Brine Recovery Plant

The Brine Recovery Plant produces caustic, hydrochloric acid, chlorine gas and hydrogen gas from the electrochemical conversion of brine (i.e., aqueous solution of sodium chloride). The brine is primarily recovered from the Lexan Plant; some salt is supplied from off-site sources. The caustic is used in various purification activities throughout the facility, but the majority is returned to the Lexan Plant. Hydrochloric acid can be used in neutralization steps, as in wastewater treatment, or sold to off-site customers. The chlorine gas is primarily used by the Phosgene Plant. The Brine Recovery Plant generates both caustic and acid wastes.

BPA Plant

The BPA Plant produces bisphenol-A through the catalytic reaction of phenol and acetone, followed by purification via distillation and crystallization. Caustic is used during product recovery. The hazardous wastes generated are laboratory wastes, spent phenol recovery filters, and insulation contaminated with acids, phenol, acetone, or methyl isobutyl ketone. The bisphenol-A is used by the Lexan and Ultem Plants.

Phosgene Plant

The Phosgene Plant produces phosgene ($COC1_2$) from the catalytic reaction of chlorine gas and carbon monoxide (made from coke). Coke is received from off-site suppliers. Carbon tetrachloride is generated as a by-product. Spent caustic, used in product purification, can contain trace amounts of chloroform and carbon tetrachloride. Phosgene is produced for use as a raw material in the Lexan Plant.

Lexan Plant

Lexan is the trademarked name of a polycarbonate plastic produced by the chain reaction of bisphenol-A and phosgene with triethylamine used as a promoter, para-cumyl phenol or phenol as a chain stopper, and methylene chloride as a carrier. Lexan resins are a family of thermoplastic resins, including both bisphenol-A polycarbonate homopolymer and specialty copolymers based on bisphenol-A and other comonomers. The copolymers may be formulated as specialty resin grades or as components in polymer blends. Commercial and proprietary compounds are added to enhance the physical and chemical properties of the base resin. The Lexan Finishing Plant involves compounding the Lexan polycarbonate resin with additives such as thermal stabilizers, colorants, flame retardants, ultraviolet stabilizers, and blowing agents. Some of the compounded Lexan polycarbonate resin is extruded into sheets and coated in the Structured Products Plant.

The hazardous wastes produced from the manufacture of Lexan resin and products include spent filters contaminated with methylene chloride and resin, materials contaminated with methylene chloride, and materials contaminated with pigments and glycols.

Valox Plant

The Valox Products Plant produces polybutylene terephthalate (PBT), a saturated polyester resin. These organic thermoplastic resins are produced using butanediol and dimethyl terephthalate. Tetrahydrofuran and methanol are produced as reaction by-products. Additives to the resins include thermal stabilizers, ultraviolet stabilizers, reinforcing agents, flame retardants, mold release and flow promoters, organic polymers, blowing agents, and colorants. Hazardous waste generated from the Valox Plant consists primarily of laboratory waste.

Ultem Plant

The Ultem Plant produces polyetherimide resins as polymers and monomers. Bisphenol-A, 4-NPI, methyl phthalimide, m-phenylene diamine, and triethylamine are used in production of Ultem resins. Toluene and o-dichlorobenzene (ODCB) are used as carriers. Additives to Ultem resins include reinforcing agents and colorants. Hazardous wastes generated at the Ultem Plant include spent ODCB and toluene, nitric acid, spent filters contaminated with toluene and ODCB, and laboratory wastes.

B-2 TOPOGRAPHIC MAP

B-2a General Requirements: 40 CFR 270.14(b)(19)

Figure B-1 is a reproduction of a section of a United States Geological Survey (USGS) Mount Vernon, Indiana-Kentucky 7.5' Quadrangle Map, dated 2016 (most current version available from USGS). The map shows the SABIC property boundary and the location of the Phenol Waste Fuel Boilers on the SABIC property. In addition, the map shows the registered drinking water wells located within one-quarter mile of the SABIC property boundary. There are no known injection wells. Figure B-2 provides a topographic map for the facility and an offset of 1,000 feet around the Phenol Waste Fuel Boilers at a scale of 1 inch equals 200 feet.

Figure B-2 also shows the major process, sanitary, and storm sewer lines within 1,000 feet of the Phenol Waste Fuel Boilers (H530A and H530B, also referred to as the RCRA Boiler Units). The site has a combined sewer system that collects all process and sanitary wastewater from the manufacturing areas and stormwater that falls in the manufacturing areas. All Phenol Plant process wastewater and stormwater

flow to the V720 wastewater storage tank, from where it flows to the on-site wastewater treatment plant for treatment prior to discharge to the Ohio River.

The 100-year floodplain, also shown on Figure B-2, is based on the floodplain elevation obtained from the Flood Insurance Rate Map for the City of Mount Vernon, Indiana, Community Panel Number 18129C0216 C (effective date: November 5, 2014, most current version available), produced by the Federal Emergency Management Agency. The floodplain elevation indicated on the flood insurance map for Mount Vernon is 372 feet above mean sea level (msl). The floodplain for the SABIC facility indicated in Figure B-2 was obtained by tracing the topographic contour line for 372 feet msl. The SABIC facility does not have any flood control or drainage barriers as the entire facility is above the 100-year floodplain elevation.

Figure B-3 indicates the hazardous waste units and fire control facilities within 1,000 feet of the Phenol Waste Fuel Boilers (H530A and H530B).

Figure B-4 illustrates "Surrounding Land Use" within the general area of the SABIC property at Mount Vernon, Indiana. The surrounding land use includes manufacturing, residential, and agricultural/undeveloped areas.

The locations of site access control are shown in Figure B-3.

Some of the solid waste management units are shown in Figure 1 of the Groundwater Monitoring Plan (p, 1262 of 1485, VFC #83603434).

A wind rose dated 2002 is included in Figure B-5. The wind rose summarizes National Weather Service data for Evansville, Indiana. South-southwest winds occur most frequently followed by north to northwest winds. The information was obtained from the U.S. Department of Agriculture, Natural Resources Conservation Service web site: http://www.wcc.nrcs.usda.gov/climate/windrose.html.

B-2b Additional Requirements for Land Disposal Facilities: 40 CFR 270.14(c)(3) and (4)(i), 264.95, 264.97

There are no hazardous waste land disposal facilities at SABIC. Therfore, this section is not applicable.

B-3 LOCATION INFORMATION: 40 CFR 270.14(b)(11)

B-3a Seismic Standard: 40 CFR 270.14(b)(11)(i) and (ii), 264.18(a), Part 264 Appendix VI

The SABIC facility is located in Posey County, Indiana, which is not within any of the political jurisdictions identified in Appendix VI of 40 CFR 264. Thus, the requirement to demonstrate compliance with the seismic standard of 40 CFR 264.18 is not applicable to the facility.

B-3b Floodplain Standard: 40 CFR 270.14(b)(11)(iii), 264.18(b)

As stated in Section B2a, the 100year floodplain map was produced using the 372foot level for the 100year floodplain obtained from the Flood Insurance Rate Map for the City of Mt. Vernon, Indiana, Community Panel Number 18129C0216 C (effective date November 5, 2014, most current version available) produced by the Federal Emergency Management Agency.

The Mt. Vernon facility property boundary is bordered to the south by the Ohio River. The 100-year floodplain at the site is 372 feet National Geodetic Vertical Datum (NGVD). The 100-year floodplain and

elevation contours appear in Figure B-2. The phenol plant and all facility hazardous waste management units are located outside the 100-year floodplain.

B-3b(1) Demonstration of Compliance: 40 CFR 270.14(b)(11)(iv), 264.18(b)

SABIC does not have any facilities within the 100-year floodplain. Therefore, this requirement is not applicable.

B-3b(2) Plan for Future Compliance with Floodplain Standard: 40 CFR 270.14(b)(11)(v)

SABIC does not have any facilities within the 100-year floodplain. Therefore, this requirement is not applicable.

B-3b(3) Waiver for Land Storage and Disposal Facilities: 40 CRF 264.18(b)

SABIC does not operate any land storage or disposal facilities. Therefore, this requirement is not applicable.

B-4 TRAFFIC INFORMATION: 40 CFR 270.14(b)(10)

The SABIC facility is accessed from both the old and new Indiana State Highway 69 South and County Road 850S. In August 1988, the section of Old Highway 69 South dividing the property was closed to the public. County Road 850S was built to connect Old Highway 69 South to the new State Road 69 South. Traffic within the plant consists of cars, trucks, and construction equipment. The number of vehicles on the plant roads varies from none to moderate depending upon time of day and the area, e.g., a construction area may be congested at times.

The major traffic routes at the SABIC facility are employee, visitor, contractor, and hazardous waste carrier routes. The road locations are illustrated in Figure B-3. The hours the gates are opened and the type of vehicles with access through each gate are summarized in Figure B-6.

Routes, gates, and parking lots are shown in Figure B-3. Traffic is controlled by stop signs, yield signs, and speed limit signs. Employees enter the facility at the Visitor Center, Gate 7, and park in employee parking lots. Employee vehicles are restricted to designated parking lots within fenced areas. SABIC vehicles have access to all internal roads. Security personnel and selected SABIC employees have access through the electronically controlled internal gates. Security personnel have access to keys to unlock the chain locked gates.

Visitors enter the facility at the Visitor Center, Gate 7, and park in the Gate 7 visitor parking lot. Visitor vehicles do not have access to any other portion of the facility, unless escorted by Security. Contractors enter the facility through the contractor gates, Gates 1A and 3, and park in the contractor parking lots. Once admitted through Gates 1A or 3, contractors have access to all internal roads that are not controlled by internal gates.

Vehicles transporting hazardous waste off the facility and all other trucks enter the facility through Gate 9. Truck drivers are escorted by Security to and from the area of the plant they are visiting. The vehicles leave the facility along the same route.

Most major roads are constructed of 6½ inches of bituminous pavement (blacktop), composed of 3 inches of bituminous base material, 2 inches of bituminous binder material, and 1½ inches of bituminous surface material; this material overlays 14 inches of compacted aggregate base. The site roads exceed the requirements of Federal Standard H20 S16 and therefore exceed the load bearing capacity of Indiana

highways built to this standard. Trucks transporting hazardous waste on site will range from pickup trucks to tractors with semi-trailers and will have a maximum weight of 80,000 pounds.

APPENDIX B-1

FIGURES

FIGURE B-1


N
MOUNT VERNON
Property Boundary
Fossil Waste Fuel Boilers
(RCRA BIF Units)
04 NPDES
INTAKE
01 NPDES
02, 06, 07 NPDES
06 NPDES
INDIANA
KENTUCKY
POSEY CO
HENDERSON CO
UNION CO
Ref: U.S.G.S Mount Vernon, Ind.-Ky. 7.5' Quad, 2013
Figure B-1
0
1000
2000
GRAPHIC SCALE (IN FEET)
LEGEND
DRINKING WATER WELL
26
Prepared by:
AECOM
4800 Westfields Blvd.
Chantilly, VA 20151
Site Location Map
SABIC Innovative Plastics, Mount Vernon, Indiana
Checked By: D. Peters
Drawn By: R. Goulet
Date: Jul 18, 2016
Filename: Figures B-1.DWG
P:\hermdon\CAD\CE\

FIGURE B-2

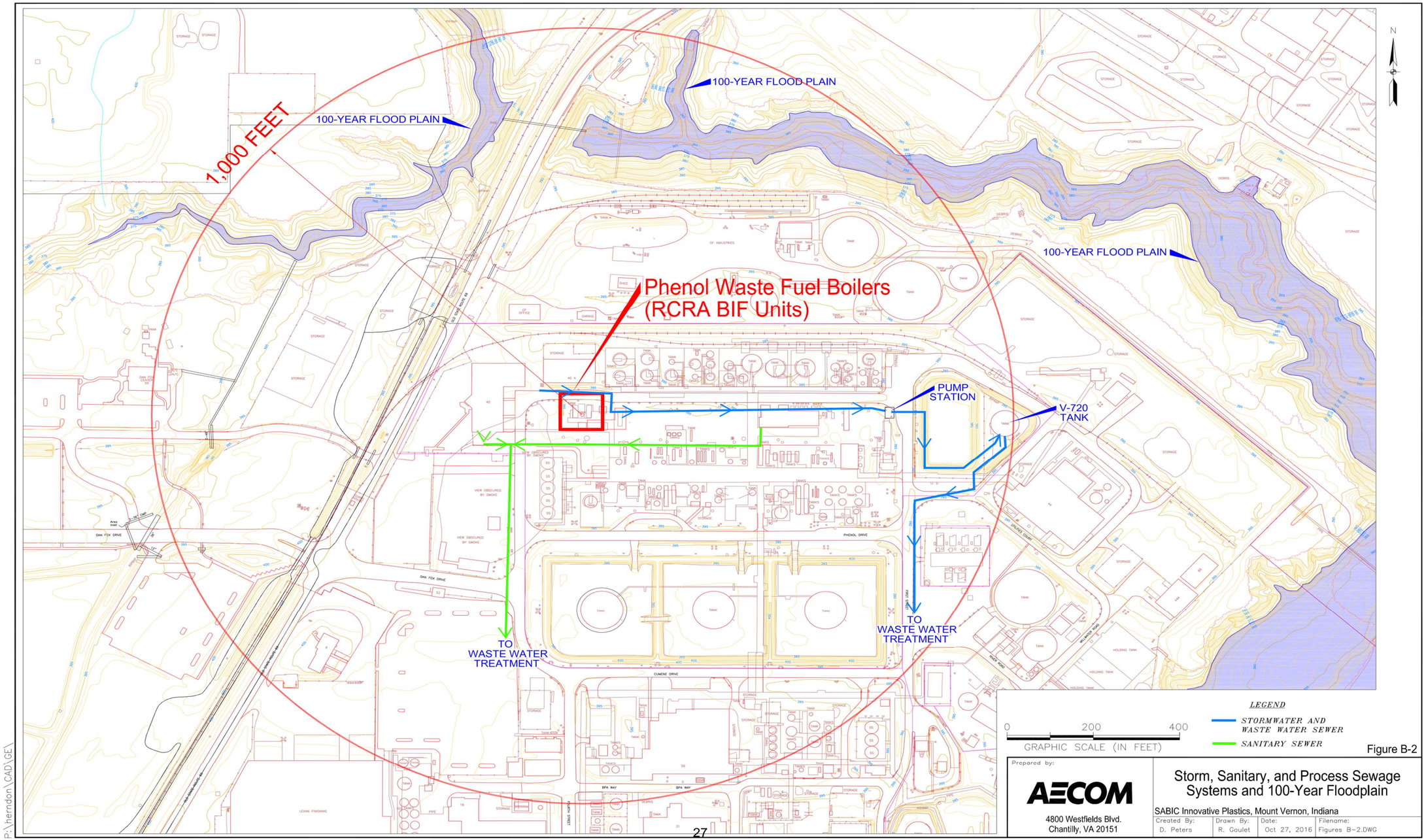
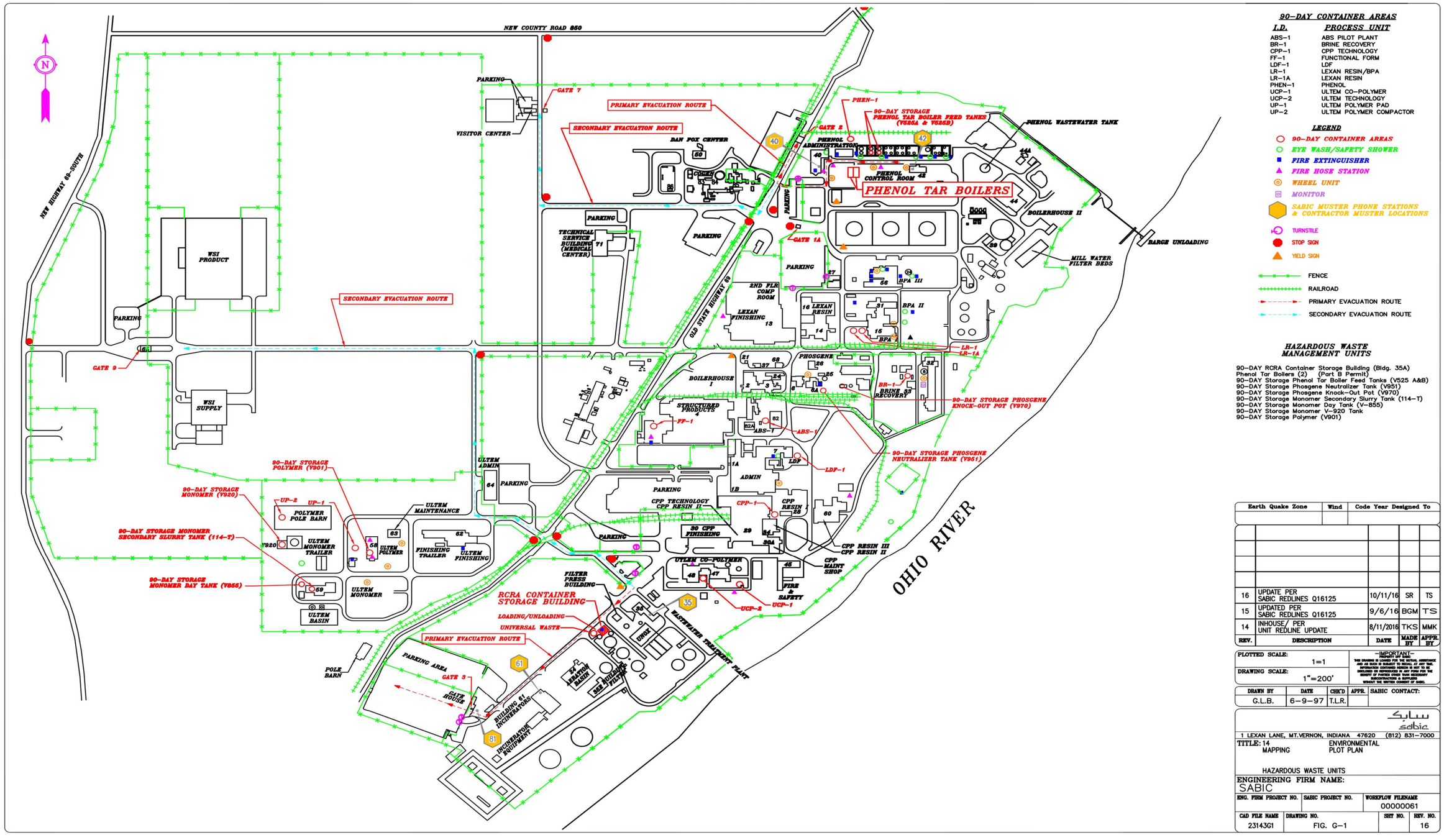

1,000 FEET
100-YEAR FLOOD PLAIN
100-YEAR FLOOD PLAIN
100-YEAR FLOOD PLAIN
Phenol Waste Fuel Boilers
(RCRA BIF Units)
PUMP
STATION
V-720
TANK
TO
WASTE WATER
TREATMENT
TO
WASTE WATER
TREATMENT
N
LEGEND
STORMWATER AND
WASTE WATER SEWER
SANITARY SEWER
0
200
400
GRAPHIC SCALE (IN FEET)
Figure B-2
Prepared by:
AECOM
4800 Westfields Blvd.
Chantilly, VA 20151
Storm, Sanitary, and Process Sewage
Systems and 100-Year Floodplain
SABIC Innovative Plastics, Mount Vernon, Indiana
Created By: D. Peters
Drawn By: R. Goulet
Date: Oct 27, 2016
Filename: Figures B-2.DWG
P:\herndon\CAD\GE\
27

FIGURE B-3



Earth Quake Zone	Wind	Code Year Designed To

REV.	DESCRIPTION	DATE	MADE BY	APPR. BY
16	UPDATE PER SABIC REDLINES Q16125	10/11/16	SR	TS
15	UPDATED PER SABIC REDLINES Q16125	9/6/16	BGM	TS
14	INHOUSE/ PER UNIT REDLINE UPDATE	8/11/2016	TKS	MMK

PLOTTED SCALE: 1=1
DRAWING SCALE: 1"=200'

—IMPORTANT—
THIS DRAWING IS LOANED SUBJECT TO RECALL AT ANY TIME, AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS & SUPPLIERS WITHOUT THE WRITTEN CONSENT OF SABIC.

DRAWN BY	DATE	CHK'D	APPR.	SABIC CONTACT:
G.L.B.	6-9-97	T.L.R.		

sabic
1 LEXAN LANE, MT.VERNON, INDIANA 47620 (812) 831-7000

TITLE: 14 MAPPING
ENVIRONMENTAL PLOT PLAN
HAZARDOUS WASTE UNITS

ENGINEERING FIRM NAME: SABIC

ENG. FIRM PROJECT NO.	SABIC PROJECT NO.	WORKFLOW FILENAME
		00000061

CAD FILE NAME	DRAWING NO.	SHT NO.	REV. NO.
23143G1	FIG. G-1		16

FIGURE B-4

Figure B-4

Photography: Google Earth Pro, Sept 22, 2016

0 1000
GRAPHIC SCALE (IN FEET)

P:\herndon\CAD\GE\

Prepared by:
AECOM
4800 Westfields Blvd.
Chantilly, VA 20151

Surrounding Land Use

SABIC Innovative Plastics, Mount Vernon, Indiana

Created By:	Drawn By:	Date:	Filename:
D. Peters	R. Goulet	Oct 27, 2016	Figure B-4.DWG

FIGURE B-5

WIND ROSE

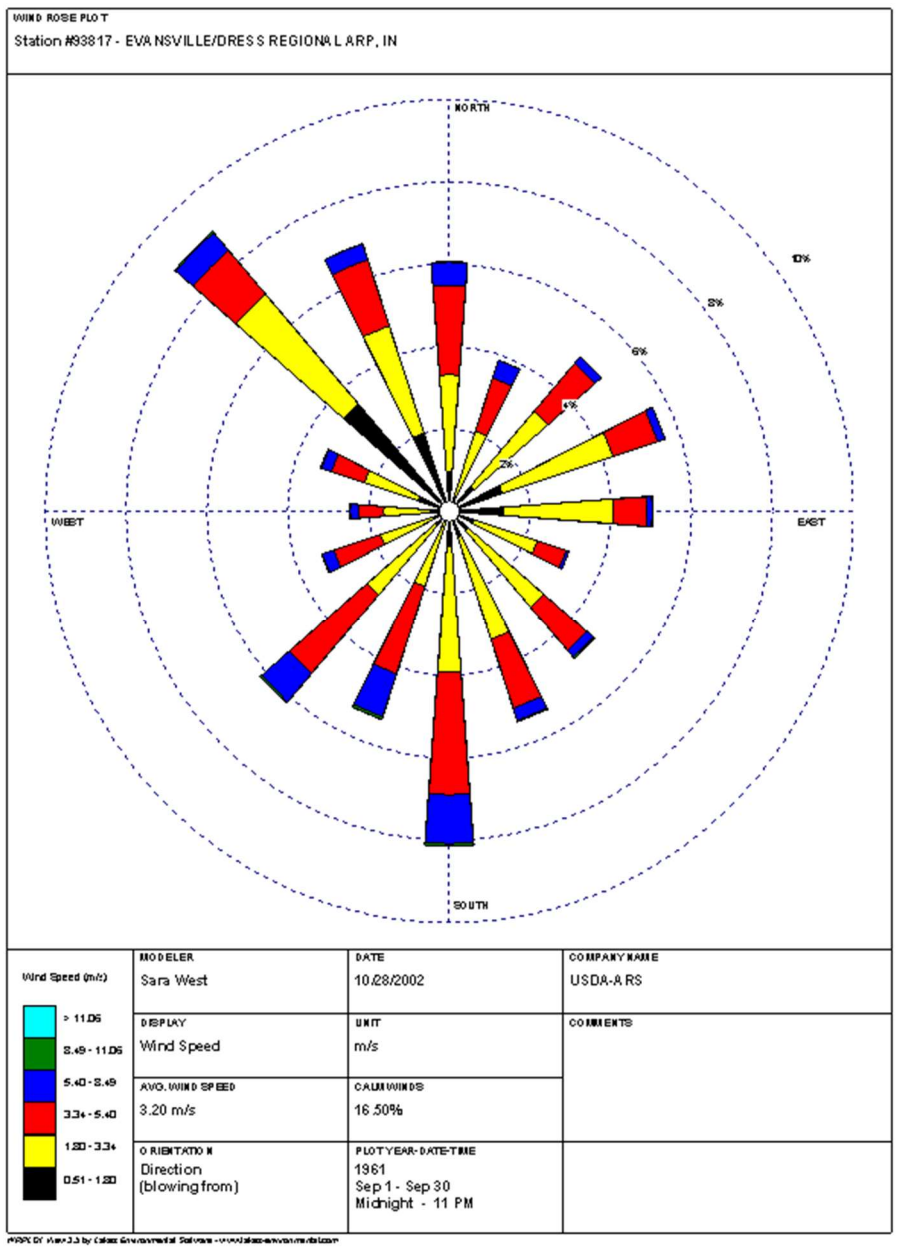


FIGURE B-6

FACILITY ACCESS SUMMARY

GATE	HOURS GUARDED	VEHICLES WITH ACCESS	ENTRANCE TYPE	VEHICLE FACILITY ACCESS
1A	24 hours per day/7 days per week/365 days per year	Service Vehicles (coal trucks and tanker transport type vehicles)	Contractors (Non-union), Entrance to Process Areas	Entire Facility
2	24 hours per day/7 days per week/365 days per year	Personal Vehicles and Service Vehicles	Contractors (Non-union), Perimeter Gate	Entire Facility
3 (internal)	0600 to 1800, Monday-Friday	Service Vehicles and Specialized Machinery	Contractors (Union), Entrance to Process Areas	Entire Facility
7	24 hours per day/7 days per week/365 days per year	Personal Vehicles	Employees and Visitors Entrance	Employee and Visitor Parking Lots
9	24 hours per day/7 days per week/365 days per year	Service Type Vans (18 wheeler box trucks, tanker trucks, pellet tankers)	Shipping and Receiving	Entire Facility

ATTACHMENT C

WASTE CHARACTERISTICS

ATTACHMENT C

WASTE CHARACTERISTICS

This section describes the chemical and physical nature of the hazardous wastes that are regulated under the RCRA Permit at the SABIC Innovative Plastics Mt. Vernon, LLC (SABIC) facility. It also outlines the procedures that are followed for sampling/testing and/or waste evaluation to ensure that sufficient information is available for the safe handling of the waste. This information is submitted in accordance with the requirements of 40 CFR 264.13(a) and (b), 40 CFR 266.102(b), 40 CFR 270.14(b)(2) and (b)(3).

C-1 CHEMICAL AND PHYSICAL ANALYSES: 40 CFR 270.14(b) (2), 264.13(a), 266.102(a)(2)(ii), 266.102(b).

The SABIC facility includes a phenol manufacturing operation that generates four waste fuel streams defined as hazardous waste under 40 CFR 261.

- C520: Phenol manufacturing distillation cracker bottoms (K022) 25-30%,
- C540: Heavy ends cracking by-product light overheads (D001, D018) 40-45%,
- C420: Alpha-methyl styrene (AMS) distillation column bottoms (D001), and
- D645: Oil purge from dephenylation (D001) 10-15%.

These four hazardous waste fuel streams are combined with two nonhazardous waste fuel streams (bisphenol-A (BPA) manufacturing distillation tar (ranging from 10-15% of the total waste generation) and acetophenone distillation column bottoms (ranging from 0-5% of the total waste generation)) in two 90-day RCRA accumulation tanks (V-525A and V-525B). The combined stream (hereafter referred to as "waste fuel") is burned for energy recovery in two on-site boilers (H-530A and H-530B), which produce steam for manufacturing operations.

Sampling and analysis of the waste fuel is periodically performed to determine the concentration of hazardous constituents required to demonstrate compliance with the hazardous waste feed rate restrictions. The consistent composition of the raw materials used by the Phenol and BPA Plants and the continuous nature of the physical/chemical processes employed in converting chemical feedstocks into product ensure the low variability of the waste fuel. The consistency of the waste fuel is evident from past analytical data, as shown in Table C-1.

The characteristics of the waste fuel stream are documented in a waste profile, which is supplemented with detailed descriptions of the process generating the waste, analytical results and/or Safety Data Sheets (SDSs). The waste profile and supportive documentation is maintained by the facility Environmental Engineer. A sample copy of the Waste Profile for the waste fuel waste is included in Appendix C-1. Table C-1 includes typical ranges of constituent concentrations for all waste constituents that must be quantitatively known to properly use the waste fuel. The physical/chemical, metals and chlorine data presented in Table C-1 summarize the laboratory analysis of waste fuel samples obtained to support the Comprehensive Performance Test (CPT) carried out on October 8, 2021 for Particulate Matter (PM) in accordance with the requirements of 40 CFR 63 Subpart EEE (the HWC MACT requirements). The volatile organic, semi-volatile organic, and general hydrocarbon data in Table C-1 summarize laboratory analysis of waste fuel samples collected to support the most recent RCRA Trial Burn conducted in 2002 for H-530A and H-530B.

The consistent composition of the raw materials used by the Phenol and BPA Plants and the continuous nature of the physical/chemical processes employed in converting chemical feedstocks into product ensure the low variability of the waste fuel. The consistency of the waste fuel is evident from past analytical data.

C-1a Containerized Wastes: 40 CFR 264.172, 270.15(b)(1)

Containerized hazardous waste generated from the operation of the boilers, the two tanks and associated equipment is managed in accordance with the requirements of 40 CFR 262.17. The facility does not have the capability of placing waste from containers into the tanks nor feeding containerized waste to the boilers.

C-1b Waste in Tank Systems: 40 CFR 264.190(a), 264.191(b)(2), 264.192(a)(2)

SABIC manages the waste fuel stream in two tanks designated V-525A and V-525B. These tanks are operated as less than 90-day tanks, as described in 40 CFR 262.17. SABIC operates the tanks in either batch or continuous operating modes, as more fully described later in this plan. Under batch operating conditions, a given tank is filled approximately every 4 to 5 days. That tank is then sampled and burned in the H-530A and H-530B boilers while the second tank is filling. Thus, once every 8 to 10 days, waste fuel collected in a given tank is emptied and burned. Under continuous operating conditions, waste fuel flows in and out of the in-service tank continuously. Plant operating and RCRA records document the mode in which the tanks are being operated.

C-1c Waste in Piles: 40 CFR 264.250(c)(1) and (4)

The SABIC facility does not store or manage hazardous waste in waste piles. Therefore, this requirement is not applicable.

C-1d Landfilled Wastes: 40 CFR 264.13(c)(3), 40 CFR 264.314

The SABIC facility does not operate a hazardous waste landfill. Therefore, this requirement is not applicable.

C-1e Wastes Incinerated and Wastes Used in Performance Tests: 40 CFR 264.341, 40 CFR 270.62(b)

The SABIC facility does not operate a hazardous waste incinerator. Therefore, this requirement is not applicable.

TABLE C-1

WASTE FUEL ANALYTICAL RESULTS

Category	Constituent	Units	Waste Fuel		
			Average	Minimum	Maximum
Physical/Chemical	Heat Content[1]	Btu/lb	16,141	15,900	16,900
	Ash[2]	%w/w	0.01	0.01	0.01
Metals and Chlorine[2]	Antimony	ppm	1.85	0.40	3.30
	Arsenic	ppm	0.10	0.10	0.10
	Barium	ppm	0.44	0.20	2.10
	Beryllium	ppm	0.13	0.10	0.20
	Cadmium	ppm	0.10	0.10	0.10
	Chromium	ppm	0.730	0.120	1.856
	Lead	ppm	0.10	0.10	0.20
	Mercury	ppm	0.03	0.03	0.15
	Silver	ppm	0.10	0.10	0.10
	Thallium	ppm	0.10	0.10	0.10
	Total Chlorine/Chloride	%w/w	0.05	0.05	0.05
Volatile Organics[3]	Benzene	ppm	64	52	76
	2-Butanone (MEK)	ppm	11	4.3	18
	4-Methyl-2-Pentanone (MIBK)	ppm	36	19	53
	2-Hexanone	ppm	20	9.2	30
	Styrene	ppm	13	9.9	16
	Toluene	ppm	1,300	1,000	8,000
	Total Xylenes	ppm	2,000	1,600	2,400
Semivolatile Organics[3]	Acetophenone[4]	ppm	160,000	100,000	250,000
	Phenol	ppm	21,000	21,000	22,000
	2-Methylphenol (o-Cresol)	ppm	100	88	110
	2,4-Dimethylphenol	ppm	80	ND	160
	Benzoic Acid	ppm	920	890	950
	Pyrene	ppm	225	225	450
General Categories[3]	Aromatic Hydrocarbons	ppm	300	200	500
	Alkyl Phenol	ppm	360	600	7,000
	Alkyl Naphthalene	ppm	300	200	400
	Oxygenated Hydrocarbons	ppm	1,300	200	400
	Polyaromatic Hydrocarbons	ppm	6,500	600	7,000
	Aromatic Amine	ppm	400	300	500

[1] Heat content from 2022 data.

[2] Ash, metal, and chlorine from 2022 data.

[3] Organics data presented are based on samples collected in 1997 and 1998.

[4] Concentrations are based on process knowledge.

C-1f Land Treated Wastes: 40 CFR 270.20(b)(4), 40 CFR 264.271(a)(1) and (2), 40 CFR 264.272, 40 CFR 264.276, Part 216, Appendix VIII.

There are no hazardous waste land treatment units at the SABIC facility. Therefore, this section is not applicable.

C-1g Waste in Miscellaneous Treatment Units: 40 CFR 270.23(d)

The SABIC facility does not treat hazardous waste in any miscellaneous units as defined in 40 CFR 260.10. Therefore, this requirement is not applicable.

C-1h Waste in Boilers and Industrial Furnaces: 40 CFR 266.102(b) and 40 CFR 270.66(c)

The waste fuel burned in the hazardous waste boilers consists of several process streams generated by the Phenol and BPA Plants that are combined in accumulation tanks V-525A and/or V-525B and then fed to the boilers. Constituent data based on numerous laboratory analyses of the waste fuel are provided in Table C-1. The operation of the waste fuel boilers does not involve waste mixing at predetermined proportions with the intention of adjusting the feed composition, but rather is done to accommodate process demands at proportions determined by the rate of generation. The consistent composition of the raw materials used by the Phenol and BPA Plants and the continuous nature of the physical/chemical processes employed in converting chemical feedstocks into product ensure the low variability of the waste fuel.

C-1i Waste in Containment Buildings

The SABIC facility does not utilize containment buildings for the storage of hazardous waste. Therefore, this requirement is not applicable.

C-2 WASTE ANALYSIS PLAN: 40 CFR 270.14(b)(3), 264.13(b) and (c), 266.102(a)(2)(ii), 266.104(a)(2), 268.7

The Waste Analysis Plan (WAP) was developed in accordance with the requirements of 40 CFR 264.13(b) and is designed to obtain all information necessary to treat a hazardous waste stream that consists of waste codes D001, D018, and K022 in two on-site boilers.

C-2a Parameters and Rationale: 40 CFR 264.13(b)(1), 40 CFR 63.1209 and 40 CFR 63.1217

The characterization of the waste fuel is based on process knowledge and analytical results of representative waste stream samples. Waste analysis parameters for the waste fuel have been selected to demonstrate compliance with certain emission limitations specified in 40 CFR 63 Subpart EEE, National Emissions Standards for Hazardous Air Pollutants from Hazardous Waste Combustors. These requirements, and their corresponding regulatory citations, are as follows:

- Maintain emissions of mercury at or below 4.2×10^{-5} lbs mercury attributable to the hazardous waste per million Btu heat input from the hazardous waste on an (not-to-exceed) annual averaging period [40 CFR 63.1217(a)(2)(ii)];
- Maintain emissions of cadmium and lead at or below 8.2×10^{-5} lbs combined cadmium and lead attributable to the hazardous waste per million Btu heat input from the hazardous waste on an (not-to-exceed) annual averaging period [40 CFR 63.1217(a)(3)(ii)];

- Maintain emissions of chromium at or below 1.3 x 10^{-4} lbs chromium emissions attributable to the hazardous waste per million Btu heat input from the hazardous waste [40 CFR 63.1217(a)(4)(ii)];
- Maintain emissions of hydrogen chloride and chlorine at or below 5.1 x 10^{-2} lbs combined emissions of hydrogen chloride and chlorine gas attributable to the hazardous waste per million Btu heat input from the hazardous waste [40 CFR 63.1217(a)(6)(ii)];
- Maintain emissions of carbon monoxide at or below 100 parts per million by volume, corrected to 7% O2, hourly rolling average, and maintain emissions of total hydrocarbons at or below 10 parts per million by volume, corrected to 7% O2, hourly rolling average, to only be measured during Destruction and Removal Efficiency (DRE) testing [40 CFR 63.1217(a)(5)(i)];
- Perform a one-time demonstration that the units meet at least 99.99% DRE [40 CFR 63.1217(c)(1) and (3)]; and
- Maintain particulate matter (PM) emissions at or below 80 mg/dscm, corrected to % O2 [40 CFR 63.1217(a)(7)].

In addition, H-530A and H-530B are subject to the following operating parameter limits as required by 40 CFR 63 Subpart EEE:

- Maintain the waste fuel firing system atomization steam pressure at or above 35 psi above the waste fuel feed pressure, hourly rolling average [40 CFR 63.1209(j)(4)];
- Maintain a minimum combustion chamber temperature of 1,735°F in H-530A and 1,742°F in H-530B, hourly rolling average [40 CFR 63.1209(j)(1)];
- Maintain a maximum thermal heat input rate from waste fuel firing of 74 MMBtu/hr, hourly rolling average [40 CFR 63.1209(j)(4)];
- Maintain a maximum hazardous waste feed rate of 4,443 lbs/hr in H-530A and 4,444 lbs/hr in H-530B, hourly rolling average [40 CFR 63.1209(j)(3)]; and
- Maintain an ash feed rate to each boiler less than 4.4 lbs/hr, 12-hour rolling average [40 CFR 63.1209(m)(3)].

Table C-2 identifies the specific parameters chosen to demonstrate compliance with these requirements and provides a list of the analytical methods that may be used by SABIC. In addition, Table C-2 also identifies other parameters that will be evaluated for design/operational purposes and the corresponding testing methods.

Table C-2 Analytical Parameters

Analytical Parameter	Basis for Selection	Analytical Method*
Ash Content	266.105	ASTM D-482-13
Total Halogens (as Cl)	266.107	ASTM D-4208
Antimony	266.106	6020A
Arsenic	266.106	6020A
Barium	266.106	6020A
Beryllium	266.106	6020A
Cadmium	266.106	6020A
Chromium	266.106	6020A
Lead	266.106	6020A
Mercury	266.106	6020A
Silver	266.106	6020A
Thallium	266.106	6020A
Heat Content	Operational Parameter	ASTM D-240-14
Specific Gravity	Operational Parameter	2710**

* Unless indicated otherwise, all methods are from current edition of EPA SW-846 Manual, https://www.epa.gov/hw-sw846/sw-846-compendium
** Standard Methods for Analysis of Water and Wastewater, 22nd Edition 2012, updates available here: http://standardmethods.org/ViewArticle.cfm?articleID=98

C-2b Test Methods: 40 CFR 264.13(b)(2)

SABIC uses outside laboratories to perform analyses on the waste fuel stream. Several factors are considered when selecting an outside laboratory. These factors include the existence of a comprehensive QA/QC program, their technical analytical expertise, and the effectiveness of their information management systems.

The selected laboratory must have a QA/QC program in place to ensure that the analytical methods will generate data that is technically sound, statistically valid, and can be documented. The laboratory must have established chain-of-custody protocols and standard operating procedures in place to ensure that established analytical parameter holding times are met. A copy of the Chain of Custody form used by the laboratory currently involved in BIF waste fuel analysis is included in Appendix C-2. The laboratory must also use quantitative methods of assessing QA/QC including method blanks, duplicates, matrix spikes, and surrogate spikes.
The selected laboratory must be proficient in using established EPA analytical methods for hazardous waste determinations. The laboratory must be able to achieve detection limits at sufficiently low levels to meet prescribed regulatory thresholds for parameters tested, when required.

The selected laboratory's information management systems must ensure the availability of relevant data generated including chain-of-custody records, accuracy and precision information, and analytical results. The selected laboratory's reports must be clear and concise and include the applicable data validation information.

C-2c Sampling Methods: 40 CFR 264.13(b)(3), Part 261 Appendix I, Part 266 Appendix IX

Several factors have been considered in selecting the appropriate sampling procedures for the waste fuel. These factors include the material to be sampled, the representativeness of the sample method, whether the sample is retained in its original form and composition, and whether the sampling method prevents contamination or changes in the concentration of the parameters to be analyzed.

Appendix C-3 contains a description of the procedure routinely followed in the collection of the waste fuel samples. If the facility determines that the use of other sampling methods and equipment (e.g., dipper, etc.) is necessary, the proposed variations to the sampling procedure will be evaluated on a case-by-case basis, and implemented only if determined to be consistent with or equivalent to the sampling methods described in Appendix I to 40 CFR 261.

To ensure that the composition of the sample collected is comparable to the composition of the as-fired material, samples are obtained through a tap on each tank's waste fuel recirculation loop. The recirculation loop circulates the waste through each tank, and each tank has a separate loop. The sample is collected into the sample container that is used to ship the sample to the testing laboratory.

C-2d Frequency of Analysis: 40 CFR 264.13(a)(3), 264.13(b)(4)

SABIC uses several variations of a batch sampling and analysis strategy, combined with statistical analysis of the analytical data obtained, to characterize the concentrations of those parameters that have historically controlled the waste feed rate, i.e., chromium, ash, Btu content, and specific gravity (hereafter referred to as "controlling parameters"). These four controlling parameters are then employed in determining allowable feed rates in all operating scenarios. See Appendices C-4 to C-6.

1. Two-Tank Operation – Batch Waste Feed (Mode 1)

The waste fuel is typically batch fed to the boilers from either one of the two 90-day RCRA tanks, designated as the feed tank. The off-line tank is serving as the active accumulation tank. During this mode of operation, when the accumulation tank reaches the designated full level, waste fuel feed to the boilers from the feed tank is stopped. Natural gas is the only fuel input to the boilers during this period. Waste fuel feed to the designated accumulation tank is switched to the previously designated feed tank. SABIC then obtains a minimum of three (3) samples spaced at approximately equal intervals over a minimum period of two hours from the batch of waste fuel. Each sample is analyzed for chromium and ash content. Chromium and ash results are used to establish an upper confidence interval (CI) for each parameter. The last sample collected is also analyzed for heating value (Btu/lb.) and specific gravity.

Samples results will be received within 7 days of collection. If the 7th day falls on a weekend or holiday the analysis may be submitted on the following business day. Until the most recent analysis is received, the feed rates will be maintained as determined by the previous sampling event.

Using the average value (mean) and sample variability (standard deviation), the separate "upper confidence intervals" for chromium and ash concentration are calculated according to the following formula:

$$CI = \text{mean} + t_{.20} * \text{standard error}$$

where:

standard error	=	$(s^2/n)^{0.5}$;
s^2	=	sample variance;
n	=	number of samples; and
t_{20}	=	Student's "t" value for two-tailed confidence interval and a probability of 0.20; obtained from Table 9-2 of SW-846 Manual.

2. <u>Two-Tank Operation – Continuous Waste Feed (Mode 2)</u>

In this operating mode, waste is fed to the boilers at a reduced rate during the tank switching operation. SABIC utilizes an alternate sampling approach to establish a statistically valid concentration for the controlling parameters during Mode 2. Operating Mode 2 begins upon switching fuel feed to the boilers from the active feed tank to the accumulation tank, and lasts until boiler feed rates are adjusted, based on the second set of waste fuel samples.

When the active accumulation tank reaches a 60–85% fill level, a minimum of three (3) samples are collected at approximately equally spaced intervals over a minimum two-hour period and sent to an off-site laboratory for analysis. During this period, waste fuel continues to be added to the accumulation tank. Each sample is analyzed for chromium and ash content. The last sample collected is also analyzed for heating value (Btu/lb.) and specific gravity. Based on the analytical results obtained and the amount of material present in the tank at the time of sampling, a statistical upper CI is established for chromium and ash, following the procedure described in Section C-2d(1) above.

The chromium and ash concentrations, heat content, and specific gravity for the incremental material added to the tank after collection of the samples are estimated using an upper tolerance limit (UTL) statistical approach. SABIC calculates UTLs for ash and chromium using the average value (mean) and variability (standard deviation) for historical analytical data, according to the following formula:

$$UTL = mean + (K_{(1-a;\,p)}) * standard\ deviation$$

where:

1-a	=	The desired level of confidence that at least 100 percent of the individual samples will be below the UTL;
p	=	The decimal fraction of samples that will be predicted to fall below the UTL; and
K	=	constant; one-sided tolerance limit factors for normal distributions.

A desired level of confidence of 95 percent and a 95 percent proportion is used to determine the UTLs. This means that with 95 percent confidence, 95 percent of all individual samples will not exceed the UTL. The UTL is continually calculated as new analytical data becomes available. Based upon the calculated UTLs, feed rates are then calculated assuming that each constituent is present at its respective UTL. The maximum allowable feed rate for the interim burn period is then determined based on the calculated weighted average of the CI and UTL values obtained.

Once material has ceased being added to the tanks, the interim burn period may begin. At this point, sampling is again conducted. SABIC will obtain a minimum of three (3) samples equally spaced over a minimum period of two hours from the batch of waste fuel being fed to the boilers. Each sample is

analyzed for chromium and ash content. Chromium and ash results are used to establish an upper CI for each parameter following the procedure described in Section C-2d(1) above. The last sample collected is also analyzed for heating value (Btu/lb.) and specific gravity. If necessary, waste fuel feed rates to the boilers are then adjusted based upon this analysis.

Sample results will be received within 7 days of collection. If the 7th day falls on a weekend or holiday the analysis may be submitted on the following business day. Until the most recent analysis is received, the feed rates will be maintained as determined by the previous sampling event.

3. Single Tank Operation – Continuous Waste Feed (Mode 3)

In this operating mode, waste is continuously fed to the boilers from a single tank. During this mode of operation, the tank not being used would remain empty, so as not to contain waste for a period of greater than 90 days.

Waste characterization under these circumstances will be conducted by applying the upper CI approach described in Section C-2d(1) above. Every Monday[1] and Friday[1] during this operating mode, SABIC will obtain a minimum of three (3) samples equally spaced over a minimum period of two hours from the batch of waste fuel. Each sample is analyzed for chromium and ash content. Chromium and ash results are used to establish an upper CI for each parameter. The last sample collected on each day is also analyzed for heating value (Btu/lb.), specific gravity, chlorine and metals.

Chromium and ash results are used to calculate a separate upper CI for each parameter per the procedure described in C-2d(1) above.

In addition, a single sample will be collected and analyzed every Wednesday[1] to confirm that there has not been a meaningful change in the waste fuel properties since the preceding sampling event. If the analytical results for this single sample indicate that the chromium and ash concentrations are less than or equal to the CI concentration determined from the prior sampling event, the feed rates will be maintained at the established levels. Should the results of the single sample indicate an increase in the ash and/or chromium concentrations, the waste fuel feed rate will be reduced accordingly until a new set of three (3) samples indicates that it is appropriate to increase the feed rate.

Sample results will be received within 7 days of collection. If the 7th day falls on a weekend or holiday the analysis may be submitted on the following business day. Until the most recent analysis is received, the feed rates will be maintained as determined by the previous sampling event.

C-2e Additional Requirements for Waste Generated Off-Site: 40 CFR 264.13(b)(5) and (c), 264.73(b)

Only on-site generated wastes are burned in the waste fuel boilers. Therefore, requirements for wastes received from off-site generators do not apply.

C-2f Additional Requirements for Facilities Handling Ignitable, Reactive, or Incompatible Waste: 40 CFR 264.13(b)(6), 264.17

[1] In the event this day is a holiday, the sampling event may be conducted on the preceding or on the following day.

SABIC identifies ignitable, reactive, and incompatible wastes either through the use of generator knowledge or analytical testing. Based upon process knowledge, the waste fuel has been designated an ignitable hazardous waste (D001). Smoking is prohibited in areas in which the waste fuel stream is generated and managed. Site safety policies require the issuance of a general work permit and hot work permit to enable any work to be performed that involves a potential ignition source. No potential for mixing the waste fuel with incompatible wastes exists because the waste fuel is managed completely within a closed system from the point of generation through the two waste fuel tanks until it combusted within the boilers.

C-2g Additional Requirements Pertaining to Boiler and Industrial Furnace Facilities: 40 CFR and 40 CFR 63.1217(a)(2)(ii), 63.1217(a)(3)(ii), 63.1217(a)(4)(ii) and 63.1217(a)(6)(ii)

Section C-2a identifies the controlling parameters that are periodically quantified in the waste fuel stream, to ensure compliance with 40 CFR 63 EEE; there are no additional Requirements Pertaining to Boiler and Industrial Furnace Facilities.

C-2h Additional Requirements Pertaining to Containment Buildings: 40 CFR 264.1100

SABIC does not operate or maintain any hazardous waste containment building units at the Mt. Vernon site. Therefore, this requirement is not applicable.

C-2i Quality Assurance

SABIC follows established procedures to ensure the quality of the sampling and analysis activities that are described in this plan. The Quality Assurance (QA) objectives and the procedures for sampling and analyses are discussed in this section.

QA Objectives

QA objectives are discussed in terms of accuracy, precision, completeness, representativeness, and comparability. QA objectives are developed understanding the overall demonstration objectives and goals of the sampling and analysis effort: to demonstrate compliance with established feed rate limits. These QA objectives are consistent with industry standards for these measurements and are considered to be satisfactory to document compliance.

Accuracy and Precision

Target analytes and the analytical methods are provided in Section C-2a.

If the QA objectives for accuracy and precision are not met during a sampling episode, careful interpretation of the analytical data will be made to evaluate the associated impact on the compliance demonstrations. Results that are outside these specifications do not necessarily invalidate the data, but rather indicate the need to evaluate the data carefully and explain potential biases and/or limitations in the use of the data. The evaluation for data validity will be based (among other things) on the evaluation of the laboratory's adherence to the QA and corrective action specifications in the method procedures.

Completeness

Completeness refers to the total amount of valid data collected, expressed as a percentage of the amount of data planned. The completeness objective for each sampling episode is 100 percent. If valid data is not obtained to provide the completeness objective, sampling will be repeated to provide the required data.

Representativeness

Representativeness is the degree to which data accurately and precisely represent the population being measured, and is a function of sampling strategy. Representative process samples will be collected by adhering to the sampling methods described in this plan.

Comparability

Comparability is the degree to which data from a given study can be compared to data from other similar studies. Data comparability will be ensured by adhering to the standard methods specified in this document. Analytical results will also be presented in appropriate standard units, according to industry conventions.

Procedures

Procedures for sampling are described in Appendix C-3.

C-3 WASTE ANALYSIS REQUIREMENTS PERTAINING TO LAND DISPOSAL RESTRICTIONS: 40 CFR 262.10, 262.11, 264.13, 264.73, 266.102(a)(2)(ii), Part 268, 270.14(b)(3)

C-3a Waste Analysis: 40 CFR 261.21 through 261.24, 264.13(a)(1), 268.1, 268.7, 268.9, 268.32 through 268.37, 268.41 through 268.43

Any waste generated by the Phenol Plant, including residues from the combustion of the waste fuel in the boilers, will be evaluated to determine if it meets the concentration limits specified by the Land Disposal Restrictions (LDR) contained in 40 CFR Part 268. This determination may be based on generator knowledge or testing of the waste. If a waste stream does not meet the applicable treatment standards, it will be sent off-site to a RCRA permitted Subtitle C treatment, storage and/or disposal facility. A waste stream determined through analysis to meet treatment standards as specified in 40 CFR Part 268 may be land disposed without further treatment. Off-site facilities receiving the waste will be provided with written notification and/or certification that the waste either meets or does not meet applicable treatment standards, as required by 40 CFR 268.7.

All notifications, certifications, and associated analytical results will be retained as required by 40 CFR 268.7 and 40 CFR 265.73.

C-3a(1) Spent Solvent and Dioxin Wastes: 40 CFR 264.13(a)(1), 268.29f)(1), 268.30, 268.31

SABIC does not treat spent solvent wastes or dioxin wastes in the waste fuel boilers. Therefore, these requirements are not applicable.

C-3a(2) California List Wastes: 40 CFR 264.13(a)(1), 268.7, 268.32, 268.42(a), RCRA Section 3004(d)

SABIC does not treat wastes or generate residue that would qualify as California list waste. Therefore, these requirements are not applicable.

C-3a(3) Listed Wastes: 40 CFR 264.13(a)(1), 268.7, 268.33, 268.34, 268.36, 268.40, 268.41, 268.42, 268.43

The procedures to determine whether Listed Wastes meet applicable treatment standards will be based on documented generator/process knowledge or analytical results (as necessary) relative to the 40 CFR 268.40 treatment standards.

C-3a(4) Characteristic Wastes: 40 CFR 261.3(d)(1), 264.13(a)(1), 268.40, 268.7, 268.9, 268.37, Part 268 Appendix I, Part 268 Appendix IX

The procedures to determine whether characteristic wastes meet applicable treatment standards will be based on documented generator/process knowledge or analytical results (as necessary) relative to the 40 CFR 268.40 treatment standards.

C-3a(5) Radioactive Mixed Wastes: 40 CFR 268.7, 268.35(c), 268.35(d), 268.36, 268.42(d)

The SABIC facility does not generate or store radioactive wastes or hazardous/radioactive mixed wastes. Therefore, this requirement is not applicable.

C-3a(6) Leachates: 40 CFR 260.10, 268.35(a)

Neither single-source nor multi-source leachate (F039) is generated or treated at the SABIC facility.

C-3a(7) Lab Packs: 40 CFR 268.7(a)(7), 268.7(a)(8), 268.42(c), Part 268 Appendix IV, Part 268 Appendix V

There are no lab pack wastes associated with the waste fuel boilers. Therefore, this section does not apply.

C-3a(8) Contaminated Debris: 40 CFR 268.2(g), 268.40, 268.7, 268.9, 268.36, 268.45, 270.13(n)

Generator knowledge will be used to determine the hazardous debris and contaminant categories applicable to any hazardous debris generated. Hazardous debris will be treated prior to land disposal to comply with the treatment standards in 40 CFR 268.45.

C-3a(9) Waste Mixtures and Wastes with Overlapping Requirements: 40 CFR 264.13(a)(1), 268.7, 268.9, 268.41(b), 268.43(b), 268.45(a)

Waste mixtures and wastes carrying multiple waste codes will be properly characterized and notification issued specifying that treatment standards must be met prior to land disposal at the receiving treatment, storage and disposal facility. Wastes that carry more than one characteristic or listed waste code must

be treated to the most stringent treatment requirements for each hazardous waste constituent of concern prior to land disposal.

C-3a(10) Dilution and Aggregation of Wastes: 40 CFR 268.3

Aggregation of wastes does occur prior to treatment in the waste fuel boilers by combining several waste streams in the RCRA accumulation tanks (V-525A and V-525B), as discussed in Section C-1. However, this mixing of waste streams is not considered impermissible dilution since all of the wastes are legitimately amenable to the same type of treatment.

C-3b Notification, Certification, and Recordkeeping Requirements: 40 CFR 264.73, 268.7, 268.9(d)

SABIC does not receive off-site hazardous wastes for storage, treatment, or disposal. Hazardous waste streams generated by the Phenol Plant that require off-site disposal are accompanied by the required notifications and certifications. An example of the land disposal restriction notification form currently used is exhibited in Appendix C-7. The notification required by 40 CFR 268.7 is submitted with the first shipment of each waste stream to a treatment, storage or disposal facility.

C-3b(1) Retention of Generator Notices and Certifications: 40 CFR 268.7(a)

SABIC manages only hazardous waste generated on-site and, as such, remains the original generator of the waste. Retention of generator notices and certifications is addressed in Section C-3b(7).

C-3b(2) Notification and Certification Requirements for Treatment Facilities: 40 CFR 268.7(b)

This section is not applicable because treatment to alter the hazardous waste characteristics or listings of the generated waste is not conducted at the SABIC facility.

C-3b(3) Notification and Certification Requirements for Land Disposal Facilities: 40 CFR 268.7(c)(1)

SABIC does not operate a land disposal facility at this site.

C-3b(4) Wastes Shipped to Subtitle C Facilities: 40 CFR 268.7(a), 268.7(b)(6)

For restricted wastes or waste treatment residues that will be further managed at a Subtitle C hazardous waste management facility, SABIC will submit notifications and certifications in compliance with the notice and certification requirements applicable to generators under 40 CFR 268.7(a). Each shipment of waste that is to be transported off-site to a RCRA permitted Subtitle C treatment, storage, and/or disposal facility will include a written notification and certification that the waste either meets or does not meet applicable treatment standards and corresponding prohibition levels. An example of the form currently used for notification and certification is included in Appendix C-7.

C-3b(5) Wastes Shipped to Subtitle D Facilities: 40 CFR 268.7(d), 268.9(d)

Only non-hazardous wastes are shipped to Subtitle D facilities from SABIC.

C-3b(6) Recyclable Materials: 40 CFR 268.7(b)(7)

This requirement is not applicable because SABIC does not produce any materials intended for public use that contain recyclable materials and that are used in a manner constituting disposal.

C-3b(7) Recordkeeping: 40 CFR 264.73, 268.7(a)(5), 268.7(a)(6), 268.7(a)(7), 268.7(d)

As required, SABIC will determine if a waste is restricted from land disposal and keep documentation of such determination for at least three years.

Because the facility predominantly uses process knowledge to determine compliance with land disposal restrictions, SABIC will retain data used to make such determinations. If analytical testing of a representative sample of the waste is conducted to determine compliance with land disposal restrictions, waste analysis data will be retained on-site in the facility's files.

If managing a restricted waste that is excluded from the definition of a hazardous or solid waste or exempt from Subtitle C regulations (according to 40 CFR 261.2 through 261.6), SABIC will place a one-time notice in the facility files describing the generation, basis for exclusion or exemption, and disposition of the waste. For each shipment of treated debris, SABIC will place a certification of compliance with applicable treatment standards in the files.

C-3c Requirements Pertaining to the Storage of Restricted Wastes: 40 CFR 268.50

Any hazardous waste that may be restricted from land disposal will only be stored on-site for the purposes of accumulating sufficient quantities of waste to facilitate proper treatment, recovery or disposal. Waste storage associated with the Phenol Plant and the two hazardous waste boilers will be limited to less than 90 days.

C-3c(1) Restricted Wastes Stored in Containers: 40 CFR 268.50(a)(2)(i)

Containers storing waste restricted from land disposal are clearly marked to identify the contents and with the accumulation date and managed under the provisions of 40 CFR 262.17.

C-3c(2) Restricted Wastes Stored in Tanks: 40 CFR 268.50(a)(2)(ii)

Tank storage of restricted waste is conducted under the provisions of 40 CFR 262.34 for less than 90-day waste accumulation and 40 CFR 262.17. SABIC complies with the requirement in 40 CFR 268.50 (a)(2)(ii) by marking the waste fuel accumulation tanks (V-525A and V-525B) with the words "Hazardous Waste". Furthermore, information recorded and maintained as part of the operating record allows the tracking of hazardous waste added and removed from the tanks on a daily basis.

C-3c(3) Storage of Liquid PCB Wastes: 40 CFR 268.50(f)

None of the waste streams generated by the Phenol Plant and managed in the waste fuel boilers contains PCBs subject to 40 CFR 761.65(b) or other federal or state rules. Therefore, this requirement is not applicable.

C-3d Exemptions, Extensions, and Variances to Land Disposal Restrictions

SABIC does not request any extensions to effective dates, exemptions from prohibitions, variances from treatment standards, and does not maintain or operate surface impoundments or other land disposal facilities subject to RCRA or the land disposal restriction requirements.

APPENDIX C-1

WASTE PROFILE SHEET (EXAMPLE)

See beginning at page 48 of VFC 83603434

APPENDIX C-2

CHAIN OF CUSTODY FORM (EXAMPLE)

See beginning at page 53 of VFC 83603434

APPENDIX C-3

WASTE FUEL SAMPLING PROCEDURE

See beginning at page 55 of VFC 83603434

APPENDIX C-4

TWO-TANK OPERATION – BATCH WASTE FEED
(MODE 1)
(Example Excel Spreadsheet)

See beginning at page 61 of VFC 83603434

APPENDIX C-5

TWO-TANK OPERATION – CONTINUOUS WASTE FEED (MODE 2) (Example Excel Spreadsheet)

See beginning at page 63 of VFC 83603434

APPENDIX C-6

SINGLE TANK OPERATION – CONTINUOUS WASTE FEED (MODE 3) (Example Excel Spreadsheet)

See beginning at page 75 of VFC 83603434

APPENDIX C-7

LAND DISPOSAL RESTRICTION NOTIFICATION FORMS (Examples)

See beginning at page 80 of VFC 83603434

ATTACHMENT D

PROCESS INFORMATION

ATTACHMENT D

PROCESS INFORMATION

D-1 CONTAINERS: 40 CFR 270.15, 264.170 – 264.178

Management of hazardous waste in containers at the SABIC Innovative Plastics Mt. Vernon, LLC (SABIC) facility is conducted in accordance with the generator standards in 40 CFR 262.17.

D-2 TANK SYSTEMS: 40 CFR 270.16, 264.191 – 264.194

Management of hazardous waste in tanks at the SABIC facility is conducted in accordance with the generator standards in 40 CFR 262.17, including the following:

- Tank system structural integrity and waste storage suitability assessments;
- Spill containment and detection of releases;
- General operating requirements, including waste compatibility and spill and overfill prevention controls;
- Tank inspection requirements;
- Response to leaks or spills; and
- Closure and post-closure care requirements.

D-3 WASTE PILES: 40 CFR 270.18, 264.250 – 264.259

There are no hazardous waste piles at the SABIC facility. Therefore, this requirement is not applicable.

D-4 SURFACE IMPOUNDMENTS: 40 CFR 270.17, 264.221, 264.226, 264.231

There are no surface impoundments in operation at the SABIC facility. Therefore, this requirement is not applicable.

D-5 INCINERATORS: 40 CFR 270.19, 264.340 – 264.351

There are no hazardous waste incinerators at the SABIC facility. Therefore, this requirement is not applicable.

D-6 LANDFILLS: 40 CFR 270.21, 264.300 – 264.317

There are no hazardous waste landfills at the SABIC facility. Therefore, this requirement is not applicable.

D-7 LAND TREATMENT: 40 CFR 270.20, 264.270 – 264.283

There are no hazardous waste land treatment operations at the SABIC facility. Therefore, this requirement is not applicable.

D-8 MISCELLANEOUS UNITS: 40 CFR 264.601, 270.23

No miscellaneous units are used to manage hazardous waste at the SABIC facility. Therefore, this requirement is not applicable.

D-9 BOILERS AND INDUSTRIAL FURNACES: 40 CFR 63 Subpart EEE, 40 CFR 270.22

The SABIC facility includes a phenol manufacturing operation and a BPA manufacturing operation. These two operations generate four hazardous waste streams and two non-hazardous waste streams, which are combined and burned for energy recovery in two on-site boilers. The boilers are designated as H-530A and H-530B. Boiler H-530A was constructed in 1980, and Boiler H-530B was constructed in 1982. Each boiler is a Babcock & Wilcox Model 103-88 package boiler (water-tube) designed to produce 70,000 pounds of steam per hour. The boilers typically operate at the same time. The boilers share a common stack, and there are no installed air pollution control systems. Table D-1 provides the design specifications for the boiler systems, and Figure D-1 consists of a process flow diagram of the boilers and waste feed systems.

The boilers burn the hazardous waste in compliance with the Maximum Achievable Control Technology (MACT) requirements for Hazardous Waste Combustors (40 CFR 63 Subpart EEE, typically referred to as the HWC MACT Standards). The SABIC facility submitted a copy of the current Notification of Compliance, see pages 94-407 of the application, VFC #83603434. As specified in 40 CFR 270.22, once a facility demonstrates compliance with the air emission standards and limitations in part 63, subpart EEE, the testing requirements of this section do not apply unless required to demonstrate protection of human health and the environment.

D-9a-h Waivers/Exemptions: 40 CFR 270.22(a)(2)(i)-(ii), 270.22(a)(3), 270.22(a)(4), 270.22(a)(5)

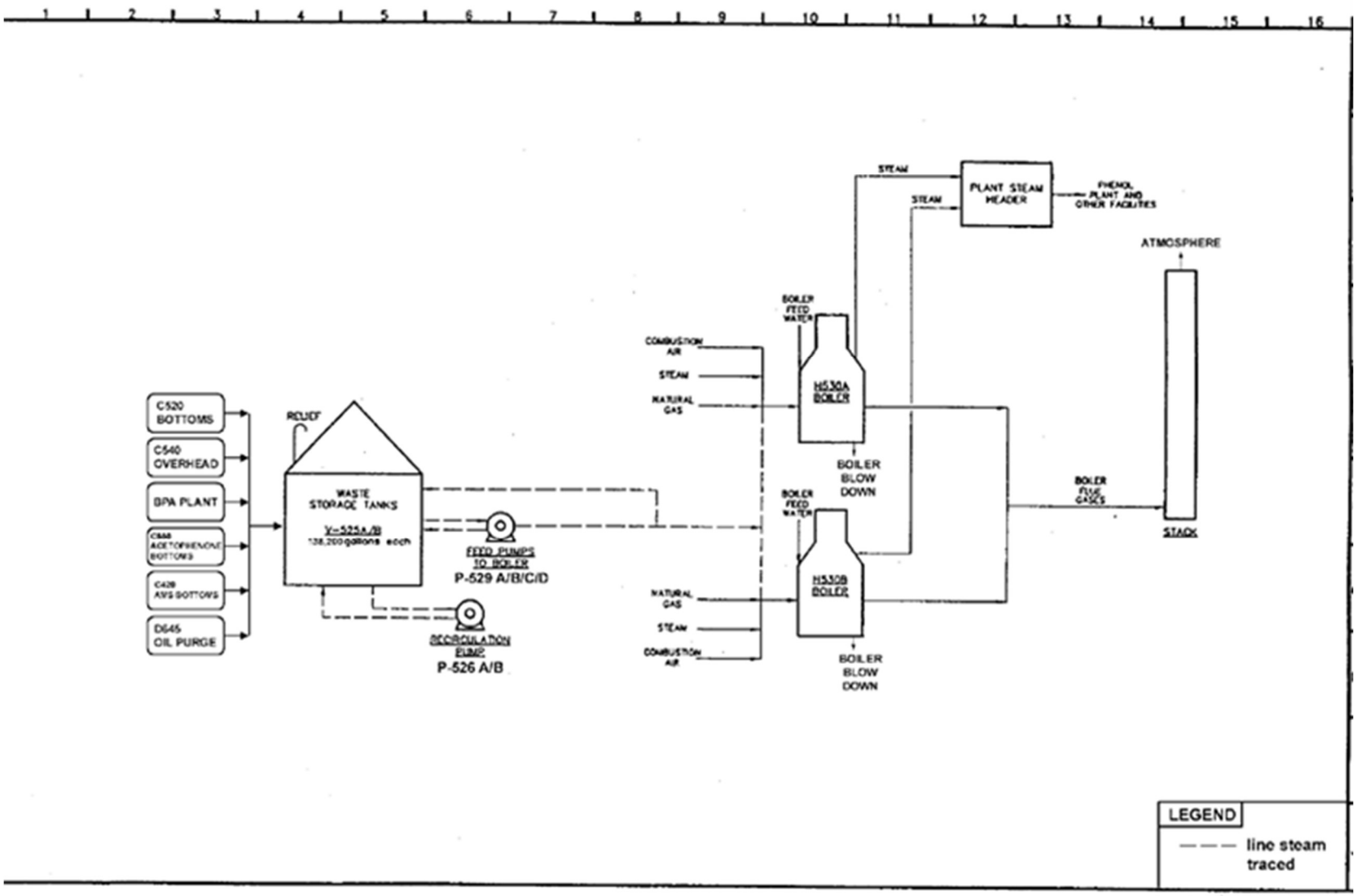
Not applicable.

Table D-1. Design Specifications for Boilers

Parameter	Boilers H530A and H530B
Boiler Manufacturer	Babcock and Wilcox
Boiler Model	103-88
Boiler Type	D-type Water Tube
Burner Manufacturer	Babcock and Wilcox
Maximum Thermal Input	75 MMBtu/hr natural gas
Maximum Firing Rate	75,000 ft^3/hr natural gas 4,800 lb/hr waste fuel
Maximum Steam Production Rate	70,000 lb/hr @ 250 psig
Furnace Volume	1,315 ft^3
Net Heat Transfer Area	6,585 ft^2
Boiler Dimensions (approximate)	11’ 9” width 13’ 8 15/16” height 26’ 10 ½” length

Refractory	Firebrick
Soot blowing	Yes
Air Pollution Control	None
Stack Dimensions	118.5 feet above ground surface 59.6 inches inner diameter at stack outlet

Figure D-1. Process Flow Diagram for the Boilers



D-9i Monitoring Requirements: 40 CFR 266.102(e)(6), 266.102(e)(8), 40 CFR 63.1209

SABIC maintains continuous monitoring systems (CMS) that monitor and record the hazardous waste feed rate fed to the boilers, the production rate (thermal input rate), the combustion chamber temperature, and other operating parameters as required by 40 CFR 63.1209 of the HWC MACT standards. Additionally, the CMS monitors and records the total ash feed rate, total chlorine feed rate, and the metals feed rates. Feed rates for metals, total chlorine and chloride, and ash are continuously monitored by knowing the concentration of the constituent (through periodic waste analyses – see Section C of this document) in the feed stream and continuously monitoring the flow rate of the feed stream. Because there is no air pollution control equipment associated with the boilers, there are no CMS for parameters associated with air pollution control devices. Continuous emissions monitors (CEMS) are installed on each boiler to record the concentration of CO and oxygen. The required data per 40 CFR 63.1209 is maintained in the operating record.

D-9j Automatic Waste Feed Cut-off System: 40 CFR 270.22(d), 266.102(e)(7), (ii)

SABIC operates an automatic waste feed cut-off (AWFCO) system to ensure that hazardous waste feed will be automatically cut off when compliance with applicable operating and feed rate limit parameters is not maintained.

The AWFCO system is tied to the following parameters: hazardous waste feed rate, production rate (thermal input rate), combustion chamber temperature, total ash feed rate, total chlorine feed rate, and the metals feed rates.

The boilers comply with waste feed rate limits and other operating limitations in accordance with the HWC MACT standards as delineated in Condition E.10.4(b) of the facility's Title V Air Operating Permit. No AWFCO is required.

D-9k Direct Transfer Standards: 40 CFR 266.111, 270.22(e), Part 264 Subparts I and J

SABIC is not engaging in direct transfer of hazardous waste fuel into its boilers from transport vehicles. Therefore, this requirement is not applicable.

Management of hazardous waste in tanks at the SABIC facility is conducted in accordance with the generator standards in 40 CFR 262.34.

D-9l Bevill Residues: 40 CFR 266.112, Part 266 Appendices VII and IX, 270.22(f)

SABIC does not meet the requirements to claim the Bevill residue exemption. Therefore, this requirement is not applicable.

D-9m Startup, Shutdown, and Malfunction Plan: 40 CFR 270.235, 40 CFR 63.1206(c)(2)

The boilers will operate in accordance with the Hazardous Waste Combustor MACT Startup, Shutdown, and Malfunction Plan (SSMP) to ensure that, during periods of SSM, the boilers are operated and maintained in a manner consistent with safety and good air pollution control practices for minimizing emissions. Additionally, the plan will ensure that malfunctions are corrected as soon as practical after their occurrence to minimize excess emissions, including corrective action taken to restore malfunctioning process to its normal or usual manner of operation.

Startup begins when tar feed begins and ends when the Boiler System is operating in a stable manner. SABIC will follow the startup procedures as they are listed in the SSMP.

Shutdown occurs when tar stops being fed to the boiler. Because shutdown is basically instantaneous, no actions are required to minimize emissions. SABIC will follow the shutdown procedures as they are listed in the SSMP.

SABIC defines **malfunction** as the occurrence of any of the events as they are listed in the SSMP that causes, or has the potential to cause, an exceedance in the operating parameter limits (OPLs) or the CO emission limit standard. If a malfunction occurs while hazardous waste fuel is in the combustion chamber, SABIC will follow the corrective measures as they are identified in the SSMP. If an emissions standard or OPL limit exceedance occurs during a malfunction while hazardous waste fuel is in the combustion chamber and SABIC follows the SSMP, the event is considered an exceedance, but not a violation.

When a malfunction occurs, the operators will follow the corrective actions as they are listed in the SSMP. SABIC will review the operating data and evaluate if an OPL or the CO emission limit was exceeded.

The occurrence of an AWFCO for many of the potential malfunctions is the corrective action. When an AWFCO has been determined to be the result of a malfunction, SABIC will follow the Hazardous Waste Combustor MACT Operations and Maintenance Plan (OMP) for appropriate maintenance procedures to correct the malfunctioning equipment.

The corrective actions listed in the SSMP are a basic guideline for operating the Phenol Boilers in case of a malfunction. During a malfunction event, Phenol plant personnel will operate the plant "in a manner consistent with safety and good air pollution control practices for minimizing emissions" [40 CFR 63.6(e)(1)]. To the extent possible, and if continued operation does not affect the boiler's compliance status, the problem will be fixed while the boilers are on-line. If the boilers must be shut down to perform repairs, the operators will follow the shutdown procedures prior to maintenance being performed.

D-9n Equipment: 40 CFR 270.25, 264 Subpart BB, 266.102(a)(2)(ix)

The boilers operate in accordance with the HWC MACT standards as delineated in Condition E.10.4(b) of the facility's Title V Air Operating Permit. No waiver is required.

D-9o Risk Assessment: 329 IAC 3.1-13-3(k), 40 CFR 270.32(B)(2)(ix)

The use of a hazardous waste combustion site-specific risk assessment (SSRA) was once a Federal requirement; however, that changed after the Hazardous Waste Combustion Maximum Achievable Control Technology (MACT) rules became effective.

SABIC understands that IDEM favors the use of a risk assessment in association with a boiler permit. Although SABIC has a long record of testing results that show emissions which are far below levels of concern and waste analysis data that shows low concentrations (many non-detect) for the constituents of interest (see Table C-1), a risk assessment protocol was written and submitted in 2021. As demonstrated by the most recent CPT (conducted in October 2021), SABIC fully complies with the 40 CFR 63 Subpart EEE emission standards.

D-10 CONTAINMENT BUILDINGS: 40 CFR 260.10, 264.1100 – 264.1102

No containment buildings are used to manage hazardous waste at the SABIC facility. Therefore, this requirement is not applicable.

D-11 Air Emissions:

D-11a Process Vents: 40 CFR 270.24

SABIC is not subject to the air emission control standards under 40 CFR 264.1030(b) becuase it does not manage hazardous waste at the Mount Vernon facility using any of the process operations that are subject to the 40 CFR 264 Subpart AA Air Emission Standards for Process Vents (i.e., distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping). Therefore, the requirements under 40 CFR 270.24 to provide information about process vents in the permit renewal application are not applicable to this facility.

D-11b Equipment Leaks: 40 CFR 270.25

SABIC has designed and implemented a leak detection and repair (LDAR) program in accordance with RCRA and Clean Air Act requirements that applies to various process units throughout the facility. In accordance with 40 CFR 264 Subpart BB the program applies to all equipment that contains or contacts a hazardous waste stream with an organic concentration of at least 10% by weight. As allowed under 40 CFR 264.1064(m), SABIC has elected to determine compliance with the requirements of 40 CFR 264 Subpart BB by documenting compliance with the Clean Air Act requirements for equipment leaks under 40 CFR 60 Subparts VV and 40 CFR 63 Subpart H. Therefore, the requirements under 40 CFR 270.25 to provide information in the permit renewal application that addresses control of equipment leaks under 40 CFR 264 Subpart BB do not apply to this facility.

D-11c Air Emission Controls for Tanks, Surface Impoundments, and Containers: 40 CFR 270.27

As described in application sections D-1 and D-2, management of hazardous waste in containers and tanks at the SABIC facility is conducted in accordance with the generator standards in 40 CFR 262.17. Hazardous waste is stored in containers and tanks for less than 90 days. Furthermore, there are no surface impoundments at the SABIC facility. Accordingly, there are no requirements under 40 CFR 264 Subpart CC that apply to the SABIC facility, and thus the requirements under 40 CFR 270.27 to provide information in the permit renewal application that addresses control of emissions from tanks, surface impoundments and containers do not apply to this facility

APPENDIX D-1

NOTIFICATION OF COMPLIANCE

FOR

40 CFR 63 SUBPART EEE

See beginning at page 94 of VFC 83603434

ATTACHMENT F

PROCEDURES TO PREVENT HAZARDS

ATTACHMENT F

PROCEDURES TO PREVENT HAZARDS

SABIC Innovative Plastics Mt. Vernon, LLC (SABIC) is submitting the information in this section in accordance with the requirements of 40 CFR 264.14, 264.15, 264.17, 264.32, 264.35, 264.602, and 40 CFR 270.14. Information provided addresses the following subject areas: security, inspection schedule, preventive procedures, structures and equipment, and prevention of reaction of ignitable, reactive, and incompatible wastes.

F-1 SECURITY: 40 CFR 264.14, 270.14(b)(4)

F-la Security Procedures and Equipment: 40 CFR 270.14(b)(4), 264.14

Security at the SABIC facility is maintained through fencing and gates. Access to the facility is controlled at the main gate. Employees are issued vehicle identification passes, and visitors and contractors are required to sign a log sheet and obtain a visitor pass. Visitor's vehicles do not have access to any other portion of the facility unless escorted by security. SABIC-approved contractors have access to all internal roads that are not controlled by internal gates and do not need to be escorted by security.

F-la(1) 24-Hour Surveillance System: 40 CFR 264.14(b)(1)

Security staff monitors entry and exit from the facility 24 hours per day. In addition, facility buildings, surrounding public roads, and fence lines are surveyed by security personnel periodically throughout the day. Two-way radios and phone system are used throughout the day. The security staff may be supplemented with additional part-time personnel as needed.

F-la(2) Barrier and Means to Control Entry: 40 CFR 264.14(b)(2)

F-la(2)(a) Barrier: 40 CFR 264.14(b)(2)(i)

The active portion of the facility is enclosed by a galvanized steel wire cyclone fence, six feet high, topped by three strands of barbed wire. Fence and gates are shown in Figure F-1 in Appendix F-1.

F-la(2)(b) Means to Control Entry: 40 CFR 264.14(b)(2)(ii)

Entrance to the facility can be made only through designated access points, which are controlled by guards. SABIC employees have vehicle identification passes that confirm their employment and allow entry and exit to and from the premises. Visitors sign a register and obtain entry badges that authorize them access to the site; badges are returned to the gate guards when exiting. Visitors badges can only be issued through the Visitor Center. Once required training is completed, contractors are issued badges that permit access to selected areas of the facility. Contractors are issued badges at the Contractor gates (1A and 3) shown in Figure F-1.

F-la(3) Warning Signs: 40 CFR 264.14(c)

Warning signs, "DANGER - UNAUTHORIZED PERSONNEL KEEP OUT," or equivalent signs are posted at operational area entry gates. These signs are legible from a distance of 25 feet and can be seen from any approach to the gates. The signs are in English, which is the predominant language of the area.

F-2 INSPECTION SCHEDULE: 40 CFR 264.15, 270.14(b)(5)

F-2a General Inspection Requirments: 40 CFR 270.14(b)(5), 264.15(a) and (b), 264.33

Regular inspections are conducted at each operational plant to check for equipment malfunctions, structural deterioration, and discharges that could cause or lead to the release of hazardous waste or hazardous constituents and adversely affect the environment or threaten human health.

The inspection frequency and protocols for the hazardous waste Phenol Tar Boilers are described in more detail in the following sections.

F-2a(1) Types of Problems: 40 CFR 264.15(b)(3)

The schedule for inspecting monitoring equipment, safety and emergency equipment, security devices, operating and structural equipment, and the Phenol Tar Boilers is provided in Appendix F-1 Inspection Schedule. The items listed in the schedule prevent, detect, or alert personnel to respond to environmental or human health hazards. Provided with each item is a list of potential concerns.

If inspections reveal that nonemergency maintenance is needed, maintenance will be completed as soon as is practical to preclude further damage and reduce the need for emergency repairs. If the inspection reveals that a potential hazard is imminent or has already occurred, remedial action will be taken immediately. In the event of an emergency involving the release of hazardous waste or hazardous constituents to the environment, efforts will be directed toward containing the hazard, removing it, and subsequently decontaminating the affected area. Local and state authorities will be notified as appropriate, according to the guidelines described in the Contingency Plan (Section G of the Permit Renewal Application).

F-2a(2) Frequency of Inspection: 40 CFR 264.15(b)(4)

The frequency of inspection for each item is specified in Appendix F-1 Inspection Schedule.

F-2b Specific Process Inspection Requirements: 40 CFR 270.14(b)(5), 264.15(b)(4)

F-2b(1) Container Inspection: 40 CFR 264.174

SABIC does not store containers of hazardous waste on-site for more than 90 days. Inspections of areas where such containers are stored are conducted in accordance with the generator standards described in 40 CFR 262.

F-2b(2) Tank System Inspections: 40 CFR 264.195

SABIC does not store hazardous waste in tanks for a period longer than 90 days. Inspection of hazardous waste storage tanks are conducted in accordance with the generator standards described in 40 CFR 262.

F-2b(3) Waste Pile Inspection: 40 CFR 270.18(d), 264.254(b)

There are no hazardous waste piles at the SABIC facility.

F-2b(4) Surface Impoundment Inspection: 40 CFR 270.17(c), 264.226(b), 264.226(c)

There are no surface impoundments handling hazardous wastes at the SABIC facility.

F-2b(5) Incinerator Inspection: 40 CFR 264.347

There are no hazardous waste incinerators at the SABIC facility.

F-2b(6) Landfill Inspection: 40 CFR 264.303(b)

There are no hazardous waste landfills at the SABIC facility.

F-2b(7) Land Treatment Facility Inspection: 40 CFR 264.273(g)

There are no hazardous waste land treatment units at the SABIC facility.

F-2b(8) Miscellaneous Unit Inspections: 40 CFR 270.14(b)(5), 264.602

No miscelleanous units are maintained or exist at the SABIC facility.

F-2b(9) Boiler Inspection: 40 CFR 270.14(b)(5), 264. 15 and 266.100

SABIC operates two boilers subject to 40 CFR 266, Subpart H provisions under an existing RCRA permit. Boiler inspections are conducted in accordance with 40 CFR 266 standards and the permit.

Inspections of the Phenol Tar Boilers are conducted according to the inspection schedule provided in Appendix F-1 Inspection Schedule. The results of each inspection are recorded on a Phenol Tar Boiler Inspection Form (an example form is in Appendix F-2) and retained as part of the Operating Record. Information recorded in the inspection form includes the following:

- Inspector's name
- Date
- Time
- Assessment of boiler conditions
- Assessment of boiler area conditions
- General housekeeping
- Issues identified (e.g., corrosion, leakage)
- Location of issue areas
- Type and amount of waste involved in release
- Corrective action taken

F-2b(10) Containment Building Inspection: 40 CFR 264.1101(c)(3), 264.1101(c)(4)

SABIC does not operate any hazardous waste containment buildings.

F-3 EQUIPMENT REQUIREMENTS: 40 CFR 270.14(b), 264.32

The SABIC facility, including the Phenol Tar Boiler plant, is equipped with the following equipment or capabilities:

F-3a(1) Internal Communications: 40 CFR 264.32(a)

The SABIC facility emergency alarm system is described in Section G-4 and G-5 of the Contingency Plan (included as Section G of the Permit Renewal Application). Sections G-4 and G-5 of the Contingency Plan also contain a discussion on the internal communications equipment available and the procedures to be followed in the event of an emergency.

F-3a(2) External Communications: 40 CFR 264.32(b)

Emergency responders will be contacted or alerted using the equipment and procedures described in Sections G-4 and G-5 of the Contingency Plan (included as Section G of the Permit Renewal Application).

F-3a(3) Emergency Equipment: 40 CFR 264.32(c)

The SABIC facility emergency response equipment is listed and described in Appendix G-5 and Section G-5 of the Contingency Plan (included as Section G of the Permit Renewal Application).

F-3a(4) Water for Fire Control: 40 CFR 264.32(d)

The SABIC facility has sufficient water volume, storage capacity, and pressure to supply fire protection equipment as described in Section G-5 of the Contingency Plan (included as Section G of the Permit Renewal Application).

F-3b Aisle Space Requirements: 40 CFR 264.35

SABIC maintains adequate aisle space to allow the unobstructed movement of personnel, fire protection equipment, and spill control equipment to all areas of the facility operations in an emergency.

F-4 PREVENTATIVE PROCEDURES, STRUCTURES, AND EQUIPMENT: 40 CFR 270.14(b)(8)

F-4a Unloading Operations: 40 CFR 270.14(b)(8)(i)

Wastes are transferred via piping from the RCRA less than 90-day accumulation tanks to the Phenol Tar Boilers. Therefore, there are no waste loading or unloading operations in the area.

F-4b Runoff: 40 CFR 270.14(b)(8)(ii)

Runoff from the Phenol Tar Boiler area is controlled by means of bermed concrete surrounding the entire boiler area. Any spill of hazardous waste within the area is contained and transferred to a hazardous waste container for disposal.

F-4c Water Supplies: 40 CFR 270.14(b)(8)(iii)

Diking and containment area design, along with the procedures for proper spill clean up and disposal, prevent contamination of water supplies resulting from waste management activities at the SABIC facility. The spill response and clean up procedures are described in Section G (Contingency Plan) of the Permit Renewal Application.

F-4d Equipment and Power Failures: 40 CFR 270.14(b)(8)(iv)

The boilers are equipped with an automatic waste feed cutoff (AWFCO) system that immediately stops the waste feed in the event of a power failure. The AWFCO system is part of a distributive control system (DCS) that responds to operational changes and is used for process control and initiation of interlocks. The DCS interlocks include other emergency interlocks (e.g., safety relief valves) designed to keep the boilers from operating under conditions that could endanger personnel or cause damage to the boilers.

Throughout the process areas and laboratories, procedures have been established for coping with power failures for the protection of personnel and equipment. A dual feed electrical system with cross-ties is provided to all plant units. Battery-operated emergency lights are provided in all areas.

F-4e Personnel Protective Equipment: 40 CFR 270.14(b)(8)(v)

Safety Data Sheets (SDSs) are available for all chemicals used at the facility. SDSs are available from a computerized system accesible to all employees. The SDSs present toxicity, fire, and explosion hazard properties, personal protective equipment recommendations, and first aid information on chemicals used at the facility. The generator knowledge and analytical data accompanying a particular waste stream is also utilized to determine the necessary personal protective equipment. All personnel responsible for waste management activities in the Phenol Tar Boiler area receive appropriate environmental and safety training. Further, personnel abide by the SABIC procedures for the recognition, evaluation, and control of hazards as required by Occupational Safety and Health Administration (OSHA) standards at 29 CFR 1910, Subpart I, Personal Protective Equipment. Available protective equipment, listed in Appendix G-5, include MSA air masks (same as SCBA), cartridge respirators, disposable uniforms, neoprene gloves, butyl rubber gloves, disposable gloves, steel-toe boots, safety glasses, chemical goggles, full face shields, and hard hats.

F-5 PREVENTION OF REACTION OF IGNITABLE, REACTIVE, AND INCOMPATIBLE WASTES: 40 CFR 270.14(b)(9)

F-5a Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Waste: 40 CFR 270.14(b)(9), 264.17(a)

General precautions are taken to prevent chemical reactions or explosions involving chemicals handled at the facility. Closely controlled issuance of cutting, welding, or hot work permits is observed whenever a potentially hazardous situation might be encountered. Other precautions include use of flame arresters on tanks containing flammable materials, use of explosion-proof electrical equipment in areas where ignitable materials are managed or stored, and the confinement of smoking to designated areas only.

F-5b General Precautions for Handling Ignitable or Reactive Waste and Mixing of Incompatible Waste: 40 CFR 270.14(b)(9), 264.17(b)

The waste streams handled at the boiler units are not incompatible. Wastes from other parts of SABIC operations are never mixed with the wastes that are fed into the boiler units.

F-5c Management of Ignitable or Reactive Wastes in Containers: 40 CFR 270.15(c), 264.176

Containerized wastes are not placed into the two tanks (V-525A and V-525B) or burned in the the two boilers (H-530A and H-530B).

F-5d Management of Incompatible Wastes in Containers: 40 CFR 270.15(d), 264.177

Incompatiable wastes are not placed into the two tanks (V-525A and V-525B) or burned in the the two boilers (H-530A and H-530B).

F-5e Management of Ignitable or Reactive Wastes in Tanks: 40 CFR 270.16(j), 264.198

No hazardous waste is stored in permitted storage units; rather, the tanks used for storing waste streams to be managed in the permitted boilers are operated as 90-day accumulation units. Waste is never stored in these tanks for a period longer than 90 days. Tank storage activities are conducted in accordance with the generator accumulation standards described in 40 CFR 262.16(b).

F-5f Management of Incompatible Wastes in Tank Systems: 40 CFR 270.16(j), 264.199

No incompatible wastes are stored in tanks at the SABIC facility. SABIC does not store hazardous waste in tanks for a period longer than 90 days. Tank storage activities are conducted in accordance with the generator accumulation standards described in 40 CFR 262.16(b).

F-5g Management of Ignitable or Reactive Wastes Placed in Waste Piles: 40 CFR 270.18(g), 264.256

There are no hazardous waste piles at the SABIC facility. Therefore, this section is not applicable.

F-5h Management of Incompatible Wastes Placed in Waste Piles: 40 CFR 270.18(h), 264.257

There are no hazardous waste piles at the SABIC facility. Therefore, this section is not applicable.

F-5i Management of Ignitable or Reactive Wastes Placed in Surface Impoundments: 40 CFR 270.17(h), 264.229

There are no hazardous waste surface impoundments at the SABIC facility. Therefore, this section is not applicable.

F-5j Management of Incompatible Wastes Placed in Surface Impoundments: 40 CFR 270.17(h), 264.230

There are no hazardous waste surface impoundments at the SABIC facility. Therefore, this section is not applicable.

F-5k Management of Ignitable or Reactive Wastes Placed in Landfills: 40 CFR 270.21(f), 264.312

There are no hazardous waste landfills at the SABIC facility. Therefore, this section is not applicable.

F-5l Management of Incompatible Wastes Placed in Landfills: 40 CFR 270.21(g), 264.313

There are no hazardous waste landfills at the SABIC facility. Therefore, this section is not applicable.

F-5m Management of Liquid Wastes Placed in Land Treatment Units: 40 CFR 270.20(g), 264.281

There are no hazardous waste land treatment units at the SABIC facility. Therefore, this section is not applicable.

F-5n Special Requirements for Containers Disposed of in Land Treatment Units: 40 CFR 270.20(h), 264.282

There are no hazardous waste land treatment units at the SABIC facility. Therfore, this section is not applicable.

F-5o Management of Ignitable or Reactive Wastes Placed in Containment Buildings: 40 CFR 264.1101(a)(3)

There are no hazardous waste containment buildings at the SABIC facility. Therefore, this section is not applicable.

APPENDIX F-1

INSPECTION SCHEDULE

APPENDIX F-1

INSPECTION SCHEDULE

Area/Equipment	Specific Item	Types of Problems	Frequency of Inspection
Phenol Tar Boilers	Pumps, valves, piping	Leaks, corrosion, cracks	Daily
	Injector guns	Deterioration, deformation	Monthly
	Combustion unit	Corrosion, deterioration	Annual
	Steam atomizer	Integrity, cracks	Annual
	Stacks	Deterioration	Annual
	Waste feed cutoff systems	Operability	Weekly
	CEM for CO and O_2	Proper function	Daily
		Calibration errors	Quarterly
		Performance specification	Annual
	Temperature gauges	Proper function	Daily
		Calibration	Quarterly
	Waste feed flow indicator	Proper function	Daily
		Calibration	Quarterly
	Waste feed pressure gauge	Proper function	Daily
		Calibration	Quarterly
Security devices	Facility fencing with entrance gates	Corrosion, damage, damaged gates	Monthly
	Turnstile gates	Sticking, snow clog	Upon failure
	TV cameras	Transmitter or receiver	Quarterly PM[1] and upon failure
	Radios	Transmitter or receiver	Daily/Shift
Operating and structural equipment	Storage areas	Leaks, spills	Each workday

[1] Quarterly PM of TV Cameras is completed by contractor.

APPENDIX F-2

INSPECTION FORMS

See beginning at page 421 of VFC 83603434

ATTACHMENT G

HAZARDOUS WASTE CONTINGENCY PLAN

LIST OF APPENDICES

ATTACHMENT G

HAZARDOUS WASTE CONTINGENCY PLAN

This Contingency Plan was developed in accordance with the requirements contained in 40 CFR 264, Subpart D, 40 CFR 265 Subpart D, 40 CFR 270.14(b)(7) and in 329 IAC 3.1-7, and describes the actions personnel at the SABIC Innovative Plastics Mt. Vernon, LLC (SABIC) facility take in response to a fire, explosion, or other unplanned sudden or non-sudden release of hazardous waste or hazardous constituents to air, soil, or surface waters. The Contingency Plan describes the spill prevention, containment, and countermeasures procedures that will be followed to minimize adverse impacts to the environment, reduce safety and health hazards, and meet standards for acceptable management of hazardous waste. The procedures described in this Contingency Plan apply to all areas of the SABIC facility that treat, store, or dispose of hazardous waste.

G-1 GENERAL INFORMATION:

SABIC operates a manufacturing facility in southwest Posey County, Indiana, approximately 20 miles west of Evansville, Indiana. The facility is bordered by the Ohio River to the south and is located approximately two miles southwest of Mt. Vernon, Indiana. The facility manufactures various engineering thermoplastic resins, as well as many commodity chemicals for use in the production of thermoplastic resins or for commercial sale. Research in product development is also conducted at the facility. RCRA hazardous wastes are generated from several of these operations at the facility. A facility layout is included in Appendix G-1.

SABIC manages hazardous waste in eight (8) 90-day accumulation tanks, and two (2) hazardous waste boilers. In addition, satellite accumulation areas and 90-day container accumulation areas are located within the different operating units throughout the facility. Only the two hazardous waste boilers are subject to the RCRA permit. All other hazardous waste generated at the facility is managed in accordance with 40 CFR 262.

Appendix G-2, Hazardous Waste Table, lists the hazardous waste that may be stored or handled at the facility. The most up-to-date listing of hazardous waste that is generated at the facility is available on the Waste Tracker system maintained by SABIC. Additional information on the chemicals present in the hazardous waste streams can be found in the Safety Data Sheets (SDSs) for the chemicals present in the waste. SDSs for all chemicals used at the Mt. Vernon facility are available to all employees from an online web-based system. An SDS contains information on the hazardous properties of the product/chemical, the safeguards to use to protect personnel from exposure, and procedures for proper handling, storage, and disposal of hazardous materials.

G-2 EMERGENCY COORDINATORS: 40 CFR 264.52(d), 264.55

The SABIC facility has a structured incident command and control program in place to respond to any emergency that could develop, including natural disasters, fires or explosions, chemical releases, bomb threats, and injuries. This program is described in detail in the Crisis Management Manual.

The role of the primary Emergency Coordinator will be executed by the Crisis Manager as defined by the facility's incident command and control program and described in the Mt. Vernon Crisis Manager Manual. The Crisis Manager role is filled by one of several managerial personnel who rotate the responsibility of coordinating facility emergency response measures on a weekly basis. The Crisis Manager is trained on the crisis management program. The Crisis Manager is available 24 hours per day

to respond to any emergency that may develop. If the Crisis Manager on duty cannot be available for any segment of the assignment, arrangements are made with another member of the roster to assume the Crisis Manager responsibilities.

A current list of the Crisis Managers, along with telephone numbers, is contained in Appendix G-2a. The schedule of the weekly Crisis Manager rotation is maintained in the Crisis Manager Manual, and posted in the Safety Department, the North and West Guard Houses and all Emergency Control Centers.

The Crisis Manager is responsible for making managerial decisions in responding to, and controlling, an emergency. The Crisis Manager will assess the emergency and has the authority to commit equipment and personnel to control the emergency. The Crisis Manager will rely primarily on the site Emergency Team, which includes the facility fire brigade and other personnel, but may require the assistance of additional personnel as needed.

1. Area Emergency Coordinator

Each operating unit has a designated Area Emergency Coordinator who is responsible for coordinating immediate actions in that area in the event of an emergency. The Area Emergency Coordinator may be the Operation Manager, Shift Leader, or designee, and must report to the Crisis Manager throughout the emergency response period.

The Area Emergency Coordinator is responsible for:

a. Initiating the notification plan for contacting the Crisis Manager, the Emergency Team, the Emergency Control Team, and Environmental/Safety Staff;

b. Evaluation of the emergency for potential additional hazards; and

c. Control of the emergency phone communication system at his/her respective muster location.

2. Emergency Control Team

The Emergency Control Team consists of a network of key personnel charged with the responsibility of coordinating decisions, plans of action, and response activities during an emergency that cannot be readily handled by the Emergency Team and work force operating at the scene. The Emergency Control Team will also get involved when an emergency affects areas outside the plant boundaries. The team typically consists of the following personnel:

- Site Manager;
- Crisis Manager on Duty;
- Site EHS Manager;
- Fire Chief; and
- Operation Managers (e.g., Lexan Finishing Manager, Lexan Chemical Operations Manager, HPP Operations Manager, CPP Operations Manager) as needed.

In the event of a disaster, the Emergency Control Team immediately reports to the Emergency Control Center (ECC), which is the center of communications in charge of receiving information and directing

response activities in an emergency. The back-up ECC is in Building 13 Maintenance Shop. These areas are equipped with emergency phones, radios, maps, and detailed emergency procedures.

G-3 IMPLEMENTATION: 40 CFR 264.52(a), 264.56(a)

The Contingency Plan will be implemented whenever an incident (i.e., fire, explosion, chemical spill or release) has the potential to release hazardous waste or hazardous constituents that could threaten human health or the environment. The decision whether to implement the Contingency Plan is based on the scope of the incident, as discussed below:

1. Minor Emergency

A minor emergency is a situation that can be handled safely and immediately by the personnel present at the scene. This type of emergency is promptly controlled without requiring the involvement of the Site Emergency Team and therefore, does not trigger implementation of the Contingency Plan.

2. Major Emergency

A fire or similar occurrence that presents a hazard to personnel, equipment, or the environment is considered a major emergency. These are situations that cannot be handled safely and immediately with the personnel present at the scene. This type of emergency requires the sounding of the alarm system. The Contingency Plan will be implemented in the affected areas and outside assistance will be called as the situation warrants.

The following situations will warrant implementation of the Contingency Plan:

1. A fire and/or explosion involving hazardous waste occurs, such that

    - Toxic fumes are released;
    - The fire could spread on-site or off-site and possibly ignite other flammable materials or cause heat induced explosions;
    - The use of water and/or chemical fire suppressants could result in contaminated runoff that could reach nearby surface water and/or adversely impact the operation of the facility wastewater treatment plant;
    - There is imminent danger that an explosion could ignite other hazardous waste at the facility and possibly result in the release of toxic materials; and/or
    - There is potential for human injuries.

2. A spill or release of a hazardous waste occurs, such that

    - The spill could result in release of flammable liquids or vapors, thus causing a fire or gas explosion hazard;
    - The spill could cause the release of toxic liquids or fumes;
    - The spill can be contained on-site, but the potential exists for groundwater contamination; and/or
    - The spill cannot be contained on-site, resulting in off-site soil contamination and/or ground or surface water pollution.

G-4 EMERGENCY ACTIONS: 40 CFR 264.56

G-4a Notification: 40 CFR 264.56(a)

The procedures for notification of facility personnel, and appropriate federal, state, or local agencies in the event of an emergency are summarized in Appendix G-1.

The main communication tool employed to alert site response personnel of an emergency requiring intervention is the facility alarm system. Inside buildings alarms are buzzers, bells, or air horns. Outside alarms are toned sirens. The system includes four distinctive sounds:

Tornado:	Inside – 10 seconds on, 3 seconds off for three complete cycles. Outside – alternating wail sirens for three minutes.
Fire and General Emergency:	Inside – building specific coded sequence for three complete cycles, followed by verbal instructions. Outside – siren followed by verbal announcement for three complete cycles.
Toxic Gas:	Inside – repeating sound for one and a half minutes, followed by verbal announcement for three complete cycles. Outside – high-low siren followed by verbal announcement for three complete cycles.
All Clear:	Continuous 20-second sounding of inside and outside alarms.

Any employee that becomes aware of an emergency, i.e., fire/explosion, spill, toxic gas release, that could immediately threaten human health or the environment must immediately sound the emergency evacuation alarm. Activation of the alarm system will not be necessary if personnel on the scene determine that the situation can be IMMEDIATELY and SAFELY corrected by the intervention of technicians and other personnel in the area.

The Area Emergency Coordinator will obtain information from the affected area pertaining to the emergency and communicate it according to the emergency phone communication procedures described below.

1. Emergency Phone Communications

After assignments of needed action to cope with the particular emergency are made by the Area Emergency Coordinator, or if the Area Emergency Coordinator determines that additional inside or outside assistance is needed, he/she will immediately utilize the emergency phone located at the muster area.

Since the emergency phone system is designed to permit both talking and listening at each phone location with a common line tying all locations together, it is very important that proper procedures be followed in using the phone to avoid confusion and misunderstanding of information. A push to talk button is provided on most of the handsets. Emergency responders are instructed to observe the following procedure:

a. The Area Emergency Coordinator at the affected area will maintain control of the communications and report the nature of the emergency, request assistance from inside or outside the plant, and report actions underway to cope with the situation. If the phone system is destroyed, the backup emergency radio system will be used.

b. The Area Emergency Coordinators at the unaffected muster locations will remain silent unless they determine that they have information valuable to cope with the situation, or a specific request for assistance is directed to them by the person in charge at the affected muster location.

c. If the emergency cannot be readily handled, the Crisis Manager and the Emergency Control Team will be summoned by the emergency phone system. If this team is not physically present within the affected plant, they may be contacted outside the plant over the emergency phones located in the ECC and coordinate activities from this point. The Crisis Manager will be notified whenever an emergency evacuation is executed even if the Crisis Manager's assistance is not needed.

d. If additional assistance is needed, the Mt. Vernon Fire and Rescue Department may be notified. The Police Department will be asked to set up proper roadblocks so that emergency equipment can move freely to and from the facility. The Emergency Team Command Officer, i.e., Crisis Manager, and Area Emergency Coordinator at the affected area will be in charge of the Fire Department and Mutual Aid efforts until relieved by the facility Fire Chief. Emergency response phone numbers are provided in Appendix G-3.

e. The Area Emergency Coordinator must designate an individual to remain on the phone at each muster station to receive information on further developments at the affected areas.

f. Upon termination of the emergency as determined by the Crisis Manager, the authority to sound the "All Clear" alarm is given to the Utilities Operator by means of the emergency phone.

G-4b Identification of Hazardous Materials: 40 CFR 264.56(b)

The identification of the hazardous materials involved in an emergency will be initiated by the Area Emergency Coordinator, who, upon becoming aware of the incident, will identify the character, exact source, amount, and extent of releases. Plant records such as inventories, process log sheets and SDSs are available for use in estimating the composition and quantity of released material. If the released material cannot be identified, samples will be collected for chemical analysis.

G-4c Assessment: 40 CFR 264.56(c), 264.56(d)

The Crisis Manager and/or Spill Duty Officer (tasked with evaluating the severity of a spill situation, e.g., if a Reportable Quantity has been released) will assess the potential for direct and indirect hazards to human health or the environment. Further details are provided in Sections G-2 and G-4d of this Contingency Plan.

If after assessing the incident, it is determined that the facility has had a release, fire or explosion which could threaten human health or the environment outside the facility, local authorities will be notified, and assistance will be provided to the appropriate authorities in deciding whether local areas should be evacuated. In addition, the National Response Center (NRC) and the Indiana Department of Environmental Management (IDEM) will be immediately notified, as specified in Section G-8.

G-4d Control Procedures: 40 CFR 264.52(a)

The control procedures to be taken in the event of a fire, explosion, or release are particular to the nature and severity of the emergency. Potential hazardous situations fall under two general categories: (1) fire and/or explosion, and (2) spills or hazardous material releases.

1. Fire and/or Explosion

If a response to a fire and/or explosion is necessary, the Phenol Tar Boilers, Container Storage Building and hazardous waste tanks and container accumulation areas can be easily accessed by fire-fighting and other emergency vehicles and equipment. Paved roads provide access to all areas throughout the facility.

The SABIC Emergency Team is available at all times to respond to an emergency. In the majority of emergency situations that might occur at the facility, the Emergency Team will be the first group to take emergency response measures. The Emergency Team will conduct the fire-fighting and will call for outside assistance as the situation warrants.

2. Spill or Material Release

The SABIC facility relies on several mechanisms to allow prompt discovery of a spill or release of hazardous waste or chemicals:

a. Routine inspections of process equipment and tank farm areas by operating personnel,

b. Prompt attention to unusual or strong chemical odors, which may be indicative of a leak, and

c. Prompt attention to instrumentation responses, e.g., high level alarms, automatic sump pumps, and pH meters, which may reveal chemical spills or an uncontrolled reaction.

Any employee involved in the detection of a chemical spill or release of a hazardous material that could threaten human health or the environment will immediately sound the emergency evacuation alarm.

Assessment of the situation, i.e., character, source, amount, and extent of released materials or chemical spill, will be conducted as described in Sections G-4b and G-4c. If the release represents a potential threat to human health or the environment, the Crisis Manager will be notified.

Emergency response equipment available at the facility is listed in Appendix G-5.

If the required spill response is determined to be beyond the scope of the SABIC facility capabilities, an outside emergency response organization will be contacted (see Appendices G-5 and G-6).

The Crisis Manager will ensure that the reporting of spills and releases is made to the regulatory agencies or the local emergency planning committees whenever the quantity released exceeds the reporting threshold.

The Area Emergency Coordinator will take all reasonable measures to prevent a spill or other release of hazardous materials from spreading to other areas of the facility or off the facility property. If the spill cannot be contained, the Area Emergency Coordinator will, where possible, instruct unit personnel to temporarily dike the area using sand or neutralizing/absorbing materials.

If the spill has entered the wastewater sewer, the Wastewater Treatment Plant (WWTP) Operator will evaluate the potential impact on the wastewater treatment system and effluent limitations. Depending

on the severity of the spill, the operator will decide on the best procedure to manage and treat the spill through the WWTP. The Area Emergency Coordinator and Crisis Manager will make the decision to shut down the processing areas based on the available information and input from the WWTP Operator. Every effort will be made to obtain additional help in assigning priorities during any shutdown. In plant supervision for the area(s) involved will limit the problem in coordination with the Crisis Manager.

Proper response in containing the release and taking measures to prevent adverse environmental impacts will allow prompt cleanup of released materials and minimize the impact on human health and the environment. The Area Emergency Coordinator and the Crisis Manager have the responsibility for ensuring that containment and recovery of materials released is promptly initiated, and that recovered material is managed properly, while characterization of the waste generated, and disposal is coordinated with the Environmental Engineer.

3. Toxic Gas Release

The emergency response associated with a toxic gas release may differ from the procedures followed in other types of emergency situations. If the leak is small enough to remain within the operation of origin, then the toxic gas alarm need not be sounded, but the area of the small leak will be roped off and the leak repaired immediately. If the toxic gas release cannot be taken care of QUICKLY and SAFELY by the personnel at the scene, employees are instructed to follow these procedures:

a. The push button alarm for toxic gas releases located in the area must be activated. Inside – repeating sound for one and a half minutes, followed by verbal announcement for three complete cycles. Outside – high-low siren followed by verbal announcement for three complete cycles.

b. The team leaders for the Phosgene and Brine Recovery plants will check the possibility of a gas release in their areas whenever an emergency evacuation situation occurs. If the release is in any of these operations, the team leader will immediately put on a proper air mask and take steps to stop the release, if possible, by closing necessary valves, and shutting down involved equipment. If the release cannot be QUICKLY and SAFELY stopped, the team leader will assess the situation and report this information on the emergency phone system.

c. All other personnel, except the above-mentioned, will immediately pick up an emergency escape air mask, proceed toward the evacuation exit designated at their respective operation, and wait for further instructions regarding appropriate evacuation routes and procedures outlined in Figures G-2, G-3, and G-4.

d. The Area Emergency Coordinator must promptly assess the wind direction by observing the windsock located near each emergency exit before proceeding with personnel evacuation and will ensure that personnel are directed to a muster station, shown on Figure G-4, upwind from the path of the toxic gas release. The Area Emergency Coordinator is responsible for directing the evacuation process at each operation.

e. If for any reason the wind direction cannot be determined by observing the windsock, personnel will proceed cautiously toward assigned muster areas while being alert for unusual odors and checking wind direction by watching the Utilities' smokestack, or the parking lot flags. Again, if toxic gas is suspected, an evacuation route must be taken, and muster will take place at a safe area away from the path of toxic gas. The emergency escape air mask will be used when actually confronted with toxic gas.

f. If the toxic gas release is detected at an adjacent area before it is noticed at its origin, and the toxic gas alarm is not readily available, the regular emergency evacuation alarm box can be pulled to announce the need for evacuation. After evacuation, the emergency phone communication system is to be used to inform every one of the toxic gas release and request the sounding of the toxic gas release alarm. Employees are instructed to always be alert to a potential toxic gas release in any emergency, and to pick up an emergency air escape mask as they evacuate to a muster station.

g. If a major emergency arises during the weekly test period (conducted each Wednesday), the evacuation alarm will be activated manually. The air horns will be allowed to sound the 20-second blast indicating that the test period is over. Immediately after, the coded sequence representing the affected area will be sounded on the same air horns.

4. Personnel Injury

If personnel are injured at the plant, the emergency telephone number is called (7001). The emergency number is answered by the Security Team and the appropriate response is dispatched to the injured employee. The Emergency Medical Technician assesses the injured person and makes the decision to transport the patient to a local hospital, take the injured person to the facility medical center, or treat the patient and return the employee to work. The nurse on duty or on call is notified of the situation. The nurse will be responsible for coordinating the efforts of the EMTs and First Responders with patients brought to the medical center. The Medical Response Team consists of several technicians who work on different shifts and have received the State Certified EMT and/or First Responder Training.

G-4e Prevention of Recurrence or Spread of Fires, Explosions, or Releases: 40 CFR 264.56(e)

Steps taken to ensure that fires, explosions, or releases do not occur, recur, or spread to other hazardous waste at the facility include:

- Monitoring of valves, pipes, and other equipment for leaks, pressure buildup, gas generation, or ruptures;
- Prompt detection and notification using frequent inspection procedures detailed in Section F of this permit renewal application;
- Proper emergency response, including recruitment of assistance from emergency response agencies, as necessary;
- Timely shutdown of process or operations, and
- Containment and collection of released waste.

Unit-specific training is provided to facility personnel to prepare them for proper execution of these emergency control activities.

G-4f Storage and Treatment of Released Material: 40 CFR 264.56(g)

Recovered waste, contaminated soil, surface water or other contaminated material resulting from a release, fire, or explosion at the facility will be collected and properly containerized pending characterization of the material and arrangements for disposal. Waste characterization and disposal arrangements will be coordinated by the SABIC Environmental Department. The Area Emergency Coordinator will deploy and utilize emergency equipment deemed necessary to accomplish the removal and collection of waste materials.

G-4g Incompatible Waste: 40 CFR 264.56(h)(1)

The Area Emergency Coordinator will ensure that no chemicals or waste materials potentially incompatible with released material(s) are introduced into affected areas of the site until cleanup procedures are completed. Since the hazardous waste fuel is segregated into accumulation tanks (V-525A and V-525B), each of which is provided with separate secondary containment, the potential for mixing the (hazardous waste fuel) with incompatible wastes is minimal.

G-4h Post-Emergency Equipment Maintenance: 40 CFR 264.56(h)(2)

All emergency equipment (Appendix G-5) utilized during the emergency response efforts will be cleaned and prepared for future use and returned to its storage location before operations are resumed in the affected area(s) of the plant. Depleted stocks of neutralizing/absorbing materials will be replenished, SCBAs cleaned and refilled, and protective clothing cleaned. Safety equipment will be inspected before operations are resumed in the affected area(s) of the plant. Local and state authorities must be notified, in writing, of the details of the incident and the response actions within 15 days after an incident when the post emergency equipment maintenance has been performed and plant operations have been resumed.

G-4i Container Spills and Leaks: 40 CFR 264.52, 40 CFR 262. 34(a)(1)(ii), 40 CFR 265 Subpart I

In the event of a container spill or leak in the less than 90-day storage areas, the following steps will be taken to control and clean up the spill:

- Material will be contained;
- Absorbent will be applied;
- Spilled material and absorbent will be collected and placed in drums;
- Any residual will be washed into the secondary containment trench using a hose;
- Wash-water will be pumped into drums;
- Wash-water samples will be collected and tested to determine its proper disposal method; and
- Nonhazardous wash-water will be pumped to the WWTP for treatment; if determined to be hazardous, it will be taken off-site for disposal. Testing of material removed from the secondary containment trenches will be conducted in accordance with the most current test methods in SW-846, found online at https://www.epa.gov/hw-sw846. Testing will be performed.

All containers in less than 90-day storage areas are inspected at least once a week for severe rusting, structural defects, and leakage. If a container holding hazardous waste is not in good condition or if it begins to leak, the hazardous waste will be transferred, as soon as practicable, to a container in good condition, or the container will be placed in a salvage container.

G-4j Tank Spills and Leakage: 40 CFR 265.52, 40 CFR 262. 34(a)(1)(ii), and 40 CFR 265 Subpart J

All hazardous waste storage tanks at the SABIC facility are operated as 90-day accumulation tanks. The tanks are provided with secondary containment capable of containing at least 100% of the largest tank's capacity. In the event of a spill or leakage from these tanks, the following procedures will be followed:

- The flow of hazardous waste into the tank system or secondary containment will be immediately stopped, if determined that the tank is unfit for use or that the release cannot be controlled;
- An inspection of the affected area will be conducted to assess the potential for the release to impact surrounding soils or surface waters, and procedures to prevent possible migration;
- Material accumulated in the containment area will be removed within 24 hours after detection of the leak (or as soon as practicable, if removal within 24 hours is not possible) and pumped to containers or tankers, as appropriate;
- Absorbent will be applied to remove free liquids remaining in the containment structure (if any);
- The absorbed waste residue will be collected and placed in drums;
- Any residual will be washed using a hose, and the resulting wash-water pumped into drums;
- Wash-water samples will be collected and tested according to the procedures described in Section G-4i to determine its proper disposal method; and
- Non-contaminated wash-water will be pumped to the WWTP for treatment; contaminated water will be taken off-site for disposal.

G-5 EMERGENCY EQUIPMENT: 40 CFR 264.52(e)

A list of emergency equipment maintained at the SABIC site and a description of the equipment capabilities is included in Appendix G-5.

1. Fire Protection Equipment

1.1 Plant Water Supplies and Fire Loop

The plant water supplies, and fire loop consist of the following:

- supplies, including storage tanks and fire pumps;
- Underground water mains including valves and hydrants;
- Sprinkler systems; and
- Fire trucks.

This fire protection system provides the plant with the first line of defense in many fires and supplies the Emergency Team with the primary means of extinguishment. SABIC maintains a private, dedicated fire line.
Water supply storage includes Cooling Towers Nos. 1 and 2, the Mill Water Plant and a million-gallon storage tank. There is a 750,000-gallon water supply reserve for fire protection at the Mill Water Plant. Water is supplied to the system through two electric fire pumps at Cooling Tower No. 2, two diesel fire

pumps at Cooling Tower No. 2, three diesel fire pumps at the Mill Water Plant, and two diesel fire pumps at the Phenol Plant. The fire pumps operate automatically but can be operated manually. Pumps maintain a static pressure of approximately 150 psi and overcome minor leaks that may occur from time to time. The flow rate capability is 16,000 gpm at 150 psi. Fire hydrants are located throughout the plant and are positioned approximately 300 feet apart for easy access to all buildings and operation areas. Each fire hydrant is equipped with a fire hose.

1.2 Fire Extinguishers

Fire extinguishers are strategically located throughout the facility. Extinguishers must be selected according to the type of fire, as discussed below:

- Class A fires involve ordinary combustibles such as wood or paper. These are most readily extinguished by removing the heat. Water extinguishers are best suited for this type of fire. All-purpose dry chemical extinguishers may also be used.
- Class B fires involve flammable liquids such as gasoline or alcohol. Since these are liquid fires, the application of water may tend to "float" the fire away, spreading it. The best method of extinguishment for this type of fire is to remove the oxygen. Carbon dioxide, foam, or dry chemical extinguishers are best suited for Class B fires.
- Class C fires involve energized electrical equipment. Since some extinguishing agents conduct electricity, and the best method of extinguishing this type of fire is to remove the oxygen, carbon dioxide and dry chemicals are recommended here. However, if the electricity can be turned off, the remaining fire is usually Class A and can be easily extinguished.

1.3 Plant Fire Truck

In addition to the automatic fire protection, the plant is also protected by an in plant Emergency Team. The fire trucks and other equipment to be used by the fire brigade are properly maintained at all times to ensure readiness in the event of a fire. The fire trucks are stocked with standard firefighting and fire related safety equipment.

2. Spill Control Equipment

The emergency response vehicle contains a variety of spill control equipment. A list of other spill response equipment is given in Appendix G-5.

3. Alarm System

The plant emergency alarm system consists of alarm boxes and alarm bells, toxic gas push button alarms, air operated horns, and oscillating sirens. The alarm boxes and bells are located throughout the plant with the boxes being used to initiate a coded signal and the bells and horns to announce the same. Each alarm when pulled, will transmit the box code four times to indicate the location of the activated box. The coded signal will be announced on the single stroke bells located in the affected plant and will also sound on the air horns located throughout the plant.

The toxic gas push button alarms (located throughout the plant) initiate a signal announcing that toxic gas has been released. The push button alarm for toxic gas releases located in the area must be activated:

Inside – repeating sound for one and a half minutes, followed by verbal announcement for three complete cycles; and Outside – high-low siren followed by verbal announcement for three complete cycles.

The "All Clear" or "Recall" signal will consist of a 20-second continuous blast on the air horns, which will be activated from the control panel in the Utilities Building upon proper authority from the Crisis Manager.

4. Communication Systems

In an emergency situation, effective and rapid communication must be maintained among all elements of the disaster control organization and throughout the plant. The two forms of communications that are available at the SABIC site are:

4.1 Emergency Phone System

Emergency phones are located at each of the muster locations. These phones make up an independent system that provides a direct line of communication between the muster locations and the ECC, the Phosgene plant, and Brine Recovery plant by simply lifting the receiver of each phone. To avoid confusion, the Area Emergency Coordinator of the affected area is in charge of all communications.

4.2 Radios

In addition to the emergency phone system, cell phones and radios are used by appropriate personnel, such as the Emergency Team and the Crisis Manager to aid in emergency communications.

5. First Aid and Medical Supplies

A medical facility is located on-site, staffed with nurses. First aid will be administered by plant nurses or members of the first-aid team. The SABIC facility has an ambulance for transportation of injured personnel.

G-6 COORDINATION AGREEMENTS: 40 CFR 264.52I, 264.37

The SABIC site has made agreements with outside agencies for assistance in emergency situations. SABIC has provided copies of the Contingency Plan to key emergency response agencies. Copies of the Contingency Plan transmittal letters and a Mutual Aid Agreement with the Posey County Fire Department are included in Appendices G-6 and 7.

Emergencies that require notification of others are classified as follows:

1. Standby Alert - A fire or other emergency which might be controlled with in plant manpower and equipment, but which has the potential of escalating, triggering the need for outside assistance. Notice should be given to central dispatch (i.e., Posey County Sheriff's Office) so that it can activate the standby alert plan.
2. Assistance Call - A fire or other emergency that is beyond the control of in plant manpower and equipment, requiring assistance from outside organizations. This call is issued in the form of a request for a definite amount of a specific type of equipment, materials, and/or manpower, and should be directed to the staging area on the road or Gate 7 (Visitor's Center). Central dispatch should be notified.

3. All-Out Call - In case of a major disaster where all assistance is required, a call is to be made to each member of the outside organizations requesting aid immediately through central dispatch. Staging will be conducted as described above.

Emergency response, contacts, phone numbers, and available emergency equipment are contained in the Crisis Manager Manual. The Site General Manager, the Crisis Manager, and the Fire Chief are the only personnel authorized to notify the emergency response organizations and request assistance. These personnel are also the only ones who can send assistance to other stricken plants when requested.

G-7 EVACUATION PLAN: 40 CFR 264.52(f)

If an emergency situation develops and the situation can be IMMEDIATELY and SAFELY corrected by technicians at the scene, they should take steps to do so. If the situation cannot be addressed SAFELY, facility personnel is instructed to observe the following procedure:

1. Pull the lever inside the nearest emergency alarm box all the way down only once, then release it. The alarm will sound a coded signal (example: two rings followed by one ring) on the alarm bell located in the affected area. This same coded signal will simultaneously be sounded by the air horns throughout the plant and will be repeated automatically four times.
2. Upon hearing the emergency alarm, most personnel in the plant should immediately evacuate following the primary evacuation exit established for their operating unit. Employees are instructed not to waste time by climbing stairs or entering rooms to secure equipment. Equipment should be secured only if it can be done by a switch or valve within easy reach when the alarm sounds.
3. All personnel should immediately evacuate to the muster areas designated for their specific operation/building. Personnel should muster by work areas to facilitate the tracking activities of the person in charge of each muster location. Muster area locations are shown in Figure G-4.
4. The primary and secondary evacuation routes for the Phenol Tar boilers are illustrated in Figure G-2.
5. The person in charge of a muster location will conduct a muster count and communicate to the Area Emergency Coordinator the need for assistance, if necessary.
6. In the event that outside contractors or visitors are on-site, the person responsible for bringing them on-site is responsible for leading them to the muster area or for giving them instructions for mustering in case of an emergency.
7. Employees working outside their regularly assigned area are instructed to report to the nearest muster station and identify themselves to the person in charge if an emergency situation develops. The location of these individuals will be then reported over the emergency phone system to their normal muster station.
8. Employees are instructed not to re-enter the evacuated areas without specific instructions from the Area Emergency Coordinator. Once the nature of the emergency is known, the person in charge at each muster area may elect to send at least two people back into the unaffected buildings to secure the equipment or monitor continued operations.
9. The emergency alarm may be sounded in case of severe personnel injury when other means of summoning help are not practical. In this case, the person sounding the alarm should

remain at the switch and re-trip it after it has gone through its cycle. A repeated sequence (more than four) is a signal for help and should not be used when evacuation is required.

G-8 REQUIRED REPORTS: 40 CFR 264.56(i)

1. Verbal Report

If an emergency situation results in a release, fire or explosion which could threaten human health or the environment, outside the facility, the NRC, IDEM Office of Emergency Response, and the Posey County Local Emergency Planning Committee will be immediately notified. The report must include:

a. Name and telephone number of reporter;

b. Name and address of facility;

c. Time and type of incident (e.g., release, fire);

d. Name and quantity of material(s) involved, to the extent known;

e. The extent of injuries, if any; and

f. The possible hazards to human health, or the environment, outside the facility.

2. Written Report

Within 15 days after an incident that requires verbal notification, as described above, a follow-up written report containing the information provided with the verbal report must be submitted to the EPA Regional Administrator. In addition to the above information, the follow-up written report will include a discussion on the estimated quantity and disposition of recovered material that resulted from the incident.

APPENDIX G-1

HAZARDOUS WASTE MANAGEMENT LOCATIONS & EMERGENCY RESPONSE FEATURES

See beginning at page 440 of VFC 83603434

APPENDIX G-2

HAZARDOUS WASTE TABLE

See beginning at page 442 of VFC 83603434

APPENDIX G-2a

CRISIS MANAGERS CONTACT LIST

APPENDIX G-2a

Crisis Managers Contact List* as of 2024
Crisis Manager Cell # 812-305-0888

Area Code: 812

Name	Home Address	Work Phone	Home Phone	Cell Phone
Niall McConville	1060 County Road 450N, Norris City, IL 62869	812-305-0908	618-265-3933	812-305-0908
David McGee	7540 Brady Ct, Evansville, IN, 47720	812-305-0901	870-665-2367	812-305-0901
John Cape	310 Key West Dr., Evansville, IN 47712	812-833-1081	812-202-3676	812-202-3676

* Crisis Managers change from time to time. The most current information is maintained as Appendix G-2a.

APPENDIX G-3

EMERGENCY TELEPHONE LIST

APPENDIX G-3

EMERGENCY TELEPHONE LIST

SABIC PLANT NOTIFICATION	EMERGENCY NUMBERS
Crisis Manager	**812-305-0888**
CITY & COUNTY SERVICES	
Mt. Vernon Police Department	**911 (Business phone 812-838-8705 After hours call 812-838-1320)**
Mt. Vernon Fire Department	**911 (Business phone 812-838-3447)**
Posey County Sheriff's Department	**911 (812-838-1321)**
Black Township Fire & Rescue	**911 (812-838-4355)**
Posey County EMA	**911 (Business phone 812-838-1333 After hours call 812-838-1320)**
Marrs Township Fire Department	**911 (812-985-9333)**
STATE AND NATIONAL NOTIFICATIONS/SERVICES	
Indiana Department of Environmental Management, Office of Emergency Response	**888-233-7745**
National Response Center	**800-424-8802**

APPENDIX G-4

SABIC SPILLS/RELEASES REPORTING FORM

(For Spill Duty Officer Use ONLY)

See beginning at page 452 of VFC 83603434

APPENDIX G-5

EMERGENCY RESPONSE EQUIPMENT

APPENDIX G-5

EMERGENCY RESPONSE EQUIPMENT

ITEMS	QTY	DESCRIPTION	LOCATION
FIRE AND RESCUE PROTECTION			
TRUCKS			
Fire Trucks	1	WATER TRUCK – 1,000 gal + 300 gal foam tank, 1,250 gpm, sparkless equipment, hose: 5 in (1,000 ft), 1.5 (600 ft), 5000 watt generator, SCBA's, tools	Bldg 45
Rescue Trucks	1	One ton utility body, rescue and supply truck, EMT Kit, carries 12 responders, 2 stretchers, breathing apparatus, 6 explosion proof portable radios (20 mi radius), direct radio to emergency services, CO_2, explosion meter, life jackets, life saw, emergency generator, 5 min air, resuscitators, 6,000 lb equipment cascade to fill tanks, Tyvac suits, SCBA, dressing room, gloves	Bldg 45
TRAILERS			
Fire Trailers with foam chemical	1	National Universal Foam, 750 gal fixed monitor	Bldg 45
Monitor Trailer	1	6 – water or foam monitors, 3 in (1,000 ft) hose	Bldg 45
Generator Trailer	1	12.5 KVA generator, 6 – 500 watt lights	Fire Brigade Training Area
HAZMAT Response Trailer	1	Empty RCRA drums, brooms, absorbents, pig, spill pads, spill rolls	Bldg 45
EQUIPMENT			
Fire Extinguishers	3500	Dry chemical, CO_2, water, foam and halon	Site, HW tanks (V-720 and V525A/B), Phenol Tar Boiler, HW drum storage area
Dry Chemical Wheel Units	65	350 lb Purple K dry chemical	Site, HW tanks (V-720 and V525A/B), Phenol Tar Boiler, HW drum storage area
Fire Coats	100	Meets current NFPA standard	Bldg 45 and Site
Fire Hats with visor	100	Meets current NFPA standard	Bldg 45 and Site
Steel-toe Fire Boots	100	Meets current NFPA standard	Bldg 45 and Site
SCBA	184	401s (22 for Fire Brigade, balance in operations)	Bldg 45, Production areas
Fire Axes	3	Standard equipment	Trucks
Fire Blankets	Numerous	Standard equipment	Site
Fire Hydrants	Numerous	Standard equipment	Site
Additional Fire Hose	Numerous	2 ½ in (100 ft) and 1 ½ in (100 ft)	On hydrants, Site wide
Fireman Gloves	100+spares	NFPA standard	Bldg 45 and Site

ITEMS	QTY	DESCRIPTION	LOCATION
Ladders	1	3 section (36 ft), Single section roof ladder (20 ft), 2 section (24 ft)	Bldg 45 Water truck Bldg 45 Rescue truck
Life Lines & Body Harness	Numerous	2-50 ft, 2-100 ft, and 1-200 ft life lines, snap lock ends, 1 spare of each length	Trucks and Operation site
Emergency Stretchers	2 1 1	Folding stretchers Stokes basket Stokes basket	Bldg 45 Rescue truck Bldg 45 Water truck Bldg 45 Rescue truck
Sprinkler Systems	190	Water sprinkling systems, all types	Production areas
TOXIC GAS RELEASE PROTECTION			
HAZMAT Response Trailer	1	Described above	
MSA Air Masks – SCBA	184	Described above	
Emergency Escape Air Masks	1/employee	5 min., air, NIOSH Scott pak, HA approved, inspected weekly, TC-13F-181	Site work areas
Ambulance	1		Medical
Wind Socks	80		Site
Vapor Suppression Foam	4670 gal		Bldg 45 (HAZMAT trailer)
Fire Extinguishers	3500	Dry chemical, halon, foam, CO_2	Site
SPILL CONTROL EQUIPMENT			
Oil	2 tons +	Dry absorbent	Bldg 45, (HAZMAT trailer), Phenol Plant, Operations
Recovery Drums	Numerous		Laydown area, 8 in Bldg 45 (HAZMAT trailer)
Polyethylene Sheets	Numerous		Sheet Products Bldg
Neoprene Gloves	Numerous		Bldg 45, (HAZMAT trailer)
PERSONAL SAFETY EQUIPMENT			
MSA Air Masks (Same as SCBA)	30		Fire & Rescue trucks, Bldg 45
Air-line Masks	4	MSH-NIOSH	Bldg 14, BPA, Phenol, Brine Recovery
Cartridge Respirators	Numerous	MSH-NIOSH	Operation-specific
Disposable Uniforms	24		Site
Neoprene Gloves	Numerous		Bldg 45, (HAZMAT trailer), Operation-specific
Butyl Rubber Gloves	Numerous		Bldg 45, (HAZMAT trailer), Operation-specific
Disposable Gloves	Numerous	ANSI	Site
Steel-toe Boots	1/employee	ANSI	Site

ITEMS	QTY	DESCRIPTION	LOCATION
Safety Glasses	1/employee	ANSI	Site
Chemical Goggles	1/employee	ANSI	Operation-specific
Full-face Shield	Numerous		Operation-specific
Hard Hats	1/employee		Site
MONITORING EQUIPMENT			
Wind Socks	63		Site
Oxygen and Explosion Meter	1		Bldg 45 Rescue truck
CO Detector	1		Bldg 45 Rescue truck
Draeger Tube Tester	3		Bldg 45 Rescue truck, 2-testing
FIRST-AID & MEDICAL SUPPLIES			
First-aid Supplies	Numerous	Bandages, tape, splints	Medical, Medical back-up (Bldg 45)
Ambulances	1 1		Medical Medical
Stretchers	4	Described above	
Bag/Valve Mask	4	Exceed State Certification standards	2-Ambulance, 2-Rescue truck
Defibrillators	8	Exceed State Certification standards	1-Ambulance, 2-Rescue truck
Trauma Kit	4		Medical, Rescue truck, 2-Ambulance
Blankets	40-45 40-45 40	Sanitized wool bed blankets Sanitized cotton blankets Vinyl cotton lined-back-up medical	Bldg 45 Medical
Eyewash Stations	Numerous		Site, HW tanks (V-720 and V-525 A/B), drum storage area
OTHER EQUIPMENT			
Portable Radios	400	UHF repeater system, 5-mile radius	Site
Safety Radios	100	Repeater system 150’ vertical tower, range to reach Evansville – 20 miles	Site
Tools	Numerous	Hammers, shovels, wrenches	Site
Emergency Phone System	Numerous	Muster phones	Muster stations
Flashlights	1/emerg. Team member	2 cell explosion proof	Bldg 45
Batteries	Numerous		Site

ITEMS	QTY	DESCRIPTION	LOCATION
Portable Generators	4	1-12,500 watts, 1-3,000 watts, 2-5,000 watts	Bldg 45, Fire Brigade training area
Portable Floodlights	8		Bldg 45 Rescue truck
Electrical Extension Cords	Numerous		Site, Rescue truck, Fire trucks
Tape and Sealants	Numerous	Duct tape, masking tape, duct seal	Site
Rope	Numerous		Bldg 45, Rescue truck, Fire trucks

APPENDIX G-6

MUTUAL AID AGREEMENT

See beginning at page 460 of VFC 83603434

APPENDIX G-7

COORDINATION WITH LOCAL ORGANIZATIONS

See beginning at page 471 of VFC 83603434

ATTACHMENT H

PERSONNEL TRAINING

40 CFR 270.14(b)(12), 264.16, 265.16, 40 CFR 63.1206(c)(6) and (7)

This section describes the training program developed by SABIC Innovative Plastics Mt. Vernon, LLC (SABIC) to comply with the requirements of 40 CFR 264.16. The program's goal is to provide facility personnel involved in hazardous waste management with the basic knowledge and skills necessary to perform their assigned duties in an efficient and safe manner, to properly manage wastes, and to be able to respond effectively to emergencies that may develop.

H-1 OUTLINE OF TRAINING PROGRAM

The training requirements of 40 CFR 264.16 are satisfied by a three-tiered training approach, which includes:

- Hazardous Waste Management training for RCRA Contacts, and Phenol Plant Manager,
- RCRA Overview and BIF operation training for unit personnel, and
- Emergency Response Training provided to all unit employees, which includes general instructions in safety and chemical handling procedures, as well as procedures to equip them to respond to emergencies involving hazardous waste or other chemicals managed in the unit.

H-1a Job Titles and Duties: 40 CFR 264.16(d)(1), 264.16(d)(2)

The training program is designed to ensure that the amount and type of training provided to facility personnel results in the efficient and safe performance of the tasks associated with each position. Appendix H-1 shows the organization of personnel involved in hazardous waste management at the facility. Job titles and job descriptions are presented in Appendix H-2.

H-1b Training Content, Frequency and Techniques: 40 CFR 264.16 (c) and (d)(3)

The facility training program combines classroom instruction with on-the-job training. Employees must complete training within six months of being assigned to a role within the Phenol Plant which requires a general understanding of the regulatory requirements associated with the operation of the boilers, proper waste handling requirements and emergency response procedures. If no class sessions are offered within six months of the assignment date, the newly assigned employee will be provided with the required training on an individual basis.

An outline of the topics reviewed with the RCRA Contacts and Plant Manager as part of the annual hazardous waste management training are included in Appendix H-3. Appendix H-4 outlines the topics covered as part of the hazardous waste management and BIF operation training offered to unit personnel. Training topics are reviewed with all personnel once a year.

H-1c Training Director: 40 CFR 264.16(a)(2)

The site RCRA training program is directed by a staff member of the Environmental Department. The qualifications of the training director include knowledge of state, federal and local regulations pertinent

to hazardous waste management and disposal. The designated site RCRA training director must participate in hazardous waste management, transportation and/or HAZWOPER review training as required by the regulations and company policy.

H-1d Relevance of Training to Job Position: 40 CFR 264.16(a)(2)

Process/Production Engineer

Process/Production Engineers receive an overview of RCRA regulations and SABIC hazardous waste management policy to qualify them to oversee the hazardous waste operations in their unit and understand the importance of responsible management of hazardous waste. Phenol Plant Process/Production Engineers receive additional BIF-specific training.

RCRA Contacts

The RCRA Contacts have the greatest responsibility for day-to-day management of containerized hazardous waste in the operating units and, therefore, receive additional information on proper waste management procedures, e.g., waste identification, labeling, segregation, etc. In addition, the RCRA Contacts are informed about waste disposal requirements to make them aware of how their actions may impact the final disposal of hazardous waste generated on-site.

Unit Personnel

The scope of RCRA training offered to unit personnel (Shift Operators, Shift Leads, Analyzer Technician, etc.) is intended to provide them with a general awareness of the requirements for hazardous waste management and the different regulatory constraints affecting the operation of the hazardous waste boilers, as necessary to equip them in carrying out their job responsibilities. Phenol Plant Process/Production Engineers receive additional BIF-specific training.

H-1e Training for Emergency Response: 40 CFR 264.16(a)(3)

This program includes training to ensure that personnel not only handle hazardous waste in a safe manner, but also properly respond to emergency situations. The new employee orientation and unit specific training program provides all operating personnel with an understanding of the emergency response procedures applicable to the facility in general and the specific unit where they are employed.

Elements of the unit-specific operator training include:

- Procedures for locating, using, inspecting, repairing, and replacing facility emergency response and monitoring equipment;
- Emergency communication procedures and alarm systems;
- Response to fires, explosions, spills or releases;
- Response to incidents and procedures for containing, controlling and mitigating spills or releases;
- Procedures to follow in non-routine or emergency situations, i.e., unscheduled shutdowns and start-ups related to storms, power outages, fires, explosions and spills; and
- Procedures for evacuation to nearby areas.

Unit personnel also receive periodic training on safety-related topics, such as use of emergency breathing apparatus, fire extinguishers, personal protective equipment and spill control equipment. Periodic department and plant-wide evacuation drills provide continued practice and training on emergency response and evacuation procedures for all personnel involved. These drills allow inadequacies in emergency response plans to be identified and corrected before an actual emergency occurs and help prepare personnel for safe and effective responses to emergency situations.

Additional training is provided to the Emergency Team (plant fire brigade) because this Team would likely be the primary group to participate in emergency response and control measures. Extensive training is provided to ensure that they are properly equipped to respond to emergencies that may develop at the facility. The training includes, but is not limited to, the following topics:

- Proper use of safety equipment;
- Chemistry of fire and the principles of fire extinguishing;
- Location and use of underground fire loops, valves, hydrants, water supplies, and pumps;
- Fire-fighting techniques and hose stream practices;
- Preplanning response to fires in each building;
- Fire and other emergency drills; and
- Basic and advanced Red Cross First Aid Training and Cardiopulmonary Resuscitation (CPR) training.

H-2 IMPLEMENTATION OF TRAINING PROGRAM: 40 CFR 264.16(b) and (e)

All appropriate personnel are fully trained as a matter of practice. New employees directly involved in the handling of hazardous wastes or operation of the boiler units will complete the training program, as described in this section, within six months of assignment to a position with hazardous waste management responsibilities and will not work in unsupervised positions until training has been received.

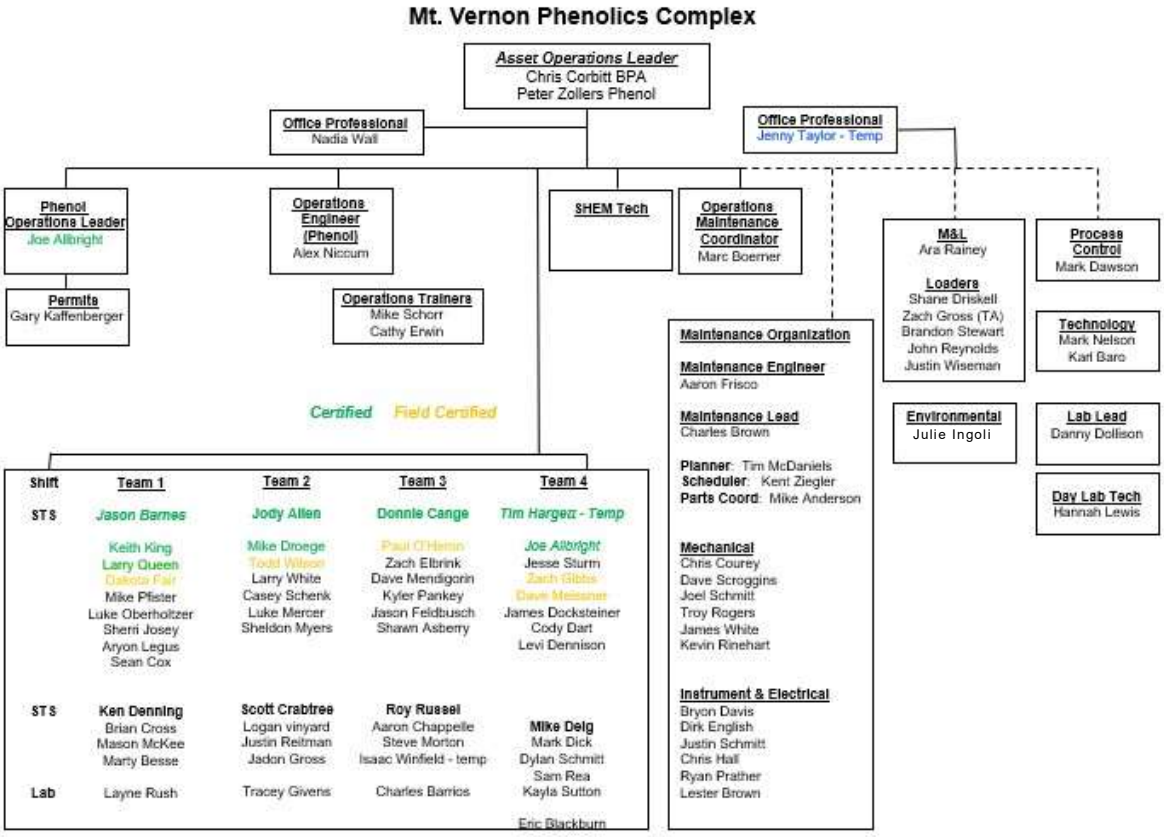
Records documenting the completion of training are kept in the Phenol Plant files. These records will be kept until closure of the facility for current employees and for three years from the termination date of former employees.

APPENDIX H-1

ORGANIZATION CHART FOR SABIC PHENOL PLANT

APPENDIX H-1

ORGANIZATION CHART FOR SABIC PHENOL PLANT



APPENDIX H-2

HAZARDOUS WASTE JOB TITLES / JOB DESCRIPTIONS

APPENDIX H-2

HAZARDOUS WASTE JOB TITLES / JOB DESCRIPTIONS

JOB TITLE	JOB RESPONSIBILITIES
OPERATION ENGINEER	⇒ Schedules waste fuel tank switches and sampling.
	⇒ Directs/Conducts annual BIF/RCRA training of process operators.
	⇒ Serve as liaison with EHS personnel.
	⇒ Manage implementation of EPA regulation compliance (general RCRA, BIF, Subpart BB, and Subpart CC).
ANALYZER TECHNICIAN	⇒ Maintain calibration of CO/O2 instruments.
	⇒ Schedules/manages routine instrument calibration checks as required by EPA regulations.
PCO TECHNICIAN	⇒ Maintain DCS programming controls of BIF boilers.
SHIFT LEAD	⇒ Manage daily boiler operations.
	⇒ Input waste fuel analytical data into feed rate calculation spreadsheets to determine maximum allowable waste feed rate.
SHIFT OPERATORS	⇒ Maintain boiler operations.
	⇒ Conduct waste sampling, as required.
	⇒ Maintain daily analyzer log.
	⇒ Maintain daily boiler/waste fuel tank inspection log.
LAB LEAD	⇒ Manage waste sample analysis chain-of-custody with outside lab.

APPENDIX H-3

SAMPLE RCRA TRAINING OUTLINE

APPENDIX H-3

SAMPLE RCRA TRAINING OUTLINE
(CONTENTS WILL VARY)

Hazardous Waste Handling and Emergency Response

Section 1 - Introduction to RCRA and Waste Management

A. Background - RCRA and Hazardous Waste
B. What is a Hazardous Waste?
C. Listed Wastes
D. Characteristic Hazardous Waste
E. Land Ban Restrictions
F. Waste Identification, Analysis, and Approval
G. Waste Segregation and Incompatible Waste
H. SABIC RCRA Permit Limitations

Section 2 - Waste Packaging and Handling

A. Waste Characterization
B. Waste Packaging
C. Proper Labeling of Waste
D. Ultimate Disposition of Waste at Units

Section 3 - 90-Day Drum Storage, Inspections, and Tracking

A. Temporary Storage of Hazardous Wastes at Units
B. Use and Management of Containers
C. Inspection of Hazardous Waste Containers
D. Empty Drum Handling
E. Drum Tracking

Section 4 - Manifest Document Preparation

A. Internal Manifesting
B. Transfer of Wastes to the RCRA Technician
C. External Manifesting

Section 5 - Spill/Release Reporting

A. Hazardous Waste Contingency Plan
B. First Response, Notifications, Alarms
C. Evacuation Plan
D. Fire and Explosion Procedures
E. Spill/Release Procedures

APPENDIX H-4

BOILER OPERATIONS AND OVERVIEW OF RCRA TRAINING TOPICS

APPENDIX H-4

BOILER OPERATIONS AND OVERVIEW OF RCRA TRAINING TOPICS

I. BOILER OPERATING REQUIREMENTS

1. Brief History and Scope of the Boiler and Industrial Furnace and Hazardous Combustion Maximum Achievable Control Technology (HWC MACT) Regulations
2. Phenol Plant Responsibilities under Environmental Control Regulations
   a. Boiler Operating Limits
      - Waste Fuel Feed
      - CO Limits
      - Heat Duty

   b. Maximum Feed Rate Calculations
      - Metal and Ash Analysis
      - Calculation Spreadsheet
      - Computer Control System - Compliance Screens

   c. Regulatory Inspections

   d. Emergency Evacuation Routes

II. WASTE MANAGEMENT PROCEDURES

1. Hazardous Waste Streams Managed at the Phenol Plant
2. Proper Container to Store Hazardous Waste Streams
3. Proper Labeling of Hazardous Waste Containers
4. Precautions in Handling Hazardous Waste Containers
5. Use of Satellite and 90-day Storage Areas

III. EMERGENCY PROCEDURES

1. Spill Response Procedures Associated with Hazardous Waste Streams
2. Release Reporting Procedure
3. Use and Location of Alarms and Telephones/Radios for Emergency Notification
4. How to Stop Flow of Hazardous Waste During an Emergency

ATTACHMENT I

CLOSURE PLANS, POST-CLOSURE PLANS, AND FINANCIAL REQUIREMENTS

ATTACHMENT I

CLOSURE PLANS, POST-CLOSURE PLANS, AND FINANCIAL REQUIREMENTS

40 CFR 270.14(b)(13) and (15) through (18), 264.110 through 264.151, 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, and 264.351

I-1 CLOSURE PLAN: 40 CFR 270.14(b)(13), 264.112(a)(1) and (2)

This Closure Plan has been prepared for the SABIC Innovative Plastics Mt. Vernon, LLC (SABIC) facility to comply with applicable 40 CFR 264, Subpart G and 270.14 (b)(13) requirements. This plan describes the procedures that SABIC will follow to conduct partial and/or final closure of the two hazardous waste fuel boiler units associated with the Phenol Plant at any point during the active life of the facility.

The two tanks (V-525A and V-525B) that temporarily store the waste fuel prior to being fed to the boilers accumulate material for less than 90 days and are, therefore, not considered permitted units under this permit renewal application. The piping associated with the tanks is part of the tank systems and is therefore similarly excluded from the permit.

A copy of the approved Closure Plan will be maintained as part of the facility's operating record until the certification of closure has been submitted and accepted by the Indiana Department of Environmental Mangement (IDEM) and the Regional Administrator of the U.S. Environmental Protection Agency (EPA) Region V.

I-la Closure Performance Standard: 40 CFR 264.111

This plan was designed to ensure that the hazardous waste management units (HWMUs) located at the Mt. Vernon site will be closed in a mannner that:

(a) Minimizes the need for further maintenance,

(b) Controls, minimizes, or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere, and

(c) Complies with 40 CFR 264.111.

Regulations issued by OSHA and other government agencies will be followed to ensure the safety of all personnel, contractors, and visitors involved in closure activities. The following sections discuss in detail the actions SABIC will take at the Mt. Vernon site to satisfy the closure performance standards.

I-lb Partial Closure and Final Closure Activities: 40 CFR 264.112(b)(1) through 264.112(b)(7)

SABIC manufactures thermoplastic resins and many of the chemicals used in their production. Closure of the HWMUs is not anticipated at this time. However, in the event that future circumstances or decisions dictate the partial or complete cessation of hazardous waste fuel fired boiler activities, closure will be conducted in accordance with the procedures described in this Closure Plan. SABIC will revise the Closure Plan as necessary to reflect any modifications to the existing hazardous waste management equipment, structures, instruments, or procedures.

Implementation of partial closure may be necessary if one of the hazardous waste boilers requires closure, while the other boiler remains operational. Circumstances that may prompt partial closure are:

(a) Modification to facility operations,

(b) Replacement of any of the units, or

(c) Failure of units/structures.

SABIC will notify IDEM at least 180 days before the date it expects to begin the final closure of the facility, i.e., closure of the last HWMU at the facility. Upon completion of closure, a certification of closure will be completed by both SABIC and an independent Professional Engineer registered in the State of Indiana, certifying closure of the units in accordance with the specifications of the approved Closure Plan.

I-lc Maximum Waste Inventory: 40 CFR 264.112(b)(3)

The maximum inventory of hazardous waste associated with the boilers at any time over the active life of the facility is the capacity of the two tanks that feed hazardous waste fuel to the boilers; however, these tanks are not subject to the permit. The very minor amount of fuel that can be associated with the permitted boilers is based on the length and size of the feed lances that deliver the hazardous waste fuel to the burner. The piping between the storage tanks and the boilers is not included in this Closure Plan. Under no circumstances can the hazardous waste fuels exist in the boilers in a liquid phase such that an additional inventory of fuel is present.

The following hazardous wastes are used as fuel for the boilers:

- Phenol manufacturing distillation cracker bottoms (K022),
- Heavy ends cracking by-product light overheads (D018),
- Alpha-methyl styrene (AMS) distillation column bottoms (D001), and
- Oil purge from dephenylation (D001).

In addition, non-hazardous BPA manufacturing distillation tars are used as a waste fuel. Waste disposal will be conducted as described in Section I-1e.

I-ld Schedule for Closure: 40 CFR 264.112(b)(6)

A closure schedule with the projected activities and required closure time is provided in Table I-1.

TABLE I-1

CLOSURE SCHEDULE

Task	Activity	Completion Time (# of days from start)
1	Notify Administrator of intent to close.	180 before start
2	Start closure.	0
3	Receive last volume of waste into management units.	7
4	Dispose of remaining inventory (process through boiler).	14
5	Visually inspect containment pad for cracks, gaps, or damaged areas. Evaluate extent of damage if it exists.	21
6	Empty piping and dismantle.	45
7	Conduct soil sampling.	45
8	Evaluate soil sampling results, determine if additional sampling and/or soil removal is required.	60
9	Decontaminate piping system, sample, and ship for disposal.	90
10	Decontaminate boilers and pad, characterize, and ship materials for disposal.	120
11	*Conduct final inspection, complete closure.	150
12	Submit PE Certification to IDEM and EPA Region V.	180

*An Independent Registered Professional Engineer will be present.

I-1d(1) Time Allowed for Closure: 40 CFR 264.112(b)(2), 264.113(a) and (b)

All closure activities will be completed in accordance with this approved Closure Plan and will follow the schedule provided in Table I-1. These activities are expected to take no longer than 180 days after receiving the final volume of waste. Receipt of the last volume of waste inventory is expected to take no more than seven days after the decision is made to initiate final closure.

SABIC anticipates operating the boilers for an indefinite length of time. For the purposes of this permit application, SABIC considers the date of closure to be approximately 2030.

I-ld(1)(a) Extension for Closure Time: 40 CFR 264.113(a) and (b)

If treatment, removal, or disposal of the final volume of hazardous waste requires longer than the 90-day period allowed by 40 CFR 264 Subpart G for waste inventory removal, or if completion of the closure activities requires longer than the 180 days allowed for completion of those activities, SABIC will either request a modification of the approved Closure Plan or will petition IDEM and U.S. EPA, Region V for a closure time extension. The extension request will include a demonstration that:

- Closure activities require longer than the 90 or 180 days allowed for inventory removal or completion of closure, respectively;
- The unit has capacity to receive additional wastes;
- There is a reasonable likelihood that operation of the unit(s) be resumed within one year;
- Closure will interfere with continued operation; and

- Steps have been taken and will continue to be taken to prevent threats to human health and the environment from the inactive unit.

I-1e Closure Procedures: 40 CFR 264.112, 264.114

This section describes the activities that will be conducted to close the boilers. They include receipt and disposal of the final volume of waste, decontamination of the piping system and boilers, inspection and decontamination of the concrete containment pad for the boilers, and an initial round of soil sampling, if such sampling is determined to be warranted.

I-le(1) Receipt of Last Volume of Waste and Inventory Removal: 40 CFR 264.112(b)(3)

All waste fuels processed in the boilers are received from the storage tanks V-525A and V-525B. The last volume of waste received, and the remaining waste inventory will be designated as the volume of waste remaining in the burner lances when the fuel is no longer pumped from the tanks into the boilers.

The first phase in the closure of the boilers involves the removal and disposal of the remaining hazardous waste inventory. As described above, the maximum inventory of this waste material is approximately 10 gallons. Two options are possible for the removal of this waste:

1. The normal processing of this waste as fuel through the boilers under permitted conditions, and
2. The collection of this waste into drums and shipment off-site for thermal destruction elsewhere.

This Closure Plan assumes that SABIC will process the waste through the boilers. However, in the event the boilers are for some reason unable to process the remaining inventory, the collection, shipment, and disposal of this material has been considered as a worst-case situation for purposes of the closure cost estimate.

For both options, a non-hazardous organic liquid, such as fuel oil, will be used to initially flush the remaining waste fuel from the lances. Fuel oil flushing and burning in the boilers will continue for at least one hour. This time provides for more than 10 volumes of fuel oil to be fed to the boilers to flush the lances.

If the boilers are not able to be used, and the remaining liquid is collected in drums, sufficient fuel oil will be used to flush the lances until visual inspection of the material flowing into the drums indicates that the liquid is predominantly fuel oil and no longer resembles the waste fuel.

I-le(2) Disposal or Decontamination of Equipment, Structures, and Soils: 40 CFR 264.112(b), 264.114

Following waste removal, decontamination activities will be performed by qualified personnel. Based on the hazards presented by the activities being performed, decontamination personnel will be equipped with the Level D, Level C, or Level B personnel protective equipment (PPE) listed in Table I-2.

TABLE I-2

PERSONNEL PROTECTIVE EQUIPMENT

LEVEL D PROTECTION
Level D PPE provides minimal protection against chemical hazards, and should not be worn in areas where respiratory or skin hazards may be present. A respirator is not required. Level D PPE will include:

- Cotton coveralls or long pants and a shirt with sleeves
- Hard hat
- Safety glasses
- Steel-toe/steel-shank work boots
- Work gloves

MODIFIED LEVEL D PROTECTION
Modified Level D PPE will include the items listed in the "Level D Protection" section above, and a selection of one or more of the following items:

- Regular (white) or poly-coated tyvek (yellow), or PVC rain suit
- Safety goggles/face shield
- Chemical resistant over-boots **(type = latex)**, or chemical resistant steel-toe/steel shank boots
- Inner latex (i.e., surgical) gloves
- Chemical resistant outer gloves **(type = Silvershield/4H brand)**
- Arm, leg, and zipper joints sealed with tape

LEVEL C PROTECTION
Level C PPE provides a higher level of respiratory and skin protection against chemical hazards. Level C PPE will include the items listed in the "Level D Protection" section above, and the following items:

- Poly-coated tyvek (yellow)
- Chemical resistant over-boots **(type = latex)**, or chemical resistant steel-toe/steel shank boots
- Inner latex (i.e., surgical) gloves
- Chemical resistant outer gloves **(type = Silvershield/4H brand)**
- Arm, leg, and zipper joints sealed with tape

- Full-face, air-purifying respirator **(equipped with organic vapor/acid gas/P100 cartridges)TABLE I-2 (Continued)**

LEVEL B PROTECTION

Level B PPE should be worn when the highest level of respiratory protection is required, but a lesser level of skin protection is needed. Level B PPE will include the items listed in the "Level D Protection" section above, and the following items:

- **Saranex, Responder, or Barricade** brand tyvek
- Chemical resistant over-boots **(type = latex)**, or chemical resistant steel-toe/steel shank boots
- Inner latex (i.e., surgical) gloves
- Chemical resistant outer gloves **(type = Silvershield/4H brand)**
- Arm, leg, and zipper joints sealed with tape
- Supplied air respiratory protection (air-line or SCBA)

Decontamination of Lances

As described above, a suitable non-hazardous fuel, such as fuel oil, will be used to flush the lances for at least one hour. The non-hazardous fuel will serve as a solvent to accomplish preliminary decontamination of the lances.

The lances will then be emptied by draining the fuel oil into drums. After being emptied, the piping will be dismantled and staged on a contained area.

The lances will be decontaminated using a low-volume, high-pressure waterwash followed by three low-pressure, high-volume water rinses. Hot water or steam and suitable detergent may be used for more effective cleaning, if necessary. Spent fluids resulting from the washing and rinsing will be captured and placed in drums, tanker trucks, or other appropriate containers pending analytical testing and proper disposal determination. Two confirmatory samples will be collected from spent final rinsate. Confirmatory samples will be analyzed for TCLP. If the sample results exceed TCLP regulatory limits, then the spent fluids will be managed as a hazardous waste, and the cleaning procedure will be repeated until the confirmatory sample results pass TCLP limits. At this point, the equipment will be considered to be decontaminated.

Spent fluids characterized as hazardous waste will be shipped off-site as hazardous waste to an appropriate disposal facility. Spent fluids characaterized as non-hazardous waste will be treated through the on-site WWTP (NPDES IN0002101).

Spill or leakage resulting from waste handling activities will be promptly absorbed with absorbent materials and collected in proper containers for shipment to an off-site disposal facility.

Decontamination of Boilers

As described above, the boilers will be fed with fuel oil for at least one hour following the last use of the waste fuels. The fuel oil will flush liquid waste fuel from the burner into the boiler for proper combustion.

After the remaining waste fuel and fuel oil is processed through the boilers, the boilers will be shut down and allowed to cool. The boilers will then be opened and prepared for cleaning, removal of ash deposits, and removal of refractory.

Ash deposits will be removed by either or a combination of both of the following methods:

- Dry sweeping or vacuum removal and collection in drums; or
- Wet washing and collection in drums.

After the ash is removed, the refractory will also be removed and collected into drums or other storage containers. The ash and refractory will be characterized and then shipped to an approved off-site facility for disposal in accordance with 40 CFR 264 and 268 regulations.

The boilers will then be decontaminated by using a similar method as described above for the burner lances. A low-volume, high-pressure water wash will be used first. This will be followed by three low-pressure, high-volume water rinses. Hot water or steam and suitable detergent may be used for more effective cleaning, if necessary. Spent fluids resulting from the washing and rinsing will be captured and placed in drums, tanker trucks, or other appropriate containers pending analytical testing and proper disposal determination. Two confirmatory samples will be collected from spent final rinsate. Confirmatory samples will be analyzed for TCLP. If the sample results exceed TCLP regulatory limits, then the spent fluids will be managed as a hazardous waste, and the cleaning procedure will be repeated until the confirmatory sample results pass TCLP limits. At that point, the boilers will be considered to be decontaminated.

Spent fluids characterized as hazardous waste will be shipped off-site as hazardous waste to an appropriate disposal facility. Spent fluids characterized as non-hazardous waste will be treated through the on-site WWTP (NPDES IN0002101).

Decontamination of Boiler Containment Pad

The boilers are located on top of a curbed, concrete pad that provides secondary containment in the unlikely event of a spill or release of liquid hazardous waste fuels.

At the start of closure activities, the pad will be visually inspected for cracks, gaps, or damaged areas that are in need of repair. If such areas are present, they will be carefully inspected and evaluated to determine if they are a potential location for a release of material to occur outside the containment. For example, if a crack is present, inspection of the location, depth, and size of the crack will be performed to evaluate if the waste could have completely penetrated the pad thickness. If the evaluation indicates a release outside the containment was probable, soil sampling and analysis may be warranted.

If no damaged areas are present, or if the evaluation indicates that the damaged areas would not have allowed a release outside the containment pad, then the pad will be decontaminated using a low-volume, high-pressure water or steamwash followed by three low-pressure, high-volume water rinses. Hot water

or steam and suitable detergent may be used for more effective cleaning, if necessary. Spent fluids resulting from the washing and rinsing will be captured and placed in drums, tanker trucks, or other appropriate containers pending analytical testing and proper disposal determination. Two confirmatory samples will be collected from the final rinsate.Confirmatory samples will be analyzed for TCLP. If the sample results exceed TCLP regulatory limits, then the spend fluids will be managed as a hazardous waste, and the cleaning procedure will be repeated until the confirmatory sample results pass TCLP limits. At that point, the pad will be considered to be decontaminated.

Spent fluids characterized as hazardous waste will be shipped off-site as hazardous waste to an appropriate disposal facility. Spent fluids characterized as non-hazardous waste will be treated through the on-site WWTP (NPDES IN0002101).

Soil Sampling

It is not anticipated that soils adjacent to or below the HWMUs will be impacted by on-site waste management activities. However, contamination of the area may occur as a result of cracks, gaps, or damaged areas in the containment pad; the closure activities; and possible incidental spillage. If the visual inspection and evaluation indicates the presence of such conditions, then soil sampling and analysis will be performed to determine if contamination is present.

This Closure Plan describes a soil sampling program to identify the presence of contamination, if any. If soil sampling is conducted, and if the results indicate the presence of contamination, then additional sampling may be required to define the areal and vertical extent of contamination. If additional sampling is required, SABIC will prepare a closure plan addendum for those activities.

If the evaluation of the containment pad warrants the collection of initial soil samples, they will be obtained in the following manner:

Two (2) investigative soil borings will be completed at locations of potential releases (if any) beyond the containment pad. At each boring location, soil samples will be collected from the following depth intervals: 0–0.5 ft, 0.5–1.0 ft, 1.0–2.0 ft, 2.0–3.0 ft, 3.0–4.0 ft, and 4.0–5.0 ft, for a total of six (6) samples per boring. Samples will be analyzed for volatile and semivolatile organic compounds, and RCRA metals (i.e., arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver). RCRA metals will be tested for total concentrations, not TCLP. Analytical results will be evaluated against the 'Published Levels' in IDEM's Risk-Based Closure Guide (R2) in effect at the time samples are analyzed.

If soil analyitical results for total metals exceed applicable published levels as presented in the R2, then background soil samples may be collected to support calculation of background threshold values (BTV) in conformance with Appendix B of the R2 or such altenrate guidance as is in effect at the time. Up to ten (10) background borings will be completed in areas unaffected by past or present hazardous waste operations. The sampling intervals will correlate with the investigative soil boring intervals previously described. At each background boring location, soil samples will be collected from the following depth intervals: 0–0.5 ft, 0.5–1.0 ft, 1.0–2.0 ft, 2.0–3.0 ft, 3.0–4.0 ft, and 4.0–5.0 ft, for a total of six (6) samples per boring. Samples will be analyzed for those RCRA metals for which total concentration in closure confirmation samples exceed applicable published levels. RCRA metals will be tested for total concentrations, not TCLP.

Analytical results will be evaluated against the Published Levels in the R2 in effect at the time samples are analyzed, and/or to BTVs if applicable. If the analytical results obtained from the initial soil borings indicate the presence of release-related chemicals at concentrations exceeding published levels or BTVs,

additional sampling and analysis will be performed to define the extent of contamination. Following removal and/or in-situ remediation of contaminated soil, confirmation soil samples will be collected and analyzed to verify removal/remediation of contaminated soils. The process of removal/remediation and confirmation sampling will be repeated as needed, until confirmation sample results are less than the Published Levels or the BTVs if applicable. For the purpose of the Closure Plan cost estimate, it is assumed that the contaminated soil will be removed rather than remediated in place and approximately 5 cubic yards of contaminated soils are impacted by closure activities, therefore requiring removal. Contaminated soil will be characterized and shipped off-site for disposal.

Equipment used during sample collection, including heavy machinery and small tools (if any), will be decontaminated by scraping and washing off waste residue, followed by pressure washing, as previously described. Waste residues and rinse water will be collected in proper containers, characterized and properly disposed.

A Quality Assurance Project Plan for closure sampling activities is included in Appendix I-1.

Decontamination Objectives

Decontamination of the HWMU will be determined to be complete when the following criteria are met:

- Analytical results from final rinsate sampling indicate that the concentrations of the target parameters are below their respective cleanup levels. Cleanup levels are listed in Table I-3.
- Soils identified as containing concentrations of target parameters above their respective cleanup levels are removed or remediated within the horizontal and vertical extent of contamination. Verification of remediation within the vertical extent of contamination is determined when two consecutive soil samples meet the cleanup levels. Verification of remediation within the horizontal extent of contamination is determined by soil borings that meet the cleanup levels in every horizontal direction from the contaminated borings. Cleanup levels are listed in Table I-3.

SABIC reserves the right to submit alternative clean closure concentrations developed through a complete health-based risk assessment in the event that clean closure criteria are not attained. The RCRA permit will be modified should incorporation of different sampling and analysis procedures be necessary.

I-1e(3) Closure of Disposal Units/Contingent Closures: 40 CFR 270.14(b)(13), 270.17(f), 270.18(h), 270.21(e), 264.228(a)(2), 264.228(c)(1)(i), 264.258(c), 264.258(c)(1)(i), 264.310(a), 264.601

SABIC does not operate any land-based waste management units, i.e., waste piles, landfills, surface impoundments, or miscellaneous HWMUs. Therefore, these requirements are not applicable.

I-1e(4) Closure of Containers: 40 CFR 264.178, 264.112(b)(3), 270.14(b)(13)

SABIC does not store hazardous waste in containers for a period longer than 90 days. Closure activities of all RCRA accumulation areas for containers at the facility will be conducted in accordance with the generator standards described in 40 CFR 262.

I-le(5) Closure of Tanks: 40 CFR 270.14(b)(13), 264.197, 264.112(b)(3)

SABIC does not store hazardous waste in tanks for a period longer than 90 days. Closure activities of all RCRA accumulation tanks and associated piping at the facility will be conducted in accordance with the generator standards described in 40 CFR 262.

I-le(6) Closure of Waste Piles: 40 CFR 270.18(h), 264.258

There are no hazardous waste piles at the SABIC facility.

I-le(7) Closure of Surface Impoundments: 40 CFR 270.17(f), 264.228(a)(1),(2) and (b)

There are no hazardous waste surface impoundments at the SABIC facility.

I-le(8) Closure of Incinerators: 40 CFR 264.351, 270.14(b)(13)

There are no hazardous waste incinerators at the SABIC facility.

I-le(9) Closure of Landfills: 40 CFR 270.21(e), 264.310(a)

There are no hazardous waste landfills at the SABIC facility.

I-1e(10) Closure of Land Treatment Facilities: 40 CFR 264.280(a), 270.20(f)

There are no hazardous waste land treatment facilities at the SABIC facility.

I-1e(11) Closure of Miscellaneous Units: 40 CFR 270.23(a)(2)

No miscellaneous units are used to manage hazardous waste at the SABIC facility.

I-1e(12) Closure of Boilers and Industrial Furnaces: 40 CFR 266.102(a)(2)(vii)

Section I-e(2) provides a discussion of the decontamination measures that will be employed during closure of the Phenol Boilers and associated equipment and structures. All surfaces that have come in contact with hazardous waste will be tested following decontamination to determine appropriate disposition. Where possible, equipment that has been adequately decontaminated will be reused or recycled.

I-1e(13) Closure of Containment Buildings: 40 CFR 264.1102

No containment buildings are used to manage hazardous waste at the SABIC facility.

I-2 POST-CLOSURE PLAN: 40 CFR 270.14(b)(13), 270.17(f), 270.18(h), 270.20(f), 270.21(e), 270.23(a)(3), 264.118, 264.197(b), 264.197(c)(2), 264.228(b), 264.228(c)(1)(ii), 264.258(b), 264.258(c)(1)(ii), 264.280(c), 264.310(b), 264.603

A Post-Closure Plan is not required because hazardous waste management activities at the SABIC facility are limited. The facility is not engaged in land disposal activities and intends to have all hazardous waste and waste residues removed at the time of closure.

I-3 NOTICE REQUIRED FOR DISPOSAL FACILITIES

The SABIC facility is not a disposal facility. Notices required by this section, therefore, are not applicable.

TABLE I-3

CLEANUP LEVELS

Type of Constituent	Constituent	Waste Code	Rinsate Cleanup Level (mg/l) (a)	Soil Cleanup Level (mg/kg) (c)
Metals	Arsenic	D004	5	CSPL or BTV
	Barium	D005	100	CSPL or BTV
	Cadmium	D006	1	CSPL or BTV
	Chromium	D007	5	CSPL or BTV
	Lead	D008	5	CSPL or BTV
	Mercury	D009	0.2	CSPL or BTV
	Selenium	D010	1	CSPL or BTV
	Silver	D011	5	CSPL or BTV
Volatile Organic Compounds	Benzene	D018	0.5	CSPL
	Carbon Tetrachloride	D019	0.5	
	Chlorobenzene	D021	100	
	Chloroform	D022	6	
	1,2-Dichloroethane	D028	0.5	
	1,1-Dichloroethylene	D029	0.7	
	Methyl Ethyl Ketone	D035	200	
	Tetrachloroethylene	D039	0.7	
	Trichloroethylene	D040	0.5	
	Vinyl Chloride	D043	0.2	
Semi-Volatile Organic Compounds	o-Cresol	D023	200	CSPL
	m-Cresol	D024	200	
	p-Cresol	D025	200	
	Cresol	D026	200	
	1,4-Dichlorobenzene	D027	7.5	
	2,4-Dinitrotoluene	D030	0.13[b]	
	Hexachlorobenzene	D032	0.13[b]	
	Hexachloro-1,3-butadiene	D033	0.5	
	Hexachloroethane	D034	3.0	
	Nitrobenzene	D036	2	
	Pentachlorophenol	D037	100	
	Pyridine	D038	5[b]	
	2,4,5-Trichlorophenol	D041	400	
	2,4,6-Trichorophenol	D042	2	

[a] Clean closure is demonstrated by rinsate TCLP results less than the regulatory limits.
[b] The quantitation limit is greater than the Cleanup Level. The quantitation limit therefore becomes the Cleanup Level.
[c] CSPL = Risk-Based Closure Guide Published Levels, Human Health Exposure, Soil, Long Term, Commercial Land Use as in effect at the time of closure.
BTV = Background Threshold Value per Appx B of R2
mg/l – milligrams per liter

mg/kg – milligrams per kilogram

I-4 CLOSURE COST ESTIMATE: 40 CFR 270.14(b)(15), 264.142

The Closure Plan and the costs estimated for closure of the boilers were developed based on the following assumptions:

- The lances at the boilers are filled to capacity (10 gallons) prior to initiation of closure activities and, therefore, the disposal cost is based on the maximum waste inventory;
- Approximately 5 cubic yards of contaminated soils are potentially impacted by closure activities and require removal;
- The concentration of hazardous constituents present in contaminated soils do not exceed the concentration limits allowed in 40 CFR 268 for land disposal, allowing contaminated soils to be disposed of in a RCRA-permitted landfill;
- Removed concrete can be disposed of in a Subtitle D non-hazardous waste landfill;
- A total of 20,000 gallons of wash and rinse waters are generated during decontamination activities and require disposal as hazardous waste; and
- Clean-up and closure activities are conducted by third party contractors.

The Closure Plan and cost estimate provide for:

- Waste characterization and disposal;
- Soils investigation;
- Sample analyses;
- Decontamination of equipment and structures;
- Excavation and removal of concrete and soil; and
- Treatment/Disposal of contaminated wash water, concrete, and soil.

The closure cost estimate is presented in Appendix I2. The original estimate for closure in 2000 is presented as well as the annually updated costs that account for inflation. This closure cost estimate will be kept on file at the SABIC facility and will be revised whenever changes in the Closure Plan affect the cost of closure. In addition, the cost estimate is adjusted for inflation every year, using the Department of Commerce's Annual Implicit Price Deflator for Gross National Product, as posted on the U.S. Bureau of Economic Analysis website.

I-5 FINANCIAL ASSURANCE MECHANISM FOR CLOSURE: 40 CFR 270.14(b)(15), 264.143, 264.151

SABIC has chosen to use the letter of credit and standby trust agreement as the financial assurance mechanism.

I-6 POST-CLOSURE COST ESTIMATE: 40 CFR 270.14(b)(16), 264.144

Since all hazardous waste will be disposed of off-site, there will be no post closure activities or costs.

I-7 FINANCIAL ASSURANCE MECHANISM FOR POST-CLOSURE CARE:
40 CFR 270.14(b)(16), 264.145, 264.151

Because all hazardous wastes will be shipped offsite for disposal, there will be no post closure activities or costs.

I-8 LIABILITY REQUIREMENTS: 40 CFR 270.14(b)(17), 264.147

SABIC has chosen to meet this requirement by having liability insurance, which is evidenced by a Hazardous Waste Certificate of Liability Insurance that is maintained at the facility.

APPENDIX I-1

QUALITY ASSURANCE PROJECT PLAN

APPENDIX I-1

QUALITY ASSURANCE PROJECT PLAN

OBJECTIVE

The objective of this plan is to present the sampling and analysis procedures to be implemented during closure of the hazardous waste fuel burning activities in two phenolic tar boilers operated at the SABIC facility.

SAMPLING PLAN

Sampling of rinsate from decontamination activities will be conducted as a part of closure procedures to verify that the decontamination objectives have been obtained. In addition, soil sampling will be conducted in areas near the boilers potentially impacted by hazardous waste or closure activities. The determination for the need for additional sampling will be based upon the inspection of a registered professional engineer as described in the Closure Plan. This Quality Assurance Project Plan describes the procedures and methods that will be followed for rinsate and soil sampling.

Closure parameters and analytical methods are presented in Table I-1A.

Soil Sampling

Due to the possibility of contamination of the boiler containment diking area and surrounding soils from previous activities, or as a result of closure activities, a soil sampling program has been included in the Closure Plan to detect and determine the extent of such contamination. This program will be implemented as a part of closure activities.

Soil Sampling Locations and Depths

If cracks, gaps, or damaged areas are found to have completely penetrated the containment pad, two (2) investigative soil borings will be completed. The borings will be located to correspond to these cracks, gaps, or damaged areas. Six soil samples will be collected at each of the two soil boring locations for a total of 12 investigative soil samples. Soil samples will be collected at 0.5, 1.0, 2.0, 3.0, 4.0, and 5.0 feet in depth to check for stratification of contaminants.

Four background soil borings will be completed. Six soil samples will be collected from each background boring from the same depths as described above for investigative soil samples (i.e., 0.5, 1.0, 2.0, 3.0, 4.0, and 5.0 feet in depth).

Soil Sampling Procedures

The soil samples will be collected using a manual split spoon sampler. Samples for volatile organic compounds (VOCs) will be collected in a stainless-steel core liner inserted in the split spoon. Samples for semi volatile organic compounds (SVOCs) and metals analysis will be transferred into a laboratory provided glass sample jar. Non-disposable sampling equipment will be decontaminated prior to site use, between sample point, and prior to removal from the work zone.

The samples will be packaged and delivered or shipped via overnight carrier to an analytical laboratory for analysis.

Analytical Methods

Samples obtained from each investigative soil boring will be analyzed for VOCs, SVOCs, and RCRA metals in accordance with SW-846 protocols as specified in Table I-1A. Background soil samples will be analyzed for RCRA metals only, using the same methods as used for the investigative soil samples.

Clean Level for Soil

Soils will be considered clean when concentrations of the target parameters in verification samples meet decontamination objectives specified in the Closure Plan. If areas of contamination are detected, the full extent of vertical and horizontal contamination will be defined. Verification of the vertical extent of contamination is determined when two consecutive soil samples meet the cleanup levels at each boring location. Verification of the horizontal extent of contamination is determined by soil borings that meet the cleanup levels in every lateral direction. Additional soil borings may be required to determine the horizontal extent of contamination by sequential placement of additional borings radially from contaminated borings.

Rinsate Sampling

Decontamination of the lances and boilers may consist of a high-pressure wash and low-pressure triple rinsing. Two (2) confirmatory samples will be collected from the rinse of each type of equipment or area. The samples should be representative of the rinsate. When applicable, the loss of VOCs should be minimized. The rinsate samples will be analyzed to determine if the decontamination objectives have been met.

All wash and rinse water will be appropriately disposed of.

Analytical Methods

Rinsate samples will be analyzed for VOCs, SVOCs, and RCRA metals in accordance with SW-846 protocols as specified in Table I-1A.

Clean Level for Rinsate

Rinsate will be considered clean, and decontamination will be considered successful when concentrations of the target parameters in rinsate samples meet decontamination objectives identified in the Closure Plan. If the rinsate samples from a particular type of equipment or area do not meet the decontamination objectives, decontamination activities will be repeated until the objectives are attained.

Quality Assurance/Quality Control

To ensure the reliability and validity of field and analytical data gathered during the sampling program, it is necessary to implement a comprehensive Quality Assurance/Quality Control (QA/QC) program. QA/QC procedures will include the collection of duplicate samples and equipment blanks, and will include the analysis of trip blanks, matrix spike (MS), and matrix spike duplicate (MSD) samples. The purpose of trip blanks and equipment blanks are to verify that the sample collection and handling procedures have not affected the quality of the field samples. The purpose of MS/MSD samples is to verify the accuracy and precision of laboratory analytical methods.

Field QA/QC

This sampling program will incorporate a routine collection and an analysis of QC samples which include the following:

- Trip blanks (if VOCs are analyzed);
- Duplicates; and
- Equipment blanks (if non-dedicated equipment is used).

One trip blank will be included with the sample containers, then stored with the other containers in the field and finally returned to the laboratory with the samples. The trip blank will be prepared in the same manner as the sample bottles but will be filled with deionized water from the contract laboratory. Contaminants found in the trip blank (if any) could be attributed to the following:

- Interaction between the sample and the container;
- Contaminated laboratory deionized water; or
- A handling procedure that alters the sample analysis.

A minimum of one duplicate sample will be collected for every 10 rinse water or every 12 soil samples collected. The duplicate sample will be assigned a unique number and handled in such a manner to ensure it is exactly the same, yet indistinguishable from the original sample.

Equipment blanks will be prepared to verify the decontamination procedures in the event that non-dedicated sampling equipment is used. Equipment blanks will be prepared by passing deionized water (decontamination rinse water) through the dedicated or field decontaminated sampling device(s) and into an empty set of bottles identical to the samples' bottles. This operation will take place at the sampling site. These blanks will have no special numerical identification and will be submitted to the laboratory with the remaining samples to be analyzed for the same constituents as the samples. A minimum of one equipment blank for each day or partial day comprising a sampling event will be submitted, if required.

Laboratory QA/QC

Laboratory QA/QC procedures will be specified in the selected analytical laboratory's Quality Assurance Plan (QAP). Samples will be entered on a chain-of-custody form similar to that included in the QAP.

Health and Safety

All activities will be performed in such a manner as to assure the safety and health of workers and will be in accordance with pertinent general industry (29 CFR 1910) standards of the Federal OSHA, U.S. Department of Labor, and other state or municipal codes or ordinances that may apply. Additionally, applicable SABIC safety and health procedures will be followed during these activities.

TABLE I-1A

PARAMETERS AND ANALYTICAL METHODS
FOR SOIL AND RINSATE WATER ANALYSES

Target Parameter	Data Quality (a)		Analytical Method		Quantitation Limit (c)	
	Soil (mg/kg)	Water (mg/l)	Soil	Water (b)	Soil (mg/kg)	Water (mg/l)
VOCs	LLOQ	TCLP Regulatory Levels	8260B	8260B	Note (d)	Note (d)
SVOCs	LLOQ	TCLP Regulatory Levels	8270C	8270C	Note (d)	Note (d)
Arsenic	LLOQ	5	6010A	6010A	Note (c)	Note (c)
Barium	LLOQ	100	6010A	6010A	Note (c)	Note (c)
Cadmium	LLOQ	1	6010A	6010A	Note (c)	Note (c)
Chromium	LLOQ	5	6010A	6010A	Note (c)	Note (c)
Lead	LLOQ	5	6010A	6010A	Note (c)	Note (c)
Selenium	LLOQ	1	6010A	6010A	Note (c)	Note (c)
Silver	LLOQ	5	6010A	6010A	Note (c)	Note (c)
Mercury	LLOQ	0.2	7471A	7470A	Note (c)	Note (c)

Notes:
(a) Data Quality Levels for metals in water are the TCLP regulatory limits.

(b) Extraction method for metals, VOCs, and SVOCs is SW-846, Method 1311.

(c) Quantitation limits listed are specific for instruments and analyst and will be included in the laboratory Quality Assurance Plan. The limits are based on minimal matrix interference. Actual reporting limits may vary due to sample matrix, sample dilution, or changes in instrument and/or analyst.

(d) Quantitation limits are compound specific and will be included in the laboratory Quality Assurance Plan.

VOCs – Volatile Organic Compounds; the laboratory Quality Assurance Plan will include a constituent list

SVOCs – Semi volatile Organic Compounds; the laboratory Quality Assurance Plan will include a constituent list

LLOQ– Lower Limit of Quantitation

Revised or updated versions of the listed EPA SW-846 analytical methods may be available for use at closure

APPENDIX I-2

CLOSURE COST ESTIMATE

APPENDIX I-2

CLOSURE COST ESTIMATE (Revised Estimate, October 2000 Basis)

CLOSURE COST ITEM	COST ($)
Remove Remaining Waste Inventory (10 gallons)	
Labor (32 hr @ $35/hr)	1,120
Materials (1 drums, PPE, fuel oil, miscellaneous)	500
Shipping and disposal as hazardous waste (10 gallons @ $5/gallon)	550
Lance Dismantling	
Labor (16 hours @ $35/hr)	560
Materials for Staging	100
Equipment Rental (1 @ $1,000/wk)	1,000
Lance Decontamination and Disposal	
Washing and rinsing (by sub-contract)	500
Water sampling and analysis (2 samples @ $750/sample)	1,500
Water disposal (2,00 gallons @ $2.50/gallon)	500
Disposal (as scrap)	250
Boiler Dismantling	
Ash collection	2,000
Refractory dismantling	10,000
Boiler Decontamination and Disposal	
Washing and rinsing (by sub-contract)	10,000
Water sampling and analysis (4 samples @ $750/sample)	3,000
Ash sampling and analysis (2 samples @ $750/sample)	1,500
Water disposal (2,000 gallons @ $2.50/gallon)	5,000
Ash disposal (500 pounds @ $5/pound)	2,500
Refractory disposal (40 cu. yd. @ $1,800/yd)	72,000
Pad Decontamination and Inspection	
Washing and rinsing (by sub-contractor)	5,000
Water sampling and analysis (4 samples @$750/sample)	3,000
Water disposal (2,000 gallons @ $2.50/gallon)	5,000
Inspection	500
Soil Sampling	
Soil borings (6 @ 5’ deep each)	3,000
Soil sampling and analysis (36 samples @ $750 each)	27,000
Soil Excavation (5 cubic yards)	
Soil removal (5 cubic yards @ $100/yard)	500
Soil disposal (5 cubic yards @ $500/yard)	2,500
Import clean soil (5 cubic yards @ $20/yard))	100
Backfill clean soil (5 cubic yards @ $100/yard)	500
Sub-total	159,680
Contingency (10% of sub-total)	16,000
Administrative Costs (5% of sub-total)	8,000
TOTAL CLOSURE COST ESTIMATE	**183,680**

APPENDIX I-2 (continued)

CLOSURE COST ESTIMATE (Annually Updated Costs)

Year	Implicit Price Deflators for Gross Domestic Product[1]	Original 2000 Estimate and Inflation Adjusted Totals[3]	Revised 2000 Estimate and Inflation Adjusted Totals[4]
2000	100.000	$211,965.00	$183,680.00
2001	102.399	$217,050.04	$188,086.48
2002	104.187	$220,839.97	$191,370.68
2003	106.404	$225,539.24	$195,442.87
2004	109.462	$232,021.13	$201,059.80
2005	113.000	$239,520.45	$207,558.40
2006	116.567	$247,081.24	$214,110.27
2007	119.682	$253,683.95	$219,831.90
2008[2]	124.469	$263,831.31	$228,625.17
2009[2]	129.448	$274,384.56	$237,770.18
2010[2]	134.626	$285,359.94	$247,280.99
2011[2]	140.011	$296,774.34	$257,172.23
2012	128.2	$271,739.13	$235,477.76
2013	130.4	$276,402.36	$239,518.72
2014	132.8	$281,489.52	$243,927.04
2015	134.2	$284,457.03	$246,498.56
2016	135.5	$287,212.58	$248,886.40
2017	138.1	$292,723.67	$253,662.08
2018	141.4	$299,718.51	$259,723.52
2019	144.0	$305,229.60	$264,499.20
2020	145.8	$309,044.97	$267,805.44
2021	152.4	$323,034.66	$279,928.32
2022	163.1	$345,714.92	$299,582.08

Footnotes:

1. https://fred.stlouisfed.org/series/GDPDEF/

2. 4% inflation

3. Estimate from October 2000 Permit Application, includes feed piping

4. Revised Estimate using October 2000 as basis, does not include feed piping

ATTACHMENT J

CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS

ATTACHMENT J

CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS

J-1 SOLID WASTE MANAGEMENT UNITS: 40 CFR 270.14(d)(1), 264.101

J-1a Characteristics of Solid Waste Management Units (SWMUs)

Characteristics of SWMUs identified at the facility prior to the original waste fuel boiler permit are provided in the RFA document (EPA, 1991). SWMU locations are provided in Attachment 1 of the RFA document and are listed in Appendix J-4 of this permit. Descriptions of each unit, including dimensions, dates of operation and types, quantities and volumes of waste managed are included in the RFA text. Two SWMUs are subject to the Corrective Actions Requirements under this permit, SWMU 188 and SWMU 61. See Appendix J-1, Operation and Maintenance Plan: Corrective Measure Systems SWMU 188 and SWMU 61; and Appendix J-2, Groundwater Monitoring Plan: SWMU 188 and 61.

J-2 RELEASES

No releases of hazardous waste reportable under Section 102 of CERCLA have occurred at the facility. See Appendix J-3 for a map and location of SWMUs 188 and 61.

References

EPA, 1991. RCRA Facility Assessment Preliminary Review of the GEPMV, Indiana EPA I.D. No. IND006376362. By A.T. Kearney, Inc., Chicago, Illinois. April 1991.

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EARTH TECH, 1997. Report, Resource Conversation and Recovery Act Facility Investigation (RFI), GEPMV, Indiana Facility, IND 006 376 362. EARTH TECH, Bloomington, Indiana. February 28, 1997.

EPA, 1997. Federal RCRA Permit Modification, GEPMV, Indiana (IND 006 376 362). August 7, 1997.

APPENDIX J-1

Operation and Maintenance Plan

See VFC 83612444

APPENDIX J-2

Groundwater Monitoring Plan

See VFC 83612442

APPENDIX J-3

Map and Location of SWMUs

See beginning at page 1433 of VFC 83603434

APPENDIX J-4

Identified SWMUs

See beginning at page 1437 of VFC 83603434