



BASF CORPORATION

PASADENA, TEXAS

**INDUSTRIAL AND HAZARDOUS WASTE
STORAGE/PROCESSING/DISPOSAL FACILITY
PERMIT No. 50385
SOLID WASTE REGISTRATION No. 33849
EPA ID No. TXD980808778**

PERMIT RENEWAL APPLICATION

NOVEMBER 2025

Coterie ENVIRONMENTAL

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PART A



Texas Commission on Environmental Quality Instructions and Procedural Information for Filing a Permit Application for a Hazardous Waste Storage, Processing, or Disposal Facility

Part A

[Form Availability: This form, as well as other Industrial and Hazardous Waste documents, is available on the Internet World Wide Web, Industrial and Hazardous Waste home page at address https://www.tceq.texas.gov/permitting/waste_permits/iHW_permits]

General Instructions

1. A person (individual, corporation or other legal entity) who stores, processes or disposes of hazardous waste (except where such storage and/or processing is excluded from permit requirements in accordance with 30 Texas Administrative Code (TAC) Section 335.2) must obtain a permit pursuant to the Texas Health and Safety Code. In applying to the Texas Commission on Environmental Quality, hereafter referred to as the Commission, the applicant shall follow the procedures outlined below, on the application and in the Rules of the Commission.
2. The application (one original plus three (3) complete copies¹) should be mailed to:

Texas Commission on Environmental Quality
Attention: Waste Permits Division, MC126
P. O. Box 13087
Austin, Texas 78711-3087
3. Signature on Application [30 TAC 305.44]. The application shall be signed by the owner and operator or by a duly authorized agent, employee, officer, or representative of the owner or operator and shall be verified before a notary public. When another person signs on behalf of the owner and operator, this person's title or relationship to the owner or operator should be shown. In all cases, the person signing the form should be authorized to do so by the owner or operator (the Commission may require a person signing on behalf of an owner or operator to provide proof of authorization). An application submitted for a corporation must be signed by (or the signatory must be authorized by) a responsible corporate officer such as a president, secretary, treasurer, vice-president, or designated manager; or for a partnership or sole proprietorship, by a general partner or the proprietor, respectively. In the case of a municipal, state, federal, or other public facility, the application shall be signed by either a principal executive

¹ The third copy may optionally consist of paper copies of all plans and maps and a computer diskette of the remaining document. The document should be formatted in Word processing software up to and including version 6.1 or a 100% compatible format. Files may be compressed using PKZIP Ver. 2 or a 100% compatible program.

officer or ranking elected official.

4. An application will not be processed until all information required to properly evaluate the application has been obtained. When an application is severely lacking in detail and/or the applicant fails to submit additionally requested information in a timely manner, the application will not be considered to be "filed in accordance with the rules and regulations of the Commission."

Please submit any application revisions with a revised date and page numbers at the bottom of the page(s).

5. Fees and Costs

- a. The fee for filing an application is discussed in Section XII of Part B, form number TCEQ-0376.
- b. The applicant for a permit is required to bear the cost of publication of notice of the application in a newspaper as prescribed by 30 TAC Section 39.405(f).

6. A person may not commence operation of a hazardous waste management facility until the Commission has issued a permit to authorize the storage, processing, or disposal of hazardous waste, except with the approval of the Commission.

7. Designation of Material as Confidential

The designation of material as confidential is frequently carried to excess. The Commission has a responsibility to provide a copy of each application to other review agencies and to interested persons upon request and to safeguard confidential material from becoming public knowledge. Thus, the Commission requests that the applicant (1) be prudent in the designation of material as confidential and (2) submit such material only when it might be essential to the staff in their development of a recommendation.

The Commission suggests that the applicant NOT submit confidential information as part of the permit application. However, if this cannot be avoided, the confidential information should be described in non-confidential terms throughout the application, and submitted as a document or binder, and conspicuously marked "CONFIDENTIAL."

Reasons of confidentiality include the concept of trade secrecy and other related legal concepts which give a business the right to preserve confidentiality of business information to obtain or retain advantages from its right in the information. This includes authorizations under 18 U.S.C. 1905 and special rules cited in 40 CFR Chapter I, Part 2, Subpart B.

Section 361.037 of the Texas Health and Safety Code does not allow an applicant for an industrial and hazardous waste permit to claim as confidential any record pertaining to the characteristics of the industrial solid waste.

The applicant may elect to withdraw any confidential material submitted with the application. However, the permit cannot be issued, amended, or modified if the application is incomplete.

Part II

Procedural Information

After the submittal of Parts A and B of the application, the TCEQ will provide public notice of receipt of the application. The Executive Director's staff will review the application for completeness of information submitted. During the review, the applicant may be contacted for clarification or additional information. When all pertinent information is present, the application or a summary of its contents will be forwarded for review by other state agencies and local governmental entities interested in water quality control and solid waste management. After technical evaluation, opportunity for public hearing will be afforded.

Note that for facilities which had "commenced on-site storage, processing, or disposal of hazardous waste" [see 30 TAC Section 335.43(b)] on or before the date such waste is identified or listed as hazardous by EPA, the Texas Health and Safety Code provides in Section 361.082(f) that these facilities may continue to manage hazardous waste until such time as the Commission approves or denies the application, provided that the applicant has filed the permit application in accordance with the rules and regulations of the Commission.

The Commission may act upon an application for a permit, permit amendment, permit modification, or renewal of a permit without the necessity of holding a public hearing:

1. (a) When notice of the application has been mailed to persons possibly affected by the proposed permit; and

(b) When notice has been published at least once in a newspaper regularly published or circulated within each county where the proposed facility is located; and

(c) Within forty-five (45) days following publication of the Commission's notice, a Commissioner, the Executive Director or an affected person has not requested a public hearing; or
2. For a Class 1 or a Class 2 permit modification or a minor amendment to a permit. The Commission may, in certain cases, hold a public hearing for a Class 2 permit modification or a minor amendment.

A public hearing may be scheduled on an application for a RCRA hazardous waste permit when requested by a Commissioner, the Executive Director, or an affected person within forty-five (45) days following the newspaper publication.

Requirements of Giving Notice of the Application:

1. By the Applicant: Every applicant for a permit, permit amendment, permit modification, or permit renewal shall publish notice (see note below) of the application at least once in a newspaper regularly published or circulated within each county where the proposed facility is located. Where a public hearing has been requested, notice will be mailed to the applicant in ample time for publication, which shall be not less than thirty (30) days prior to the date set for the hearing. Except in the case of a notice of a permit modification request, the Commission will mail the appropriate notice and instructions for publication to the applicant.

NOTE: Additional publication and direct mail notice to affected persons will result if a public hearing is requested following newspaper publication of the notice of application. The cost of providing this additionally required publication and service of notice to affected persons will be assumed by the applicant.

2. By the Texas Commission on Environmental Quality: The Commission will mail notice of

the application (except for permit modifications) to affected persons and certain governmental entities. The notice will be mailed at the same time instructions for newspaper publications are mailed to the applicant.

3. **Bilingual Notice Instructions:**

For certain permit applications, public notice in an alternate language is required. If an elementary school or middle school nearest to the facility offers a bilingual program, notice may be required to be published in an alternative language. The Texas Education Code, upon which the TCEQ alternative language notice requirements are based, requires a bilingual education program for an entire school district should the requisite alternative language speaking student population exist. However, there may not be any bilingual-speaking students at a particular school within a district which is required to offer the bilingual education program. For this reason, the requirement to publish notice in an alternative language is triggered if the nearest elementary or middle school, as part of a larger school district, is required to make a bilingual education program available to qualifying students and either the school has students enrolled at such a program on-site, or has students who attend such a program at another location to satisfy the school's obligation to provide such a program.

If it is determined that a bilingual notice is required, the applicant is responsible for ensuring that the publication in the alternate language is complete and accurate in that language. Electronic versions of the Spanish template examples are available from the TCEQ to help the applicant complete the publication in the alternative language.

Bilingual Notice Application Form:

Bilingual notice confirmation for this application:

1. Is the school district of the elementary or middle school nearest to the facility required by the Texas Education Code to have a bilingual program?

☒ YES ☐ NO

(If NO, alternative language notice publication not required)

2. If YES to question 1, are students enrolled in a bilingual education program at either the elementary school or the middle school nearest to the facility?

☒ YES ☐ NO

(If YES to questions 1 and 2, alternative language publication is required; If NO to question 2, then consider the next question)

3. If YES to question 1, are there students enrolled at either the elementary school or the middle school nearest to the facility who attend a bilingual education program at another location?

☐ YES ☐ NO

(If Yes to questions 1 and 3, alternative language publication is required; If NO to question 3, then consider the next question)

4. If YES to question 1, would either the elementary school or the middle school nearest to the facility be required to provide a bilingual education program but for the fact that it secured a waiver from this requirement, as available under 19 TAC 89.1205(g)?

☐ YES ☐ NO

(If **Yes** to questions 1 and 4, alternative language publication is required; If **NO** to question 4, alternative language notice publication not required)

If a bilingual education program(s) is provided by either the elementary school or the middle school nearest to the facility, which language(s) is required by the bilingual program? Spanish

Consideration of the Permit Application by the Commission:

The applicant will be notified by the Commission when the application is set for final consideration. If the Commission issues the permit, the applicant will be mailed a copy of the permit by the TCEQ Office of the Chief Clerk within one (1) month following Commission approval. (NOTE: Only one copy is mailed to the applicant and that copy will be sent to the official mailing address of the applicant as shown on the permit application form.)

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Texas Commission on Environmental Quality
Permit Application for a Hazardous Waste Storage/Processing/Disposal Facility
Part A - Facility Background Information

I. General Information

A. Facility Name: **BASF Pasadena**

(Individual, Corporation, or Other Legal Entity Name)

TCEQ Solid Waste Registration No: **33849** EPA I.D. No.: **TXD980909778**

Street Address (If Available): **4403 Laporte Highway 225**

City: **Pasadena**, State: **TX** Zip Code: **77501**

County: **Harris**

Telephone Number: **281-884-4400** Charter Number: **0004205406**

If the application is submitted on behalf of a corporation, please identify the Charter Number as recorded with the Office of the Secretary of State for Texas.

B. Facility Contact

1. List those persons or firms who will act as primary contact for the applicant during the processing of the permit application. Also indicate the capacity in which each person may represent the applicant (engineering, legal, etc.). The person listed first will be the primary recipient of correspondence regarding this application. Include the complete mailing addresses and phone numbers.

Contact - General:

Andrew Glover
Environmental Specialist
PO Box 687
Pasadena, TX 77501
Phone: 832-835-4919
Email: [REDACTED]

Contact - Application Information:

S. Heather McHale
Principal
Coterie Environmental LLC
840 First Avenue, Suite 400
King of Prussia, PA 19406
Phone: 610-406-2214
Email: [REDACTED]

2. If the application is submitted by a corporation or by a person residing out of state, the applicant must register an Agent in Service or Agent of Service with the Texas Secretary of State's office and provide a complete mailing address for the agent. The agent must be a Texas resident.

CT Corporation Systems
1999 Bryan Street, Suite 900
Dallas, TX 75201-3136

C. Operator¹: Identify the entity who will conduct facility operations.

Operator Name: BASF Corporation

Address: 4403 Laporte Highway 225

City: **Pasadena**, State: **TX** Zip Code: **77501**

Telephone Number: 281-884-4400 Charter Number: 0004205406

D. Owner

1. Indicate the ownership status of the facility:

a. Private ✓

(1) ✓ Corporation

(2) Partnership

(3) Proprietorship

(4) Non-profit organization

b. Public _____

(1) Federal

(2) Military

(3) State

(4) Regional

(5) _____ County

(6) _____Municipal

(7) _____ Other (specify)

2. Does the operator own the facility units and facility property?

☒ Yes ☐ No

If you checked "no",

a. Submit as "Attachment A" a copy of the lease for use of or the option to buy said facility units and/or facility property, as appropriate; and

b. Identify the facility units' owner(s) and/or facility property owner(s). Please note that the owner(s) is/are required to sign the application on page 5.

Owner Name: _____

Address:

City: _____, State: _____ Zip Code: _____

Telephone Number: _____

Owner Name: _____

¹ The operator has the duty to submit an application if the facility is owned by one person and operated by another [30 TAC 305.43(b)]. The permit will specify the operator and the owner who is listed on this application [Section 361.087 Texas Health and Safety Code].

Address: _____

City: _____, State: _____ Zip Code: _____

Telephone Number: _____

E. Type of Application Submittal:

Initial _____ or Revision ☒ **(Renewal)**

F. Registration and Permit Information

Indicate (by listing the permit number(s) in the right-hand column below) all existing or pending State and/or Federal permits or construction approvals which pertain to pollution control or industrial solid waste management activities conducted by your plant or at your location. Complete each blank by entering the *permit number*, or the *date of application*, or "none".

Relevant Program and/or Law	Permit No.	Agency*
1. Texas Solid Waste Disposal Act	<u>33849</u>	<u>TCEQ</u>
2. Wastewater disposal under the Texas Water Code	<u>None</u>	<u> </u>
3. Underground injection under the Texas Water Code	<u>None</u>	<u> </u>
	<u>8199A</u>	
	<u>83808</u>	
4. Texas Clean Air Act	<u>O1331</u>	<u>TCEQ</u>
5. Texas Uranium Surface Mining & Reclamation Act	<u>None</u>	<u> </u>
6. Texas Surface Coal Mining & Reclamation Act	<u>None</u>	<u> </u>
7. Hazardous Waste Management program under the Resource Conservation and Recovery Act	<u>50385</u>	<u>TCEQ</u>
8. UIC program under the Safe Drinking Water Act	<u>None</u>	<u> </u>
9. TPDES program under the Clean Water Act	<u>None</u>	<u> </u>
(stormwater)	<u>TXR05FZ72</u>	<u>TCEQ</u>
10. PSD program under the Clean Air Act	<u>None</u>	<u> </u>
11. Nonattainment program under the Clean Air Act	<u>None</u>	<u> </u>
12. National Emission Standards for Hazardous Pollutants (NESHAP) Pre-construction approval under the Clean Air Act	<u>None</u>	<u> </u>

13. Ocean dumping permits under the Marine Protection Research and Sanctuaries Act	<u>None</u>	<u></u>
14. Dredge or fill permits under section 404 of the Clean Water Act	<u>None</u>	<u></u>
15. Other relevant environmental permits	<u>None</u>	<u></u>

*Use the following acronyms for each agency as shown below:

TCEQ = Texas Commission on Environmental Quality
 TRC = Texas Railroad Commission
 TDH = Texas Department of Health
 TDA = Texas Department of Agriculture
 EPA = U.S. Environmental Protection Agency
 CORPS = U.S. Army Corps of Engineers

G. Give a brief description of the nature of your business.

Chemical manufacturing.

H. TCEQ Core Data Form

The TCEQ requires that a Core Data Form (Form 10400) be submitted on all incoming applications. For more information regarding the Core Data Form, call (512) 239-1575 or go to the TCEQ website at http://www.tceq.texas.gov/permitting/central_registry/guidance.html.

The Core Data Form is provided as Attachment F.

Signature Page

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Operator Signature: *Abe Ahmed* Date: 11/3/25

Name and Official Title (type or print): Abe Ahmed, Site Director

Operator Signature: _____ Date: _____

Name and Official Title (type or print): _____

Operator Signature: _____ Date: _____

Name and Official Title (type or print): _____

Owner Signature: _____ Date: _____

Name and Official Title (type or print): _____

To be completed by the operator if the application is signed by an authorized representative for the operator

I, _____ hereby designate _____
(operator) (authorized representative)

as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

Printed or Typed Name of Operator or Principal Executive Officer

Signature

(Note: Application Must Bear Signature & Seal of Notary Public)

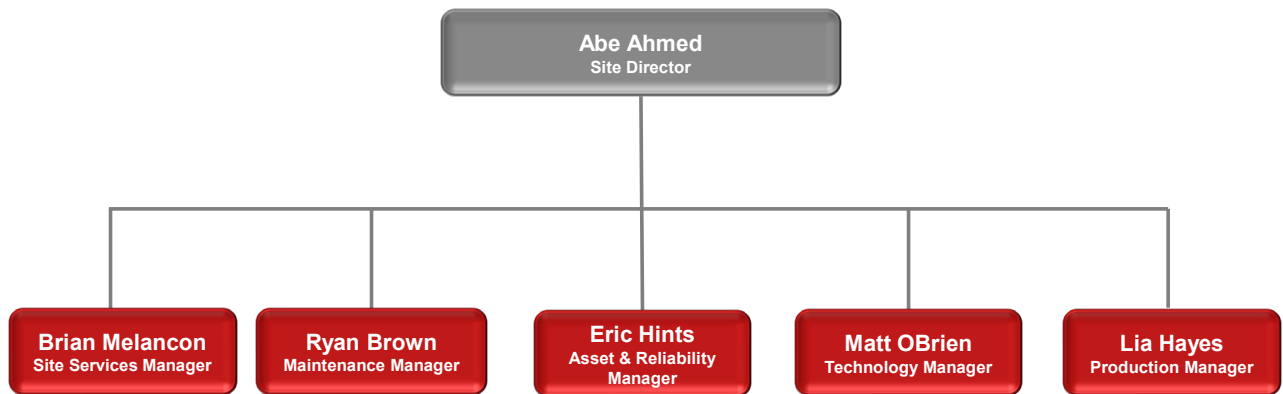
Subscribed and sworn to before me by the said Abe Ahmed on this
3 day of November, 2025.

My commission expires of the 20 day of March, 2027

Christi F. Melancon
Notary Public in and for Angelina County, Texas



Pasadena Site Organization - Leadership



1

II. Facility Background Information

A. Location of Facility for which the application is submitted

1. Give a description of the location of the facility site with respect to known or easily identifiable landmarks.

The BASF Pasadena Site is located in eastern Harris County. The facility is located north of Highway 225 and West of Beltway 8, just south of the Houston Ship Channel.

2. Detail the access routes from the nearest U.S. or State Highway to the facility.

From Eastbound Highway 225 from I-45, take the exit immediately after Beltway 8 in Pasadena. At the intersection, turn left under the underpass and left again on the west-bound frontage road to Highway 225. Continue west on frontage road for approximately one-half mile. Turn right on Shell Road and continue for 1.2 miles to the guardhouse.

3. Enter the geographical coordinates of the facility:

Latitude: 29 N deg 43 min 56 sec

Longitude: 95 W deg 09 min 04 sec

4. Is the facility located on Indian lands?

☐ Yes ☒ No

B. Legal Description of Facility

Submit as "Attachment B" a legal description(s) of the tract or tracts of land upon which the waste management operations referred to in this permit application occur or will occur. Although a legal description is required, a metes and bounds description is not necessary for urban sites with appropriate "lot" description(s). A survey plat or facility plan drawing which shows the specific points referenced in the survey should also be included in Attachment B.

See Attachment B for the legal description of facility.

C. SIC Codes

List, in descending order of significance, the four digit standard industrial classification (SIC) codes which best describe your facility in terms of the principal products or services you produce or provide. Also, specify each classification in words. These classifications may differ from the SIC codes describing the operation generating the hazardous wastes.

4-digit SIC Code	Description
2865	Cyclic organic crudes and intermediates, organic dyes and pigments
2869	Industrial organic chemicals

SIC code numbers are descriptions which may be found in the Standard Industrial Classification Manual prepared by the Executive Officer of the President, Office of Management and Budget, which is available from the Government Printing Office, Washington, D.C. Use the current edition of the manual.

III. Wastes and Waste Management

A. Waste Generation and Management Activities

Is any hazardous waste [see Title 40, Code of Federal Regulations (CFR), Part 261] presently or proposed to be generated or received at your facility?

☒ Yes ☐ No

If no, skip to question Number 2 below.

If yes, answer the following question.

1. Are you presently registered with TCEQ as a solid waste generator?

☒ Yes ☐ No ☐ Pending

If no, contact the Industrial and Hazardous Waste Division of TCEQ in Austin, Texas to obtain registration information. Also, continue with the application form (go to Number 2 below).

If yes, go to Section I of your TCEQ Notice of Registration, determine which of your wastes are hazardous, and list these wastes (and mixtures) in Table III-1 (see Number 2 below).

2. Complete Table III-1, Hazardous Wastes and Management Activities, below, listing all hazardous wastes, all mixtures containing any hazardous wastes, and hazardous debris which were, are presently, or are proposed to be handled at your facility in interim status or permitted units. See 40 CFR 261 and 268.2, attaching additional copies as necessary.

Guidelines for the Classification & Coding of Industrial Wastes and Hazardous Wastes, TCEQ publication RG-22, contains guidance on how to properly classify and code industrial waste and hazardous waste in accordance with 30 TAC 335.501-335.515 (Subchapter R).

If you are not registered with TCEQ, enter "NA" for TCEQ Waste Code Number.

For the EPA Hazardous Waste Numbers, see 40 CFR 261.20-33. For annual quantity, provide the amount in units of pounds (as generated and/or received) for each waste and/or waste mixture.

B. Waste Management Units Summary

1. For each waste and waste mixture listed in Table III-1 that is stored, processed, and/or disposed on-site (except where such storage and/or processing is excluded from permit requirements in accordance with Texas Administrative Code (TAC) Section 335), complete Table III-2, Hazardous Waste Management Unit Checklist, and enter the name of each hazardous waste management unit (Note: Please make copies of Table III-2 if necessary).

Give the design capacity of each hazardous waste management unit in any of the units of measure shown. In the case of inactive or closed units for which design details are unavailable, an estimate of the design capacity is sufficient.

Please provide a description for each waste management unit described in your own words on the line provided for "Waste Management Unit."

2. Has the applicant at any time conducted the on-site disposal of industrial solid waste now identified or listed as hazardous waste?

☒ Yes ☐ No

If yes, complete Table III-2 indicating the hazardous waste management units which were once utilized at your plant site but are no longer in service (i.e., inactive or closed facility units).

If no, and if no hazardous waste is presently or proposed to be stored [for longer than 90 days (see 30 TAC Section 335.53)], processed, or disposed of at your facility, then you need not file this permit application. Otherwise proceed with the application form.

3. Provide an estimate of the total weight (lbs) of hazardous waste material that has been disposed of and/or stored within your site boundaries and not removed to another site.

Zero pounds of hazardous waste are estimated to have been disposed of and/or presently stored onsite in RCRA-permitted units. According to TCEQ guidance, this question does not pertain to waste stored prior to onsite treatment.

C. Location of Waste Management Units

1. Submit as "Attachment C" a drawn-to-scale topographic map (or other map if a topographic map is unavailable) extending one mile beyond the facility boundaries, depicting the following:

See Attachment C.

- a. The approximate boundaries of the facility (described in Section II.B) and within these boundaries, the location and boundaries of the areas occupied by each active, inactive, and proposed hazardous waste management unit (see Table III-2). Each depicted area should be labeled to identify the unit(s), unit status (i.e., active, inactive, or proposed), and areal size in acres.
- b. The overall facility and all surface intake and discharge structures;
- c. All on-site injection wells where liquids are injected underground;
- d. All known monitor wells and boreholes within the property boundaries of the facility; and
- e. All wells, springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant within the map area and the purpose for which each water well is used (e.g., domestic, livestock, agricultural, industrial, etc.).

2. Submit as "Attachment D" photographs which clearly delineate all hazardous waste management storage, processing, and disposal units, as well as sites of future storage, processing and disposal units.

See Attachment D.

D. Flow Diagram/Description

Show as "Attachment E" process flow diagrams and step-by-step word descriptions of the process flow, depicting the handling, collection, storage, processing, and/or disposal of each of the hazardous wastes previously listed in this application.

See Attachment E for the required information.

The flow diagrams or descriptions should include the following information:

1. Originating point of each waste and waste classification code;
2. Means of conveyance utilized in every step of the process flow;
3. Name and function of each facility component through which the waste passes;
4. The ultimate disposition of all wastes (if off-site, specify "off-site") and waste residues.

IV. Index Of Attachments

List and index below all attachments to this application and indicate if included or not included:

Item	Attachments	Attachment	Included	Not Included
I.D.2.a	Lease/Option to buy	A		✓
II.B	Site legal description	B	✓	
III.C.1	Facility boundaries and adjacent waters map	C	✓	
III.C.2	Photographs	D	✓	
III.D	Process flow diagram/description	E	✓	
I.H	Core Data Form	F	✓	

Table III-1 – Hazardous Wastes and Management Activities

Verbal Description of Waste	TCEQ Waste for Code and Classification Code	EPA Hazardous Waste Number	Storage ¹ of Wastes Received from Off-Site	Processing ² of Wastes Received from Off-Site	Disposal of Wastes Received from Off-Site	Storage ¹ of Wastes Generated On-Site	Processing ² of Wastes Generated On-Site	Disposal of Wastes Generated On-Site	Annual Quantity Generated and/or Received
Waste liquid fuel	0221219H	D001, D018	No	No	No	No	Yes	No	1,000,000 lb

¹ "Storage" means the holding of solid waste for a temporary period, at the end of which the waste is processed, disposed of, or stored elsewhere.

² "Processing" means the extraction of materials, transfer, volume reduction, conversion to energy, or other separation and preparation of solid waste for reuse or disposal, including the treatment or neutralization of hazardous waste, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material from the waste or so as to render such waste non-hazardous or less hazardous; safer for transport, store or dispose of; or amenable for recovery, amenable for storage, or reduced in volume. The "transfer" of solid waste for reuse or disposal as used above, does not include the actions of a transporter in conveying or transporting solid waste by truck, ship, pipeline, or other means. Unless the Executive Director determines that regulation of such activity is necessary to protect human health or the environment, the definition of "processing" does not include activities relating to those materials exempted by the Resource Conservation and Recovery Act, 42 U.S.C. 6901 et seq., as amended.

Table III-2 – Hazardous Waste Management Unit Checklist

Waste Management Unit	TCEQ N.O.R. Unit #	Status ¹	Design Capacity ²	Number of Years Utilized	Date in Service
F-8 Boiler	010	Closed	180 MMBtu/hr	23	01/1993
F-10 Boiler	031	Active	180 MMBtu/hr	10	05/2016

¹ Indicate only one of the following: Active, Inactive, Closed, or Proposed

² Cubic yards, gallons, pounds, gallons/minute, pounds/hour, BTUs/hour, etc.

Attachment B

Site Legal Description

SITE LEGAL DESCRIPTION

19.2798 ACRE TRACT:

All that certain 19.2798 acre tract of land situated in the Thomas Earle Survey, Abstract Number 18, in Harris County, Texas; said 19.2798 acre tract of land being out of that certain 158.578 acre tract of land described as Exhibit "A", Parcel 1 in General Warranty Deed dated April 30, 1986 from Tenneco Polymer's Inc. to Occidental Chemical Corporation as recorded under County Clerk's File Number K514530, Film Code Number 045-64-1833 in the Official Public Records of Real Property in Harris County, Texas, said 19.2798 acre tract of land being more particularly described by metes and bounds as follows: (All bearings are based on the Texas Coordinate Systems, South Central Zone, all distances and coordinates are surface, distance or coordinate multiplied by 0.9998880 = Grid.)

COMMENCING at an eight (8") inch diameter concrete monument with a three (3") inch brass disc (center punched) found at the intersection of the East line of the 80.00 foot wide fee strip formerly known as Channel City Road with the North line of that certain 100.00 foot wide fee tract containing 42.55 acres (called) and being described in Deed dated March 9, 1928 from M.T. Jones to Harris County Houston Ship Channel Navigation District as recorded under County Clerk's File Number 333399, Film Code Number 079-52-0563 and in Volume 745, Page 162 of the Deed Records of Harris County, Texas and having coordinates of X=3,221,097.45 and Y=706,264.25; said point also being the Southwest corner of the said 158.5780 acre tract and the Southeast corner of that certain 0.2141 acre tract situated in the Thomas Earle Survey, Abstract Number 18, in Harris County, Texas (called GG-OXY Parcel No. 3) described in Exhibit "A-2 in Deed without Warranty dated July 8, 1993 from Georgia Gulf Corporation, a Delaware Corporation to Occidental Chemical Corporation, a New York corporation, as recorded under County Clerk's File Number P357921, Film Code Number 165-58-3677 in the Official Public Records of Real Property in Harris County, Texas;

THENCE North 01° 46' 16" West, 3801.29 feet along the West line of the Occidental Chemical Corporation 158.578 acre tract of land to a 1/2 inch iron rod found for the TRUE POINT OF BEGINNING for the 19.2798 acre tract of land herein described, and having coordinates of X=3,220,979.96 and Y=710,063.72;

THENCE North 01° 46' 16" West, 1202.72 feet along the East line of Phase 2, 5.2256 acre tract (called) as described in Deed dated August 14, 1991 from Audrey Jones Beck to Georgia Gulf Corporation, a Delaware corporation of Atlanta, Fulton County, Georgia, as recorded under County Clerk's File Number M993319, Film Code Number 198-80-0272 in the Official Public Records of Real Property in Harris County, Texas, to a 5/8 inch iron rod found in the high bank (as existed in 1979) of the Houston Ship Channel (Buffalo Bayou) for the Northwest corner of the 19.2798 acre tract of land herein described; said point having coordinates of X = 3,220,942.79, Y= 711,265.87; said point also being the Southwest corner of that certain 2.767 acre tract of land described in Deed dated September 7, 1998 from Tenneco Polymers, Inc., a Delaware corporation to Occidental Chemical Corporation, a New York corporation as recorded under County Clerk's File Number M573308, Film Code Number 505-32-0593 in the Official Public Records of Real Property in Harris County, Texas;

THENCE Following the meander of bluff bank as surveyed and established in 1979, and being the Northerly line of the 19.2798 acre tract, the following courses:

South 89° 59' 59" East, 163.87 feet to a found 5/8 inch diameter star drilled hole set on concrete driveway;

North 45° 05' 41" East, 44.52 feet to a found 5/8 inch iron rod;

South 45° 06' 52" East, 89.40 feet to a found 5/8 inch diameter star drilled hole set on concrete driveway;

South 73° 05' 26" East, 100.01 feet to a found 5/8 inch diameter star drilled hole set on concrete driveway;

South 76° 19' 53" East, 95.33 feet to a found railroad spike (center punched);

South 87° 07' 59" East, 103.88 feet to a found 1/2 inch iron rod;

North 82° 45' 41" East, 100.01 feet to a found railroad spike (center punched);

North 63° 14' 19" East, 91.84 feet to a found 1/2 inch iron rod for the Northeast corner of the 19.2798 acre tract of land herein described; and having coordinates of X =3,221,674.52 and Y = 711,231.35;

THENCE South 02° 48' 36" East 1061.71 feet along the West line of Tennessee Street to a found 5/8 inch diameter star drilled hole on concrete;

THENCE South 87° 13' 21" West, 74.47 feet along the common line between the said Occidental Chemical Corporation 158.578 acre tract and the 19.2798 acre tract to a found 5/8 inch diameter star drilled hole set on concrete for corner of the 19.2798 acre tract of land herein described;

THENCE South 02° 46' 39" East, 70.50 feet along the common line between the said Occidental Chemical Corporation 158.578 acre tract and the 19.2798 acre tract of land herein described; said point being the most Southerly Southeast corner of the 19.2798 acre tract;

THENCE South 87° 11'27" West, 676.75 feet parallel with and 10.00 feet North of the center line of Houston Street (based on a width of 20.00 feet) and the common line between the said Occidental Chemical Corporation 158.578 acre tract and the 19.2798 acre tract to the TRUE POINT OF BEGINNING and containing 19.2798 acres or 879,828 square feet of land.

Excepting therefrom, Two Tracts of land described as follows:

Exception Tract A Oxy Flare 0.0221 acre tract; (being more specifically described hereinbelow)

Exception Tract B Holding Pond 0.3957 acre tract; (being more specifically described hereinbelow)

Exception Tract A

0.0221 Acre Tract; Oxy Flare

All that certain 0.0221 acre tract of land situated in the Thomas Earle Survey, Abstract Number 18, Harris County, Texas, said 0.0221 acre tract of land also being out of that certain 158.578 acre tract of land described as Exhibit "A", Parcel I in deed dated April 30, 1986 from Tenneco Polymers, Inc. to Occidental Chemical Corporation and recorded under County Clerk's File Number K-514530 in the Official Public Records of Real Property of Harris County, Texas, said 0.0221 acre tract of land being more particularly described by metes and bounds as follows: (all bearings and coordinates are based on Occidental Chemical Plant Grid Coordinates System and refer to monuments situated at North 96+00.00, East 14+35.00 and North 85+00.00, East 14+35.00);

COMMENCING at a 5/8 inch iron rod found in the northerly right-of-way line of the Port Terminal Railway Association - 100.00 feet wide right-of-way (Harris County Houston Ship Channel Navigation District) at the southwest corner of the said 158.578 acre tract; said iron rod having Occidental Chemical Plant Grid Coordinates: North 47+38.966, East 7+36.805;

THENCE North 01° 00' 31" East, 4804.75 feet along the westerly line of the said 158.578 acre tract to a point having Occidental Chemical Plant Grid Coordinates: North 95+42.968, East 8+21.381;

THENCE East, 587.63 feet to a 1/2 inch iron rod set for the TRUE POINT OF BEGINNING for the 0.0221 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 95+42.968, East 14+09.015;

THENCE North 00°16' 01" East, 25.60 feet to a 1/2 inch iron rod set for corner of the 0.0221 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 95+68.568, East 14+09.134;

THENCE North 89° 43' 58" West, 6.22 feet to a 1/2 inch iron rod set for the most westerly southwest corner of the 0.0221 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 95+68.597, East 14+02.914;

THENCE North 00° 16' 01" East, 15.95 feet to a 1/2 inch iron rod set for the northwest corner of the 0.0221 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 95+84.546, East 14+02.989;

THENCE South 89° 43' 59" East, 27.01 feet to a 1/2 inch iron rod set for the northeast corner of the 0.0221 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 95+84.421, East 14+29.998;

THENCE South 00° 16' 01" West, at 33.35 feet passing a 1/2 inch iron rod found for the northwest corner of the Holding Pond 0.3957 acre tract and continuing along the west line of the said 0.3957 acre tract for a total distance of 41.55 feet to a 1/2 inch iron rod set for the southeast corner of the

0.0221 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 95+42.871, East 14+29.805;

THENCE North 89° 43' 59" West, 20.79 feet to the TRUE POINT OF BEGINNING and containing 0.0221 acres or 963 square feet.

Exception Tract B

0.3957 Acre Tract; Holding Pond

All that certain 0.3957 acre tract of land situated in the Thomas Earle Survey, Abstract Number 18, Harris County, Texas; said 0.3957 acre tract of land also being out of that certain 158.578 acre tract of land described as Exhibit "A", Parcel 1 in deed dated April 30, 1986 from Tenneco Polymers, Inc. to Occidental Chemical Corporation and recorded under County Clerk's File Number K-514530 in the Official Public Records of Real Property of Harris County, Texas; said 0.3957 acre tract of land being more particularly described by metes and bounds as follows: (all bearings and coordinates are based on Occidental Chemical Plant Grid Coordinates System and refer to monuments situated at North 96+00.00, East 14+35.00 and North 65+00.00, East 14+35.00):

COMMENCING at a 5/8 inch iron rod found in the northerly right-of-way line of the Port Terminal Railway Association - 100.00 feet wide right-of-way (Harris County Houston Ship Channel Navigation District) at the southwest corner of the said 158.578 acre tract; said iron rod having Occidental Chemical Plant Grid Coordinates: North 47+38.966, East 7+36.805;

THENCE North 01° 00' 31" East, 4686.12 feet along the westerly line of the said 158.578 acre tract to a point having Occidental Chemical Plant Grid Coordinates: North 94+24.362, East 8+19.293;

THENCE East, 609.96 feet to a 1/2 inch iron rod reset for the TRUE POINT OF BEGINNING for the 0.3957 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 94+24.362, East 14+29.252;

THENCE North 00° 16' 01" East, at 118.51 feet passing a 1/2 inch iron rod set for the southeast corner of the Oxy Flare 0.0221 acre tract and continuing along the east line of the said 0.0221 acre tract for a total distance of 126.71 feet to a 1/2 inch iron rod found for the northwest corner of the 0.3957 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 95+51.071, East 14+29.843;

THENCE North 89° 07' 19" East, 114.43 feet to a 1/2 inch iron rod found for the northeast corner of the 0.3957 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 95+52.825, East 15+44.260;

THENCE South 01° 29' 15" West, 161.21 feet to a 1/2 inch iron rod set for the southeast corner of the 0.3957 area tract herein described, said point having Occidental Chemical Plant Grid Coordinates: North 93+91.669, East 15+40.075;

THENCE South 89° 13' 38" West, 57.87 feet to a 1/2 inch iron rod reset for corner of the 0.3957 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 93+90.888, East 14+82.210;

THENCE North 57° 42' 12" West, 62.65 feet to the TRUE POINT OF BEGINNING and containing 0.3957 acres or 17.236 square feet.

23.9259 ACRE TRACT:

All that certain 23.9259 acre tract of land situated in the Thomas Earle Survey, Abstract Number 18, Harris County, Texas, said 23.9259 acre tract of land being out of that certain 158.578 acre tract of Land described as Exhibit "A", Parcel 1 in General Warranty Deed dated April 30, 1986 from Tenneco Polymer's Inc. to Occidental Chemical Corporation as recorded under County Clerk's File Number K514530, Film Code Number 045-64-1833 in the Official Public Records of Real Property in Harris County, Texas, said 23.9259 acre tract of land being more particularly described by metes and bounds as follows: (All bearings are based on the Texas Coordinate Systems, South Central Zone, all distances and coordinates are surface, distance or coordinate multiplied by 0.9998880 = Grid.)

COMMENCING at an eight (8") inch diameter concrete monument with a three (3") inch brass disc (center punched) found at the intersection of the East line of the 80.00 foot wide fee strip formerly known as Channel City Road with the North line of that certain 100.00 foot wide fee tract containing 42.55 acres (called) and being described in Deed dated March 9, 1928 from M.T. Jones to Harris County Houston Ship Channel Navigation District as recorded under Harris County Clerk's File

Number 333399, Film Code Number 079-52-0563 and in Volume 745, Page 162 of the Deed Records of Harris County, Texas and having coordinates of X=3,221,097.45 and Y=706,264.25; said point also being the southwest corner of the said 158.5780 acre tract and the southeast corner of that certain 0.2141 acre tract situated in the Thomas Earle Survey, Abstract Number 18, in Harris County, Texas (called GG-OXY Parcel No. 3) described in Exhibit "A-2 in Deed without Warranty dated July 8, 1993 from Georgia Gulf Corporation, a Delaware Corporation to Occidental Chemical Corporation, a New York Corporation, as recorded under Harris County Clerk's File Number P357921, Film Code Number 165-58-3677 in the Official Public Records of Real Property in Harris County, Texas;

THENCE North 87° 32' 14" East, 1437.59 feet, with the northerly line of the Port Terminal Railway Association tract to a 5/8" iron rod in a corner of the Texas Turnpike Authority 24.663 acre permanent easement;

THENCE North 12° 38' 25" West, 101.60 feet to a 5/8" iron rod in a corner of said 24.663 acre tract, being in the northerly line of the Ethyl Corporation Easement (100.00 foot wide);

THENCE North 87° 32' 14" East, 140.00 feet with the Northerly line of said Ethyl Easement, common at this point with the northerly line of the aforesaid 24.663 acre tract, to a 5/8" iron rod found in the beginning of a non-tangent curve having a radius of 1809.86 feet being concave to the northwest;

THENCE Northeasterly, along said curve, with the Westerly line of said 24.663 acre tract, a distance of 555.20 feet to the point of tangency, chord = North 12° 40' 32" East, 553.03 feet;

THENCE North 03° 53' 10" East, 3082.59 feet with the Westerly line of said 24.663 acres tract to a 1/2" iron rod with plastic cap stamped "Prejean" found in the TRUE POINT OF BEGINNING of the tract herein described; said point having coordinates of X=3,222,981.61 and Y=710,046.23;

THENCE South 49° 03' 20" West, 140.99 feet to a 1/2" iron rod with plastic cap found in deep gully under water is an Easterly corner of Occidental Corporation tract of 158.578 acres described in Deed recorded under County Clerk's File K514580 in the Official Public Records of Real Property of Harris County, Texas;

THENCE Westerly, Northerly and Easterly with the boundaries of said Occidental Chemical Corporation tract, being common with the tract herein described, the following calls:

North 86° 06' 10" West, 176.55 feet to a set 5/8" iron rod;

South 41° 00' 53" West, 133.20 feet to a set 5/8" iron rod;

South 86° 55' 30" West, 123.09 feet to a found 1/2" iron rod;

North 02° 25' 09" West, 106.62 feet to a found 1/2" iron rod;

North 43° 22' 29" West, 154.91 feet to a set 5/8" iron rod;

South 87° 29' 51" West, 147.82 feet to a cut "x" in concrete;

South 02° 29' 33" East, 166.07 feet to a found 1/2" iron rod;

South 87° 13' 21" West, 192.54 feet to a found drill hole in concrete;

North 02° 46' 38" West, 209.28 feet to a found drill hole in concrete;

South 87° 13' 21" West, 378.90 feet to a found drill hole in concrete;

North 02° 46' 39" West, 80.57 feet to a found drill hole in concrete;

North 87° 13' 21" East, 84.41 feet to a found drill hole in concrete;

North 02° 46' 39" West, 563.75 feet with the centerline of Tennessee Street to a "P.K." nail set in intersection with centerline of Pasadena Street;

North 87° 10' 19" East, 465.81 feet to a "P.K." nail set in the center of street;

North 80° 25' 49" East, 62.40 feet to a "P.K." nail set in the center of street;

North 67° 20' 10" East, 205.10 feet to a "P.K." nail set in the center of street;

North 76° 27' 36" East, 148.85 feet to a "P.K." nail set in the center of street;

North 85° 11' 11" East, 472.51 feet to a 5/8" iron rod set in the most Northerly Southeast corner of said Occidental Chemical Corporation 158.5780 acre tract, being the Northeasterly corner of the tract herein described and being in the Westerly line of the Texas Turnpike Authority 24.663 acre tract;

THENCE leaving said Occidental Chemical Corporation tract, South 03° 53' 10" West, 726.19 feet with the Westerly line of said 24.663 acre tract to a set 5/8" iron rod;

THENCE South 87° 13' 00" West, 194.46 feet to a P.K. nail set in concrete at fence post;
THENCE South 02° 47' 00" East, 150.00 feet to a found 1/2" iron rod with plastic cap stamped "Prejean";
THENCE North 87° 13' 00" East, 177.42 feet to the TRUE POINT OF BEGINNING and containing 23.9259 acres or 1,042,211 square feet.

1.2014 ACRE TRACT: STORAGE TANK AND DIKED AREA TO BE USED FOR NEW ORTHO-XYLENE STORAGE

All that certain 1.2014 acre tract of land situated in the Thomas Earle Survey, Abstract Number 18, Harris County, Texas; said 1.2014 acre tract of land also being out of that certain 158.578 acre tract of land described as Exhibit "A", Parcel 1 in deed dated April 30, 1986 from Tenneco Polymers, Inc. to Occidental Chemical Corporation and recorded under County Clerk's File Number K-514530 in the Official Public Records of Real Property of Harris County, Texas; said 1.3014 acre tract of land being more particularly described by metes and bounds as follows: (all bearings and coordinates are based on Occidental Chemical Plant Grid Coordinates System and refer to monuments situated at North 96+00.00, East 14+35.00 and North 85+00.00, East 14+35.00):

COMMENCING at a 5/8 inch iron rod found in the northerly right-of-way line of the Port Terminal Railway Association - 100.00 feet wide right-of-way (Harris County Houston Ship Channel Navigation District) at the southwest corner of the said 158.578 acre tract; said iron rod having Occidental Chemical Plant Grid Coordinates: North 47+38.966, East 7+36.805;

THENCE North 01° 00' 31" East, 3515.07 feet along the westerly line of the said 158.578 acre tract to a point having Occidental Chemical Plant Grid Coordinates: North 82+53.493, East 7+98.680;

THENCE East, 1253.02 feet to a 16 inch iron rod found for the TRUE POINT OF BEGINNING for the 1.2014 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 82+53.493, East 20+51.700;

THENCE North 00° 17' 04" East, 233.30 feet to a 3/4 inch iron rod set for the northwest corner of the 1.2014 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 84+86.790, East 20+52.858;

THENCE South 89° 43' 30" East, 147.82 feet to a 1/2 inch iron rod set for the most northerly northeast corner of the 1.2014 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 84+86.081, East 22+00.677;

THENCE South 40° 35' 50" East, 154.91 feet to a 1/2 inch iron rod reset for corner of the 1.2014 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 83+68.457, East 23+01.482;

THENCE South 00° 21' 30" West, 117.27 feet to a 1/2 inch iron rod found for the southeast corner of the 1.2014 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 82+51.189; East 23+00.749;

THENCE North 89° 28' 12" West, 249.06 feet to the TRUE POINT OF BEGINNING and containing 1.2014 acres or 52,331 square feet.

0.0448 ACRE TRACT: RESEARCH STORAGE BUILDING

All that certain 0.0448 acre tract of land situated in the Thomas Earle Survey, Abstract Number 18, Harris County, Texas; said 0.0448 acre tract of land also being out of that certain 158.578 acre tract of land described as Exhibit "A", Parcel 1 in deed dated April 30, 1986 from Tenneco Polymers, Inc. to Occidental Chemical Corporation and recorded under County Clerk's File Number K-514530 in the Official Public Records of Real Property of Harris County, Texas; said 0.0448 acre tract of land being more particularly described by metes and bounds as follows: (all bearings and coordinates are based on Occidental Chemical Plant Grid Coordinates System and refer to monuments situated at North 96+00.00, East 14+35.00 and North 85+00.00, East 14+35.00):

COMMENCING at a 5/8 inch iron rod found in the northerly right-of-way line of the Port Terminal Railway Association - 100.00 feet wide right-of-way (Harris County Houston Ship Channel Navigation District) at the southwest corner of the said 158.578 acre tract; said iron rod having Occidental Chemical Plant Grid Coordinates: 47+38.966, East 7+36.805;

THENCE North 01° 00' 31" East, 3585.85 feet along the westerly line of the said 158.578 acre tract to

a point having Occidental Chemical Plant Grid Coordinates: North 83+24.256, East 7+99.925;
THENCE East, 664.73 feet to the TRUE POINT OF BEGINNING for the 0.0448 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 83+24.255, East 14+64.658;

THENCE North 00° 17' 20" West, 32.30 feet to a point for the northwest corner of the 0.0448 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 83+56.555, East 14+64.495;

THENCE North 89° 42' 40" East, 60.40 feet to a point for the northeast corner of the 0.0448 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 83+56.859, East 15+24.057;

THENCE South 00° 17' 20" East, 32.30 feet to a point for the southeast corner of the 0.0448 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 83+24.560, East 15+25.057;

THENCE South 89° 42' 40" West, 60.40 feet to the TRUE POINT OF BEGINNING and containing 0.0449 acres or 1,951 square feet.

0.1056 ACRE TRACT: INDUSTRIAL RELATIONS BUILDING AND FIRE STATION

All that certain 0.1056 acre tract of land situated in the Thomas Earle Survey, Abstract Number 18, Harris County, Texas; said 0.1056 acre tract of land also being out of that certain 158.578 acre tract of land described as Exhibit "A", Parcel 1 in deed dated April 30, 1986 from Tenneco Polymers, Inc. to Occidental Chemical Corporation and recorded under County Clerk's File Number K-514530 in the Official Public Records of Real Property of Harris County, Texas; said 0.1056 acre tract of land being more particularly described by metes and bounds as follows: (all bearings and coordinates are based on Occidental Chemical Plant Grid Coordinates System and refer to monuments situated at North 96+00.00, East 14+35.00 and North 85+00.00, East 14+35.00):

COMMENCING at a 5/8 inch iron rod found in the northerly right-of-way line of the Port Terminal Railway Association - 100.00 feet wide right-of-way (Harris County Houston Ship Channel Navigation District) at the southwest corner of the said 158.578 acre tract; said iron rod having Occidental Chemical Plant Grid Coordinates: 47+38.966, East 7+36.805;

THENCE North 01° 00' 31" East, 3635.36 feet along the westerly line of the said 158.578 acre tract to a point having Occidental Chemical Plant Grid Coordinates: North 83+74.760, East 8+00.815;

THENCE East, 521.98 feet to the TRUE POINT OF BEGINNING for the 0.1056 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 83+74.760, East 13+22.792;

THENCE North 00° 07' 26" East, 97.20 feet to a point for the most westerly northwest corner of the 0.1056 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 84+71.960, East 13+23.002;

THENCE South 89° 52' 34" East, 5.10 feet to a point for corner of the 0.1056 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 84+71.949, East 13+28.102;

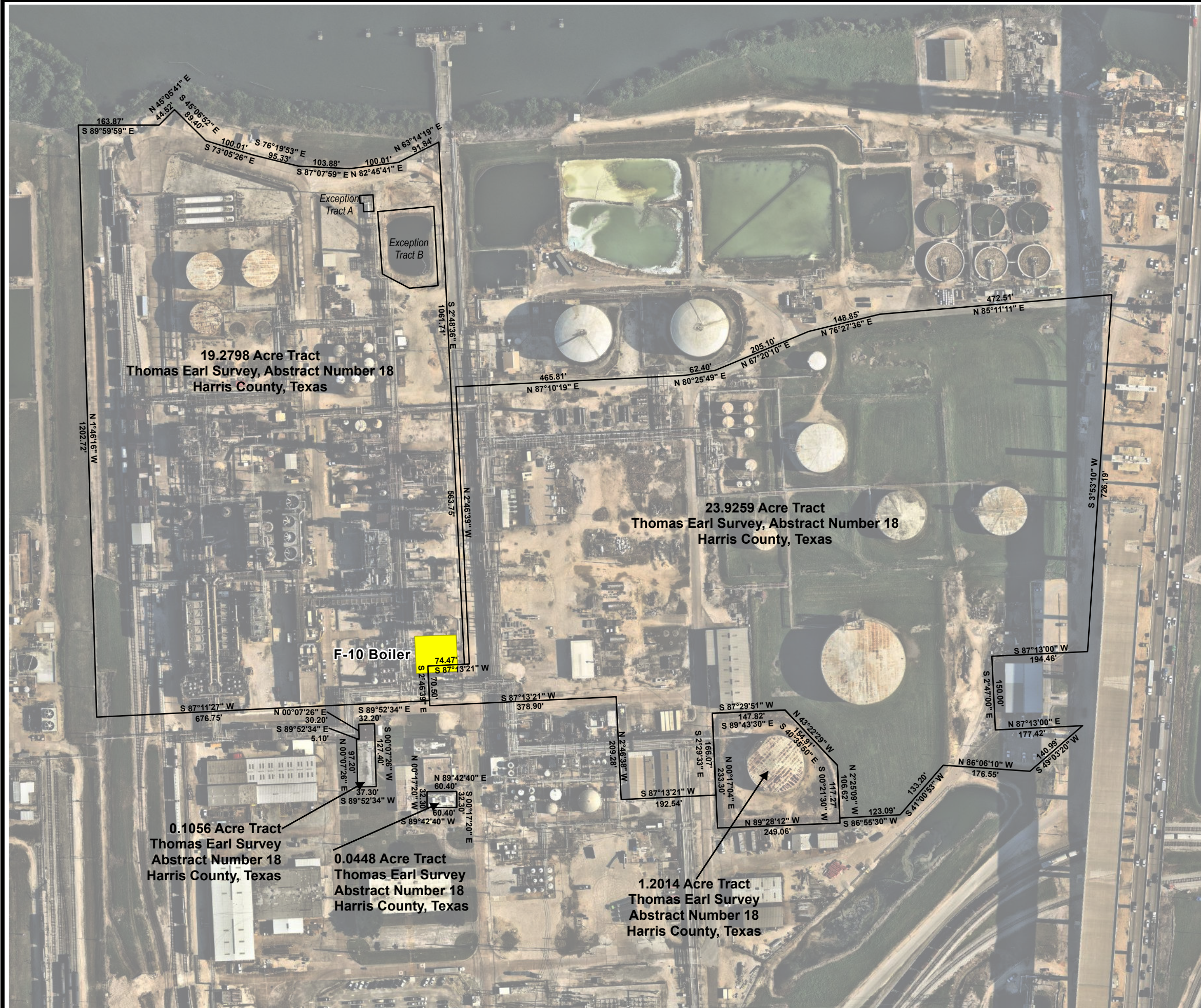
THENCE North 00° 07' 26" East, 30.20 feet to a point for the most northerly northwest corner of the 0.1056 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 85+02.149, East 13+28.167;

THENCE South 89° 52' 34" East, 32.20 feet to a point for the northeast corner of the 0.1056 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 85+02.079, East 13+60.367;



THENCE South 00° 07' 26" West, 127.40 feet to a point for the southeast corner of the 0.1056 acre tract herein described; said point having Occidental Chemical Plant Grid Coordinates: North 83+74.679, East 13+60.092;

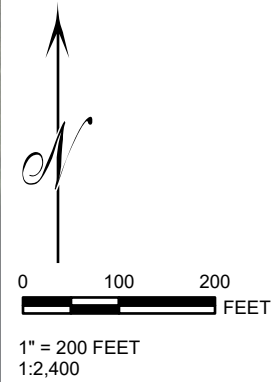
THENCE North 89° 52' 34" West, 37.30 feet to the TRUE POINT OF BEGINNING and containing 0.1056 acres or 4,598 square feet.

C:_ADACCDocs\stemaple\Projects\BASF\Pasadena Facility\PCRA 2025\BASF GIS.aprx



Legend

-  Metes and Bounds
-  Hazardous Waste Unit (F10 Boiler)



BASF CORPORATION PASADENA SITE

LEGAL DESCRIPTION

DRAWN BY:	L WILSON	SCALE:	AS NOTED	PROJ. NO.	017-25-01
CHECKED BY:	H MCHALE	DATE PRINTED:	10/17/2025	FILE NO.	Legal Description
APPROVED BY:	H MCHALE				
DATE:	October 2025				

PART A ATTACHMENT B

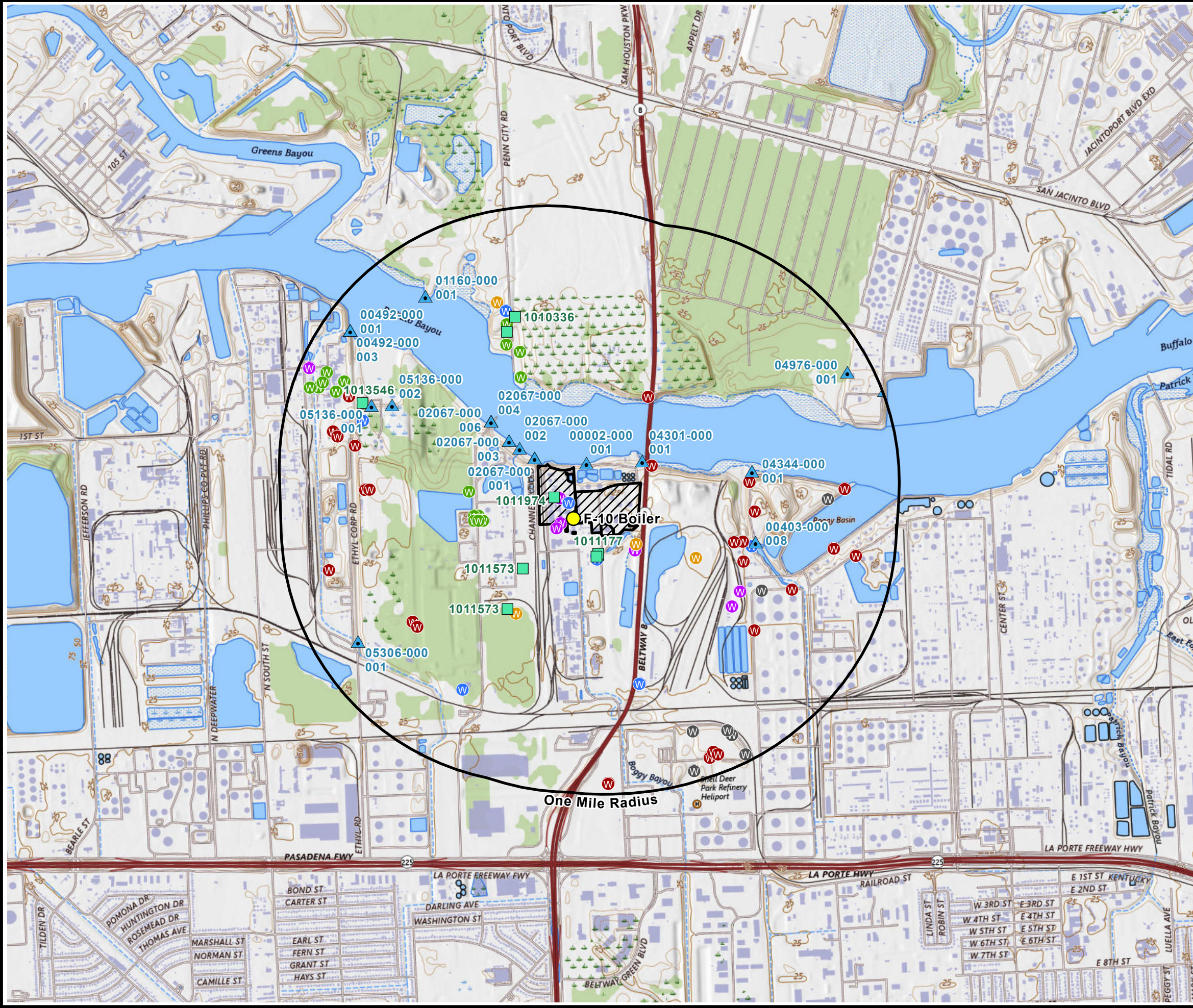
Coterie
ENVIRONMENTAL

840 First Ave., Suite 400
King of Prussia, PA 19406

Attachment C

Facility Boundaries and Adjacent Waters Map

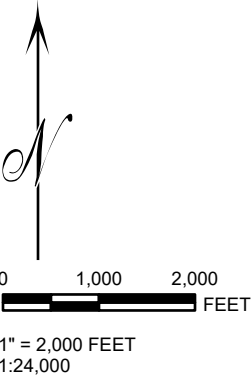
C:_ADACCDocs\stemaple\Projects\BASF\Pasadena Facility\PCRA 2025\BASF GIS.aprx



Legend

- BASF Corporation Property Boundary
 - One Mile Radius
 - Hazardous Waste Unit (F10 Boiler)
 - Wastewater Outfalls (Permit Number and Outfall Name)
 - Public Water System Wells
- TWDB Wells
- Domestic / Public Supply
 - Environmental Soil Boring
 - Industrial
 - Monitor
 - Rig Supply / Test Well
 - Unused / Plugged or Destroyed

Data Sources:
1. Wastewater Outfalls - TCEQ GIS Database (accessed 10/2025).
2. Public Water System Wells - TCEQ GIS Database (accessed 10/2025).
3. TWDB Wells - Texas Water Development Board GIS Database (accessed 10/2025).
4. USGS Topographic Quadrangles 7.5 Minute Series: Pasadena, TX 2022



**BASF CORPORATION
PASADENA SITE**

**USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE
AND WELL LOCATIONS MAP**

DRAWN BY:	L WILSON	SCALE:	AS NOTED	PROJ. NO.	017-25-01
CHECKED BY:	H MCHALE			FILE NO.	USGS Map
APPROVED BY:	H MCHALE	DATE PRINTED:	10/17/2025	PART A ATTACHMENT C	
DATE:	October 2025				

**Coterie
ENVIRONMENTAL**

840 First Ave., Suite 400
King of Prussia, PA 19406

Attachment D

Photographs

Attachment D Photographs

F-10 BOILER

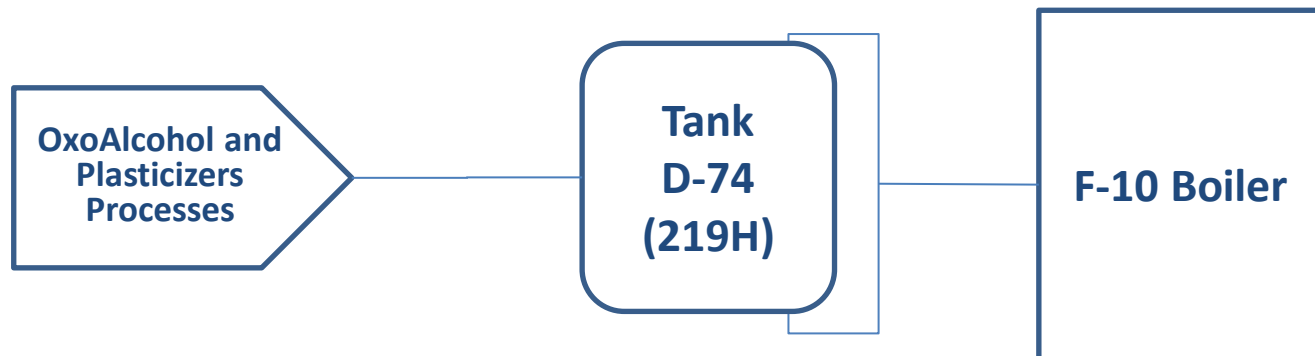


Attachment E

Process Flow Diagram and Description

Attachment E

Process Flow Diagram



Attachment E

Process Flow Description

Waste stream:	Waste liquid fuel
TCEQ waste code:	0221219H
USEPA waste code(s):	D001, D018
Waste origination point:	Generated in the OxoAlcohol process and the plasticizer process
Means of waste conveyance:	Piped from process to accumulation tank
Storage:	Tanks D-74 (permit-exempt)
Ultimate waste disposition:	Destroyed in F-10 Boiler and/or disposed offsite

Attachment F

Core Data Form



TCEQ CORE DATA FORM

For detailed instructions on completing this form, please read the Core Data Form Instructions or call 512-239-5175.

1.1 SECTION I: GENERAL INFORMATION

1. Reason for Submission (If other is checked please describe in space provided.)		
<input type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input checked="" type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)	<input type="checkbox"/> Other	
2. Customer Reference Number (if issued)	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number (if issued)
CN 600124895		RN 100225689

1.2 SECTION II: CUSTOMER INFORMATION

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)							
<input type="checkbox"/> New Customer <input type="checkbox"/> Update to Customer Information <input type="checkbox"/> Change in Regulated Entity Ownership <input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)									
<i>The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).</i>									
6. Customer Legal Name (If an individual, print last name first: eg: Doe, John)				<i>If new Customer, enter previous Customer below:</i>					
BASF Corporation									
7. TX SOS/CPA Filing Number		8. TX State Tax ID (11 digits)		9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)				
0004205406		11610908094		161090809	008081697				
11. Type of Customer:		<input checked="" type="checkbox"/> Corporation		<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited				
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> Local <input type="checkbox"/> State <input type="checkbox"/> Other		<input type="checkbox"/> Sole Proprietorship		<input type="checkbox"/> Other:					
12. Number of Employees				13. Independently Owned and Operated?					
<input type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input checked="" type="checkbox"/> 501 and higher				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following									
<input type="checkbox"/> Owner <input type="checkbox"/> Operator <input checked="" type="checkbox"/> Owner & Operator <input type="checkbox"/> Other: <input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> VCP/BSA Applicant									
15. Mailing		PO Box 687							
Address:		City	Pasadena	State	TX	ZIP	77501	ZIP + 4	
16. Country Mailing Information (if outside USA)					17. E-Mail Address (if applicable)				
18. Telephone Number			19. Extension or Code		20. Fax Number (if applicable)				
(281) 884- 4400					(281) 884 - 4407				

1.3 SECTION III: REGULATED ENTITY INFORMATION

21. General Regulated Entity Information (If "New Regulated Entity" is selected, a new permit application is also required.)								
<input type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information								
<i>The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).</i>								
22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)								
BASF Pasadena								
23. Street Address of the Regulated Entity: (No PO Boxes)	4403 Laporte Highway 225							
	City	Pasadena	State	TX	ZIP	77501	ZIP + 4	
24. County	Harris							

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:								
26. Nearest City				State		Nearest ZIP Code		
<i>Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).</i>								
27. Latitude (N) In Decimal:		29.7322		28. Longitude (W) In Decimal:		95.1511		
Degrees	Minutes	Seconds		Degrees	Minutes	Seconds		
29	43	56		95	09	04		
29. Primary SIC Code (4 digits)		30. Secondary SIC Code (4 digits)		31. Primary NAICS Code (5 or 6 digits)		32. Secondary NAICS Code (5 or 6 digits)		
2869				325199				
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)								
Chemical manufacturing								
34. Mailing Address:	PO Box 687							
	City	Pasadena	State	TX	ZIP	77501	ZIP + 4	
35. E-Mail Address:								
36. Telephone Number (281) 884- 4400			37. Extension or Code			38. Fax Number (if applicable)) (281) 884 - 4407		

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input type="checkbox"/> Edwards Aquifer	<input checked="" type="checkbox"/> Emissions Inventory Air	<input checked="" type="checkbox"/> Industrial Hazardous Waste
			HG1249P	50385, 33849
<input type="checkbox"/> Municipal Solid Waste	<input checked="" type="checkbox"/> New Source Review Air	<input type="checkbox"/> OSSF	<input checked="" type="checkbox"/> Petroleum Storage Tank	<input checked="" type="checkbox"/> PWS
	8199A, 83808		26537	1011974
<input type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Storm Water	<input checked="" type="checkbox"/> Title V Air	<input type="checkbox"/> Tires	<input type="checkbox"/> Used Oil
	TXR05FZ72	1331		
<input type="checkbox"/> Voluntary Cleanup	<input type="checkbox"/> Wastewater	<input type="checkbox"/> Wastewater Agriculture	<input type="checkbox"/> Water Rights	<input checked="" type="checkbox"/> Other: P2
				P06431

1.4 SECTION IV: PREPARER INFORMATION

40. Name:	Andrew Glover		41. Title:	Environmental Specialist
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address	
(832) 835 - 4919		(281) 884 - 4407		

1.5 SECTION V: AUTHORIZED SIGNATURE

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	BASF Corporation	Job Title:	Site Director
Name (In Print):	Abe Ahmed	Phone:	(281) 381 - 0131
Signature:		Date:	11/3/25

PART B

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III.	Facility Management	Section III
IV.	Wastes and Waste Analysis	Section IV
V.	Engineering Reports.....	Section V
VI.	Geology Report	Section VI
VII.	Closure and Post-Closure Plans	Section VII
VIII.	Financial Assurance	Section VIII
IX.	Releases from Solid Waste Units and Corrective Action	Section IX
X.	Air Emission Standards	Section X
XI.	Compliance Plan	Not Applicable
XII.	Hazardous Waste Permit Application Fee	Section XII
XIII.	Confidential Material	Not Applicable

LIST OF APPENDICES

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Appendix X:	Air Emissions Report
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I. GENERAL INFORMATION

Texas Commission on Environmental Quality Industrial & Hazardous Waste Part B Permit Application

I. General Information

Provide all Part B responsive information in Appendix I. When preparing the physical format organize your submittal using the [Format of Hazardous Waste permit Application and Instructions](#).

Provide responsive information in Appendix I.

a. [Complete Table I - General Information](#)

- b. For all incoming New, Renewal, Class 3 Permit Modification, and Major Amendment applications, the TCEQ requires that a Core Data Form (CDF) be submitted whether or not a change has occurred in the previously submitted form. For Minor Amendment, Class 1, Class 1¹, and Class 2 Permit Modification applications, the TCEQ requires that the CDF be only submitted if a change in any information in the previously submitted form has occurred at the time of the application submittal. For more information regarding the Core Data Form, call (512) 239 1575 or go to the TCEQ Web site at https://www.tceq.texas.gov/permitting/central_registry/guidance.html

c. [Signature on Application](#)

It is the duty of the operator to submit an application for a permit. The person who signs the application form will often be the operator himself; when another person signs on behalf of the applicant, his title or relationship to the applicant will be shown. In all cases, the person signing the form must be authorized to do so by the applicant. An application submitted by a corporation must be signed by a responsible corporate officer such as a president, secretary, treasurer, vice president, or by his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the activity described in the form originates. In the case of a partnership or a sole proprietorship, the application must be signed by a general partner or the proprietor, respectively. In the case of a municipal, state, federal, or other public facility, the application must be signed by a principal executive officer, a ranking elected official, or another duly authorized employee. A person signing an application on behalf of an applicant must provide notarized proof of authorization.

- d. Complete Interim Status Land Disposal Unit(s) Certification, as applicable
- e. Submit List and Map of Adjacent Landowners List, as applicable.

TABLE OF APPENDICES

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I.A	Table I and Table I.1
I.B	TCEQ Core Data Form (Form 10400)
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I.D	Interim Status Land Disposal Unit(s) Certification (Not Applicable)
I.E	List and Map of Adjacent Landowners Table I.E and Figure I.E

Appendix I.A: TABLE I AND TABLE I.1

Permit No. 50385
Permittee: BASF Corporation

A. Applicant: Facility Operator

Name ¹	BASF Corporation
Address ²	4403 Laporte Highway 225
City, State ²	Pasadena, TX
Zip Code ²	77501
Telephone Number	281-884-4400
Alternate Telephone Number	None
TCEQ Solid Waste Registration No.	33849
EPA I.D. No.	TXD980909778
Permit No.	50385
County	Harris
Regulated Entity Name	BASF Pasadena
Regulated Entity Reference Number (RN)	RN100225689
Customer Name ²	BASF Corporation
Customer Reference Number:	CN600124895
Charter Number ³	0004205406
Previous or Former Names of the Facility (if applicable)	Not applicable

B. Facility Owner: Identify the Facility Owner if different than the Facility Operator ⁴

☒ Same as Facility Operator?

Name	
Address	
City, State	
Zip Code	
Telephone Number	
Alternate Telephone Number	

C. Facility Contact

1. Persons or firms who will act as primary contact:

Name, Title:	Andrew Glover, Environmental Specialist
Address	PO Box 687
City, State	Pasadena, TX
Zip Code	77501
Telephone Number	832-835-4919
Alternate Telephone Number	None
E-mail	

Persons or firms who will act as primary contact (if more than one):

Name, Title:	S. Heather McHale, Principal, Coterie Environmental LLC
Address	840 First Avenue, Suite 400
City, State	King of Prussia, PA
Zip Code	19406
Telephone Number	610-406-2214
Alternate Telephone Number	None
E-mail	

2. Agent in Service or Agent of Service (if you are an out-of-state company) ⁵:

Name, Title:	CT Corporation Systems
Address	1999 Bryan Street, Suite 900
City, State	Dallas, TX
Zip Code	75201-3166

3. Individual responsible for causing notice to be published:

Name, Title:	Andrew Glover, Environmental Specialist
Address	PO Box 687
City, State	Pasadena, TX
Zip Code	77501
Telephone Number	832-835-4919
Alternate Telephone Number	None
E-mail	

4. Public place in county where application will be made available ⁶:

Name, Title:	Pasadena Public Library - Central Library
Address	1201 Jeff Ginn Memorial Drive
City, State	Pasadena, TX
Zip Code	77506

D. Application Type and Facility Status

1. Application Type

- | | | |
|---|---|---|
| <input checked="" type="checkbox"/> Permit | <input checked="" type="checkbox"/> Amendment | <input type="checkbox"/> Modification |
| <input type="checkbox"/> New | <input type="checkbox"/> Major | <input type="checkbox"/> Class 3 |
| <input checked="" type="checkbox"/> Renewal | <input checked="" type="checkbox"/> Minor | <input type="checkbox"/> Class 2 |
| <input type="checkbox"/> Interim Status | | <input type="checkbox"/> Class 1 ¹ |
| <input type="checkbox"/> Compliance Plan | | <input type="checkbox"/> Class 1 |
| <input type="checkbox"/> RD&D | | |

2. Part of a Consolidated Permit Processing request? [30 TAC Chapter 33]

No

3. Does the application contain confidential material? ⁷

No

4. Facility Status. Check all that apply

- | | |
|--|--|
| <input type="checkbox"/> Proposed | <input checked="" type="checkbox"/> On-site |
| <input checked="" type="checkbox"/> Existing | <input type="checkbox"/> Off-site |
| | <input type="checkbox"/> Commercial |
| | <input type="checkbox"/> Recycle |
| | <input type="checkbox"/> Commercial |
| | <input type="checkbox"/> Land Disposal |
| | <input type="checkbox"/> Areal or capacity expansion |
| | <input type="checkbox"/> Compliance plan |

5. Is the facility within the Coastal Management Program boundary?

Yes

6. Description of Application Changes

Complete Table I.1 - Description of Proposed Application Changes

Note: List all changes requested in Table. Unlisted requests risk remaining unaddressed or possibly denied if brought to the permit application reviewer's attention at a later time.

7. Total acreage of the facility being permitted:

45

8. Identify the name of the drainage basin and segment where the facility is located ⁸

River Segment	1006
River Basin	San Jacinto

E. Facility Siting Summary:

Is the facility located or proposed to be located:

1. Within a 100-year floodplain?	No
2. in wetlands?	No
3. In the critical habitat of an endangered species of plant or animal?	No
4. On the recharge zone of a sole-source aquifer?	No
5. In an area overlying a regional aquifer?	Yes
6. Withing 0.5 mile (2,640 feet) of an established residence, church, school, day care center, surface water body used for public drinking water supply, or dedicated public park?9 [30 TAC 335.202] If Yes: the TCEQ shall not issue a permit for this facility.	No
7. In an area in which the governing body of the country or municipality has prohibited the processing or disposal of municipal hazardous waste or industrial solid waste? If yes: provide a copy of the ordinance or order.	No

F. Wastewater and Stormwater Disposition

1. Is the disposal of any waste to be accomplished by a waste disposal well at this facility?	No
If Yes: List WDW Permit No(s)	
2. Will any point source discharge of effluent or rainfall runoff occur as a result of the proposed activities?	Yes
3. If Yes, is this discharge regulated by a TPDES or TCEQ permit?	<input checked="" type="checkbox"/> Yes
TCEQ Permit No.	TXR05FZ72
TDPS Permit No.	
	<input type="checkbox"/> No
Date TCEQ discharge permit application filed:	
Date TPDES discharge application filed:	

G. Information Required to Provide Notice

H. State Officials List [30 TAC 39]

I. State Senator

Name:	Carol Alvarado
Address	P.O. Box 12068 Capitol Station
City, State	Austin, TX
Zip Code	78711
Email	

J. State Representative

Name:	Mary Ann Perez
Address	P.O Box 12910
City, State	Austin, TX
Zip Code	78711
Email	

K. Local Officials List [30 TAC 39]

L. Mayor

Name:	Thomas Schoenbein
Address	1149 Ellsworth Drive
City, State	Pasadena, TX
Zip Code	77506
Email	

M. Local Health Authority

Name:	Kathy Perez-Ashton
Address	City of Pasadena Health Department
City, State	1149 Ellsworth Drive
Zip Code	Pasadena, Texas
Email	77506

N. County Judge

Name:	Lina Hidalgo
Address	1001 Preston, Suite 911
City, State	Houston, TX
Zip Code	77002
Email	

O. County Health Authority

Name:	Leah Barton, MBA, MA
Address	Harris County Public Health
City, State	1111 Fannin Street
Zip Code	Houston, TX
Email	77002

Permit No. 50385
Permittee: BASF Corporation

Page 6 of 6

Based on the questions in the Bilingual Notice Instructions for this form, are you required to make alternate (Bilingual) notice for this application?

Yes

Bilingual Language(s):

Spanish

TCEQ Core Data Form Submitted?(Required)

Yes

Has any information changed on the TCEQ Core Data Form since the last submittal?

No

Signature on Application Submitted? (see Section I Instructions, Item c)

Yes

1. Individual, Corporation, or Other Legal Entity Name on the Permit - must match the Secretary of State's database records for the Facility).
2. The legal name and address must match the Core Data Form.
3. If the application is submitted on behalf of a corporation, please identify the Charter Number as recorded with the Office of the Secretary of State for Texas.
4. The operator has the duty to submit an application if the facility is owned by one person and operated by another [30 TAC 305.43(b)]. The permit will specify the operator and the owner who is listed on Part A of this application [Section 361.087, Texas Health and Safety Code].
5. If the application is submitted by a corporation or by a person residing out of state, the applicant register an Agent in Service or Agent of Service with the Texas Secretary of State's office and provide complete mailing address for the agent. The agent must be a Texas resident.
6. For applications for new permits, renewals, major amendments and Class 3 modifications a copy of the administratively complete application must be made available at a public place in the county where the facility is, or will be, located for review and copying by the public. Identify the public place in the county (e.g., public library, county court house, city hall), including the address, where the application will be made available for review and copying by the public.
7. For confidential information cross-reference the confidential material throughout the application to Section XIII: Confidential Material, and submit as a separate Section XIII document or binder conspicuously marked "CONFIDENTIAL".
8. Use the segments line map created by [TCEQ GIS Team](#) to find the Segment Name and Basin Name.
9. Use only for a new commercial hazardous waste management facility or areal expansion of an existing hazardous waste management facility or unit of that facility as defined in 30 TAC 335.202.

Table I.1-Description of Proposed Application Changes

Permit/Compliance Plan Application Appendix/Section	Brief Description of Proposed Change	Modification or Amendment Type	Supporting Regulatory Citation
Entire permit application	Permit renewal includes general updates to plans and programs, removed references to closed F-8 Boiler and its waste streams.	Minor	Not applicable
Application - Part A	General updates to facility information	Minor	40 CFR § 270.42 Appendix I.A.1
Application - Table III.E.2	Updated emergency coordinators list	Minor	40 CFR § 270.42 Appendix I.B.6.d
Application - Appendix III.E - Contingency plan	Information was also added to comply with 40 CFR Part 262 Subpart M (for Large Quantity Generators). Clarified notification requirements. Actual emergency procedures have not changed.	Minor	40 CFR § 270.42 Appendix I.A.1
Application - Appendix IV.D - Waste Analysis Plan	Added section that addresses ignitable, reactive, or incompatible wastes and RCRA air emission standards	Minor	40 CFR § 270.42 Appendix I.A.1
Application - Appendix V.A - General Engineering Report	Added general engineering report to address 40 CFR §§ 270.14(b)(8) and (b)(10). Updated facility figures and maps.	Minor	40 CFR § 270.42 Appendix I.A.1
Application - Appendix V.I F-10 Boiler engineering report	Modified engineering reports for F-10 Boiler to address application table applicability after HWC NESHAP, special waste considerations, and startup, shutdown, and malfunctions.	Minor	40 CFR § 270.42 Appendix I.A.1
Application - Appendix VII.A and VII.B - Closure Plan and Costs	Updated closure costs, closure procedures did not change	Minor	40 CFR § 270.42 Appendix I.A.1
Application - Appendix X.B - Table X.B	Provided updated component list	Minor	40 CFR § 270.42 Appendix I.A.1

Appendix I.B:

TCEQ CORE DATA FORM (FORM 10400)



TCEQ CORE DATA FORM

For detailed instructions on completing this form, please read the Core Data Form Instructions or call 512-239-5175.

1.1 SECTION I: GENERAL INFORMATION

1. Reason for Submission (If other is checked please describe in space provided.)		
<input type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input checked="" type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)	<input type="checkbox"/> Other	
2. Customer Reference Number (if issued)	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number (if issued)
CN 600124895		RN 100225689

1.2 SECTION II: CUSTOMER INFORMATION

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)							
<input type="checkbox"/> New Customer <input type="checkbox"/> Update to Customer Information <input type="checkbox"/> Change in Regulated Entity Ownership <input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)									
<i>The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).</i>									
6. Customer Legal Name (If an individual, print last name first: eg: Doe, John)				<i>If new Customer, enter previous Customer below:</i>					
BASF Corporation									
7. TX SOS/CPA Filing Number		8. TX State Tax ID (11 digits)		9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)				
0004205406		11610908094		161090809	008081697				
11. Type of Customer:		<input checked="" type="checkbox"/> Corporation		<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited				
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> Local <input type="checkbox"/> State <input type="checkbox"/> Other		<input type="checkbox"/> Sole Proprietorship		<input type="checkbox"/> Other:					
12. Number of Employees				13. Independently Owned and Operated?					
<input type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input checked="" type="checkbox"/> 501 and higher				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following									
<input type="checkbox"/> Owner <input type="checkbox"/> Operator <input checked="" type="checkbox"/> Owner & Operator <input type="checkbox"/> Other: <input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> VCP/BSA Applicant									
15. Mailing		PO Box 687							
Address:		City	Pasadena	State	TX	ZIP	77501	ZIP + 4	
16. Country Mailing Information (if outside USA)					17. E-Mail Address (if applicable)				
18. Telephone Number			19. Extension or Code		20. Fax Number (if applicable)				
(281) 884- 4400					(281) 884 - 4407				

1.3 SECTION III: REGULATED ENTITY INFORMATION

21. General Regulated Entity Information (If 'New Regulated Entity' is selected, a new permit application is also required.)								
<input type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information								
<i>The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).</i>								
22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)								
BASF Pasadena								
23. Street Address of the Regulated Entity: (No PO Boxes)	4403 Laporte Highway 225							
	City	Pasadena	State	TX	ZIP	77501	ZIP + 4	
24. County	Harris							

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:							
26. Nearest City				State		Nearest ZIP Code	
<i>Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).</i>							
27. Latitude (N) In Decimal:		29.7322		28. Longitude (W) In Decimal:		95.1511	
Degrees	Minutes	Seconds		Degrees	Minutes	Seconds	
29	43	56		95	09	04	
29. Primary SIC Code (4 digits)		30. Secondary SIC Code (4 digits)		31. Primary NAICS Code (5 or 6 digits)		32. Secondary NAICS Code (5 or 6 digits)	
2869				325199			
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)							
Chemical manufacturing							
34. Mailing Address:	PO Box 687						
	City	Pasadena	State	TX	ZIP	77501	ZIP + 4
35. E-Mail Address:							
36. Telephone Number (281) 884- 4400			37. Extension or Code			38. Fax Number (if applicable)) (281) 884 - 4407	

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input type="checkbox"/> Edwards Aquifer	<input checked="" type="checkbox"/> Emissions Inventory Air	<input checked="" type="checkbox"/> Industrial Hazardous Waste
			HG1249P	50385, 33849
<input type="checkbox"/> Municipal Solid Waste	<input checked="" type="checkbox"/> New Source Review Air	<input type="checkbox"/> OSSF	<input checked="" type="checkbox"/> Petroleum Storage Tank	<input checked="" type="checkbox"/> PWS
	8199A, 83808		26537	1011974
<input type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Storm Water	<input checked="" type="checkbox"/> Title V Air	<input type="checkbox"/> Tires	<input type="checkbox"/> Used Oil
	TXR05FZ72	1331		
<input type="checkbox"/> Voluntary Cleanup	<input type="checkbox"/> Wastewater	<input type="checkbox"/> Wastewater Agriculture	<input type="checkbox"/> Water Rights	<input checked="" type="checkbox"/> Other: P2
				P06431

1.4 SECTION IV: PREPARER INFORMATION

40. Name:	Andrew Glover		41. Title:	Environmental Specialist
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address	
(832) 835 - 4919		(281) 884 - 4407		

1.5 SECTION V: AUTHORIZED SIGNATURE

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	BASF Corporation	Job Title:	Site Director	
Name (In Print):	Abe Ahmed		Phone:	(281) 381 - 0131
Signature:			Date:	11/3/25

Appendix I.C: SIGNATURE PAGE

Signature Page

I, Abe Ahmed Site Director,
(Operator) (Title)

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____ Date: _____

To be completed by the Operator if the application is signed by an Authorized Representative for the Operator

I, _____, hereby designate _____
[Print or Type Name] [Print or Type Name]

as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

Printed or Typed Name of Operator or Principal Executive Officer

Signature

SUBSCRIBED AND SWORN to before me by the said _____

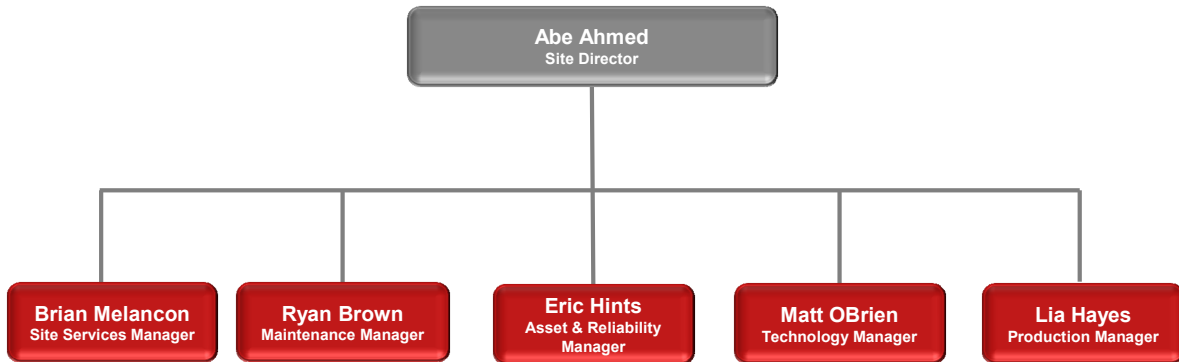
On this _____ day of _____,

My commission expires on the _____ day of _____,

Notary Public in and for _____ County, Texas
[Note: Application Must Bear Signature & Seal of Notary Public]

PROOF OF AUTHORIZATION

Pasadena Site Organization - Leadership



Appendix I.E:
LIST AND MAP OF ADJACENT LANDOWNER
TABLE I.E AND FIGURE I.E




TABLE I.E
ADJACENT LANDOWNERS

MAP ID	LANDOWNER/ADDRESS
1	INEOS AMERICAS LLC 7770 RANGELINE RD THEODORE AL 36582-5212
2	KINDER MORGAN PETCOKE LP PO BOX 4372 HOUSTON TX 77210-4372
3	OXY VINYLs LP PO BOX 27570 HOUSTON TX 77227-7570

C:_AD\ACCDocs\itemaple\Projects\BASF\Pasadena Facility\PCRA 2025\BASF GIS.aprx



Legend

-  BASF Corporation Property Boundary
-  Hazardous Waste Unit (F10 Boiler)
-  1 Adjacent Landowners

Parcel Source:
Harris County Appraisal District. Data streamed
through GIS Rest Service, accessed October 2025.



0 400 800
FEET

1" = 800 FEET
1:9,600

BASF CORPORATION
PASADENA SITE

FIGURE I.E
ADJACENT LANDOWNER MAP

DRAWN BY:	L WILSON	SCALE:	AS NOTED	PROJ. NO.	017-25-01
CHECKED BY:	H MCHALE			FILE NO.	Adjacent Landowner
APPROVED BY:	H MCHALE	DATE PRINTED:			
DATE:	October 2025		10/19/2025		

Coterie
ENVIRONMENTAL

840 First Ave., Suite 400
King of Prussia, PA 19406

II. FACILITY SITING CRITERIA

II. Facility Siting Criteria

Provide all Part B responsive information in Appendix II. When preparing the physical format organize your submittal using the [Format of Hazardous Waste permit Application and Instructions](#).

For all new hazardous waste management facilities or areal expansions of existing hazardous waste management facilities provide a report which includes all applicable information regarding Unsuitable Site Characteristics found in 30 TAC Chapter 335, Subchapter G. The report must address each requirement applicable to the type of activity submitted in the application. Reference specific rule numbers whenever possible. Supporting information may be cross-referenced to other parts of this application such as Section V - Engineering Report or Section VI - Geology Report, but information submitted in previous applications must be fully reproduced herein. In addition, provide the information in Table II, as applicable.

For permit renewals provide a report which includes all applicable information regarding Unsuitable Site Characteristics found in 30 TAC Chapter 335, Subchapter G. In addition, provide the information in Table II, as applicable. The applicant may resubmit the information submitted with the original permit application provided this information has not changed. For a renewal this information is necessary to ensure a complete application is received.

For capacity expansions of existing facilities, please provide information in Table II, as applicable. Please note however, that additional technical information may be requested to address any facility siting characteristics noted in Table I, under Facility Siting Summary.

NOTE: The standards contained in §335.204(a)(6) - (9), (b)(7) - (12), (c)(6) - (11), (d)(6) - (11), and (e) (8) - (13) are not applicable to facilities that have submitted a notice of intent to file a permit application pursuant to §335.391 of this title (relating to Pre-Application Review) prior to May 3, 1988, or to facilities that have filed permit applications pursuant to §335.2(a) of this title which were submitted in accordance with Chapter 305 of this title and that were declared to be administratively complete pursuant to §281.3 of this title (relating to Initial Review) prior to May 3, 1988.[30 TAC 335.201(b)]

- A. Requirements for Storage or Processing Facilities, Land Treatment Facilities, Waste Piles, Storage Surface Impoundments, and Landfills.

Complete Table II.A-Requirements for Storage or Processing Facilities, Land Treatment Facilities, Waste Piles, Storage Surface Impoundments, and Landfills.

- B. Additional Requirements for Land Treatment Facilities [30 TAC 335.204(b)]

Complete Table II.B.-Additional Requirements for Land Treatment Facilities [30 TAC 335.204(b)]

- C. Additional Requirements for Waste Piles [30 TAC 335.204(c)]

Complete Table II.C.-Additional Requirements for Waste Piles [30 TAC 335.204(c)]

- D. Additional Requirements for Storage Surface Impoundments [30 TAC 335.204(d)]

Complete Table II.D.- Additional Requirements for Storage Surface Impoundments [30 TAC 335.204(d)]

- E. Additional Requirements for Landfills (and Surface Impoundments Closed as Landfills with

wastes in place)

Complete Table II.E. - Additional Requirements for Landfills (and Surface Impoundments Closed as Landfills with wastes in place)

F. Flooding

1. Identify whether the facility is located within a 100-year flood plain [40 CFR 270.14(b)(11)(iii)]. This identification must indicate the source of data for such determination and include a copy of relevant documentation (e.g., flood maps, if used and/or calculations). The boundaries of the hazardous waste management facility must be shown on the flood plain map. If the facility is not subject to inundation as a result of a 100-year flood event, indicate that the facility is not within the 100-year flood plain, and do not complete the remainder of the Flooding section in Table II. An applicant for a proposed hazardous waste landfill, areal expansion of a hazardous waste landfill, or a commercial hazardous waste land disposal unit may not rely solely on flood plain maps prepared by the Federal Emergency Management Agency (FEMA) or a successor agency for this determination.
2. If the facility is located within the 100-year flood plain the applicant must provide information detailing the specific flooding levels and other events (e.g., Design Hurricane projected by Corps of Engineers) which impact the flood protection of the facility. Information shall also be provided identifying the 100-year flood level and any other special flooding factors (e.g., wave action) which must be considered in designing, construction, operating, or maintaining the facility to withstand washout from a 100-year flood.
3. State whether any flood protection devices exist at the facility (e.g., flood walls, dikes, etc.), designed to prevent washout from the 100-year flood.

- a. **If Yes:** provide in Section V an engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the facility as a consequence of a 100-year flood. [40 CFR 270.14(b)(11)(iv)(A)]

Include structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., flood walls, dikes) at the facility and how these will prevent washout. [40 CFR 270.14(b)(11)(iv)(B)]

- b. **If No:** the applicant shall provide in Section V a plan for constructing flood protection devices and a schedule including specific time frames for completion. Provide engineering analyses to indicate the various hydrodynamic and hydrostatic forces expected to result at the facility as a consequence of a 100-year flood. [40 CFR 270.14(b)(11)(iv)(A)]

Include structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., flood walls, dikes) at the facility and how these will prevent washout. [40 CFR 270.14(b)(11)(iv)(B)]

4. If applicable, and in lieu of the flood protection devices from above, provide a detailed description of the procedures to be followed to remove hazardous waste to safety before the facility is flooded. [40 CFR 270.14(b)(11)(iv)(c)] The

procedures should include:

- a. Timing of such movement relative of flood levels, including estimated time to move the waste, to show that such movement can be completed before flood waters reach the facility. Indicate which specific events shall be use to begin waste movement (e.g., Hurricane warning, Flash Flood watch, etc.);
- b. A description of the location(s) to which the waste will be moved and a demonstration that these facilities will be eligible to receive hazardous waste in accordance with appropriate regulations (i.e., a permitted facility);
- c. The planned procedures, equipment, and personnel to be used and the means to ensure that such resources will be available in time for use; and
- d. The potential for accidental discharges of the waste during movement and precautions taken to preclude accidental discharges.

G. Additional Information Requirements

1. For a new hazardous waste management facility, include a map of relevant local land-use plans and descriptions of the major routes of travel in the vicinity of the facility to be used for the transportation of hazardous waste to and from the facility covering at least a five (5)-mile radius from the boundaries of the facility. [30 TAC 305.50(a)(10)(A)&(D)]
2. For a new commercial hazardous waste management facility as defined in 30 TAC 335.202 or the subsequent areal expansion of such a facility or unit of that facility, indicate on the map the nearest established residence, church, school, day care center, surface water body used for a public drinking water supply, and dedicated public park.
3. For new commercial hazardous waste management facilities, submit the following: [30 TAC 305.50(a)(12)(A)]
 - a. the average number, gross weight, type, and size of vehicles used to transport hazardous waste;
 - b. the major highways nearest the facility irrespective of distance; and
 - c. the public roadways used by vehicles traveling to and from the facility within a minimum radius of 2.5 miles from the facility.
4. Include the names and locations of industrial and other waste-generating facilities within 0.5 miles for a new on-site hazardous waste management facility and the approximate quantity of hazardous waste generated or received annually at those facilities. [30 TAC 305.50(a)(10)(B)&(C)]
5. Include the names and locations of industrial and other waste-generating facilities within 1.0 miles for a new commercial hazardous waste management facility and the approximate quantity of hazardous waste generated or received annually at those facilities. [30 TAC 305.50(a)(10)(B)&(C)]
6. For existing land disposal facility units provide documentation that the information required by 30 TAC 335.5 has been placed in the county deed records. If previously submitted, please reference the submittal by date and registration number.
7. If a surface impoundment or landfill (including post-closure) is to be permitted, provide exposure information to accompany this application and in accordance

with 30 TAC 305.50(a)(8) and 40 CFR 270.10(j). This information will be considered separately from the TCEQ application completeness determination.

8. For a hazardous waste management facility requesting a capacity expansion of an existing hazardous waste management facility, please provide in Section VI.A.1.a the requested fault delineation information. [30 TAC 305.50(a)(4)(D)]

TABLE OF APPENDICES

APPENDIX	TITLE
II.A	Requirements for Storage or Processing Facilities, Land Treatment Facilities, Waste Piles, Storage Surface Impoundments, and Landfills (Table II and Site Selection Report)
II.B	Additional Requirements for Land Treatment Facilities (Not Applicable)
II.C	Additional Requirements for Waste Piles (Not Applicable)
II.D	Additional Requirements for Storage Surface Impoundments (Not Applicable)
II.E	Additional Requirements for Landfills (and Surface Impoundments Closed as Landfills with wastes in place) (Not Applicable)
II.F	Flooding (Flooding Report)
II.G	Additional Information Requirements (Not Applicable)

Appendix II.A:

REQUIREMENTS FOR STORAGE OR PROCESSING FACILITIES, LAND TREATMENT FACILITIES, WASTE PILES, STORAGE SURFACE IMPOUNDMENTS, AND LANDFILLS (TABLE II AND SITE SELECTION REPORT)

Table II

Table II contains the following: Table II.A, Table II.B, Table II.C, Table II.D, Table II.E and Flooding from Section II. F of the Part B Application

Table II.A - Requirements for Storage or Processing Facilities, Land Treatment Facilities, Waste Piles, Storage Surface Impoundments, and Landfills

Is the facility located or proposed to be located¹:

In wetlands? [as applicable: 30 TAC 335.204(a)(2), (b)(2), (c)(2), (d)(2), and/or (e)(2)]	No
If Yes: the TCEQ shall not issue a permit for a new hazardous waste management facility or areal expansion of an existing facility into wetlands, pursuant to 30 TAC 335.205(a)(1).	
In the critical habitat of an endangered species of plant or animal? ⁶ [as applicable: 30 TAC 335.204(a)(8), (b)(10), (c)(9), (d)(9), and/or (e)(11)]	No
If Yes: submit in Section V information demonstrating that design, construction, and operational features will prevent adverse effects on such critical habitat.	
On the recharge zone of a sole-source aquifer? ² [30 TAC 335.204(a)(3), (b)(3), (c)(3), (d)(3), and/or (e)(3)]	No
If Yes: then for storage and processing facilities (excluding storage surface impoundments), submit in Section V information demonstrating that secondary containment is provided to preclude migration to groundwater from spills, leaks, or discharges.	
In an area overlying a regional aquifer? [as applicable: 30 TAC 335.204(a)(4), (b)(4), (c)(4), (d)(4), and/or (e)(4)]	Yes, see below
If Yes: submit site-specific information in Section V and/or Section VI demonstrating compliance with 30 TAC 335.205(a)(1).	
In areas where soil unit(s) are within five feet of the containment structure, or treatment zone, as applicable, that have a Unified Soil Classification of GW, GP, GM, GC, SW, SP, or SM, or a hydraulic conductivity greater than 10-5 cm/sec? [as applicable: 30 TAC 335.204(a)(5), (b)(5), (c)(5), (d)(5), and/or (e)(5)]	No
If Yes: provide additional information in Sections V and/or Section VI demonstrating compliance with 30 TAC 335.205(a)(1)	
In areas of direct drainage within one mile of a lake at its maximum conservation pool level, if the lake is used to supply public drinking water through a public water system? ⁶ [as applicable: 30 TAC 335.204 (a)(6), (b)(7), (c)(6), and/or (e)(8)].	No
If Yes: provide information in Section V demonstrating compliance with 30 TAC 335.205(a)(1).	

In areas of active geologic processes, including but not limited to erosion, submergence, subsidence, faulting, karst formation, flooding in alluvial flood wash zones, meandering river bank cuttings, or earthquakes? ⁶ [as applicable: 30 TAC 335.204(a)(7), (b)(8), (c)(7), (d)(7), and/or (e)(9)]	No
Within 30 feet of the upthrown side or 50 feet of the downthrown side of the actual or inferred surface expression of a fault that has reasonably been shown to have caused displacement of shallow Quaternary sediments or of man-made structures? ⁶ [as applicable: 30 TAC 335.204(a)(9), (b)(12), (c)(11), (d)(11), and/or (e)(13)]	No
If Yes: specify in Section V the design, construction, and operational features that will prevent adverse effects resulting from any fault movement.	
If a fault is found to be present, the width and location of the actual or inferred surface expression of the fault, including both the identified zone of deformation and the combined uncertainties in locating a fault trace, must be determined by a qualified geologist or geotechnical engineer and reported in Section VI.	

Table II.B. - Additional Requirements for Land Treatment Facilities [30 TAC 335.204(b)]:

Is the land treatment facility located or proposed to be located:

Within 1000 feet of an established residence, church, school, day care center, surface water body used for a public drinking water supply, or dedicated public park which is in use at the time the notice of intent to file a permit application is filed with the commission, or which is in use at the time the permit application is filed with the commission?

If Yes: the TCEQ shall not issue a permit for a new hazardous waste land treatment unit or an areal expansion of an existing land treatment unit, pursuant to 30 TAC 335.204(b)(6) and 335.205(a).

Within 1000 feet of an area subject to active coastal shoreline erosion even though the area is protected by a barrier island or peninsula?

If Yes: submit in Section V.F design, construction, and operational features which will prevent adverse effects resulting from storm surge and erosion or scouring by water.

Within 5000 feet of a coastal shoreline subject to active shoreline erosion and which is unprotected by a barrier island or peninsula.

If Yes: submit Section V.F design, construction and operational features, which will prevent adverse effects resulting from storm surge and erosion or scouring by water.

On a barrier island or peninsula?

If Yes: the TCEQ shall not issue a permit for a new hazardous waste land treatment unit or an areal expansion of an existing land treatment unit, pursuant to 30 TAC 335.204(b)(11) and 335.205(a)(1).

Table II.C. - Additional Requirements for Waste Piles [30 TAC 335.204(c)]

Is the waste pile located or proposed to be located:

Within 1000 feet of an area subject to active coastal shoreline erosion even though the area is protected by a barrier island or peninsula?	
If Yes: submit in Section V.E design, construction, and operational features on the facility which will prevent adverse effects resulting from storm surge and erosion or scouring by water.	
Within 5000 feet of a coastal shoreline subject to active shoreline erosion and which is unprotected by a barrier island or peninsula.	
If Yes: submit Section V.E design, construction, and operational features which will prevent adverse effects resulting from storm surge and erosion or scouring by water.	
On a barrier island or peninsula? ⁶	
If Yes: the TCEQ shall not issue a permit for a new hazardous waste pile or an areal expansion of an existing waste pile, pursuant to 30 TAC 335.204(c)(10) and 335.205(a)(1).	

Table II.D. - Additional Requirements for Storage Surface Impoundments [30 TAC 335.204(d)]

Is the land treatment facility located or proposed to be located:

Within 1000 feet of an area of active coastal shoreline erosion even though the area is protected by a barrier island or peninsula	
If Yes: submit in Section V.D design, construction, and operational features of the facility which will prevent adverse effects resulting from storm surge and erosion or scouring by water.	
Within 5000 feet of a coastal shoreline subject to active shoreline erosion and which is unprotected by a barrier island or peninsula.	
If Yes: then submit in Section V.D design, construction, and operational features which will prevent adverse effects resulting from storm surge and erosion or scouring by water.	
On a barrier island or peninsula? ⁶	
If Yes: the TCEQ shall not issue a permit for a new hazardous waste storage surface impoundment or an areal expansion of an existing storage surface impoundment, pursuant to 30 TAC 335.204(d)(10) and 335.205(a)(1).	

Table II.E. - Additional Requirements for Landfills (and Surface Impoundments Closed as Landfills with wastes in place)

Is the landfill located or proposed to be located:

Within 1000 feet of an established residence, church, school, day care center, surface water body used for a public drinking water supply, or dedicated public park which is in use at the time the notice of intent to file a permit application is filed with the commission, or which is in use at the time the permit application is filed with the commission?	
If Yes: the TCEQ shall not issue a permit for a new hazardous waste landfill or an areal expansion of an existing landfill, pursuant to 30 TAC 335.204(e)(6) and 335.205(a)(1).	
(For commercial hazardous waste landfills) in the 100-year flood plain of a perennial stream that is delineated on a flood map adopted by the Federal Emergency Management Agency after September 1, 1985, as zone A1-99, VO, or V1-30?	
If Yes: the TCEQ shall not issue a permit for a new hazardous waste landfill or an areal expansion of an existing landfill, pursuant to 30 TAC 335.204(e)(7) and 335.205(a)(1).	
Within 1000 feet of an area subject to active coastal shoreline erosion even though the area is protected by a barrier island or peninsula?	
If Yes: then submit in Section V.G design, construction, and operational features which will prevent adverse effects resulting from storm surge and erosion or scouring by water.	
Within 5000 feet of a coastal shoreline subject to active shoreline erosion and which is unprotected by a barriers island or peninsula.	
If Yes: then submit in Section V.G design, construction, and operational features which will prevent adverse effects resulting from storm surge and erosion or scouring by water.	
On a barrier island or peninsula?	
If Yes: the TCEQ shall not issue a permit for a new hazardous waste landfill or an areal expansion of an existing landfill, pursuant to 30 TAC 335.204(e)(12) and 335.205(a)(1).	

Flooding (see Section II Instructions, Item F)

Is the facility within a 100-year flood plain?	No
Has a flood plain map been provided?	Yes
Has information about flooding levels and events, and other special flooding factors, been provided? ³	No
Do any flood protection devices exist at the facility (e.g., flood walls, dikes, etc.) designed to prevent washout from the 100-year flood? ³	Not Applicable
<p>If Yes: provide in Section V an engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the facility as a consequence of a 100-year flood. [40 CFR 270.14(b)(11)(iv)(A)]⁴</p> <p>If No: the applicant shall provide in Section V a plan for constructing flood protection devices and a schedule including specific time frames for completion. Provide engineering analyses to indicate the various hydrodynamic and hydrostatic forces expected to result at the facility as a consequence of a 100-year flood. [40 CFR 270.14(b)(11)(iv)(A)]⁵</p>	
If applicable, and in lieu of the flood protection devices from above, was a detailed description of the procedures to be followed to remove hazardous waste to safety before the facility is flooded provided? ^{3, 6}	Not Applicable
Additional Information Requirements (see Section II instructions, Item G): Submitted?	

1. Provide the source of information for all questions in the appendix.
2. Note: Land treatment facilities, waste piles, storage surface impoundments, and landfills may not be located on the recharge zone of a sole-source aquifer.
3. Only required to be submitted if the facility is subject to inundation as a result of a 100-year flood event.
4. Include structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., flood walls, dikes) at the facility and how these will prevent washout. [40 CFR 270.14(b)(11)(iv)(B)]
5. Include structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., flood walls, dikes) at the facility and how these will prevent washout. [40 CFR 270.14(b)(11)(iv)(B)]
6. The standards contained in §335.204(a)(6) - (9), (b)(7) - (12), (c)(6) - (11), (d)(6) - (11), and (e) (8) - (13) are not applicable to facilities that have submitted a notice of intent to file a permit application pursuant to §335.391 of this title (relating to Pre-Application Review) prior to May 3, 1988, or to facilities that have filed permit applications pursuant to §335.2(a) of this title which were submitted in accordance with Chapter 305 of this title and that were declared to be administratively complete pursuant to §281.3 of this title (relating to Initial Review) prior to May 3, 1988.[30 TAC 335.201(b)]



We create chemistry

BASF CORPORATION

PASADENA, TEXAS

**INDUSTRIAL AND HAZARDOUS WASTE
STORAGE/PROCESSING/DISPOSAL FACILITY
PERMIT No. 50385
SOLID WASTE REGISTRATION No. 33849
EPA ID No. TXD980808778**

SITE SELECTION REPORT

NOVEMBER 2025

1.0 INTRODUCTION

BASF Corporation (BASF) operates a liquid hazardous waste fired boiler at its facility in Pasadena, Texas. This unit is identified as the F-10 Boiler. The F-10 Boiler is the only permitted hazardous waste unit at the facility. The boiler is subject to the Resource Conservation and Recovery Act (RCRA) general permitting and operating requirements of Title 40 Code of Federal Regulations (CFR) Parts 264, 266, and 270 and Title 30 Texas Administrative Code (TAC) Chapter 335 Subchapters F and H. The boiler is also subject to the Hazardous Waste Combustor National Emission Standards for Hazardous Air Pollutants (HWC NESHAP) codified in 40 CFR Part 63 Subpart EEE.

This report provides supporting information to demonstrate compliance with 30 TAC Chapter 335 Subchapter G.

2.0 WETLANDS

30 TAC § 335.204(a)(2) requires that a processing facility may not be located in wetlands. Figure 1 in Attachment A shows the United States Fish and Wildlife Service, National Wetlands Inventory and the location of the BASF Pasadena Site. The figure shows that the area of the hazardous waste management unit is not located in wetlands.

3.0 SOLE-SOURCE AQUIFERS

30 TAC § 335.204(a)(3) requires that a processing facility may not be located on the recharge zone of a sole-source aquifer unless secondary containment is provided to preclude migration to groundwater from spills, leaks, or discharges. Figure 2 in Attachment A shows the United States Environmental Protection Agency (USEPA) Region 6 sole-source aquifers in Texas and surrounding states. The two closest to the BASF Pasadena Site are the Edwards Aquifer and the Chicot Aquifer. The recharge zones for these aquifers are located directly north of each aquifer. The BASF Pasadena Site is located south of both aquifers and is therefore not located in either recharge zone.

4.0 OVERLYING REGIONAL AQUIFERS

30 TAC § 335.204(a)(4) requires that a processing facility may not be located in areas overlying regional aquifers unless the regional aquifer is separated from the facility by a minimum of ten feet of material with a hydraulic conductivity toward the aquifer not greater than 10^{-7} centimeters per second (cm/sec) or a thicker interval of more permeable material which provides equivalent or greater retardation to pollutant migration or secondary containment is provided to preclude migration to groundwater from spills, leaks, or discharges. Figure 3 in Attachment A shows the Texas Water Development Board's designation and location of the major aquifers of Texas. The BASF Pasadena Site overlies the Gulf Coast

Aquifer System. However, in accordance with 30 TAC § 335.204(a)(4), the boiler has adequate secondary containment, as described in Appendix V.I.

5.0 UNIFIED SOIL CLASSIFICATION OR HYDRAULIC CONDUCTIVITY

30 TAC § 335.204(a)(5) requires that a processing facility may not be located in areas where soil unit(s) within five feet of the containment structure have a Unified Soil Classification of GW, GP, GM, GC, SW, SP, or SM, or a hydraulic conductivity greater than 10^{-5} cm/sec unless secondary containment is provided or the soil unit is not sufficiently thick and laterally continuous to provide a significant pathway for waste migration. Figure 4 in Attachment A presents the United States Department of Agriculture, Natural Resources Conservation Service soil designations at the BASF Pasadena Site. The soil units are predominantly classified by the Unified Soil Classification CH.

6.0 PUBLIC DRINKING WATER LOCATIONS

30 TAC § 335.204(a)(6) requires that a processing facility may not be located in areas of direct drainage within one mile of a lake at its maximum conservation pool level, if the lake is used to supply public drinking water through a public water system, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from a release in such areas. Figure 5 in Attachment A provides information on the nearest surface water intake. This location was determined from information in the Texas Commission on Environmental Quality (TCEQ) Geographic Information System (GIS) Data Hub. The nearest surface water intake is approximately five miles from the hazardous waste management unit.

7.0 ACTIVE GEOLOGIC PROCESSES

30 TAC § 335.204(a)(7) requires that a processing facility may not be located in areas of active geologic processes unless the design, construction, and operational features of the facility will prevent adverse effects resulting from the geologic processes. Figure 6 (Earthquake Probability) and Figure 7 (U.S. Karst Map) in Attachment A show that there are no active geological processes in the area of the BASF Pasadena Site, as designated by the United States Geological Survey. Additionally, there are no abrupt changes in land surface elevation, and there are no major fluvial environments in the immediate area. Therefore, there are no areas that would be prone to anomalous erosion or land subsidence.

8.0 CRITICAL HABITATS

30 TAC § 335.204(a)(8) requires that a processing facility may not be located in the critical habitat of an endangered species of plant or animal unless the design, construction, and operational features of the facility will prevent adverse effects on the critical habitat of the endangered species. Figure 8 in Attachment A presents the United States Fish and Wildlife Service critical habitat locations. The nearest

critical habitats lie approximately 28 miles north and approximately 35 miles southeast of the BASF Pasadena Site.

9.0 FAULTS










30 TAC § 335.204(a)(9) requires that a processing facility may not be located within 30 feet of the upthrown side or 50 feet of the downthrown side of the actual or inferred surface expression of a fault that has reasonably been shown to have caused displacement of shallow Quaternary sediments or of man-made structures, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from fault movement. The website <http://earthquake.usgs.gov> was reviewed to determine the presence of any faults near the BASF Pasadena Site. None were found.

Attachment A: FIGURES



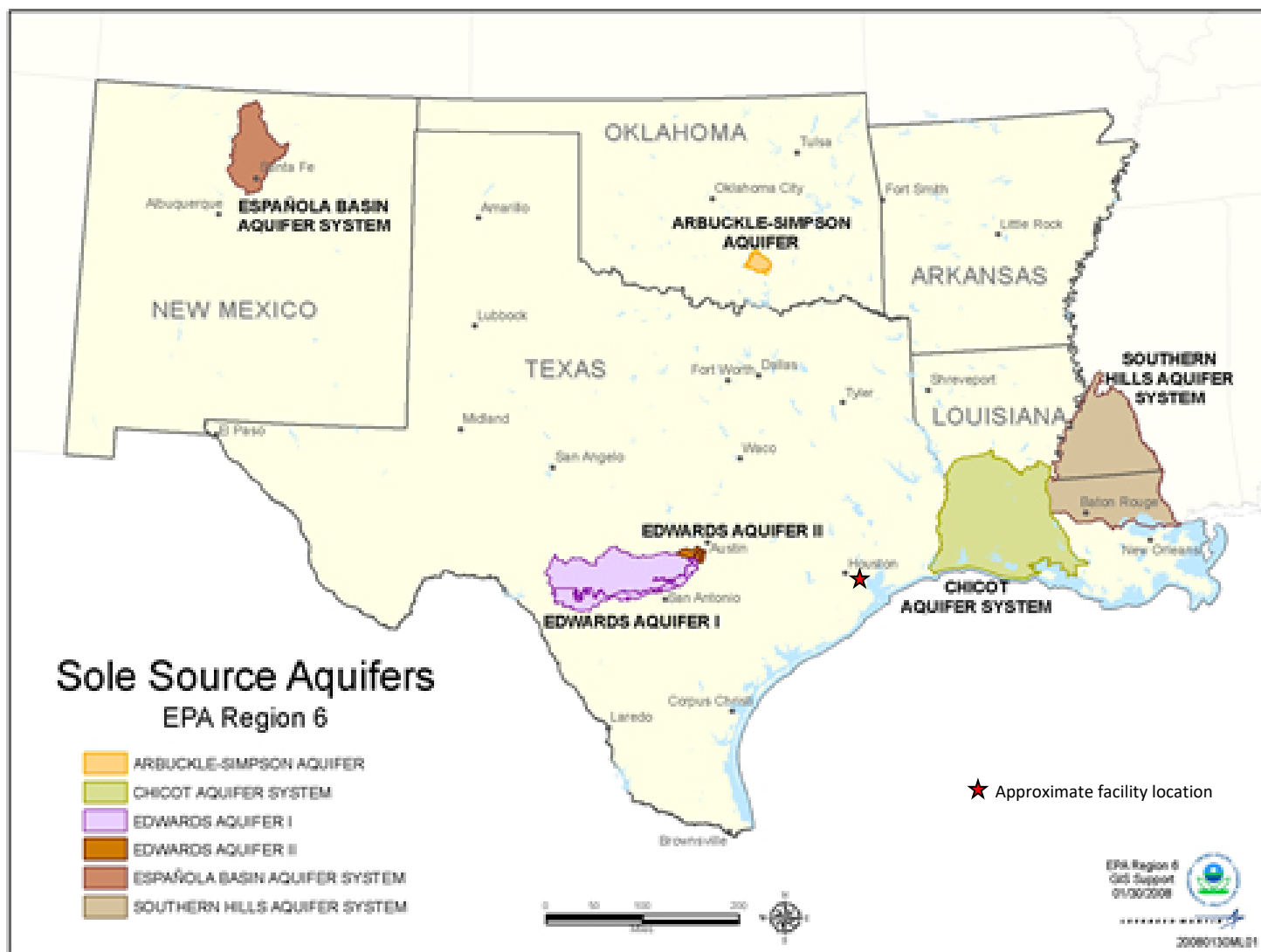
U.S. Fish and Wildlife Service
National Wetlands Inventory



-  Estuarine and Marine Deepwater
-  Estuarine and Marine Wetland
-  Freshwater Emergent Wetland
-  Freshwater Forested/Shrub Wetland
-  Freshwater Pond
-  Lake
-  Other
-  Riverine
-  Approximate Location of Boiler

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

FIGURE 2
SOLE SOURCE AQUIFERS



Source: USEPA Region 6, Sole Source Aquifer Program

FIGURE 3
MAJOR AQUIFERS OF TEXAS

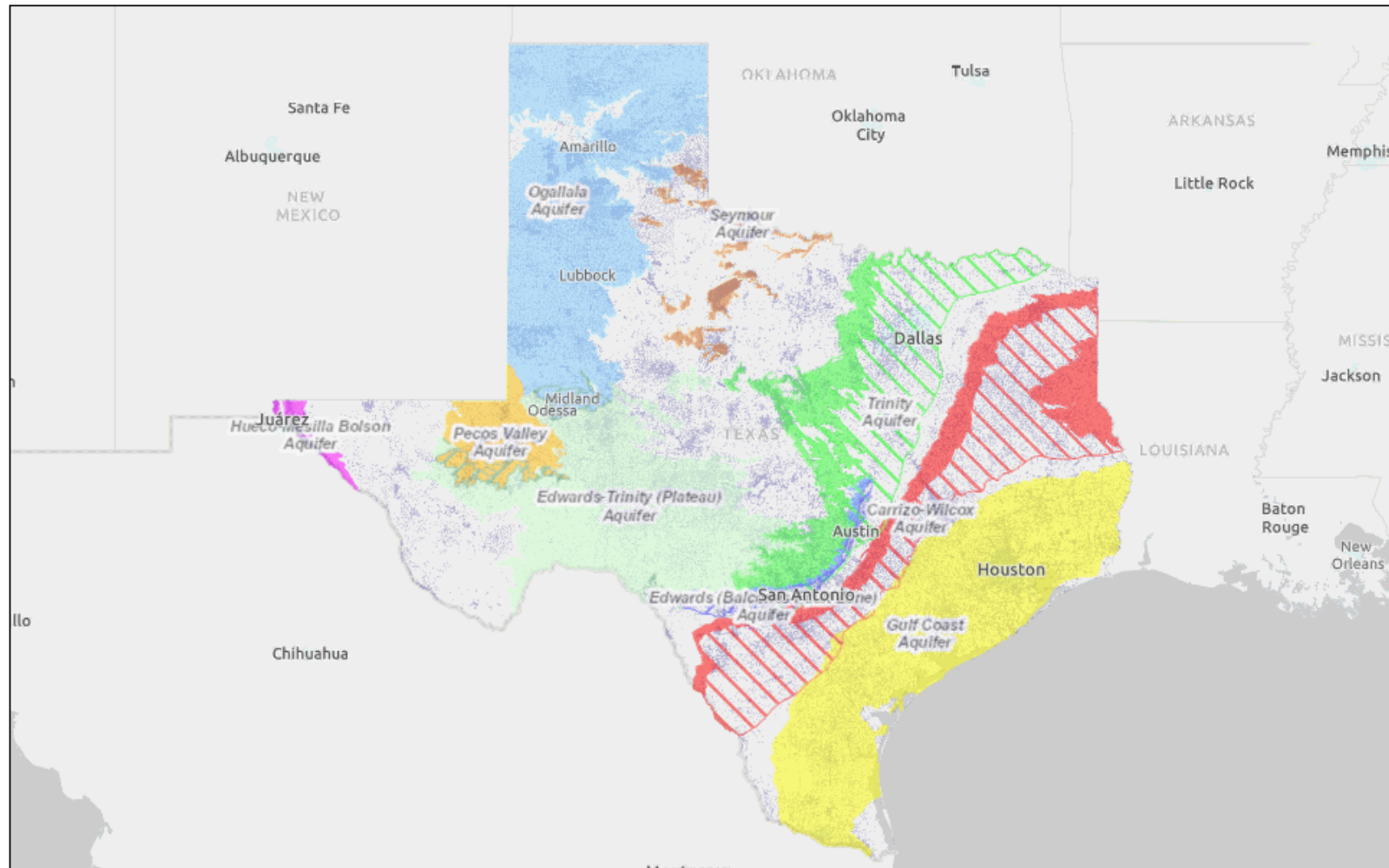
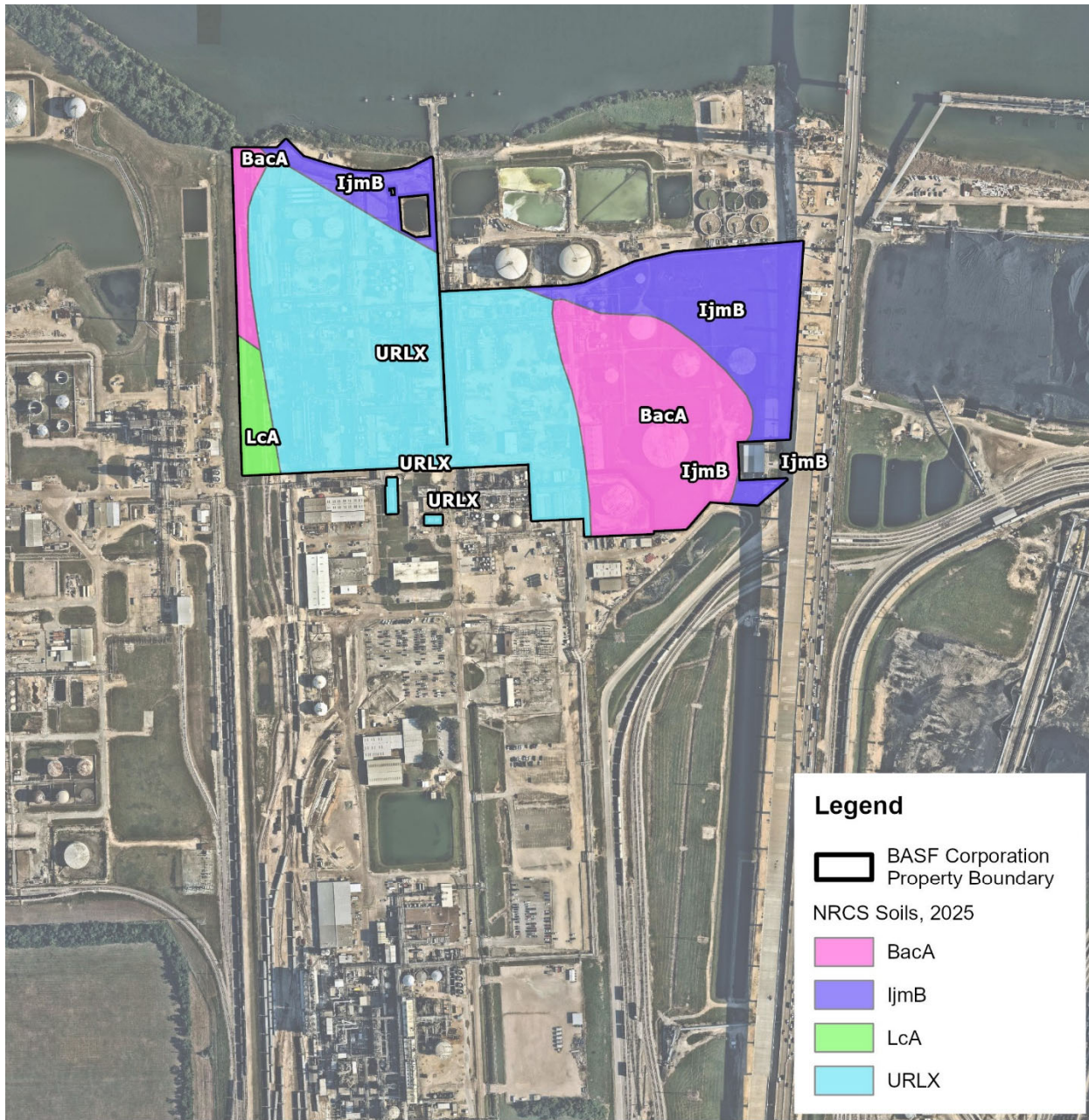
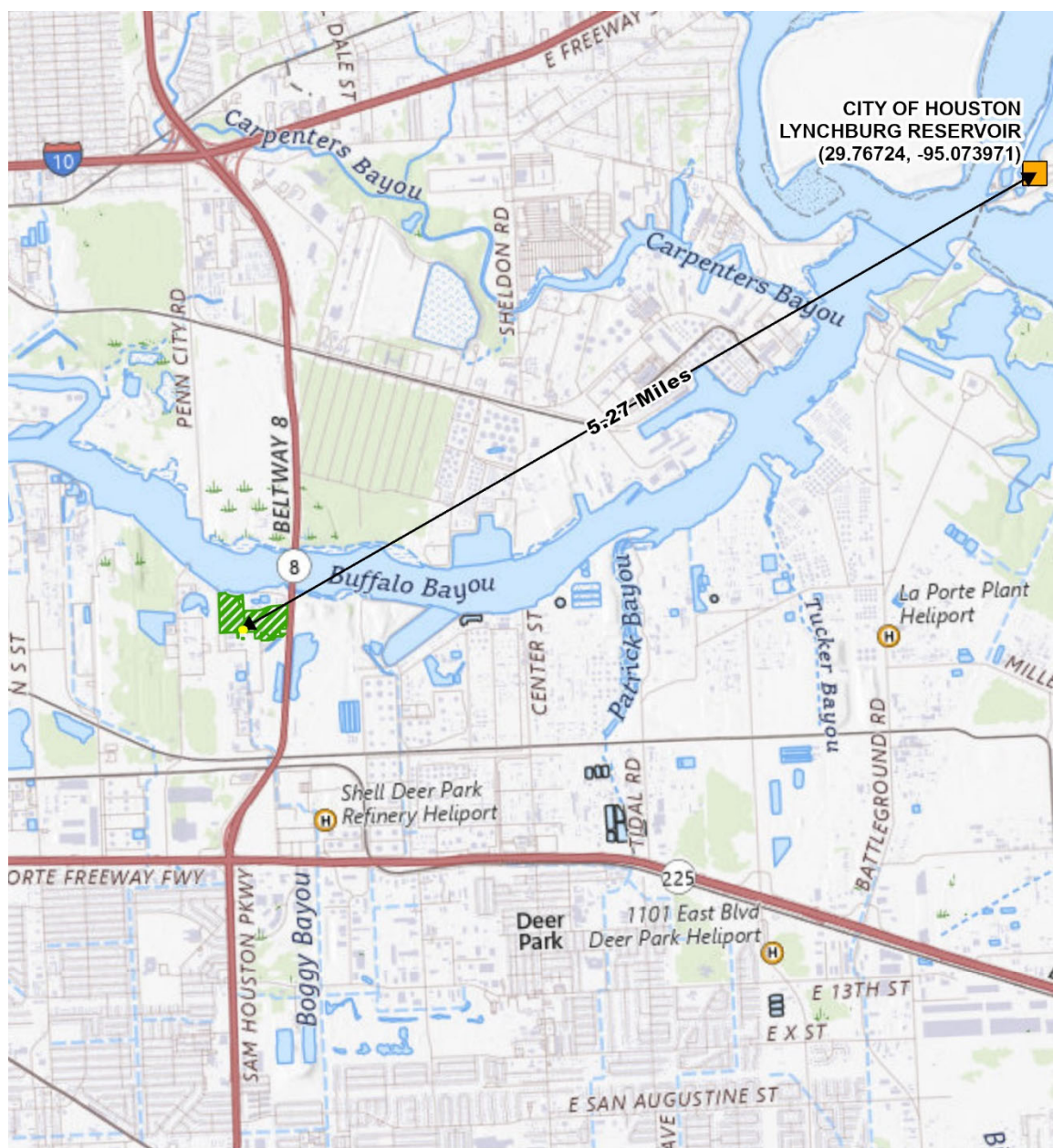


FIGURE 4
SOIL MAP



Map Unit Symbol	Map Unit Name	Rating	Acres in AOI	Percent of AOI
BacA	Barcliff clay, 0 to 1 percent slopes	CH	11.1	24.9%
IjmB	Ijam clay, 0 to 2 percent slopes, frequently flooded, tidal	CH	9.8	22.0%
LcA	Lake Charles clay, 0 to 1 percent slopes	CH	1.1	2.6%
URLX	Urban land		22.5	50.6%
Totals for Area of Interest			44.5	100%

FIGURE 5
DRINKING WATER LOCATION – SURFACE WATER INTAKE



Legend





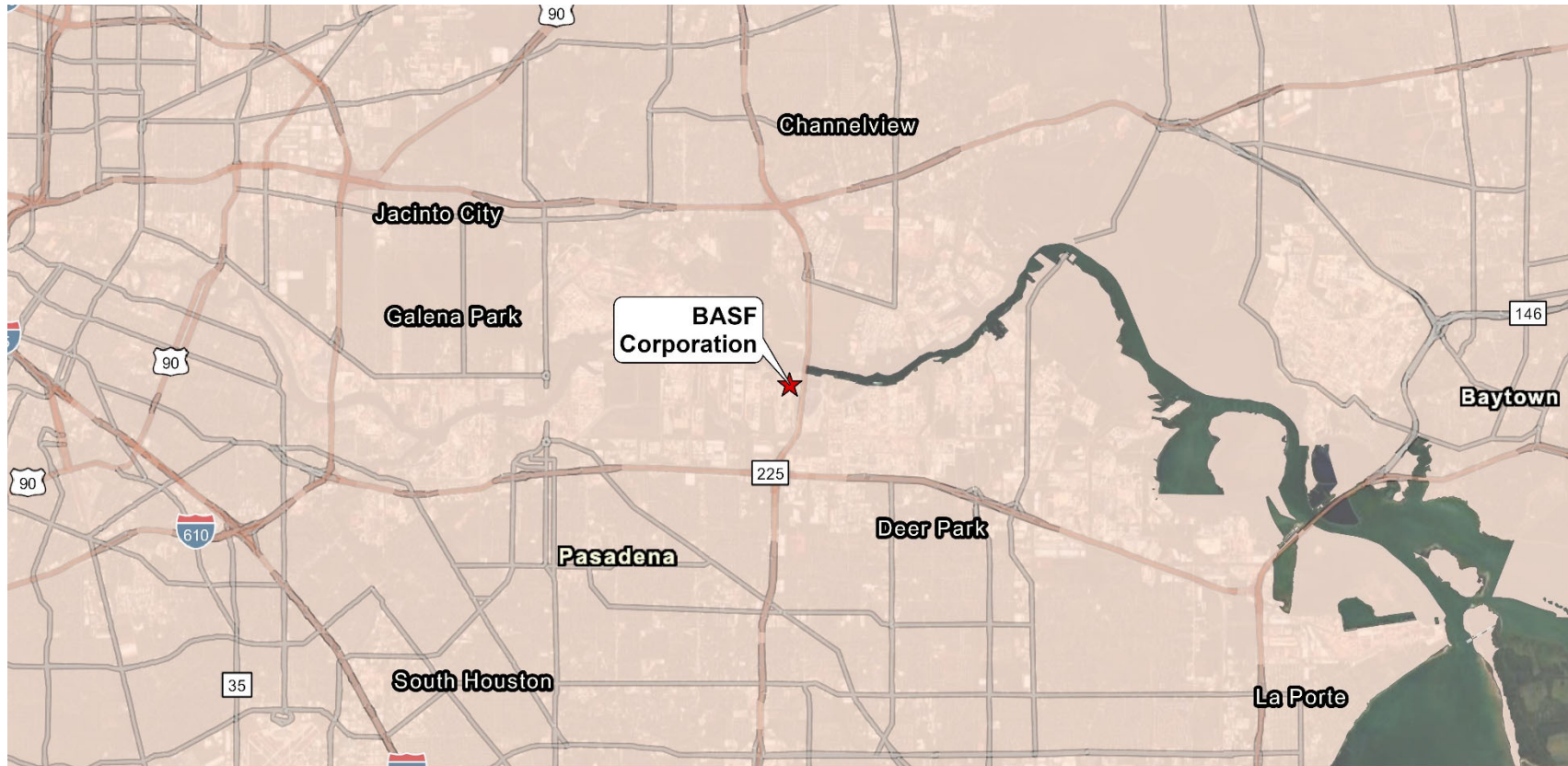
-  BASF Corporation Property Boundary
-  Hazardous Waste Unit (F10 Boiler)
-  TCEQ Public Water System Surface Water Intakes
-  Distance (Miles)

FIGURE 6
EARTHQUAKE PROBABILITY



Legend

★ BASF Corporation

Earthquake - Annualized Frequency

- 0 - 0.00064
- > 0.00064 - 0.00177
- > 0.00177 - 0.0035
- > 0.0035 - 0.0063
- > 0.0063 - 0.0099 | Events per year

FIGURE 7
KARST MAP

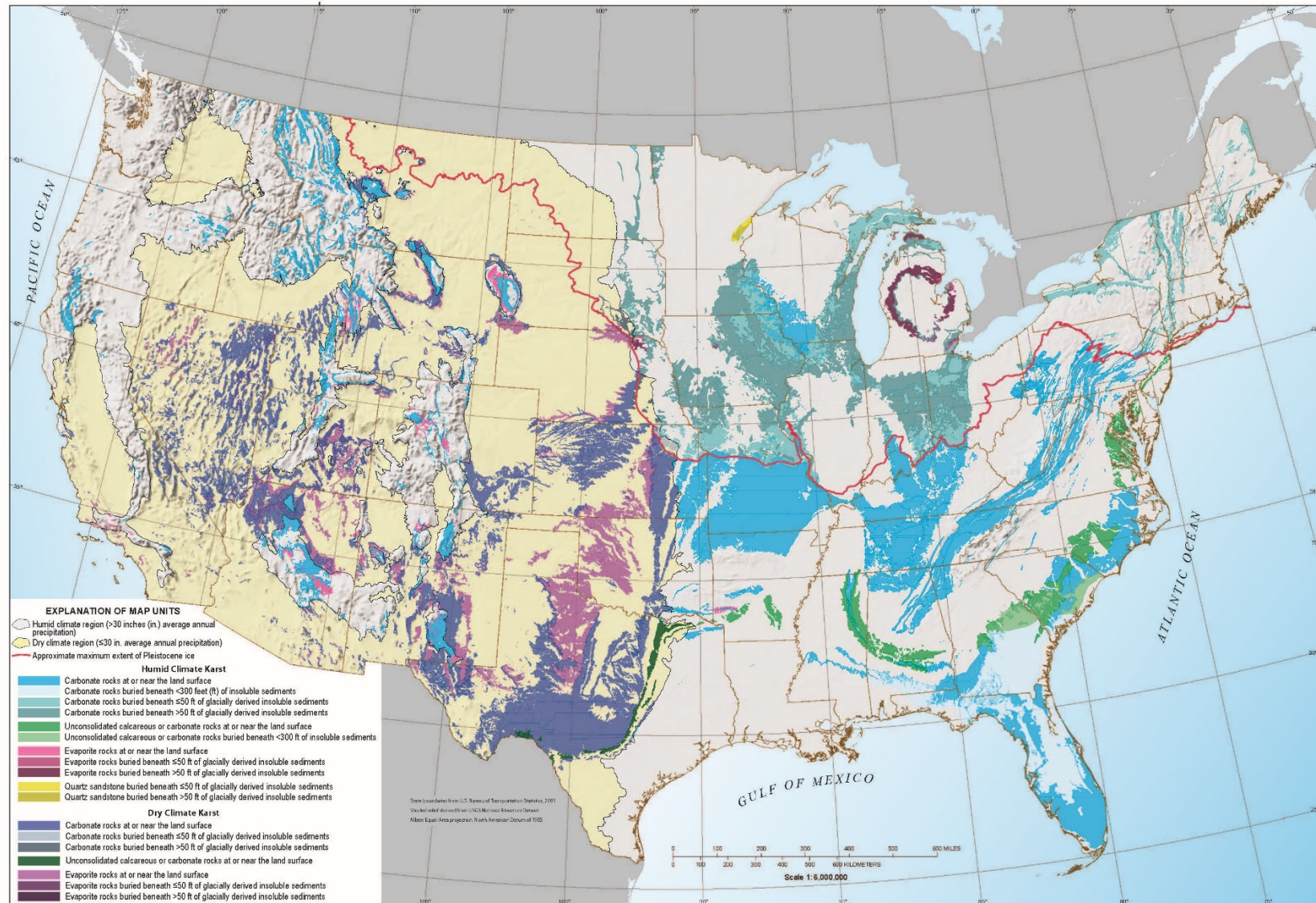
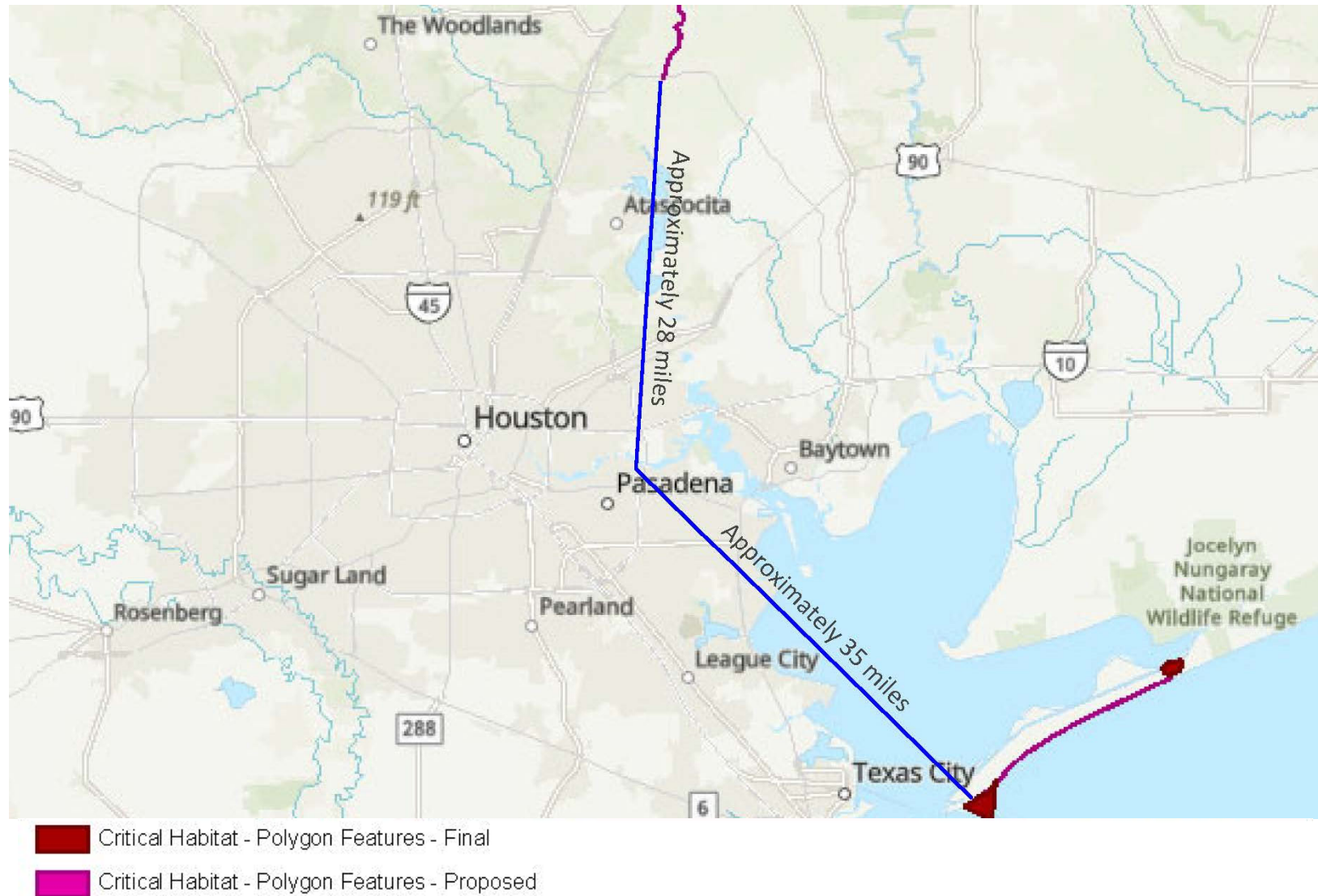


FIGURE 8
CRITICAL HABITATS



U.S. Fish and Wildlife Service – Critical Habitat Map Viewer (<https://www.arcgis.com/apps/mapviewer>)

Appendix II.F: FLOODING (FLOODING REPORT)



We create chemistry

BASF CORPORATION

PASADENA, TEXAS

**INDUSTRIAL AND HAZARDOUS WASTE
STORAGE/PROCESSING/DISPOSAL FACILITY
PERMIT No. 50385
SOLID WASTE REGISTRATION No. 33849
EPA ID No. TXD980808778**

FLOODING REPORT

NOVEMBER 2025

1.0 INTRODUCTION

BASF Corporation (BASF) operates a liquid hazardous waste fired boiler at its facility in Pasadena, Texas. This unit is identified as the F-10 Boiler. The F-10 Boiler is the only permitted hazardous waste unit at the facility. The boiler is subject to the Resource Conservation and Recovery Act (RCRA) general permitting and operating requirements of Title 40 Code of Federal Regulations (CFR) Parts 264, 266, and 270 and Title 30 Texas Administrative Code (TAC) Chapter 335 Subchapters F and H. The boiler is also subject to the Hazardous Waste Combustor National Emission Standards for Hazardous Air Pollutants (HWC NESHAP) codified in 40 CFR Part 63 Subpart EEE.

This report provides information on flooding required by 40 CFR § 270.14(b)(11)(iii).

2.0 FLOOD MAP

Maps and digital information from the Federal Emergency Management Agency (FEMA) were used to determine the location(s) of the 100-year flood plain. The following two flood maps are provided in Attachment A:

- Figure II.F.1 - FEMA Map 48201C0910M; and
- Figure II.F.2 - FEMA Flood Map.

FEMA flood map 48201C0910M was most recently updated in 2017. The digital data used to create Figure II.F.2 also used the 2017 data. The maps show that the active portions of the BASF Pasadena Site are not located within a 100-year flood plain.

3.0 FLOOD IMPACTS

The BASF Pasadena Site is not located within a 100-year flood plain. Therefore, this section is not applicable.

4.0 FLOOD PROTECTION DEVICES

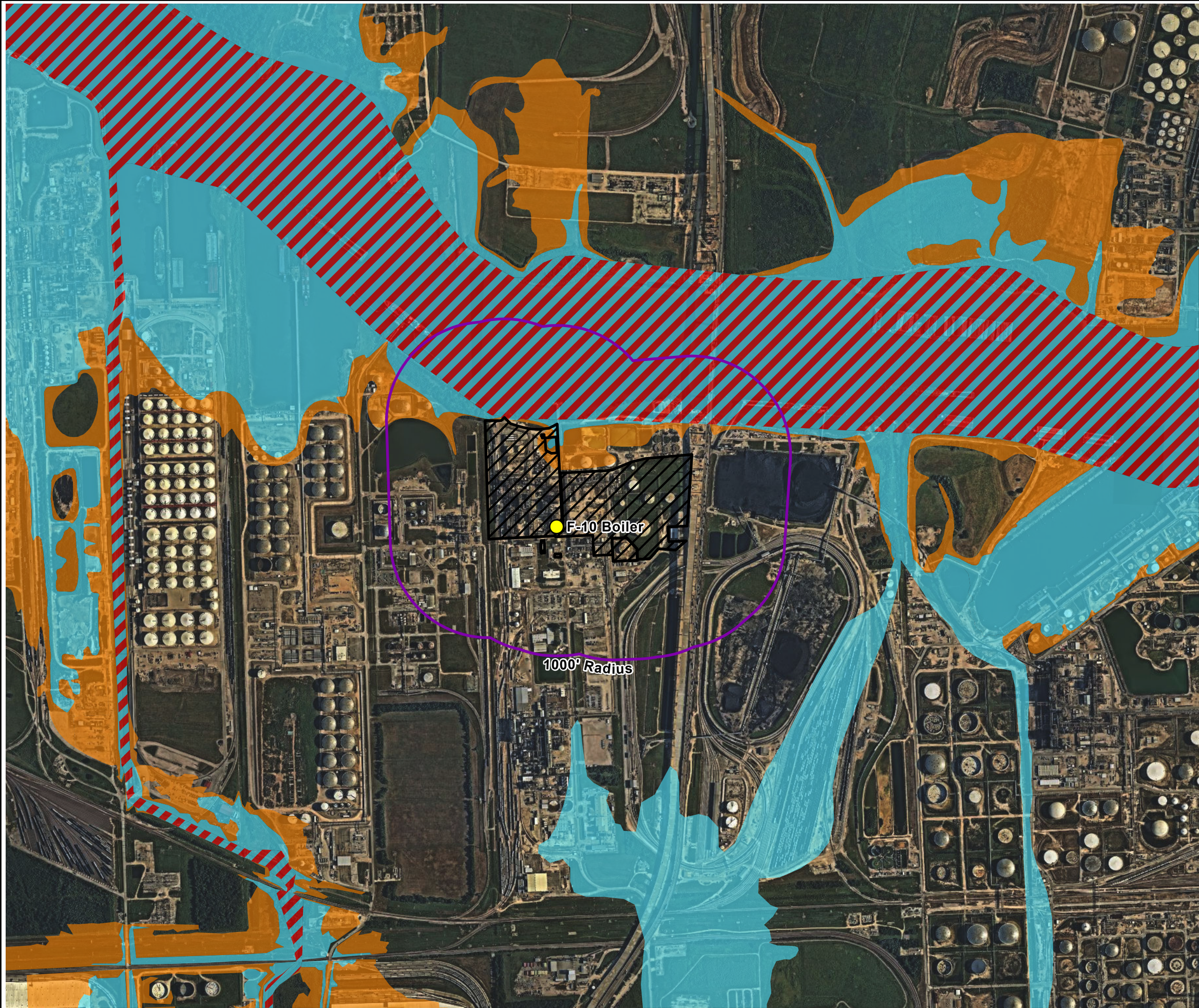
The BASF Pasadena Site is not located within a 100-year flood plain. Therefore, this section is not applicable.

5.0 PROCEDURES FOR FLOOD EVENTS

The BASF Pasadena Site is not located within a 100-year flood plain. Therefore, this section is not applicable.

Attachment A: FLOOD MAPS

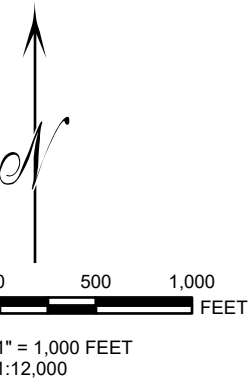
C:_AD\ACCDocs\itemaple\Projects\Files\BASF\Pasadena Facility\PCRA 2025\BASF GIS.aprx




Legend

- BASF Corporation Property Boundary
- Hazardous Waste Unit (F10 Boiler)
- 1000' Radius
- Flood Hazard Zones**
- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- 0.2% Annual Chance Flood Hazard

Source:
FEMA National Flood Hazard Layer (NFHL). Data streamed
through GIS Rest Service, accessed October, 2025.
FIRM Panel 48201C0910M last updated 1/6/2017.



BASF CORPORATION PASADENA SITE			
FIGURE II.F.2 FEMA FLOOD MAP			
DRAWN BY:	L WILSON	SCALE:	PROJ. NO. 017-25-01
CHECKED BY:	H MCHALE	AS NOTED	FILE NO. Flood Map
APPROVED BY:	H MCHALE	DATE PRINTED:	
DATE:	October 2025	10/17/2025	
<div><div>840 First Ave., Suite 400 King of Prussia, PA 19406</div></div>			

III. FACILITY MANAGEMENT

III. Facility Management

Provide all Part B responsive information in Appendix III. When preparing the physical format organize your submittal using the [Format of Hazardous Waste permit Application and Instructions](#).

A. Compliance History and Applicant Experience

1. Provide listings of all solid waste management sites in Texas owned, operated, or controlled by the applicant as required by 30 TAC 305.50(a)(2).
2. For a new commercial hazardous waste management facility, provide a summary of the applicant's experience in hazardous waste management as required by 30 TAC 305.50(a)(12)(F).

B. Personnel Training Plan

Provide an outline of the facility training plan which includes all the information required by 40 CFR 264.16. Indicate which training will be repeated annually.

C. Security

Describe how the facility complies with the security requirements of 40 CFR 264.14 or submit a justification demonstrating the reasons for requesting a waiver of these requirements.

D. Inspection Schedule

Describe summary of inspection schedule and [Table III.D](#) in Appendix III.D in accordance with instructions below.

Provide an inspection schedule summary for the facility which reflects the requirements of 40 CFR 264.15(b), 264.33 and, where applicable, the specific requirements in 40 CFR 264.174, 264.193(i), 264.195, 264.226, 264.254, 264.273, 264.303, 264.347, 264.552, 264.574, 264.602, 264.1033(f), 264.1034, 264.1052, 264.1053(e), 264.1057, 264.1058, 264.1063, 264.1084, 264.1085, 264.1086, 264.1088, 264.1101(c)(4) and 270.14(b)(5). The inspection schedule should reflect the requirements described below. The schedule should encompass each type of hazardous waste management (HWM) unit (i.e., facility component) and its inspection requirements. For incorporation into a permit, complete [Table III.D](#). - Inspection Schedule for all units to be permitted.

The owner or operator must inspect the facility for malfunctions and deterioration, operator errors, and discharges which may be causing or may lead to the release of hazardous waste constituents to the environment or which may pose a threat to human health. The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

The owner or operator must develop and follow a written schedule for inspecting other basic elements such as monitoring equipment, safety and emergency equipment, security devices, the presence of liquids in leak detection systems, where installed, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

If the owner or operator of a facility which contains a waste pile wishes to pursue an exemption from the groundwater monitoring requirements for that waste management unit, the inspection schedule must include examination of the base for cracking,

deterioration, or other conditions that may result in leaks. The frequency of inspection must be based on the potential for the liner (base) to crack or otherwise deteriorate under the conditions of operation (e.g., waste type, rainfall, loading rates, and subsurface stability).

E. Contingency Plan (Not Applicable to Permits for Post-Closure Care Only)

If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this section. Provide a Contingency Plan which includes all the information required by 40 CFR Part 264 Subparts C and D, except for 40 CFR 264.56(d)(1) and 30 TAC 335.153(2). This plan must also include a drawing of the facility which shows the location of all emergency equipment. In addition, complete the following tables to summarize information expressed in more detail in the plan.

1. Arrangements with Local Authorities
Complete [Table III.E.1](#). - Arrangements With Local Authorities to indicate arrangements (if made) with local authorities to familiarize local fire and police departments, local hospitals, equipment suppliers, and local and State emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes. Provide documentation of the attempts and any arrangements made with local authorities and emergency response teams.
2. Emergency Coordinator's List
For inclusion into a permit, list in [Table III.E.2](#). - Emergency Coordinators the persons qualified to act as emergency coordinator. List the alternates in the order in which they will assume responsibility.
3. Emergency Equipment List
For inclusion into a permit, list in [Table III.E.3](#). - Emergency Equipment all types of emergency equipment at the facility [such as fire-extinguishing systems, spill-control equipment, communications and alarm systems (internal and external), and decontamination equipment], if this equipment is required. Briefly outline the equipment capabilities.
4. Waiver from Preparedness and Prevention Requirements
If the owner or operator wishes to request a waiver from any of the preparedness and prevention requirements, he must submit a justification demonstrating the reasons for requesting the waiver, as discussed below.

F. Emergency Response Plan

For a new commercial hazardous waste management facility, the application shall contain evidence sufficient to demonstrate that emergency response capabilities are available or will be available before the facility first receives waste. An emergency response plan must be provided which satisfies the requirements of 30 TAC 305.50(a) (12)(C) and (D). This plan must show that the proposed facility has sufficient emergency response capabilities for managing a reasonable worst-case emergency condition associated with the operation of the facility. (For financial assurance requirements associated with the emergency response activities, please see Section

VIII.C.3.)

1. Practice Drills

In addition to the contingency plan required under 40 Code of Federal Regulations Part 270.14(b)(7), provisions specifying procedures and timing of practice facility evacuation drills are required. Provide a description and a frequency for facility evacuation drills.

2. If a private corporation, municipality or county group will provide emergency response actions at the proposed facility, include a copy of the contract for this type of agreement with this application or state that documentation will be submitted before the facility accepts wastes.

3. Historical weather data for the area should be documented and submitted. Information regarding how emergency response operations may be affected by weather conditions should be included. (Local rainfall extremes, average rainfall amounts, average wind speeds and directions, potential for major weather events such as hurricanes, tornados, icy conditions, flash flooding etc., should be addressed.)

4. A definition of a worst-case emergency for the proposed facility should be described in the application. This worst-case emergency should take into account the possible complications involved with a facility emergency compounded by adverse weather conditions. It should also detail spills, fires, explosions, etc. This worst case scenario should be developed with the help of local governmental entities where possible. Emergency planning should include both unexpected emergencies and emergencies occurring as a result of a predictable event such as a flood or hurricane. For areas which are prone to hurricanes and flash flooding, the worst case which allows for a realistic situation should be used. For example, response teams should be well versed in reacting to events such as a 100-year flood.

5. A training program for personnel who will respond to these types of emergencies must be provided and must include the requirements described in OSHA Federal Register 1910 and EPA Federal Register 311, the Texas Hazard Communication Act, SARA Title III 302, 304, 311, 312, and 313. If emergency response actions are contracted out, the contracted employees must be properly trained and documentation of this training must be maintained on-site. All responders to emergencies at the proposed facility must be involved in training and drills at the facility in order to be thoroughly familiar with the facility and its operations.

6. The application must include a description and identification of first-responders (i.e. all pertinent facility personnel, local responders, and contractors). The duties of the facility employee who is to be the on-scene coordinator (OSC) must be described. Additional information must be provided detailing the OSC's role in the emergency response activities. This person must have the authority to commit the resources needed to carry out the Emergency Response Plan. His duties must be thoroughly described so that it is clear whether he will remain in control once the emergency response team arrives or whether he will relinquish control to another incident commander upon that person's arrival on the scene. Additionally, there must be a qualified OSC on-site or on call 24 hours a day. The name, address and phone numbers (home and work) of the OSC(s) must be listed in the Emergency Response Plan. Where more than one person is listed, one must be named as the primary OSC and others must be listed in the order

in which they will assume responsibility as alternates.

7. Local or regional emergency medical services or hospitals which have experience in hazardous materials training must be identified in the application. The names, addresses and phone numbers of the hospitals or medical centers should be listed here and updated as necessary. Additionally, maps showing the quickest routes to the medical services must be provided. A description of decontamination procedures for injured personnel prior to transport to medical services must also be provided. The decontamination and transport of injured people to appropriate medical centers must be included in the emergency evacuation training and drills.
8. A pre-disaster plan which includes training drills must be included in the application. This plan should include a schedule for staging evacuations of the facility and for emergency response training drills. At least two evacuations and two emergency response drills should occur annually. The plan should also include additional drills for responding to "predictable" emergencies such as floods and hurricanes. The plan must include the following (or must reference applicable sections of the Contingency Plan): a description of arrangements already in place with local authorities; emergency phone numbers; internal communication or alarm systems and proper alarm codes; a list of all types of emergency equipment at the facility, including a physical description and the capabilities of each item on the list, and the location of each item (a map would be useful here); a description of decontamination equipment; an evacuation plan including signals, evacuation routes and alternate evacuation routes; listing of pertinent first responder emergency phone numbers, and codes for other types of communication devices; and a description of actions that will be performed in the event that a "predictable" emergency occurs.
9. Describe the mechanism which will be used to notify first responders and appropriate local governmental entities that an emergency has occurred. Also describe the mechanism which will be used to notify all applicable governmental agencies when an incident occurs (i.e., TCEQ, Texas Parks and Wildlife, General Land Office, TCEQ Office of Air Quality, Texas Department of Health, and the Texas Railroad Commission).
10. Evidence must be provided that shows coordination with the Local Emergency Planning Committee (LEPC) and any local comprehensive emergency management plan. The applicants should be able to show compliance with SARA Title III.
11. Any medical response capabilities proposed for the facility property must be detailed in the application.

TABLE OF APPENDICES

APPENDIX	TITLE
III.A	Compliance History and Applicant Experience
III.B	Personnel Training Plan
III.C	Security
III.D	Inspection Schedule (Table III.D and Inspection Plan)
III.E	Contingency Plan (Tables III.E.1, III.E.2, and III.E.3 and Contingency Plan)
III.F	Emergency Response Plan (Not Applicable)

Appendix III.A:

COMPLIANCE HISTORY AND APPLICANT EXPERIENCE



BASF CORPORATION

PASADENA, TEXAS

**INDUSTRIAL AND HAZARDOUS WASTE
STORAGE/PROCESSING/DISPOSAL FACILITY
PERMIT No. 50385
SOLID WASTE REGISTRATION No. 33849
EPA ID No. TXD980808778**

**COMPLIANCE HISTORY AND
APPLICANT EXPERIENCE**

NOVEMBER 2025

1.0 INTRODUCTION

BASF Corporation (BASF) operates a liquid hazardous waste fired boiler at its facility in Pasadena, Texas. This unit is identified as the F-10 Boiler. The F-10 Boiler is the only permitted hazardous waste unit at the facility. The boiler is subject to the Resource Conservation and Recovery Act (RCRA) general permitting and operating requirements of Title 40 Code of Federal Regulations (CFR) Parts 264, 266, and 270 and Title 30 Texas Administrative Code (TAC) Chapter 335 Subchapters F and H. The boiler is also subject to the Hazardous Waste Combustor National Emission Standards for Hazardous Air Pollutants (HWC NESHAP) codified in 40 CFR Part 63 Subpart EEE.

The BASF Pasadena Site possesses significant experience operating the F-10 Boiler for which this Part B permit renewal application is being submitted.

Table 1 identifies the other solid waste management sites in Texas owned, operated, or controlled by BASF.

TABLE 1
TEXAS SOLID WASTE MANAGEMENT SITES

SITE NAME	ADDRESS	INDUSTRIAL SOLID WASTE REGISTRATION No.	EPA ID No.	WASTE PERMIT No.
Pasadena Catalyst	10001 Chemical Road Pasadena, TX 77507	31081	TXD077874634	Not applicable
Pasadena EN	12502 Bay Area Boulevard Pasadena, TX 77507	86126	TXR000031807	Not applicable
Houston EBN	7100 Wright Road Houston, TX 77041	32534	TXD084966548	Not applicable
Houston Urethanes	1703 Crosspointe Avenue Houston, TX 77054	37541	TXR000080040	Not applicable
Freeport Site	602 Copper Road Freeport, TX 77541	30024	TXD008081697	50128
Freeport Harbor Terminal	Located East of FM 1495 and approximately 100 feet South of intersection FM 1495 and SH 288	82566	TXD000195966	Not applicable
Beaumont Agro Plant	14385 W. Port Arthur Road Beaumont, TX 77705	30053	TXD067261412	50219
BASF TOTAL Petrochemicals, LLC ¹	State Highway 366 Gate 99 & Hwy 73 Port Arthur, TX 77643	86596	TXR000039909	Not applicable
Lake Creek Ranch	4278 W Lake Creek Road, Riesel, TX 76682	32561	TXD000751099	Not applicable

¹ Joint venture between BASF and TOTAL.

2.0 COMPLIANCE HISTORIES

Compliance history information for the Pasadena facility is presented in Table 2.

TABLE 2
COMPLIANCE HISTORY

RATING	CLASSIFICATION	DATE RATE
5.96	SATISFACTORY	09/01/2024

BASF endeavors to operate all its facilities in continuous compliance with the variety of complex solid waste regulations. Furthermore, at the time of submittal of this Part B permit application, there were no instances of indebtedness (*e.g.*, outstanding penalty payments) of any BASF facilities to the State of Texas.

Appendix III.B:

PERSONNEL TRAINING PLAN



BASF CORPORATION

PASADENA, TEXAS

**INDUSTRIAL AND HAZARDOUS WASTE
STORAGE/PROCESSING/DISPOSAL FACILITY
PERMIT No. 50385
SOLID WASTE REGISTRATION No. 33849
EPA ID No. TXD980808778**

PERSONNEL TRAINING PLAN

NOVEMBER 2025

1.0 INTRODUCTION

BASF Corporation (BASF) operates a liquid hazardous waste fired boiler at its facility in Pasadena, Texas. This unit is identified as the F-10 Boiler. The F-10 Boiler is the only permitted hazardous waste unit at the facility. The boiler is subject to the Resource Conservation and Recovery Act (RCRA) general permitting and operating requirements of Title 40 Code of Federal Regulations (CFR) Parts 264, 266, and 270 and Title 30 Texas Administrative Code (TAC) Chapter 335 Subchapters F and H. The boiler is also subject to the Hazardous Waste Combustor National Emission Standards for Hazardous Air Pollutants (HWC NESHAP) codified in 40 CFR Part 63 Subpart EEE.

This RCRA training plan constitutes a written description of the type and amount of training conducted for BASF personnel in accordance with 40 CFR § 264.16. In addition to this training, boiler control room operators are required to maintain certification to comply with HWC NESHAP requirements. A separate training program for HWC NESHAP is implemented at the BASF Pasadena Site. This training program includes initial training for all personnel that could reasonably be expected to directly affect emissions from the boilers. Initial training and annual refresher training are required for all HWC NESHAP-certified boiler control room operators. Information on the HWC NESHAP training program is provided in the HWC NESHAP Operator Training and Certification Program document.

2.0 OUTLINE OF PERSONNEL TRAINING PROGRAM

BASF has established a personnel training program designed to provide employees with the information necessary to perform their job function in a safe and effective manner. The training program will be updated and revised as necessary to comply with the established guidelines of 40 CFR § 264.16.

The training program is designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems. 40 CFR § 264.16 specifies the following training topics that are applicable to the boilers:

- Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;
- Key parameters for automatic waste feed cutoff (AWFCO) systems;
- Communications or alarm systems;
- Response to fires or explosions;
- Response to groundwater contamination incidents; and
- Shutdown of operations.

3.0 JOB TITLE/JOB DESCRIPTION

40 CFR § 264.16(d) requires BASF to maintain the job title for each position at the facility related to hazardous waste management and the name of the employee filling each job. Job titles, job descriptions, and names of those employees designated as these positions are maintained in the BASF Pasadena Site records.

The following employee positions either directly handle hazardous waste, cause hazardous waste to be generated, stored, or treated, or handle recordkeeping, waste shipping, manifests, or permits:

- Operating Technicians;
- Team Leaders;
- Unit Supervisors (Operations Managers);
- Production Engineer;
- Safety Specialist;
- Environmental Specialist;
- Maintenance Engineers; and
- Laboratory Technicians.

The name of the employees currently filling these positions are kept onsite and updated as necessary.

4.0 TRAINING CONTENT AND FREQUENCY

Training consists of initial training, on-the-job training, and annual refresher training.

All personnel involved with the management of wastes at the permitted unit must complete the initial training program within six months after their date of employment. This also pertains to employees who have been promoted or transferred into hazardous waste management positions and who have not completed the necessary training as part of their previously held positions. Upon completion of the hazardous waste management training portion, training records are updated to reflect that they have satisfactorily completed this training.

On-the-job training provides the advantage of "hands on" experience, which is pertinent to normal daily operations of a unit. On-the-job training with appropriate supervision provides effective explanation of concepts of the system operations and affords visual illustration of those concepts. The on-the-job training program is utilized for employee orientation purposes as well as for new operational personnel and transferred employees. The training system provides for periodic testing in order to assess an employee's progress. The training is completed according to a specified schedule, and the employee receives validation for completion of the program.

All facility personnel managing hazardous waste take part in an annual review of their initial and subsequent RCRA training, which is updated as necessary to reflect current facility operations and procedures.

Table 1 summarizes the content of the RCRA training. In accordance with 40 CFR § 264.16(a)(3), only topics relevant to the proper performance of the job are included in the training program

TABLE 1
TRAINING TOPICS

TOPIC	DESCRIPTION
Contingency plan	Review of emergency response procedures
Emergency equipment	Review of fire extinguisher, fixed fire suppression systems
Automatic waste feed cutoff system	Review of RCRA-applicable automatic waste feed cutoffs
Communication and alarm systems	Review of emergency alarm systems
Response to fire and explosion	Review of emergency procedures
Response to groundwater contamination incidents	Review of procedures for containing, controlling, and mitigating spills
Monitoring equipment use and inspection	Review of continuous emissions monitoring systems and process monitors Review of operating limits
Shutdown of operations	Review of operating procedures for normal and emergency shutdowns

5.0 TRAINING DIRECTOR

The RCRA training program is under the direction of the Environmental, Health, and Safety (EHS) Department. The EHS Department assigns qualified personnel to administer the necessary training to employees.

6.0 TRAINING RECORDS

The following training records are maintained at the BASF Pasadena Site:

- Job title for each position at the facility related to hazardous waste management;
- Written job description including the requisite skill, education, or other qualifications and duties of employees assigned to each position;
- Name of the employee filling each job;
- Written description of the type and amount of both introductory and continuing training required for each position; and
- Records that document the training or job experience given to and completed by facility personnel.

Training records on current personnel will be kept until closure of the boiler. Training records on former employees are kept at least three years from the date the employee last worked at the facility.

Appendix III.C: SECURITY



BASF CORPORATION

PASADENA, TEXAS

**INDUSTRIAL AND HAZARDOUS WASTE
STORAGE/PROCESSING/DISPOSAL FACILITY
PERMIT No. 50385
SOLID WASTE REGISTRATION No. 33849
EPA ID No. TXD980808778**

SECURITY

NOVEMBER 2025

1.0 INTRODUCTION

BASF Corporation (BASF) operates a liquid hazardous waste fired boiler at its facility in Pasadena, Texas. This unit is identified as the F-10 Boiler. The F-10 Boiler is the only permitted hazardous waste unit at the facility. The boiler is subject to the Resource Conservation and Recovery Act (RCRA) general permitting and operating requirements of Title 40 Code of Federal Regulations (CFR) Parts 264, 266, and 270 and Title 30 Texas Administrative Code (TAC) Chapter 335 Subchapters F and H. The boiler is also subject to the Hazardous Waste Combustor National Emission Standards for Hazardous Air Pollutants (HWC NESHAP) codified in 40 CFR Part 63 Subpart EEE.

The security provisions established by BASF prevent unknowing entry and minimize the possibility for unauthorized entry of persons or livestock onto the active hazardous waste management area. The provisions have several features, in addition to the general security provisions, which contribute to the safety and security of the hazardous waste management facilities.

The BASF Pasadena Site is situated on a site containing industrial neighbors on three of four boundaries. The northern boundary is the Houston Ship Channel. Neighboring sites include INEOS Phenol, Oxy Vinyls, LP (Oxy Vinyls), and the demolished Enron Corporation site.

2.0 ENTRY CONTROL

An outside contractor provides security for the BASF Pasadena Site and Oxy Vinyls. This is because access to these facilities is routed through a common gate. Guards employed by the contractor are stationed at the Guard House, which is the entrance to all the neighboring facilities. The Guard House is manned 24 hours per day and seven days per week. Any visitor must obtain access to the BASF Pasadena Site by signing in at the Guard House.

The hazardous waste management areas of the Pasadena Site are located within the operating units. BASF personnel control access to these areas, and only authorized personnel are allowed to enter the active portion. All visitors or contractors must check in at the Control Room prior to entering plant production areas.

3.0 PERIMETER CONTROL

A shared fence runs along the north, south, east and west boundaries of the BASF Pasadena Site and Oxy Vinyls site. This perimeter fence is patrolled regularly by the contractor guards to ensure it is maintained in good repair. A Kinder Morgan facility is located east of the plant, and the INEOS Phenol facility is located west of the plant. The Houston Ship Channel is located north of the plant. Personnel at the neighboring facilities are instructed in BASF security procedures and are restricted from entering the BASF facility without prior approval. A deep-water dock is operated for the neighboring facilities.

The dock is regularly used and plant personnel make frequent checks of the area whenever the dock is not occupied. The plant complies with Maritime Transportation Security Act (MTSA) requirements and non-Transportation Worker Identification Credential (TWIC) card holders are escorted at all times while in the plant.

4.0 SURVEILLANCE

The common gate is attended on a 24-hour basis by contractor guards. Security cameras are located at strategic areas within the site to assist guards in constant surveillance of the area. The F-10 Boiler area is manned and patrolled on a 24-hour basis by BASF personnel.

A clear, lighted path is maintained inside the perimeter barrier to facilitate patrol by vehicle.

Security, operations, and safety personnel are equipped with handheld, two-way radios to report abnormal conditions immediately.

5.0 WARNING SIGNS

Warning signs that have the legend “Danger-Unauthorized Personnel Keep Out” are located at strategic locations. These signs warn that entry can be dangerous and that only authorized personnel are allowed to enter. The signs are legible from a distance of over 25 feet.

Appendix III.D: INSPECTION SCHEDULE (TABLE III.D AND INSPECTION PLAN)

Permit No. 50385
 Permittee: BASF Corporation

Page 1 of 1

Table III.D- Inspection Schedule

Facility Unit(s) and Basic Elements	Possible Error, Malfunction, or Deterioration	Frequency of Inspection
F-10 Boiler		
Combustion chamber	Corrosion, cracks, leaks	Daily
Pumps, valves, pipelines, feed systems, flanges	Corrosion, cracks, leaks, inoperative	Daily
Curbs, foundation	Cracks, damaged	Daily
Automatic waste feed cutoff (AWFCO) system	Signal failure, operability	Weekly (when burning hazardous waste)
Safety, Emergency, and Security Equipment		
Fire extinguishers	Inadequate pressure, broken seal, access blocked, inspection out of date, bad hose/nozzle	Monthly
Fire hoses/fire monitors/hydrants	Deterioration, access blocked	Monthly
Emergency shower/eyewash	Inadequate pressure, access blocked, plugged lines	Monthly
Alarm system	Audible alarm inoperative, visual alarms inoperative	Weekly
Two-way radios	Transmitter or receiver problem	Monthly
Fences, gates, lights, and warning signs	Deterioration	Every two weeks



We create chemistry

BASF CORPORATION

PASADENA, TEXAS

**INDUSTRIAL AND HAZARDOUS WASTE
STORAGE/PROCESSING/DISPOSAL FACILITY
PERMIT No. 50385
SOLID WASTE REGISTRATION No. 33849
EPA ID No. TXD980808778**

INSPECTION PLAN

NOVEMBER 2025

1.0 INTRODUCTION

BASF Corporation (BASF) operates a liquid hazardous waste fired boiler at its facility in Pasadena, Texas. This unit is identified as the F-10 Boiler. The F-10 Boiler is the only permitted hazardous waste unit at the facility. The boiler is subject to the Resource Conservation and Recovery Act (RCRA) general permitting and operating requirements of Title 40 Code of Federal Regulations (CFR) Parts 264, 266, and 270 and Title 30 Texas Administrative Code (TAC) Chapter 335 Subchapters F and H. The boiler is also subject to the Hazardous Waste Combustor National Emission Standards for Hazardous Air Pollutants (HWC NESHAP) codified in 40 CFR Part 63 Subpart EEE.

40 CFR § 264.15(a) requires BASF to inspect the hazardous waste operations for malfunctions and deterioration, operator errors, and discharges which may be causing, or may lead to, release of hazardous waste constituents to the environment or a threat to human health. These inspections must be conducted often enough to identify problems in time to correct them before they harm human health or the environment. This RCRA inspection plan describes the inspections for the boiler, as well as emergency equipment and security and alarm systems.

2.0 BOILER INSPECTIONS

The F-10 Boiler remains subject to some of the performance standards of 40 CFR Part 266 Subpart H. There are three types of inspections performed for the boiler. These include:

- Visual inspections of the combustion system;
- Visual inspections of the boiler area and ancillary equipment; and
- Automatic waste feed cutoff (AWFCO) system inspections.

The specific inspections for the boiler are listed in Table III.D in Section III of the Part B Permit Application. Each inspection is described in more detail below. During periods when no hazardous waste is being fed, the RCRA requirements do not apply. However, BASF will typically perform RCRA inspections regardless of feed status in order to simplify the inspection process.

2.1 BOILER COMBUSTION SYSTEM INSPECTION

The boiler's combustion system is comprised of the combustion chamber and associated equipment such as faceplate, firebox, and flue gas ductwork. The combustion system is visually inspected for fugitive emissions, structural deterioration, and other leaks (*e.g.*, soot). This inspection is performed by the Operations Department. It is performed daily and is documented on an inspection form.

2.2 BOILER AREA AND ANCILLARY EQUIPMENT

The F-10 Boiler area and ancillary equipment are visually inspected daily for corrosion, cracks, leaks, and inoperative conditions. In addition, the curbs and foundation that make up the secondary containment areas are visually inspected for cracks and damage. This inspection is performed by the Operations Department. It is performed daily and is documented on an inspection form.

2.3 AUTOMATIC WASTE FEED CUTOFF TESTS

BASF operates the F-10 Boiler with a functioning system that immediately and automatically cuts off the hazardous waste feed when operating limits or emission standards are exceeded. Any malfunctions of the monitoring equipment or AWFCO system will also initiate an immediate and automatic cutoff of hazardous waste feed. The initiation of an AWFCO closes the waste feed control valve. In such an instance, the waste feed shutdown alarm will sound, and the waste flow will cease.

To ensure proper function and reliability of the AWFCO systems, BASF conducts periodic testing of the AWFCO system's operability. This testing is conducted weekly. The AWFCO test procedure evaluates all components of the AWFCO system, including the cutoff valves, actuators, sensors, data manager, and other components and electrical circuitry. The testing is initiated automatically in the distributed control system (DCS). The results of this test can be accessed electronically through the DCS. A hard copy of the test result is printed and maintained by the Environmental, Health, and Safety (EHS) Department.

3.0 SAFETY AND EMERGENCY EQUIPMENT INSPECTIONS

Safety and emergency equipment is strategically located across the facility. Many of these locations are in proximity to the F-10 Boiler. The equipment in the boiler area is inspected periodically in accordance with 40 CFR § 264.15(b). The specific inspections are listed in Table III.D in Section III of the Part B Permit Application.

4.0 SECURITY AND ALARM SYSTEMS INSPECTIONS

Security systems and alarm systems are inspected periodically in accordance with 40 CFR § 264.15(b). The specific inspections are listed in Table III.D in Section III of the Part B Permit Application.

5.0 CORRECTIVE ACTIONS

Remedial actions will be scheduled for any deterioration or malfunctions documented on inspection forms in a timely manner to ensure that these problems do not lead to environmental or human hazards. If a hazard is imminent or has already occurred, remedial action will be initiated immediately. The date of the remedial action and the repairs or remedial action performed will be recorded on the inspection forms.

6.0 RECORDS

Inspection records are maintained by the EHS Department. As required by 40 CFR § 264.15(d), records are retained for at least three years following the date of inspection. These records include the date and time of the inspection, the name of the inspector (identified by initials), a notation of the observations made, and the date and nature of any repairs or other remedial actions.

Appendix III.E: CONTINGENCY PLAN (TABLES III.E.1, III.E.2, AND III.E.3 AND CONTINGENCY PLAN)

Table III.E.1- Arrangements with Local Authorities

Police

Address	Harris County Sherriff's Department 14350 Wallisville Road, Houston, TX 77049
Person Contacted	Sheriff representatives
Phone Number	281-221-6000
Agreed Arrangements	Provide emergency response support services. Contact is through the Channel Industries Mutual Aid (CIMA)

Fire

Address	Pasadena Fire Department 923 Shaw Avenue, Pasadena, TX 77506
Person Contacted	Fire department representatives
Phone Number	713-475-5554
Agreed Arrangements	Provide emergency response services. Contact is through CIMA.

Hospital

Address	Bayshore Medical Center 4000 Spencer Highway, Pasadena, TX 77504
Person Contacted	Hospital representatives
Phone Number	713-359-2000
Agreed Arrangements	Provide medical services for seriously injured employees. Contact is made by contractor security.

Hospital

Address	Memorial Hermann – Texas Medical Center 6411 Fannin Street, Houston, TX 77030
Person Contacted	Life-flight representatives
Phone Number	713-704-4000
Agreed Arrangements	Provide life-flight services for seriously injured employees. Contact is made by contractor security. Communication is direct by radio from BASF once the helicopter is in the air.

Permit No. 50385
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Other

Organization Name:	Channel Industries Mutual Aid (CIMA)
Address	Personnel and equipment are located at various facilities in easter Harris County.
Person Contacted	CIMIA representatives
Phone Number	Not applicable
Agreed Arrangements	BASF has a standing agreement with CIMA.

Table III.E.2 - Emergency Coordinators (Primary)

Name	Home Address	Office Phone(s) and/or Pager	Home/Cell Phone(s)
Doug Ruhe	18931 Kemble Humble, TX	281-884-4479 (Page) 713-886-0178	281-852-4477

Alternate Emergency Coordinators

Name	Home Address	Office Phone(s) and/or Pager	Home/Cell Phone(s)
Mike Browning	3114 Bayou Drive LaPorte, TX	281-884-4355	281-470-0262 (Cell) 713-703-5059
Scott Smetters	1506 Foxwood Houston, TX	281-884-4464 (Page) 713-886-5583	713-594-8632

Table III.E.3- Emergency Equipment

Equipment	Location	Physical Description	Capability
Fire extinguishers	F-10 Boiler area	Portable (handheld, wheeled) extinguishers with chemical agents. Extinguisher sizes are variable (e.g., 5, 10, 20, 30 pounds).	Fire suppression
Fire monitor/hydrants	F-10 Boiler area	Fire hydrants (4-inch diameter nozzles as well as combination monitor/hydrants with 2.5-inch diameter nozzles)	Fire suppression
Fire hoses	F-10 Boiler area	Flexible hosing for connection to hydrants/fire truck	Fire suppression
Emergency shower/eyewash	F-10 Boiler area	Combination body shower and eyewash water deluge station	Chemical decontamination
Alarm system	Facility-wide	Facility-wide alarm signal notification system	Emergency communication
Two-way radios	Facility-wide	Portable communication receivers/transmitters with base station	Emergency communication



BASF CORPORATION

PASADENA, TEXAS

**INDUSTRIAL AND HAZARDOUS WASTE
STORAGE/PROCESSING/DISPOSAL FACILITY
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CONTINGENCY PLAN

NOVEMBER 2025

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Attachment A: Hazardous Waste Unit Locations

Attachment B: Facility Evacuation Route Map

1.0 INTRODUCTION

BASF Corporation (BASF) operates a liquid hazardous waste fired boiler at its facility in Pasadena, Texas. This unit is identified as the F-10 Boiler. The F-10 Boiler is the only permitted hazardous waste unit at the facility. The boiler is subject to the Resource Conservation and Recovery Act (RCRA) general permitting and operating requirements of Title 40 Code of Federal Regulations (CFR) Parts 264, 266, and 270 and Title 30 Texas Administrative Code (TAC) Chapter 335 Subchapters F and H. The boiler is also subject to the Hazardous Waste Combustor National Emission Standards for Hazardous Air Pollutants (HWC NESHAP) codified in 40 CFR Part 63 Subpart EEE. In addition, BASF operates permit-exempt central accumulation (less than 90-day) hazardous waste tanks and container storage areas and satellite accumulation units that are subject to the requirements of 40 CFR Part 262 and 30 TAC Chapter 335 Subchapter C.

This RCRA contingency plan describes emergency preparedness measures taken to prevent or minimize the possibility of fire, explosion, or a sudden or non-sudden release of hazardous waste or hazardous waste constituents to air and/or soil from occurring at BASF's hazardous waste management units, which threaten human health or the environment. This plan also applies to the hazardous waste central accumulation units and satellite accumulation units located throughout the facility. This plan is designed to satisfy the requirements of 40 CFR Part 262 Subpart M and Part 264 Subpart D and 30 TAC §§ 335.61 and 152(a)(3).

This plan is to be activated in the event of fire, explosion, or a sudden or non-sudden release of hazardous waste or hazardous waste constituents that substantially threatens human health or the environment. Such emergencies would typically require discontinuation of operations. Small releases that do not substantially threaten human health or the environment (*e.g.*, equipment leaks typically handled within BASF's leak detection and repair program) do not activate this RCRA contingency plan.

This is a stand-alone plan. BASF also has developed a Spill Prevention Containment and Countermeasure (SPCC) Plan for the Pasadena Site. The SPCC Plan is also a stand-alone plan and is located in the Environmental Manual.

The remaining sections of this plan provide the following information:

- Section 2.0 provides an overview of the facility;
- Section 3.0 provides information on the hazardous waste operations;
- Section 4.0 discusses implementation of this plan;
- Section 5.0 describes the emergency response organization;
- Section 6.0 describes the emergency response procedures;
- Section 7.0 describes the emergency equipment;

-
- Section 8.0 discusses arrangements with local authorities;
 - Section 9.0 presents the evacuation plan;
 - Section 10.0 discusses notifications;
 - Section 11.0 discusses location and distribution of this plan;
 - Section 12.0 addresses amendments to the plan;
 - Attachment A contains a plot plan showing the locations of hazardous waste management units;
and
 - Attachment B contains the evacuation routes figure.

2.0 FACILITY OVERVIEW

The BASF Pasadena Site manufactures OxoAlcohol and plasticizers. The BASF Pasadena Site is situated on a site containing industrial neighbors on three of four boundaries. The northern boundary is the Houston Ship Channel. Neighboring sites include INEOS Phenol Cumene, Oxy Vinyls, and the demolished Enron site.

The street address of the Pasadena Site is:

BASF Corporation
Pasadena Site
4403 La Porte Highway 225
Pasadena, Texas 77501

The mailing address of the Pasadena Site is:

BASF Corporation
Pasadena Site
Post Office Box 687
Pasadena, Texas 77501

3.0 HAZARDOUS WASTE OPERATIONS

The Pasadena Site manages hazardous waste in one permitted unit, the F-10 Boiler. BASF also manages hazardous wastes in permit-exempt central accumulation units and satellite accumulation units.

The hazardous waste management units are designed, constructed, maintained, and operated to prevent or minimize hazards associated with managing hazardous waste. Specific information regarding operation and maintenance are maintained as follows:

- BASF's work instructions and safe maintenance practices regarding operating and maintaining the units that include provisions to prevent or minimize hazards;
- BASF's RCRA personnel training plan that specifies measures taken to ensure operators are able to perform so as to prevent or minimize hazards in the event of an emergency; and
- BASF's RCRA inspection plan that specifies inspections intended to prevent or minimize hazards.

3.1 F-10 BOILER

The F-10 Boiler is a Cleaver Brooks D-type water-tube boiler, Model Number NB-601D. The boiler is equipped with one NATCOM low-nitrogen oxides burner, Model Number P-174-SLSGG-32-1623. The burner is factory-mounted in the windbox. The boiler is designed for a nominal heat input of 180 million British thermal units per hour (MMBtu/hr). The boiler is equipped with a superheater, an economizer, a selective catalytic reduction (SCR) system, a forced draft fan, and a stack. The F-10 Boiler is fired on a mixture of natural gas, process vent gas, and liquid hazardous waste. The location of the F-10 Boiler is shown on the map in Attachment A.

3.2 CENTRAL ACCUMULATION UNITS

BASF operates permit-exempt central accumulation container storage areas and permit-exempt accumulation tanks. The locations of the central accumulation units are shown on the map in Attachment A.

3.3 SATELLITE ACCUMULATION UNITS

BASF also operates satellite accumulation units for hazardous wastes at locations throughout the plant. The number and location of satellite accumulation units may change in the future based on facility needs.

3.4 HAZARDOUS WASTE STREAMS

The liquid hazardous waste fired in the F-10 Boiler is identified as waste liquid fuel. Waste liquid fuel is generated in the OxoAlcohol process and the plasticizer process. Waste liquid fuel is characteristically

hazardous and carries the 40 CFR Part 261 hazardous waste numbers of D001 (ignitability) and D018 (benzene). The waste liquid fuel is accumulated in Tank D-74 at ambient temperature.

Various bulk liquids are stored in permit-exempt central accumulation tanks. Various containerized wastes are stored in the permit-exempt central accumulation units. These wastes may include aqueous and organic liquid wastes, contaminated soils, solids, semisolids, packaged laboratory wastes, *etc.* These wastes are transferred directly from a process or from the satellite accumulation units.

4.0 IMPLEMENTATION OF THE CONTINGENCY PLAN

As required by 40 CFR §§ 262.260(b) and 264.51(b) and 30 TAC §§ 335.61 and 152(a)(3), the provisions of this plan will be carried out immediately whenever there is an emergency situation in the F-10 Boiler area, central accumulation units, or satellite accumulation units, such as a fire, explosion, or release of hazardous waste or hazardous waste constituents, that could threaten human health or the environment. The decision of whether to implement this plan shall rest on the acting Incident Commander (emergency coordinator). Small releases that do not substantially threaten human health or the environment (*e.g.*, equipment leaks typically handled within BASF's leak detection and repair program) do not activate this RCRA contingency plan.

5.0 EMERGENCY RESPONSE ORGANIZATION

BASF's onsite Emergency Response Team (ERT) members are trained and equipped to minimize most emergencies that may arise. The ERT is led by the Incident Commander. The ERT is staffed with Emergency Care Attendants and/or Emergency Medical Technicians. The ERT provides immediate assistance in case of illness or injury.

The Incident Commander is thoroughly familiar with all aspects of the facility's hazardous waste operations and activities at the facility and the location and characteristics of hazardous waste handled. This person has the authority to commit the resources needed to carry out the contingency plan. There will be a person who fills the role of Incident Commander on site at all times. Per this plan, a Team Leader will assume this position during off-shifts. The Team Leader has the authority to carry out all parts of this plan, including the authority to commit resources as needed. At least one management representative trained to act as Incident Commander will always be on call. This person will assume the position from the Team Leader as soon as they arrive at the site and have been fully briefed of the emergency situation. The list of Incident Commanders is provided in Table III.E.2 in Section III of the Part B Permit Application.

The Crisis Communication Team (CCT) is made up of management personnel from the site and is called together during emergency situations. Members of the CCT are assigned specific duties to carry out during these situations. These functions are varied and include reporting to outside agencies, reporting to responders, handling of the press, issuing statements, ordering supplies, and other functions as necessary. The CCT provides assistance to the Incident Commander.

Additional assistance may be required in the case of a release into any of the environmental media. Contracts are in place with one, or more, outside contractors that can provide assistance in case of a release. Operating Technicians are trained to the Hazmat Technician Level and can provide active measures to contain and stop a release of hazardous waste.

6.0 EMERGENCY RESPONSE PROCEDURES

The actions that will be conducted in case of an emergency situation in the identified hazardous waste management units (F-10 Boiler, central accumulation units, or satellite accumulation units) are detailed herein. Emergency procedures will be conducted in accordance with 40 CFR §§ 262.265 and 264.56 and 30 TAC §§ 335.61 and 152(a)(3).

6.1 INTERNAL NOTIFICATION

When there is an imminent or actual emergency situation, the Incident Commander (or his designee) will immediately activate internal facility alarms or communication systems where applicable, to notify all facility personnel. The Incident Commander will also determine if facility personnel should be evacuated. If so determined, evacuation instructions will be communicated by plant radio system and the plant emergency alarm system.

6.2 IDENTIFICATION OF HAZARDOUS MATERIALS

Whenever there is a release, fire, or explosion that could threaten human health or the environment in the identified hazardous waste management unit, the Incident Commander will be responsible for ensuring that the character, exact source, amount, and extent of any released material is immediately identified. This task is accomplished by observation, review of facility records, review of facility manifests, or chemical analysis.

6.3 ASSESSMENT

Whenever there is a release, fire, explosion, or a need for evacuation in the identified hazardous waste management unit, the Incident Commander will immediately assess possible hazards to human health and the environment that may result from the release, fire, or explosion. This assessment considers both direct and indirect effects of the release, fire, or explosion, including consideration of any effects of any toxic, irritating, or asphyxiating gases that are generated and the effects of any hazardous surface water runoffs from water or chemical agents used to control fire and heat induced explosions.

6.4 EXTERNAL NOTIFICATIONS

In accordance with 40 CFR §§ 262.265(d) and 264.56(d) and 30 TAC §§ 335.61 and 153, if the Incident Commander determines that the identified hazardous waste management unit has had a release, fire, and/or explosion that could threaten human health or the environment outside the facility, he or his designee will immediately notify the appropriate authorities. These notifications are described in Section 10.0.

6.5 CONTROL PROCEDURES

The Incident Commander will take action during an emergency situation to ensure that fires, explosions, and releases do not occur, reoccur, or spread to other areas of the facility. These actions may include stopping processes or collecting and containing released waste or other hazardous materials (*e.g.*, fuel gas).

6.6 PREVENTION OF RECURRENCE OR SPREAD OF FIRES, EXPLOSIONS, OR RELEASES

Whenever there is a release, fire, or explosion in the identified hazardous waste management unit, the Incident Commander will take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other areas of the facility and will monitor for appropriate equipment that may have been affected by the emergency situation.

6.7 INTERRUPTION OF OPERATIONS

If an identified hazardous waste management unit stops operations in response to a fire, explosion, or release, the Incident Commander will ensure monitoring for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment.

6.8 STORAGE, TREATMENT, AND DISPOSAL OF RELEASED MATERIAL

Immediately after an emergency in an identified hazardous waste management unit, the Incident Commander will provide for the proper management of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion. The Incident Commander will contact the Environmental, Health, and Safety (EHS) Department. The waste will be temporarily stored in one of the central accumulation units until it can be properly disposed of offsite. Routine operating procedures at these facilities will prevent simultaneous storage of any incompatible wastes.

6.9 POST-EMERGENCY MANAGEMENT

After an incident, the Incident Commander will direct cleanup and restoration activities. These will include, but are not limited to, treating, storing, and disposing of recovered waste, contaminated soil, surface water, or any other material that results from a release, fire, or explosion at the facility.

The Incident Commander will also ensure that, in the hazardous waste management unit:

1. No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed.
2. All emergency equipment is cleaned and fit for its intended use before operations at the facility are resumed.

7.0 EMERGENCY EQUIPMENT

Emergency equipment is strategically located throughout the Pasadena Site. The emergency equipment provided at the facility satisfies the requirements of 40 CFR §§ 262.252, 262.261, 264.32, and 264.52. All emergency response equipment is appropriately maintained. Inspections are performed to ensure the equipment is in good working order. The RCRA inspection plan presents the nature and frequency of these inspections.

All emergency equipment used in a response that results in activation of this RCRA contingency plan will be cleaned or otherwise made fit for use before the affected hazardous waste management unit(s) operations are resumed.

Emergency equipment includes communication systems, centralized emergency equipment, plant-wide fire water supply systems, and local area emergency equipment. Table 1 lists hazardous waste management facilities emergency equipment and their location.

TABLE 1
EMERGENCY EQUIPMENT

EQUIPMENT	LOCATION	DESCRIPTION
Fire extinguishers	F-10 Boiler area, central accumulation areas, and satellite accumulation areas	Portable (handheld, wheeled) extinguishers with chemical agents. Extinguisher sizes are variable (e.g., 5, 10, 20, 30 pounds).
Fire monitors/hydrants	F-10 Boiler area, central accumulation areas, and satellite accumulation areas	Fire hydrants (4-inch diameter nozzles as well as combination monitor/hydrants with 2.5-inch diameter nozzles)
Fire hoses	F-10 Boiler area, central accumulation areas, and satellite accumulation areas	Flexible hosing for connection to hydrants/fire truck
Emergency shower/eyewash	F-10 Boiler area, central accumulation areas, and satellite accumulation areas	Combination body shower and eyewash water deluge station
Alarm system	Facility-wide	Facility-wide alarm signal notification system
Two-way radios	Facility-wide	Portable communication receivers/transmitters with base station

8.0 ARRANGEMENTS WITH LOCAL AUTHORITIES

In accordance with 40 CFR §§ 262.256 and 264.37 and 30 TAC §§ 335.61 and 152(a)(2), BASF has made arrangements with local authorities to provide assistance during emergencies. Should an emergency develop beyond the resources of the plant, the Channel Industries Mutual Aid (CIMA) Organization will be called in for assistance. In those cases where outside medical care is needed, it will be provided by Bayshore Medical Center. Ambulance support may be requested through calling 911 and requesting the Pasadena Fire Department Dispatcher. If a fire or emergency condition develops that might affect the surrounding community, the Incident Commander or his designated representative shall notify the appropriate authorities.

BASF has made arrangements to familiarize local fire and police departments (through the CIMA Organization), and local and state emergency response teams (through the Southeast Regional Local Emergency Planning Committee (LEPC)) with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes. Arrangements have been made with CIMA and spill response contractors to provide assistance during emergency situations. Local law enforcement operations would be conducted through CIMA. Arrangements have been made to familiarize a local hospital with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

9.0 EVACUATION PLAN FOR FACILITY PERSONNEL

If the Incident Commander determines that an evacuation of facility personnel is necessary, the following evacuation procedures will be followed:

- Notification to evacuate will be provided by the plant radio system and the plant emergency alarm system;
- All visitors will be escorted or otherwise directed by their BASF contact;
- Plant personnel who must remain to operate critical plant operations before they evacuate will follow their specific emergency procedures;
- All evacuated personnel will gather at the designated location(s); and
- An Evacuation Director will ensure that all are accounted for and that any injuries are cared for, and missing persons will be immediately reported to the Incident Commander.

The evacuation may include all or part of the plant, depending on the nature of the emergency. The evacuation routes for the facility are shown on the map provided in Attachment B.

10.0 NOTIFICATIONS

Notifications and reports must be made during and following emergency situations involving a hazardous waste management unit that require implementation of this RCRA contingency plan. The Incident Commander, or his/her designee, will confirm whether or not any of the notifications must be made.

In accordance with 40 CFR §§ 262.265(d) and 264.56(d) and 30 TAC §§ 335.61 and 153, if the Incident Commander determines that BASF has had a release, fire, or explosion that could threaten human health, or the environment, outside the facility, he will immediately provide notice to the regional Texas Commission on Environmental Quality (TCEQ) office, the TCEQ Emergency Response Hotline (at 800-832-8224 or 512-463-7727), and/or the National Response Center (at 800-424-8802). The report must include:

- Name and telephone number of reporter;
- Name and address of facility;
- Time and type of incident;
- Name and quantity of material(s) involved, to the extent known;
- The extent of injuries, if any; and
- The possible hazards to human health, or the environment, outside the facility.

Furthermore, the above information will also be reported to the LEPC authorities at 713-475-7088.

If the Incident Commander determines that evacuation of local areas may be advisable, he will immediately notify appropriate local authorities.

Any releases of material at greater than a reportable quantity (RQ) amount must be reported immediately upon discovery. Whenever a release notification is made in accordance with hazardous waste regulations, a follow-up written report of the event must be submitted to the TCEQ within 30 days.

In accordance with 40 CFR §§ 262.265(i) and 264.56(i) and 30 TAC §§ 335.61 and 153, BASF will note in the operating record the time, date, and details of any incident that requires implementation of this RCRA contingency plan. Within 15 days after the incident, BASF will submit a written report on the incident to the TCEQ Industrial and Hazardous Waste Permits Section (Mail Code 130, 12100 Park 35 Circle, Austin, TX 78753, ihwper@tceq.texas.gov) and the TCEQ District Office. The report will include:

- Name, address, and telephone number of the owner or operator;
- Name, address, and telephone number of the facility;
- Date, time, and type of incident (*e.g.*, fire, explosion);

-
- Name and quantity of material(s) involved;
 - The extent of injuries, if any;
 - An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
 - Estimated quantity and disposition of recovered material that resulted from the incident.

11.0 LOCATION AND DISTRIBUTION OF CONTINGENCY PLAN

In accordance with 40 CFR §§ 262.262 and 264.53 and 30 TAC §§ 335.61 and 152(a)(3), copies of this plan are made available to Pasadena Site personnel, the CIMA Organization, and the LEPC. A hard copy of the RCRA contingency plan and all revisions to the plan are available in Pasadena Site's EHS Department. The plan is also available via electronic media. These copies will be kept on file in accordance with BASF's Corporate Record Retention Policy.

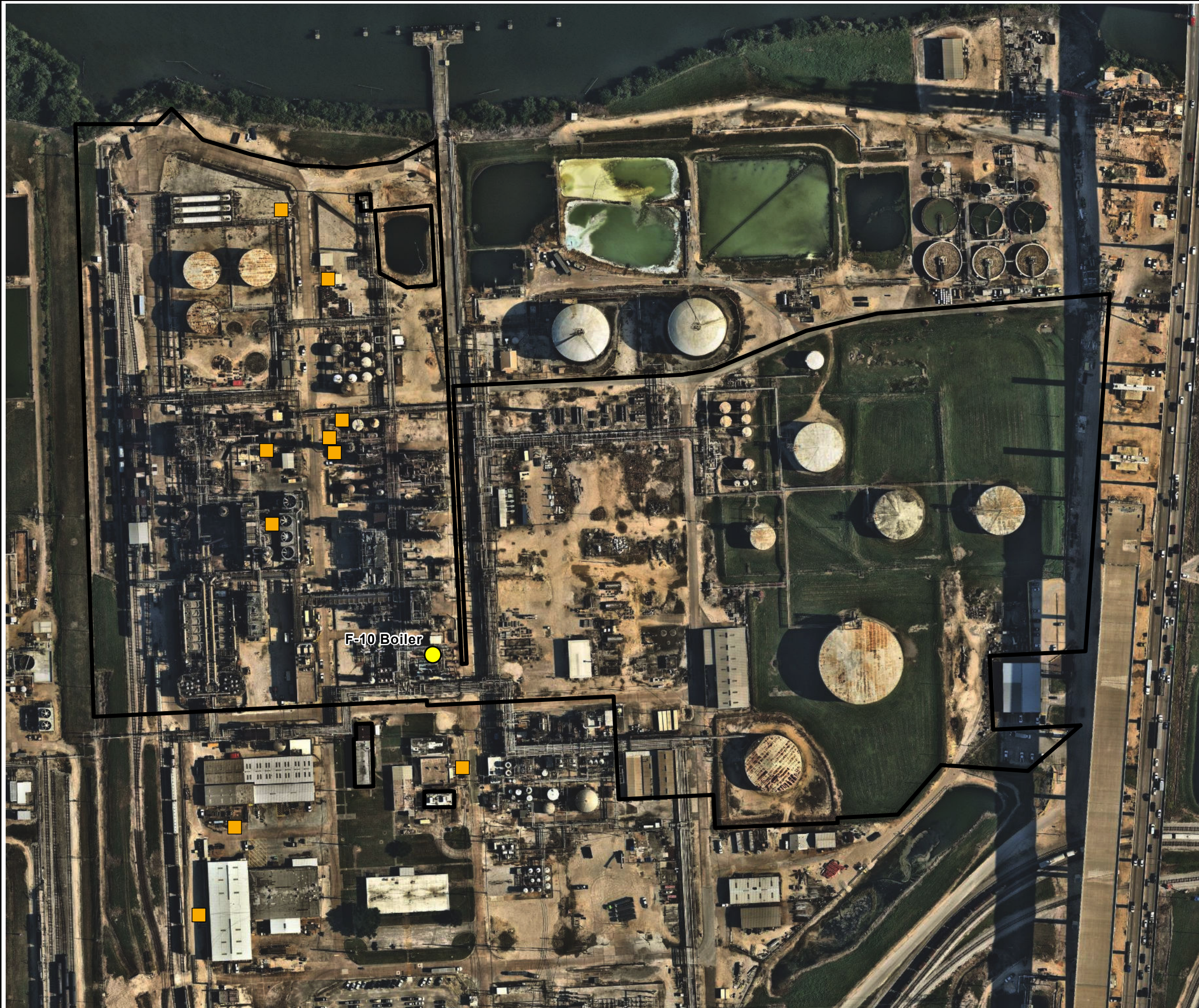
12.0 AMENDMENT OF CONTINGENCY PLAN

In accordance with 40 CFR §§ 262.263 and 264.54 and 30 TAC §§ 335.61 and 152(a)(3), the RCRA contingency plan will be reviewed regularly and will be immediately amended, if necessary, whenever the following conditions apply:




- Applicable regulations are revised;
- The facility permit is revised;
- The plan fails in an emergency;
- The facility changes in its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or that changes the response necessary in an emergency;
- The list of emergency coordinators changes; or
- The list of emergency equipment changes.

Attachment A:
HAZARDOUS WASTE UNIT LOCATIONS

C:_AD\ACCDocs\isitemap\Projects\BASF\Pasadena Facility\PCRA 2025\BASF GIS.aprx



Legend

-  BASF Corporation Property Boundary
-  Hazardous Waste Unit (F10 Boiler)
-  Central Accumulation Units



0 100 200
FEET

1" = 200 FEET
1:2,400

BASF CORPORATION
PASADENA SITE

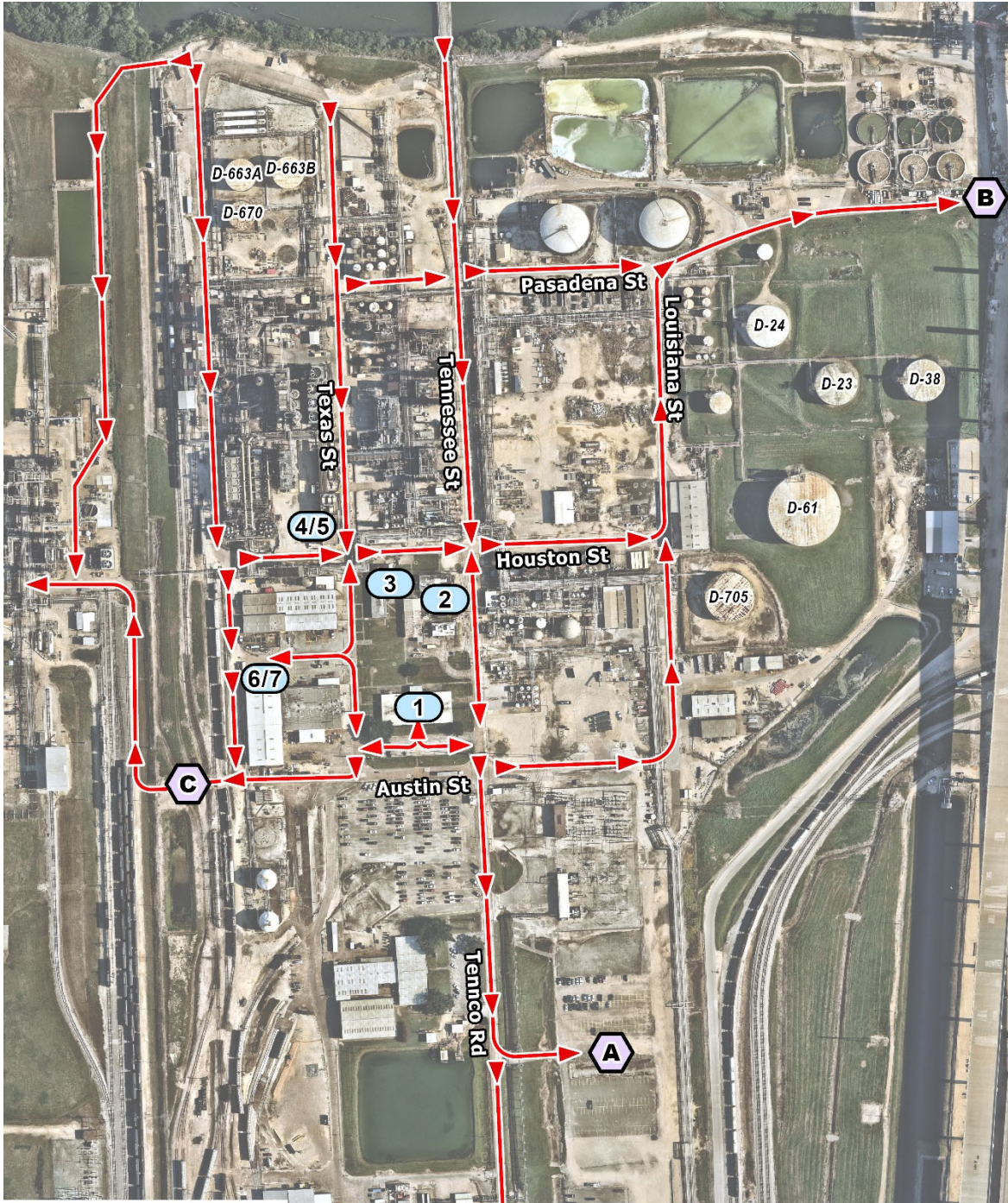
HAZARDOUS WASTE LOCATIONS

DRAWN BY:	L WILSON	SCALE:	AS NOTED	PROJ. NO.	017-25-01
CHECKED BY:	H MCHALE			FILE NO.	Hazardous Waste Locations
APPROVED BY:	H MCHALE	DATE PRINTED:	10/20/2025	ATTACHMENT A	
DATE:	October 2025				



Coterie
ENVIRONMENTAL

840 First Ave., Suite 400
King of Prussia, PA 19406

Attachment B:
FACILITY EVACUATION ROUTE MAP



Legend

-  Evacuation Sites
-  Muster Point
-  Evacuation Route

EVACUATION SITES

- A - Primary
- B - Alternate
- C - Second Alternate

MUSTER POINTS

- 1 - Admin
- 2 - QC Lab
- 3 - IT
- 4/5 - Control Up/Downstairs
- 6/7 - Maint Up/Downstairs

IV. WASTES AND WASTE ANALYSIS

IV. Wastes and Waste Analysis

Provide all Part B responsive information in Appendix IV. When preparing the physical format organize your submittal using the [Format of Hazardous Waste permit Application and Instructions](#).

A. Waste Management Information

For a new hazardous waste management facility or for a facility hazardous waste management capacity expansion, complete [Table IV.A.](#) - Waste Management Information for each waste, source, and volume of waste to be stored, processed, or disposed of in the facility units to be permitted as required by 30 TAC 305.50(a)(9). For on-site facilities, list "on-site" for the waste source. For off-site facilities, list the source of the waste. If unknown, identify potential sources (e.g., industries/processes to be serviced).

B. Waste Managed In Permitted Units

For all hazardous waste management facilities and for inclusion into a permit, complete [Table IV.B.](#) - Wastes Managed In Permitted Units for each waste and debris to be managed in a permitted unit. Provide a description, EPA waste codes, and TCEQ waste form codes and classification codes. Guidelines for the Classification & Coding of Industrial Wastes and Hazardous Wastes, TCEQ publication RG-22, contains guidance for how to properly classify and code industrial waste and hazardous waste in accordance with 30 TAC 335.501-335.515 (Subchapter R).

Applicants need not specify the complete 8-digit waste code formulas for their wastes but must include the 3-digit form codes and 1-digit classification codes. This allows the applicant to specify major categories of wastes in an overall manner without having to list all the specific waste streams as generated.

C. Sampling and Analytical Methods

For inclusion into a permit, complete [Table IV.C.](#) - Sampling and Analytical Methods for each waste and debris proposed to be sampled and analyzed and include sampling location, sampling method, sample frequency, analytical method, and desired accuracy level for each waste and debris to be managed in a permitted, storage, processing, or disposal unit at the facility.

D. Waste Analysis Plan

The Waste Analysis Plan must address the requirements of 40 CFR §264.13 and §268.7. The Plan should include supplemental and coordinating information on how the facility will analyze wastes and debris (as listed in Table IV.B) to be managed in permitted units. The plan must address the determination of land disposal restrictions. Generators must determine and certify with the manifest the land disposal restriction status of a waste, even if the waste or debris is not intended for land disposal. Land disposal treatment facilities must identify the treatment process and analytical procedures to be used, and include them in the waste analysis plan. Land disposal restriction records must be maintained at the facility until closure of the facility [40 CFR §264.73(b)]. Landfill facilities must determine through the Paint Filter Liquids Test (SW-846 Method 9095) if there is free liquid in a bulk or containerized waste to be landfilled. If so, it must be stabilized; adding adsorbents alone is not acceptable, even for containerized waste.

For off-site facilities the waste analysis plan must specify procedures which will be used to inspect and, if necessary, analyze each movement of industrial and hazardous waste or hazardous debris received at the facility to ensure it matches the identity of

the waste designated on the accompanying shipping ticket. The plan must describe methods which will be used to determine the identity of each movement of waste and debris managed at the facility and sampling method used if the identification method includes sampling in order to store, process, or dispose of the wastes and debris in accordance with 40 CFR Parts 264 and 268 and any abnormal characteristics which may upset further treatment or processing operations. Include rejection criteria for shipments of waste and debris received at the facility

For on-site facilities the waste analysis plan must specify the normal characteristics of the waste (including EPA hazardous waste codes, EPA hazard codes, and 40 CFR Part 261, Appendix VIII Hazardous Constituents) which must be known to store, process, or dispose of the wastes and debris in accordance with 40 CFR Parts 264 and 268 and any abnormal characteristics which may upset further treatment or processing operations.

The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. Those sampling methods listed in 40 CFR Part 261 Appendix I, for sampling waste with properties similar to the indicated materials, or equivalent sampling methods approved by EPA under 40 CFR §260.20 and §260.21, will be considered by the TCEQ to be acceptable.

TABLE OF APPENDICES

APPENDIX	TITLE
IV.A	Waste Management Information (Table IV.A) (Not applicable)
IV.B	Waste Managed in Permitted Units (Table IV.B)
IV.C	Sampling and Analytical Methods (Table IV.C)
IV.D	Waste Analysis Plan

Appendix IV.B:

WASTE MANAGED IN PERMITTED UNITS

(TABLE IV.B)

Table IV.B. - Wastes Managed In Permitted Units

No.	Waste	EPA Hazardous Waste Numbers	TCEQ Waste Form Codes and Classification Codes
1	Waste liquid fuel	D001, D018	219H

Appendix IV.C:

SAMPLING AND ANALYTICAL METHODS

(TABLE IV.C)

Table IV.C. - Sampling and Analytical Methods

Waste No. ¹	Sampling Location	Sampling Method ²	Frequency	Parameter	Test Method ²	Desired Accuracy Level ³
1	Sampling port on piping from Tank D-74	Tap sampling into glass jars	Initially and if the process generating the waste changes	Ignitability	SW-846 Method 1010A or 1020B	MDL for selected method
1	Sampling port on piping from Tank D-74	Tap sampling into glass jars	Initially and if the process generating the waste changes	Arsenic, antimony, barium, beryllium, cadmium, chromium, lead, mercury, nickel, selenium, silver, thallium, and zinc	SW-846 Method 6010, 6020, or 7000 series	MDL for selected method
1	Sampling port on piping from Tank D-74	Tap sampling into glass jars	Initially and if the process generating the waste changes	Volatile organics	SW-846 Method 8240 or 8260	MDL for selected method
1	Sampling port on piping from Tank D-74	Tap sampling into glass jars	Initially and if the process generating the waste changes	Semivolatile organics	SW-846 Method 8250 or 8270	MDL for selected method
1	Sampling port on piping from Tank D-74	Tap sampling into glass jars	Initially and if the process generating the waste changes	Total organic content	ASTM Methods E168 or E260, or SW846 Method 9060, 8240, or 8260	MDL for selected method
1	Sampling port on piping from Tank D-74	Tap sampling into glass jars	Annually and if the process generating the waste changes	Density/specific gravity	ASTM Method D1475, D4052, D5002, or D5355	MDL for selected method
1	Sampling port on piping from Tank D-74	Tap sampling into glass jars	Annually and if the process generating the waste changes	Ash	ASTM Method D482	MDL for selected method
1	Sampling port on piping from Tank D-74	Tap sampling into glass jars	Annually and if the process generating the waste changes	Chlorine	ASTM Method D808, E256, or E776 or SW-846 Method 9020, 9056, 9075, or 9076	MDL for selected method

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Permittee: BASF Corporation

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Waste No. ¹	Sampling Location	Sampling Method ²	Frequency	Parameter	Test Method ²	Desired Accuracy Level ³
1	Sampling port on piping from Tank D-74	Tap sampling into glass jars	Annually and if the process generating the waste changes	Antimony, arsenic, barium, beryllium, cadmium, chromium, lead, silver, and thallium	SW-846 Method 6010, 6020, or 7000 series	MDL for selected method

¹ from Table IV.B, first column

² Sampling and Test/Analysis methods should be specified in enough detail to allow determination of whether they are suitable and correct for the purpose indicated while allowing flexibility in selection and future updates to the specified method. Standard methods, such as those from SW-846, will generally require no further submittal. Non-standard and proprietary methods may require additional information to determine suitability. ASTM methods may require submittal of a copy of the specified method.

³ Desired Accuracy Level should provide a specified numeric minimum performance level (maximum acceptable reporting limit) for method detection and quantitation limits that will be accepted from the laboratory performing the analysis and must ensure that reported data will allow determinations of compliance with regulatory limits for the parameter tested.

Appendix IV.D:

WASTE ANALYSIS PLAN



BASF CORPORATION

PASADENA, TEXAS

**INDUSTRIAL AND HAZARDOUS WASTE
STORAGE/PROCESSING/DISPOSAL FACILITY
PERMIT No. 50385
SOLID WASTE REGISTRATION No. 33849
EPA ID No. TXD980808778**

WASTE ANALYSIS PLAN

NOVEMBER 2025

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1.0 INTRODUCTION

BASF Corporation (BASF) operates a liquid hazardous waste fired boiler at its facility in Pasadena, Texas. This unit is identified as the F-10 Boiler. The F-10 Boiler is the only permitted hazardous waste unit at the facility. The boiler is subject to the Resource Conservation and Recovery Act (RCRA) general permitting and operating requirements of Title 40 Code of Federal Regulations (CFR) Parts 264, 266, and 270 and Title 30 Texas Administrative Code (TAC) Chapter 335 Subchapters F and H. The boiler is also subject to the Hazardous Waste Combustor National Emission Standards for Hazardous Air Pollutants (HWC NESHAP) codified in 40 CFR Part 63 Subpart EEE.

The Pasadena Site is an area source of hazardous air pollutants (HAPs), which allows BASF the option to remain subject to some of the Boiler and Industrial Furnace (BIF) standards of 40 CFR Part 266 Subpart H in lieu of complying with the HWC NESHAP standards. BASF has chosen to remain subject to the BIF particulate matter (PM), hydrogen chloride and chlorine (HCl/Cl₂), and metals (except mercury) standards.

This RCRA waste analysis plan (WAP) specifies the procedures that BASF uses to obtain the required chemical and physical analyses of the hazardous waste managed in the permitted unit. These procedures ensure that the hazardous wastes that are treated onsite are managed in accordance with all applicable Federal and Texas RCRA requirements. This plan has been developed in accordance with 40 CFR § 264.13(b). It includes the following required components:

- The parameters for which each hazardous waste will be analyzed and the rationale for the selection of these parameters;
- The sampling method that will be used to obtain a representative sample of the hazardous waste;
- The test methods that will be used;
- The frequency of sampling and analysis;
- The quality assurance (QA)/quality control (QC) procedures that will be used to ensure that the sampling and analysis procedures are satisfactory; and
- The methods that will be used to meet the additional waste analysis requirements for specific waste management methods as specified in 40 CFR § 264.13(b)(6).

This WAP does not address compliance with the HWC NESHAP established pollutant feed rate limitations for the boiler, as they are controlled by the facility's HWC NESHAP feedstream analysis plan.

The remaining sections of the WAP provide the following information:

- Section 2.0 presents a description of the hazardous waste stream;
- Section 3.0 presents information on the waste analytical parameters and their rationale;
- Section 4.0 presents information on the sampling methods;

-
- Section 5.0 presents information on the analytical methods;
 - Section 6.0 presents a discussion on the frequency of sampling and analysis;
 - Section 7.0 addresses sampling and analysis for specific waste management methods; and
 - Section 8.0 presents the QA/QC procedures.

2.0 WASTE DESCRIPTION

The liquid hazardous waste fired in the F-10 Boiler is identified as waste liquid fuel. Waste liquid fuel is generated in the OxoAlcohol process and the plasticizer process. Waste liquid fuel is characteristically hazardous and carries the 40 CFR Part 261 hazardous waste numbers of D001 (ignitability) and D018 (benzene). The waste liquid fuel is accumulated in Tank D-74 at ambient temperature. The waste is generally low in ash, chlorine, and metals contents.

3.0 PARAMETERS AND RATIONALE

BASF must obtain a chemical and physical analysis of the waste liquid fuel to determine its classification as a hazardous waste and to ensure that the F-10 Boiler complies with RCRA operating parameter limits (OPLs). The following four types of analyses are performed for the waste:

- Waste characterization parameters – Analyses are performed to determine the proper waste classifications and codes;
- RCRA compliance parameters – Analyses are performed to demonstrate compliance with the BIF ash, chlorine, and non-mercury metals feed rate OPLs;
- Underlying Hazardous Constituent (UHC) parameters – Analyses are performed to enable assessment of the waste composition for UHCs in accordance with 40 CFR Part 268, Land Disposal Restriction Rules; and
- Leak Detection and Repair (LDAR) parameters – Analyses are performed to determine applicability of LDAR requirements of 40 CFR Part 264 Subpart BB.

4.0 SAMPLING

Specific sampling procedures are employed to ensure representative samples.

4.1 SAMPLING LOCATION

Table IV.C in Section IV of the Part B Permit Application lists the sampling location and methods for the waste liquid fuel. Samples are obtained directly from a port on piping from Tank D-74.

4.2 SAMPLING METHOD

BASF personnel collect the waste liquid fuel samples using a valve sampling port method. The waste liquid fuel piping is equipped with designated, valved sampling ports. Tubing or a short hose may be attached for convenience. The valve is opened, and a sample is collected directly into the sample container. As appropriate, with consideration to the safety of the sampler, an initial purging of the sampling port may be performed.

Samples are handled in accordance with internal practices for ensuring representative samples and preventing sample contamination. Samples are collected, transported, and stored in new, unused containers, such as glass jars, that are constructed of materials inert to the analytical matrix.

During the handling of waste liquid fuel, personal protective equipment is worn (if the potential for exposure exists). Personal protective equipment consists of chemical goggles, coveralls (for minimal exposures), impervious suits, gloves, and rubber boots. Gloves resistant to chemicals and petroleum distillates are required. If the potential for vapor, mist, or dust generation exists, a properly fitted Mine Safety and Health Administration (MSHA) approved or National Institute of Occupational Safety and Health (NIOSH) approved respirator with appropriate cartridges must be worn.

4.3 CHAIN-OF-CUSTODY

BASF utilizes appropriate chain-of-custody procedures to ensure the integrity of the samples by tracking possession from the time of collection to delivery at the laboratory. A sample is considered to be under custody if the sample is (1) in a person's physical possession, (2) in view of the person after he has taken possession, (3) secured by that person so that no one can tamper with the sample, or (4) secured by that person in an area restricted to authorized personnel.

5.0 ANALYSIS

40 CFR § 264.13(b)(2) requires that the WAP indicate the procedures that will be used to determine the parameters. Table IV.C in Section IV of the Part B Permit Application specifies the primary analytical methods that are used for the hazardous waste managed in the permitted units. The analytical methods listed in Table IV.C are all United States Environmental Protection Agency (USEPA) approved methods that follow procedures specified in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition* (SW-846), ASTM International (ASTM), or an equivalent method. Other widely accepted methods are used as warranted or necessitated by unforeseeable regulatory developments. In all cases, the most recent version of each test method will be used for the analysis.

In addition to the analytical methods listed in Table IV.C, generator knowledge may be used to assess the waste streams. For example, in lieu of analyses, generator knowledge is applied to characterize the wastes with respect to corrosivity and reactivity.

6.0 FREQUENCY OF ANALYSIS

Pursuant to 40 CFR § 264.13(b)(4), BASF has established a frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date. Table IV.C in Section IV of the Part B Permit Application specifies the frequencies of analysis used for the hazardous waste managed in the permitted unit.

The waste liquid fuel will be analyzed upon its initial generation. If BASF believes that the process generating the waste may have changed such that there may be a change in the results of the analytical parameters, sampling and analysis will be conducted. BASF's management of change (MOC) program provides a means to monitor plant changes for engineering, raw material, or operational change that would reasonably be expected to impact the nature of the waste.

For BIF compliance parameters, BASF will analyze the waste liquid fuel annually and if the process generating the waste changes.

7.0 SPECIAL WASTE HANDLING

40 CFR § 264.13(b)(6) requires that the WAP address methods that will be used to meet the additional waste analysis requirements for specific waste management methods. This section addresses ignitable, reactive, or incompatible wastes, Land Disposal Restriction Rules, and RCRA air emission standards.

7.1 IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTES

BASF complies with the additional requirements in 40 CFR § 264.13(b)(6) for facilities managing ignitable, reactive, or incompatible wastes, as applicable. Accordingly, this WAP provides a description of any additional waste analyses that are required to ensure compliance with RCRA provisions addressing handling of ignitable, reactive, or incompatible wastes.

The waste liquid fuel is an ignitable waste. BASF takes precautions to prevent accidental ignition of the waste and protects the ignitable waste from sources of ignition in accordance with 40 CFR § 264.17. Reactive waste is not handled in the boiler. All components of the waste liquid fuel that is managed in the boiler are chemically compatible.

7.2 LAND DISPOSAL RESTRICTIONS

BASF maintains compliance with land disposal restrictions for wastes generated at the facility, and records demonstrating compliance (*e.g.*, analytical data, notices, *etc.*) are maintained onsite for a minimum of three years. As shown in Table IV.C in Section IV of the Part B Permit Application, analyses are performed to enable assessment of the waste composition for UHCs in accordance with 40 CFR Part 268, Land Disposal Restriction Rules.

7.3 AIR EMISSION STANDARDS

BASF complies with the RCRA air emission standards of 40 CFR 264 Subparts BB. As shown in Table IV.C in Section IV of the Part B Permit Application, analyses are performed to determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste with organic concentration that equals or exceeds 10 percent by weight and to determine the volatile organic (VO) concentration of a hazardous waste.

8.0 QUALITY ASSURANCE AND QUALITY CONTROL

BASF is committed to ensuring that the analytical data generated in accordance with this WAP are scientifically valid, defensible, complete, and of known precision and accuracy. These objectives can be best achieved by applying the requirements of USEPA accepted methodology. To ensure data quality, guidance from Chapter One of SW-846 has been integrated into the approaches and philosophies of this WAP.

Records of specific analytical methods utilized from SW-846 and appropriate QA/QC documentation will be maintained at the BASF Pasadena Site with the results of all analyses. Data quality will be assessed for all analyses. Data quality indicators include parameters such as sample contamination, accuracy, and precision. These parameters are evaluated as needed by the conduct of field and/or trip blank analysis, internal standard spiking and analysis, and duplicate sample analysis.

V. ENGINEERING REPORTS

V. Engineering Reports

Provide all Part B responsive information in Appendix V. When preparing the physical format organize your submittal using the [Format of Hazardous Waste permit Application and Instructions](#).

For multiple units provide an include all Part B responsive information in a separate Appendix for each unit.

The engineering report represents the conceptual basis for the storage, processing, or disposal units at the hazardous waste management (HWM) facility. It should include calculations and other such engineering information as may be necessary to follow the logical development of the facility design. Plans and specifications are an integral part of the report. They should include construction procedures, materials specifications, dimensions, design capacities relative to the volume of wastes (as appropriate), and the information required by 40 CFR 270.14(b)(8), 270.14(b)(10). Since these reports may be incorporated into any issued permit, the report should not include trade names, manufacturers, or vendors of specific materials, equipment, or services unless such information is critical to the technical adequacy of the material. Technical specifications and required performance standards are sufficient to conduct a technical review. For landfills, surface impoundments, and waste piles, a Construction Quality Assurance Plan, which considers the guidance in EPA publication 530-SW-85-014, Minimum Technology Guidance on Double Liner Systems for Landfills and Surface Impoundments; Design, Construction, and Operation, and/or EPA/600/R-93/182, Quality Assurance And Quality Control For Waste Containment Facilities, should be submitted.

For facilities which will receive wastes from off-site sources, the engineering report must also contain information on the units which will manage these off-site wastes in accordance with 30 TAC 335.45(a).

Certain ancillary components or appurtenant devices must be addressed in the Part B application. These include but are not limited to sumps, pipelines, ditches, and canals. The technical information and the level of detail required will vary with the nature, scope, and location of the ancillary component. At a minimum they should be included in descriptions of piping and process flow. More information may be required. A single area containing a large number of ancillary components or a remote appurtenant device in an unusually sensitive location may warrant some specific permit requirements. All ancillary components must be included in calculating closure cost estimates.

In each of the unit-specific sections, describe precautions taken to prevent accidental commingling of incompatible wastes. If reactive or ignitable wastes are to be managed, or if incompatible wastes are deliberately commingled, provide information to ensure that precautions are taken to avoid danger due to:

- generation of extreme heat or pressure, fire, explosion, or violent reaction;
- production of uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health;
- production of uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosion;
- damaging the structural integrity of the device or facility containing the waste; or
- threatening human health or the environment by any other means.

Comprehensive consideration should be given to ensure that the facility is designed in accordance with good public health and hazardous waste management practices. The application will be evaluated primarily for the aspects of design covered by the regulations. Nothing in any approval is intended to relieve the facility owner or operator of any liabilities or responsibilities with respect to the design, construction, or operation of the project.

A. General Engineering Reports

1. General Information

Complete [Table V.A.](#) - Facility Waste Management Handling Units listing all past, current or proposed units. *[Indicate units' status as Active, Closed, Inactive (built but not yet managing waste), Proposed (not yet built), Never Built, Transferred, or Post-Closure. Indicate appropriate units for Capacity information.]* **Note for renewals and modifications involving adding or dropping units from the permit:** List all TCEQ Permit Unit Numbers that have been assigned previously as in a current permit Attachment D -Authorized Facility Units table and do not reuse or reassign permit numbers for units that have been replaced, closed, removed from the permit, or transferred to other ownership. All Notice of Registration (NOR) Numbers must match the State of Texas Environmental Electronic Reporting System (STEERS) and may not be reused for replacement units.

Provide an overall plan view of the entire facility. Identify each hazardous or industrial solid waste management unit (container storage area, tank, incinerator, etc.) to be permitted in relation to its location and the type of waste managed in that unit. Also provide a plan view at an appropriate scale to clearly show the location of all hazardous waste management units to be permitted on one or more 8 1/2" x 14" sheets. Indicate on this plan view how the design or operation provides for buffer zones or waste segregation as appropriate for incompatible, ignitable, or reactive wastes.

Submit a topographic map or maps of the facility which clearly shows the information specified in 40 CFR 270.14(b)(19), 270.14(c)(3), and 270.14(d)(1)(i) (for large HWM facilities, the TCEQ will allow the use of other scales on a case-by-case basis). Please note that the term "facility" includes all contiguous land, structures, other appurtenances, and improvements on the land for storing, processing, or disposing of hazardous and industrial solid waste.

2. Features to Mitigate Unsuitable Site Characteristics

For all new hazardous waste management storage and/or processing facilities or areal expansions of existing hazardous waste management storage and/or processing facilities, include in the engineering report design, construction, and operational information specified in 30 TAC 335.204(a)(1) and (a)(3) through (9).

3. Construction Schedules

- a. In order to meet the required design standards, extensive retrofitting of some facilities may be required. In the worst case, the applicant may elect to close certain operations rather than comply with the RCRA standards. Thus, the permit may specify a schedule of compliance requiring the accomplishment of given tasks within specific time frames. As required, indicate an appropriate schedule(s) of compliance in this application. The schedule should provide for facility compliance as soon as possible and in accordance with 40 CFR 270.33(a)(2) and 270.33(b).

- b. For commercial hazardous waste management facilities, permit applications (new, renewal, or interim status applications), major amendments, and Class 3 modifications must include a construction schedule. A construction schedule must be submitted even if the application does not include an addition of units or a revision to permitted units. This schedule should comply with the requirements of 30 TAC 305.149.
- 4. Provide detailed plans and specifications which when, accompanied by the engineering report, will be sufficiently detailed and complete to allow the Executive Director to ascertain whether the facility will be constructed and operated in compliance with all pertinent permitting requirements. Engineering plans and specifications must be prepared under the supervision of and sealed by a licensed Professional Engineer, with current license, along with the Registered Engineering Firm's name and Registration Number as required by the Texas Engineering Practice Act. For some facilities, plans in the form of a standard piping and instrumentation diagram will be sufficient. Overall dimensions and materials of construction must be shown.

B. Container Storage Areas

- 1. Provide an engineering report which includes all of the information specified in 40 CFR 264.170-264.173, 264.175-264.177, and 270.15. Complete [Table V.B](#) - Container Storage Areas and list the container storage areas covered by this application to be permitted. List the N.O.R. unit number, the rated capacity or size of each unit (including the maximum number of each type of container to be stored at each unit and total maximum capacity of all types wastes stored in the unit), the areal dimensions, containment volume, aisle space requirements, whether ignitable, reactive, or incompatible waste will be stored in each unit, and whether processing will occur within the unit.
- 2. Container storage areas must have a containment system that is capable of collecting and holding spills, leaks, and precipitation. In addition to the requirements of 40 CFR 270.15, the design report should include the following:
 - a. Capacity of the containment relative to the number and volume of containers to be stored; in addition, for unenclosed areas, the amount of rainfall collected prior to removal. The TCEQ recommends using a 25-year, 24-hour rainfall event for this extra capacity; and
 - b. Run-on into the containment system must be prevented, or a collection system with sufficient excess capacity must be provided. If run-on is collected within the containment system, delineate the area(s) from which run-on is collected. The 25-year, 24-hour rainfall event should be used to calculate the excess capacity.
- 3. Wastes Containing No Free Liquids
With the exception of 40 CFR 264.175(d), storage areas that hold only wastes that do not contain free liquids need not have a containment system, provided that compliance with 40 CFR 264.175(c) is demonstrated. This demonstration must be submitted as part of the application and must include:
 - a. test procedures and results or other documentation or information to show that the wastes do not contain free liquids; and
 - b. a description of how the storage area is designed or operated to drain and remove liquids or how containers are kept from contact with standing

liquids.

4. Managing Ignitable or Reactive Wastes

If a container storage area will manage ignitable or reactive waste, as indicated on Table V.B, provide in the engineering report drawings demonstrating compliance with the buffer zone requirement of 40 CFR 264.17 and 264.176.

5. Managing Incompatible Wastes

If a container storage area will manage incompatible waste, as indicated on Table V.B, provide in the engineering report a description of the procedures used to ensure compliance with 40 CFR 264.17 and 264.177.

6. Managing Nonhazardous Wastes and/or Universal Wastes

If a container storage area will manage nonhazardous wastes, and/or universal wastes in addition to hazardous waste, provide a description of all types of wastes managed in the engineering report and procedures used to ensure compliance with 40 CFR 264 Subpart I.

C. Tanks and Tank Systems

Provide an engineering report which includes all of the information specified in 40 CFR 264.190-264.194, 264.196, 264.198-264.199, and 270.16.

1. For inclusion into a permit, complete [Table V.C](#) - Tanks and Tank Systems and list the tanks covered by this application to be permitted. List the N.O.R. unit number, whether the unit is for storage and/or processing, the waste managed in each unit, the rated capacity of each unit, overall dimensions of each unit, containment volume, and whether ignitable, reactive, or incompatible waste will be stored in each unit.
2. For inclusion into a permit, complete [Table V.C](#) - Tanks and Tank Systems and list the tanks covered by this application to be permitted. List the N.O.R. unit number, whether the unit is for storage and/or processing, the waste managed in each unit, the rated capacity of each unit, overall dimensions of each unit, containment volume, and whether ignitable, reactive, or incompatible waste will be stored in each unit.
3. If a tank will manage incompatible waste, as indicated on Table V.C, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.199.
4. Submit written assessments that were reviewed and certified by an independent, qualified licensed Professional Engineer that attests to the structural integrity and suitability of handling the hazardous waste for each tank system, as required under 40 CFR 264.191-264.192 for existing tanks which do not have secondary containment meeting the standards of 40 CFR 264.193. The engineer signing the written assessment must make the certification specified in 40 CFR 270.11(d). The certification must be sealed by a licensed Professional Engineer, with current license, along with the Registered Engineering Firm's name and Registration Number as required by the Texas Engineering Practice Act.

5. If a tank has been de-rated or if the permitted capacity is otherwise different from the design capacity, specify any such change(s) in the engineering report.

Provide in the report any additional information for tanks and tank systems as specified in the above regulatory citations including: specifics of leak, spill, and unfit for use systems responses; assessments of tank systems; new tank systems or components; overfill control and prevention; special requirements for ignitable and/or reactive wastes; incompatible wastes; air emissions control; detection of leaks into secondary containment; ancillary equipment; and plans and specifications individually sealed by a licensed professional engineer with current Texas registration with the Registered Engineering Firm's name and Registration number.

D. Surface Impoundments

For Surface Impoundments Closed as a Landfill

1. Provide as-built plans and specifications for the final cover system, individually for each unit that is sealed, signed and dated by a licensed professional engineer with current Texas registration along with the Registered Engineering Firm's name and Registration Number would satisfy this requirement; Other as-built plans and specifications for the unit may be submitted upon request.
2. Complete [Table V.D.1](#) - Surface Impoundments and list the surface impoundments, covered by this application, to be permitted. List the waste(s) managed in each unit and the rated capacity or size of each unit.
3. Complete [Table V.D. 6](#) - Surface Impoundment Liner System for each surface impoundment to be permitted.

For Proposed or Active Surface Impoundments

Provide an engineering report which includes all of the information specified in 30 TAC 305.50(a)(6), 335.168, 335.169, and 40 CFR 264.19, 264.220, 264.221, 264.222, 264.223, 264.226(a) and (c), 264.227, 264.229-264.231, and 270.17.

For storage surface impoundments at a new hazardous waste management facility or which are part of an areal expansion of an existing hazardous waste management facility, include in the engineering report design, construction, and operational information specified in 30 TAC 335.204(d). For any surface impoundment to be closed as a landfill (where wastes will remain after closure of the impoundment) at a new hazardous waste management facility or which are part of an areal expansion of an existing hazardous waste management facility, include in the engineering report design, construction, and operational information specified in 30 TAC 335.204(e).

For all impoundments, include in the report the following information.

1. Complete [Table V.D.1](#) - Surface Impoundments and list the surface impoundments, covered by this application, to be permitted. List the waste(s) managed in each unit and the rated capacity or size of each unit.
2. If a surface impoundment will manage ignitable or reactive waste, as indicated on Table V.D.1., describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.229.
3. If a surface impoundment will manage incompatible waste, as indicated on Table V.D.1., describe in the engineering report the procedures used to ensure

compliance with 40 CFR 264.17 and 264.230.

4. If a surface impoundment will manage F020, F021, F022, F023, F026, and F027 waste, as indicated on Table V.D.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.231.
5. Describe the surface impoundment. Detailed plan view and cross-sectional drawings of the surface impoundment should be included with the engineering report.
6. **Freeboard**
Specify the minimum freeboard to be maintained and the basis of the design to prevent overtopping resulting from normal or abnormal operations; overfilling; wind and wave action; rainfall; run-on; malfunctions of level controllers, alarms, and other equipment; and human error. Show that adequate freeboard will be available to prevent overtopping from a 100-year, 24-hour storm. [40 CFR 264.221(g)]
If the impoundment is inflow sensitive, it should be equipped with a high-level alarm based on a different level sensor than that used for automatic control.
7. **Waste Flow**
Describe the means that will be used to immediately shut off the flow of waste to the impoundment to prevent overtopping or in the event of liner failure, and include appropriate detailed drawings.
If the surface impoundment is a flow-through facility describe the flow of waste, including a hydraulic profile.
8. **Dike Construction**
 - a. If dikes are used, [download](#) the dike design and materials of construction engineering certification from the attachments [list](#) the following certification as part of the engineering report:
 - b. The structural integrity of the dike system must be certified by a qualified Professional Engineer before a permit is issued. If the impoundment is not being used, the dike licensed system must be certified before it can be put into use. The certification must be sealed by a licensed Professional Engineer, with current license, along with the Registered Engineering Firm's name and Registration Number as required by the Texas Engineering Practice Act.
 - c. A report shall accompany the dike certification which summarizes the activities, calculations, and laboratory and field analyses performed in support of the dike certification. Describe the design basis used in construction of the dikes. Provide the following analyses as attachments to the engineering report (A Quality Assurance Project Plan <QAPP> should be included in the report to ensure that each analysis is performed appropriately):
 - (1) Slope Stability Analysis
 - (2) Hydrostatic and Hydrodynamic Analysis
 - (3) Storm Loading
 - (4) Rapid Drawdown
 - d. Earthen dikes should have a protective cover to minimize wind and water erosion and to preserve the structural integrity of the dike. Describe the

protective cover used and describe its installation and maintenance.

9. Containment System

We suggest that the applicant use available recognized guidance documents, such as EPA publication 530 SW 85 014, which provide design guidance for liner systems. The applicant is strongly encouraged to test each synthetic liner after installation by an electrical leak location test, such as the electric field method described in EPA Technical Guidance Document EPA/600/R-93/182, Quality Assurance and Quality Control for Waste Containment Facilities, or an equivalent method, such as those found in ASTM publications, and approved by the Executive Director. Construction above the liner may not proceed until any detected leaks are sealed.

- a. Complete [Table V.D. 6](#). - Surface Impoundment Liner System for each surface impoundment to be permitted.
- b. In the engineering report, describe the design, installation and operation of liner and leak detection components. The description must demonstrate that the liner and leak detection system will prevent discharge to the land, and ground and surface water. Include the following analyses as attachments to the engineering report (A QAPP should be included in the report to ensure that each analysis is performed appropriately):

For artificial liners:

- (1) Seaming method
- (2) Surface preparation method
- (3) Tensile Strength
- (4) Impact Resistance
- (5) Compatibility Demonstration
- (6) Foundation Design (including Settlement Potential, Bearing Capacity and Stability, and Potential for Bottom Heave Blow-out)

For soil liners:

- (1) Waste Migration Analysis (based on head, porosity, and permeability) for the most mobile and least attenuated waste constituents
- (2) Atterberg Limits, % passing a #200 sieve, and Permeability
- (3) Moisture Content
- (4) Standard Proctor Density, Compaction Data

For leachate collection systems:

- (1) Pipe Material and Strength
- (2) Pipe Network Spacing and Grading
- (3) Collection Sump(s) Material and Strength
- (4) Drainage Media Specifications and Performance
- (5) Analyses showing that pipe and pipe perforation size will prevent clogging and allow free liquid access to the pipe.
- (6) Compatibility Demonstration
- (7) Capacity of System
 - (a) rate of leachate removal
 - (b) capacity of sumps
 - (c) thickness of mounding and maximum hydraulic head

- c. Specify the liner system installation date and expected lifetime of liner system (years).
 - d. Specify whether the liner is chemically resistant to the waste and how this resistance was determined. Attach any tests or documentation to the engineering report.
 - e. Submit a quality assurance/quality control plan for all components to demonstrate that all components will be properly installed and will perform to design specifications.
 - f. Submit a Response Action Plan that proposes actions to be taken if the Action Leakage Rate for the surface impoundment exceeds. At a minimum the Response Action Plan must include the requirements of 40 CFR 264.223.
10. Surface impoundments that receive waste on or after May 8, 1985 (or for newly-regulated units, the effective date of the new RCRA regulation) into new units and/or lateral expansions or replacements of existing units must meet the minimum technological requirements of the Hazardous and Solid Waste Amendments of 1984, unless an appropriate waiver is granted by the Commission. The owner or operator of each new surface impoundment unit for which the construction commences after January 29, 1992, or each lateral expansion of an existing surface impoundment unit where construction commences after July 29, 1992, or replacement of an existing surface impoundment unit that commence reuse after July 29, 1992 must install two or more liners and leachate collection and removal system unless commission approves alternate design or operating practices. Plans and specifications for both new and existing surface impoundments must demonstrate conformity with 30 TAC 335.168 and 40 CFR 264.221
11. Run-on Diversion
- Describe in detail how the surface impoundment system will manage stormwater run-on away from the surface impoundment. Stormwater run-on must be diverted away from a surface impoundment. Use at least a 100-year, 24-hour rainfall event in the design and analysis of diversion structures. Where dikes are used to divert run-on, they must be protected from erosion. Include all analyses used to calculate run-on volumes.
12. The Commission may approve an alternate design or operating practice for a surface impoundment if the owner or operator demonstrates that such design or operating practices, together with location characteristics [40 CFR 264.221(d)]:
- a. Will prevent the migration of hazardous constituents into the groundwater or surface water at least as effectively as the liners and leachate collection and removal system required by 40 CFR 264.221; and
 - b. Will allow detection leaks of hazardous constituents through the top liner at least as effectively.
13. Exemption from Double-Liner Requirements for Monofills [264.221(e)]
- Owners or operators of hazardous waste surface impoundment monofills will be exempted from the double-liner requirements if the Commission finds, based on a demonstration by the owner or operator, that alternative design and

operating practices, together with location characteristics are at least as effective as a double liner in preventing migration of hazardous constituents to the groundwater or surface water. If an exemption is sought, submit detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the groundwater or surface water at any future time.

E. Waste Piles

This section applies to owners or operators of industrial solid waste facilities that store or process hazardous waste in piles. A hazardous waste pile that will be closed with wastes left in place must be managed as a landfill. Existing portions of waste piles are those areas that were listed on the original Part A and on which wastes have been lawfully placed.

For Waste Piles Closed as a Landfill

1. Provide as-built plans and specifications for the final cover system, individually for each unit that is sealed, signed and dated by a licensed professional engineer with current Texas registration along with the Registered Engineering Firm's name and Registration Number would satisfy this requirement; Other as-built plans and specifications for the unit may be submitted upon request.
2. Complete [Table V.E.1](#) - Waste Piles and list the waste piles covered by this application. List the waste managed in each unit and the rated capacity or size of the unit.
3. Complete [Table V.E. 3](#) - Waste Pile Liner System and specify the type of containment/liner system.

Provide an engineering report which includes all of the information specified in 30 TAC 335.170 and 40 CFR 264.19, 264.250, 264.251, 264.252-264.253, 264.254(a) and (c), 264.256, 264.257, 264.259, and 270.18.

For waste piles at a new hazardous waste management facility or which are part of any areal expansion of an existing hazardous waste management facility, include in the engineering report design, construction, and operational information specified in 30 TAC 335.204(c).

For all waste piles, include in the report the following information.

1. For inclusion into a permit, complete [Table V.E.1](#) - Waste Piles and list the waste piles covered by this application. List the waste managed in each unit and the rated capacity or size of the unit.
2. If a waste pile will manage ignitable or reactive waste, as indicated on Table V.E.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.256.
3. If a waste pile will manage incompatible waste, as indicated on Table V.E.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.257.
4. If a waste pile will manage F020, F021, F022, F023, F026, and F027 waste, as indicated on Table V.E.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.259.

5. Describe the waste pile, including any structure surrounding or enclosing the waste pile.

6. **Containment System**

We suggest that the applicant use available recognized guidance documents, such as EPA publication 530-SW-85-014, which provide design guidance for liner systems. The applicant is strongly encouraged to test each synthetic liner after installation by an electrical leak location test, such as the electric field method described in EPA Technical Guidance Document EPA/600/R-93/182, Quality Assurance and Quality Control for Waste Containment Facilities, or an equivalent method, such as those found in ASTM publications, and approved by the Executive Director. Construction above the liner may not proceed until any detected leaks are sealed.

- a. For inclusion into a permit, complete [Table V.E. 3](#) - Waste Pile Liner System and specify the type of containment/liner system.
- b. In the engineering report, describe the design, installation, construction, and operation of the liner and leachate collection system. The description must demonstrate that containment systems will prevent discharge to the land, surface water, or groundwater. Include the following analyses as attachments to the engineering report, when applicable to the containment system being described (A QAPP should be included in the report to ensure that each analysis is performed appropriately):

For artificial liners:

- (1) Seaming method
- (2) Surface preparation method
- (3) Tensile Strength
- (4) Impact Resistance
- (5) Compatibility Demonstration
- (6) Foundation Design (including Settlement Potential, Bearing Capacity and Stability, and Potential for Bottom Heave Blow-out)

For soil liners:

- (7) Waste Migration Analysis (based on head, porosity, and permeability) for the most mobile and least attenuated constituents.
- (8) Atterberg Limits, % passing a #200 sieve, and Permeability
- (9) Moisture Content
- (10) Standard Proctor Density, Compaction Data

For leachate detection, collection, and removal system:

- (11) Capacity of system
 - (a) rate of leachate removal
 - (b) capacity of sumps
 - (c) thickness of mounding and maximum hydraulic head
- (12) Pipe Material and Strength
- (13) Pipe Network Spacing and Grading
- (14) Collection Sump(s) Material and Strength
- (15) Drainage Media Specifications and Performance

- (16) Analysis showing that pipe and perforation size will prevent clogging and allow free liquid access to the pipe.
 - (17) Compatibility Demonstration
 - c. Containment/liner system installation date and expected lifetime of liner system (years).
 - d. Specify whether the containment/liner system is chemically resistant to the waste and how this resistance was determined. Attach any tests or documentation to the engineering report.
 - e. Submit a quality assurance/quality control plan for all components to demonstrate that all components will be properly installed and will perform to design specifications.
 - f. Submit a Response Action Plan that proposes actions to be taken if the Action Leakage Rate for the waste pile exceeds. At a minimum the Response Action Plan must include the requirements of 40 CFR 264.253.
7. Wind Dispersal [30 TAC 335.170(j)]
- Waste piles containing hazardous waste which could be subject to dispersal by wind must be covered or otherwise managed so that wind dispersal is minimized. Describe practices to control wind dispersal (e.g., cover or frequent wetting) of the hazardous waste.
8. Run-on Diversion [30 TAC 335.170(g)]
- Describe in detail the measures used to control and divert run-on from the unit. The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 100-year, 24-hour storm.
- Include all analyses used to calculate: flow rates; run-on volume and depth; and back-water calculations for the ditches on plant property.
- Any tanks or basins associated with the run-on control systems must be emptied or otherwise managed expeditiously after a storm to maintain the design capacity of the system. [30 TAC 335.170(i)]
9. Run-off Control [30 TAC 335.170(h)]
- Describe in detail the measures used to control run-off from the unit. Include all analyses used to calculate the run-off volumes.
- The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 100-year, 24-hour storm.
- Collection and holding facilities (e.g., tanks or basins) associated with the run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain the design capacity of the system. [30 TAC 335.170(i)]
10. Give a description of design and operating procedures to properly manage and/or dispose of any residuals (e.g., leachate) that may be generated during waste management. Describe the management process and any equipment used.
11. Provide a description and list of all equipment and procedures used to place the

waste in or on the waste pile, and how the liner surface will be exposed for inspection, if necessary. A containment system must be protected from plant growth which could puncture any component of the system.

12. Exemption from Liner and Leachate Collection Requirements

The Commission may approve an alternate design or operating practice for a waste pile if the owner or operator demonstrates that such design or operating practices, together with location characteristics [40 CFR 264.251(d)]:

- a. Will prevent the migration of hazardous constituents into the groundwater or surface water at least as effectively as the liners and leachate collection and removal system; and
- b. Will allow detection leaks of hazardous constituents through the top liner at least as effectively.

13. Exemption from Groundwater Monitoring under 40 CFR 264.250(c)

A waste pile may be exempt from groundwater monitoring if the following standards are met:

- a. The waste pile (including its underlying liners) must be located entirely above the seasonal high water table; and
- b. The waste pile is inside or under a structure that provides protection from precipitation so that neither run-off nor leachate is generated, provided that:
 - (1) Liquids or materials containing free liquids are not placed in the pile;
 - (2) The waste pile is protected from surface water run-on by the structure or in some other manner;
 - (3) The waste pile is designed and operated to control dispersal of the waste by wind, where necessary, by means other than wetting; and
 - (4) The waste pile will not generate leachate through decomposition or other reactions; or
- c. The waste pile must have a leachate collection and removal system above the top liner; and
- d. Underlayment:
 - (1) either:
 - (a) The waste pile must be underlain by two liners, which are designed and constructed in a manner that prevents the migration of liquids into or out of the space between the liners and a leak detection system which must be designed, constructed, maintained, and operated between the liners to detect any migration of liquids into the space between the liners; and
 - (b) A demonstration must be made that there is a low potential for migration of liquid from the waste pile to the uppermost aquifer during the life of the waste pile (including the closure period). The owner or operator must base any predictions made on assumptions that maximize the rate of liquid migration;

- (2) or:
- (a) The waste pile must be underlain by a liner (base) that is designed, constructed, and installed in a manner that prevents the migration of liquids or waste beyond the liner; and
 - (b) The wastes in the waste pile must be removed periodically, and the liner must be inspected for deterioration, cracks, or other conditions that may result in leaks. The frequency of inspection will be specified in the inspection plan and must be based on the potential for the liner (base) to crack or otherwise deteriorate under the conditions of operation (e.g., waste type, rainfall, loading rates and subsurface stability).

The liner(s) used to satisfy V.D.13.d. must be of sufficient strength and thickness to prevent failure due to puncture, cracking, tearing, or other physical damage from equipment used to place waste in or on the pile or to clean and expose the liner surface for inspection.

F. Land Treatment Units

Provide an engineering report which includes all of the information specified in 30 TAC 305.50(a)(6), 335.171, 335.172, 40 CFR 264.270-264.272, 264.273, 264.276, 264.278, 264.279, 264.281-264.283, and 270.20 for each land treatment unit.

For land treatment units at a new hazardous waste management facility or which are part of an areal expansion of an existing hazardous waste management facility, include in the engineering report design, construction, and operational information specified in 30 TAC 335.204(b).

For all land treatment units, include in the report the following information.

1. Complete [Tables V.F.1](#) - Land Treatment Units and [V.F.2](#) - Land Treatment Unit Capacity and list the land treatment units covered by this application. List the waste(s) managed in each unit and the rated capacity or size of the unit. If different wastes are placed on separate portions of the land treatment area, each portion is considered a land treatment unit, and requires a separate summary form and engineering report.

The treatment zone is defined as the soil area of the unsaturated zone of a land treatment unit within which hazardous constituents are degraded, transformed, or immobilized. In this section, specify the depth of the treatment zone. The maximum depth of the treatment zone for new land treatment units must be [40 CFR 264.271(c)]:

- a. No more than 1.5 meters (5 feet) from the surface; and
 - b. More than 1 meter (3 feet) above the seasonal high water table.
2. If a land treatment unit will manage ignitable or reactive waste, as indicated on Table V.F.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.281.
 3. If a land treatment unit will manage incompatible waste, as indicated on Table V.F.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.282.

4. If a land treatment unit will manage F020, F021, F022, F023, F026 and F027 waste, as indicated on Table V.F.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.283.
5. Describe the land treatment unit. The report shall include all the information requested in this section including drawings. At a minimum, a plan view and cross-section of the unit should be included with the engineering report.
6. Complete [Table V.F.3](#). - Land Treatment Principal Hazardous Constituents and list the wastes for which the treatment demonstration will be made and the principal hazardous constituents in each waste. Specify in the report the data sources to be used to make the demonstration such as laboratory data, field data, operating data, literature, or other.
7. **Run-on Diversion**
Describe in detail the measures used to control run-on and divert run-on from the unit. Include all the analyses used to calculate the run-on volumes.
The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the land treatment unit during peak discharge from a 100-year, 24-hour storm. [30 TAC 335.171(3)]
Collection holding facilities (e.g., tanks or basins) associated with the run-on control system must be emptied or otherwise managed expeditiously after storms to maintain the design capacity of the system. [30 TAC 335.171(5)].
8. **Run-off Control**
Describe in detail the measures used to control the run-off from the unit, and minimize hazardous constituents in the run-off, include all the analyses used to calculate the run-off volumes.
The owner or operator must design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 100-year, 24-hour storm. [30 TAC 335.171(4)]
Collection and holding facilities (e.g., tanks or basins) associated with run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system. [30 TAC 335.171(5)]
9. **Wind Dispersal**
The owner or operator of a land treatment unit containing hazardous waste which could be subject to dispersal by wind must cover or otherwise manage the land treatment unit so that wind dispersal is minimized. Describe practices to control wind dispersal (e.g., cover or frequent wetting) of the hazardous waste. [30 TAC 335.171(6)]
10. **Treatment Demonstration**
A description of the treatment demonstration required under 40 CFR 264.272 and 270.20(a) shall be included with the engineering report. If the owner or operator intends to conduct field tests or laboratory analyses in order to make the demonstration, he must obtain a treatment or disposal permit.

11. The owner or operator must establish an unsaturated zone monitoring program in accordance with 40 CFR 264.278 and a detailed monitoring program must be included in the application.
12. Food Chain Crops [40 CFR 264.276]
Several conditions must be satisfied if food-chain crops are to be grown in or on the treatment zone. A demonstration must be prepared similar to the one described in the Treatment Demonstration and submitted at least 90 days prior to the planting of crops. The demonstration need not be submitted with this application. However, a description of the demonstration must be included as part of the engineering report. This demonstration may be combined with the Treatment Demonstration description, as some of the information required is identical.

G. Landfills

For Closed Landfills

1. Provide as-built plans and specifications for the final cover system, individually for each unit that is sealed, signed and dated by a licensed professional engineer with current Texas registration along with the Registered Engineering Firm's name and Registration Number would satisfy this requirement; Other as-built plans and specifications for the unit may be submitted upon request.
2. Complete [Table V.G.1](#) - Landfills and list the landfills (and number of cells, if applicable) covered by this application. List the waste(s) managed in each unit and the rated capacity or size of the unit. If wastes are segregated in some manner, list the cell number in which wastes are placed next to each waste type.
3. Complete [Table V.G.3](#) - Landfill Liner System and specify the type of liner used for the landfill.
4. [Complete Table V.G.4](#) - Landfill Leachate Collection System used for the landfill.

Provide an engineering report which includes all of the information specified in 30 TAC 305.50(a)(5), (6), (9), (10), and (12), 335.173, 40 CFR 264.19, 264.300, 264.301, 264.302, 264.303(a), 264.304, 264.309, 264.312, 264.313, 264.315-264.317, and applicable requirements of 270.21. The text of the report should be written to supplement engineering plans, specifications, and test results necessary to provide a detailed description of how the landfill will comply with these standards.

For landfills at a new hazardous waste management facility or which are part of an areal expansion of an existing hazardous waste management facility, include in the engineering report design, construction, and operational information specified in 30 TAC 335.204(e).

For all landfills, include in the report the following information.

1. Complete [Table V.G.1](#) - Landfills and list the landfills (and number of cells, if applicable) covered by this application. List the waste(s) managed in each unit and the rated capacity or size of the unit. If wastes are segregated in some manner, list the cell number in which wastes are placed next to each waste type.
2. If a landfill will manage ignitable or reactive waste, as indicated on Table V.G.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.312.

3. If a landfill will manage incompatible waste, as indicated on Table V.G.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.313.
4. If a landfill will manage F020, F021, F022, F023, F026, and F027 waste, as indicated on Table V.G.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.317.
5. Describe the landfill. A plan view and cross-section of the landfill should be included with the engineering report. As appropriate, detailed plan, elevation, cross-section of landfill containment facilities shall be included with the report.
6. **Containment System**
We suggest that the applicant use available recognized guidance documents, such as EPA publication 530-SW-85-014, which provide design guidance for liner systems. The applicant is strongly encouraged to test each synthetic liner after installation by an electrical leak location test, such as the electric field method described in EPA Technical Guidance Document EPA/600/R-93/182, Quality Assurance and Quality Control for Waste Containment Facilities, or an equivalent method, such as those found in ASTM publications, and approved by the Executive Director. Construction above the liner may not proceed until any detected leaks are sealed.
 - a. Complete [Table V.G.3](#) - Landfill Liner System and specify the type of liner used for the landfill.
 - b. In the engineering report, describe the design, installation, construction, and operation of the liner and leachate collection system. The description must demonstrate that the liner system will prevent discharge to the land, groundwater, and surface water. The following analyses should be included as attachments to the engineering report (A QAPP should be included in the report to ensure that each analysis is performed appropriately):

For artificial liners:

- (1) Seaming method
- (2) Surface preparation method
- (3) Tensile Strength
- (4) Impact Resistance
- (5) Compatibility Demonstration
- (6) Foundation Design (including Settlement Potential, Bearing Capacity and Stability, and Potential for Bottom Heave Blow-out)

For soil liners:

- (7) Waste Migration Analysis (based on head, porosity, and permeability) for the most mobile and least attenuated waste constituents
- (8) Atterberg Limits, % passing a #200 sieve, and Permeability
- (9) Moisture Content
- (10) Standard Proctor Density, Compaction Data

For Leachate Collection System

For incorporation into the permit, complete Table V.G.4. - Landfill Leachate Collection System and [Table V.G.5](#) - Landfill Soil Specifications used for the

landfill.

- (11) Capacity of the system:
 - (a) rate of leachate removal
 - (b) capacity of sumps
 - (c) thickness of mounding and maximum hydraulic head
 - (12) Pipe Material and Strength
 - (13) Pipe Network Spacing and Grading
 - (14) Collection Sump(s) Material and Strength
 - (15) Drainage Media Specifications and Performance
 - (16) Analyses showing that pipe and pipe perforation size will prevent clogging and allow free liquid access to the pipe.
 - (17) Compatibility Demonstration
 - c. State whether the liner system components are chemically resistant to the waste and how this resistance was determined. Attach any tests or documentation to the engineering report.
 - d. Provide a quality assurance/quality control plan for all components to demonstrate that all components will be properly installed and will perform to design specifications.
 - e. Whether the leachate collection components are chemically resistant to the waste and how this resistance was determined. Attach any tests or documentation to the engineering report.
 - f. Provide a Response Action Plan that proposes actions to be taken in the case of exceedance of the landfill Action Leakage Rate. At a minimum the Response Action Plan must include the requirements of 40 CFR 264.304.
7. For Dikes:
- a. Slope Stability Analysis;
 - b. Hydrostatic and Hydrodynamic Analyses
 - c. Ability to withstand scouring from leaking liner.
8. Landfills that receive waste on or after May 8, 1985 (or for newly-regulated units, the effective date of the new RCRA regulation) into new units and/or lateral expansions or replacements of existing units must meet the minimum technological requirements of the Hazardous and Solid Waste Amendments of 1984, unless an appropriate waiver is granted by the Commission. The owner or operator of each new landfill unit for which the construction commences after January 29, 1992, or each lateral expansion of an existing landfill unit where construction commences after July 29, 1992, or replacement of an existing landfill unit that commence reuse after July 29, 1992 must install two or more liners and leachate collection and removal system unless commission approves alternate design or operating practices. Plans and specifications for both new and existing landfills must demonstrate conformity with 30 TAC 335.173 and 40 CFR 264.301(c).
9. Site Development Plan
- Describe the methods used to deposit waste in the landfill. This description should include rate of waste deposition, waste segregation, average lift size, maximum lift, average cell or trench size, maximum cell or trench size, and other information necessary to depict how the landfill will be developed. Do not

include liner or leachate collection system information, closure information, or handling of special wastes. This will be included elsewhere in the report.

10. Run-on Control [30 TAC 335.173(g)]

The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 100-year, 24-hour storm.

In the engineering report, include the following analyses:

- a. Run-on volume and depth calculations from the peak discharge of the 100-year, 24-hour storm; and
- b. For ditches on the plant property, back-water calculations.

Collection and holding facilities (e.g., tanks or basins) associated with the run-on control system must be emptied or otherwise managed expeditiously. [30 TAC 335.173(i)]

11. Run-off Control [30 TAC 335.173(h)]

The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control the water volume resulting from a 100-year, 24-hour storm.

Include all analyses used to calculate run-off volumes.

Collection and holding facilities (e.g., tanks or basins) associated with run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system. [30 TAC 335.173(i)]

12. Wind Dispersal [30 TAC 335.173(j)]

If the landfill contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the landfill to minimize wind dispersal. Based upon the characteristics of the material to be landfilled describe the likelihood of wind dispersal occurring. Describe in detail any method and/or control mechanism used to prevent wind dispersal.

13. Liquid Waste

If liquid waste or waste containing free liquids is to be stabilized and then placed in the landfill, the procedures used to stabilize the waste must be described in the engineering report. The waste must be treated prior to landfilling using a treatment technology that does not solely involve the use of a material that functions primarily as a sorbent. Provide supporting documentation to verify that an appropriate stabilization procedure is used to comply with 30 TAC 335.175.

14. The Commission may approve an alternate design or operating practice for a landfill if the owner or operator demonstrates that such design or operating practices, together with location characteristics [40 CFR 264.301(d)]:

- a. Will prevent the migration of hazardous constituents into the groundwater or surface water at least as effectively as the liners and leachate collection and removal system; and
- b. Will allow detection leaks of hazardous constituents through the top liner at

least as effectively.

15. Exemption from Double-Liner Requirements for Monofills [264.301(e)]

Owners or operators of hazardous waste monofills will be exempted from the double-liner requirements if the Commission finds, based on a demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics are at least as effective as a double liner in preventing migration of hazardous constituents to the groundwater or surface water. If an exemption is sought, submit detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the groundwater or surface water at any future time.

16. Above-grade Benefits

The engineering report must evaluate the benefits, if any, associated with the construction of the landfill above existing grade at the proposed site, the costs associated with the above-grade construction, and the potential adverse effects, if any, which would be associated with the above-grade construction. [TX. Health and Safety Code 361.108]

17. Feasibility Study - Applicable to New Hazardous Waste Landfills or Areal Expansions of Existing Hazardous Waste Landfill

In accordance with the Health and Safety Code Section 361.106 and 30 TAC Section 335.205(a)(2), provide a feasibility study demonstrating that there is no practical, economic, and feasible alternative that is reasonably available to manage the types and classes of hazardous wastes to be disposed of at a proposed new hazardous waste landfill or the areal expansion of an existing hazardous waste landfill.

H. Incinerators

Engineering Report for Combustion Units

For hazardous waste combustion unit which are subject to regulation by 40 CFR Part 63, Subpart EEE, the requirements 30 TAC Chapter 305 and Subchapters I and Q do not apply when the unit becomes subject to Resource Conservation and Recovery Act (RCRA) permit requirements after October 12, 2005 (i.e., new unit), or no longer apply when an owner or operator of an existing hazardous waste management unit demonstrates compliance with the air emission standards and limitations in 40 Code of Federal Regulations (CFR) Part 63, Subpart EEE, except for the following:

1. Those provisions the Executive Director determines are necessary to comply with 40 CFR §264.345(a) and 40 CFR §264.345(c) for Phase I sources or 40 CFR §266.102(e)(1) and (2)(iii) for Phase II sources if the permittee or applicant elects to comply with any of the options listed in 40 CFR §270.235(a) to minimize emissions of toxic compounds from startup, shutdown, and malfunction events;
2. Those standards and associated requirements for particulate matter, hydrogen chloride and chlorine gas, and non-mercury metals that a Phase II area source elects to comply with in 40 CFR §§266.105, 266.106, and 266.107;
3. Those standards for particulate matter in 40 CFR 264.343(c) remain in effect for a Phase I source incinerator that elects to comply with the alternative to the

particulate matter standard under 40 CFR 63.1206(b)(14) and 63.1219(e); and

4. Those provisions that the Executive Director may apply in 30 TAC Chapter 305, Subchapters I and Q, on a case-by-case basis. The Executive Director may require a permittee or an applicant to submit information in order to establish permit conditions under §305.50(a)(15) or (16) and §305.127(1)(B)(iii) or (4)(A) (i.e., risk-based permit conditions).

For hazardous waste combustion units subject to regulation by 40 CFR Part 63, Subpart EEE, some of the information requested in Sections V.H and V.I. will not be applicable for new units or existing units which have submitted a Notification of Compliance in accordance with 40 CFR 63.1207(j) and 63.1210(d), received a Finding of Compliance pursuant to 40 CFR 63.1206(b)(3), and have the associated RCRA permit conditions removed from the permit. Information which is not applicable or no longer applicable should not be included in the Part B application. *[Please note that the TCEQ will require a Finding of Compliance be made prior to modifying the permit by deleting redundant operating parameter limits and standards for the combustion units. Until such time as the permit is modified to delete the redundant RCRA-based operating parameter limits and standards in the permit or the permit is terminated or revoked, the permittee must comply with the RCRA-based conditions specified in the permit. More stringent risk-based permit conditions will remain in the RCRA permit.]*

For the exceptions listed in Items 1.-4., the owner and operator must provide the applicable information requested in the Part B permit application and any additional information required by the Executive Director to establish permit conditions.

As applicable, provide an engineering report which includes all of the information specified in 30 TAC 305.171-305.176, 40 CFR 264.340, 264.342-264.346, 264.347(a), and 270.19. In addition, the Executive Director may require additional information to address the requirements in 30 TAC 305.50(a)(15).

Note: Please review the information provided in the section above entitled "Engineering Report for Combustion Units" and 40 CFR 270.19(e) to determine applicability of standards and associated requirements in 40 CFR Part 264, Subpart O. If the permit contains risk-based permit conditions, please ensure that all applicable supporting information is included in the engineering report.

1. Complete [Table V.H.1](#) - Incinerators and list the incinerators covered by this application and list the waste managed in each unit.
2. [Complete Table V.H.2](#) - Incinerator Permit Conditions, Monitoring, and Automatic Waste Feed Cutoff Systems for each Incinerator.
3. Complete [Table V.H.3](#) - Maximum Constituents Feed Rate for each Incinerator.
4. Complete [Table V.H.4](#) - Maximum Allowable Emission Rates for each Incinerator.
5. For use during the shakedown period, the trial burn period and the period after completion of the initial trial burn, complete Table V.H.5 - Incinerator Permit Conditions, Monitoring, and Automatic Waste Feed Cutoff-Short-Term Operation for each new or modified Incinerator.
6. If an incinerator will manage reactive or incompatible waste, as indicated on Table V.H.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17.
7. If an incinerator will manage F020, F021, F022, F023, F026, and F027 waste, as

indicated on Table V.H.1, the DRE requirement is 99.9999%.

8. If a trial burn for a modified unit and Comprehensive Performance Test under 40 CFR Part 63, Subpart EEE (HWC MACT) (for all new and modified units) will be performed, designate one or more of the 40 CFR 261 Appendix VIII organic compounds present in the wastes to be incinerated as Principal Organic Hazardous Constituents (POHCs). Selection will be based upon the degree of difficulty of incineration of these compounds and upon their concentration or mass in the waste feed. These POHCs will be used to determine the destruction and removal efficiency (DRE) specified in the performance standards of 40 CFR 264.343 and HWC MACT. In addition, complete [Table V.H.8](#) - Principal Organic Hazardous Constituents.
9. Submit a Quality Control/Quality Assurance Plan for all sampling, analysis, and monitoring activities which will occur in conjunction with the trial burn.
10. As applicable, facilities with existing permits may request that the Executive Director to address permit conditions that minimize emissions from startup, shutdown, and malfunction events in accordance with the options under 40 CFR 270.235 when requesting the removal of permit conditions that are no longer applicable according to 30 TAC 305.175. Please provide the relevant information needed to process the requested option to minimize emissions identified in 40 CFR 270.235(1)(a)(i)-(iii). (30 TAC 305.176)

I. Boilers and Industrial Furnaces

Engineering Report for Combustion Units

For hazardous waste combustion unit which are subject to regulation by 40 CFR Part 63, Subpart EEE, the requirements 30 TAC Chapter 305 and Subchapters I and Q do not apply when the unit becomes subject to Resource Conservation and Recovery Act (RCRA) permit requirements after October 12, 2005 (i.e., new unit), or no longer apply when an owner or operator of an existing hazardous waste management unit demonstrates compliance with the air emission standards and limitations in 40 Code of Federal Regulations (CFR) Part 63, Subpart EEE, except for the following:

1. Those provisions the Executive Director determines are necessary to comply with 40 CFR §264.345(a) and 40 CFR §264.345(c) for Phase I sources or 40 CFR §266.102(e)(1) and (2)(iii) for Phase II sources if the permittee or applicant elects to comply with any of the options listed in 40 CFR §270.235(a) to minimize emissions of toxic compounds from startup, shutdown, and malfunction events;
2. Those standards and associated requirements for particulate matter, hydrogen chloride and chlorine gas, and non-mercury metals that a Phase II area source elects to comply with in 40 CFR §§266.105, 266.106, and 266.107;
3. Those standards for particulate matter in 40 CFR 264.343(c) remain in effect for a Phase I source incinerator that elects to comply with the alternative to the particulate matter standard under 40 CFR 63.1206(b)(14) and 63.1219(e); and
4. Those provisions that the Executive Director may apply in 30 TAC Chapter 305, Subchapters I and Q, on a case-by-case basis. The Executive Director may require a permittee or an applicant to submit information in order to establish permit conditions under §305.50(a)(15) or (16) and §305.127(1)(B)(iii) or (4)(A) (i.e., risk-based permit conditions).

For hazardous waste combustion units subject to regulation by 40 CFR Part 63, Subpart EEE, some of the information requested in Sections V.H and V.I. will not be applicable for new units or existing units which have submitted a Notification of Compliance in accordance with 40 CFR 63.1207(j) and 63.1210(d), received a Finding of Compliance pursuant to 40 CFR 63.1206(b)(3), and have the associated RCRA permit conditions removed from the permit. Information which is not applicable or no longer applicable should not be included in the Part B application.

[Please note that the TCEQ will require a Finding of Compliance be made prior to modifying the permit by deleting redundant operating parameter limits and standards for the combustion units. Until such time as the permit is modified to delete the redundant RCRA-based operating parameter limits and standards in the permit or the permit is terminated or revoked, the permittee must comply with the RCRA-based conditions specified in the permit. More stringent risk-based permit conditions will remain in the RCRA permit.]

For the exceptions listed in Items 1.-4., the owner and operator must provide the applicable information requested in the Part B permit application and any additional information required by the Executive Director to establish permit conditions.

As applicable, provide an engineering report which includes all of the information specified in 30 TAC 305.50(a)(13), 305.571-573, 40 CFR 266.100 and 266.102 (as incorporated by reference in 30 TAC 335.221 through 335.225), 266.104-266.112, and 270.22. In addition, the Executive Director may require additional information to address the requirements in 30 TAC 305.50(a)(15).

Note: Please review the information provided in the section above entitled "Engineering Report for Combustion Units" and 40 CFR 270.22 to determine applicability of standards and associated requirements in 40 CFR Part 266, Subpart H. Area sources that elect to comply with the standards and associated requirements of 40 CFR 266.105, 266.106, and 266.107 should address those elected standards and requirements in the engineering report. If the permit contains risk-based permit conditions, please ensure that all applicable supporting information is included in the engineering report.

1. Complete [Table V.I.1](#) - Boilers and Industrial Furnaces and list the boilers and/or industrial furnaces covered by this application to be permitted and list the waste managed in each unit.
2. Complete Table V.I.2 - Boiler and Industrial Furnace Permit Conditions, Monitoring, and Automatic Waste Feed Cutoff Systems for each unit.
3. Complete [Table V.I.3](#) - Maximum Constituent Feed Rate for each unit.
4. Complete [Table V.I.4](#) - Maximum Allowable Emission Rates for each unit.
5. For use during the shakedown period, trial burn period and the period after completion of the initial trial burn, complete Table V.I.5 - Boiler and Industrial Furnace Permit Conditions, Monitoring, and Automatic Waste Feed Cutoff Systems-Short-Term Operation for each new or modified unit.
6. If a boiler or industrial furnace will manage reactive or incompatible waste, as indicated on Table V.I.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17.
7. If a boiler and industrial furnace will manage F020, F021, F022, F023, F026, and F027 waste, as indicated on Table V.I.1, the DRE requirement is 99.9999%.
8. If a trial burn for modified units and Comprehensive Performance Test under 40 CFR Part 63, Subpart EEE (HWC MACT) (for all new and modified units) will be performed, designate one or more of the 40 CFR 261 Appendix VIII organic compounds present in the wastes to be incinerated as Principal Organic Hazardous Constituents (POHCs). Selection will be based upon the degree of difficulty of incineration of these compounds and upon their concentration or mass in the waste feed. These POHCs will be used to determine the destruction and removal efficiency (DRE) specified in the performance standards of 40 CFR 266.104 and HWC MACT. In addition, complete [Table V.I.8](#) - Principal Organic Hazardous Constituents.
9. Submit a Quality Control/Quality Assurance Plan for all sampling, analysis, and monitoring activities.
10. As applicable, facilities with existing permits may request that the Executive Director to address permit conditions that minimize emissions from startup, shutdown, and malfunction events in accordance with the options under 40 CFR 270.235 when requesting the removal of permit conditions that are no longer applicable according to 30 TAC 305.571(b). Please provide the relevant information needed to process the requested option to minimize emissions identified in 40 CFR 270.235(1)(a)(i)-(iii). [30 TAC 305.572(a)(6)]

J. Drip Pads

Provide an engineering report which includes all of the information specified in 40 CFR 264.570-573 and 270.26

1. Complete [Table V.J.1.](#) - Drip Pads and list the drip pads, covered by this application, to be permitted. List the N.O.R. unit number, the waste managed in each unit, the rated capacity of each unit, and the overall dimensions of the unit (including perimeter curb or berm height) that will be in contact with the waste.
2. For either new drip pads or existing drip pads for which the owner/operator elects to comply with the synthetic liner requirement of 40 CFR 264.573(b), please complete [Table V.J.2.](#) - Drip Pad Synthetic Liner System.
3. In the engineering report, describe the design, installation, construction, and operation of the liner and leakage collection system. The description must demonstrate that the liner system will prevent discharge to the land, groundwater, and surface water. The following analyses should be included as attachments to the engineering report (A QAPP should be included in the report to ensure that each analysis is performed appropriately):

For artificial liners:

- a. Seaming method
- b. Surface preparation method
- c. Tensile Strength
- d. Impact Resistance
- e. Compatibility Demonstration
- f. Foundation Design (including Settlement Potential, Bearing Capacity and Stability, and Potential for Bottom Heave Blow-out)

For Leakage Collection System

- g. Capacity of the system:
 - (1) rate of leachate removal
 - (2) capacity of sumps
 - (3) thickness of mounding and maximum hydraulic head
- h. Pipe Material and Strength
- i. Pipe Network Spacing and Grading
- j. Collection Sump(s) Material and Strength
- k. Drainage Media Specifications and Performance
- l. Analyses showing that pipe and pipe perforation size will prevent clogging and allow free liquid access to the pipe.
- m. Compatibility Demonstration

K. Miscellaneous Units

A miscellaneous unit is a unit other than a container, tank, incinerator, boiler, industrial furnace, landfill, surface impoundment, waste pile, underground injection well, land treatment area, drip pad, or unit eligible for an R, D & D permit that is used to process, store, or dispose of hazardous waste.

For each miscellaneous unit for which an operating permit is sought, provide an engineering report which includes all of the information specified in 40 CFR 264.600-264.602, and 270.23.

1. Complete [Table V.K](#) - Miscellaneous Units and list the miscellaneous units covered by this application. List the waste managed in each unit and the rated capacity or size of the unit. If the information requested is not applicable, an explanation must be submitted.
2. Provide any other information which is descriptive of the relationship between the miscellaneous unit and the environment. Application information may include design requirements of 30 TAC 305 and 335, 40 CFR Part 264 Subparts I through O, and Part 270 that are appropriate for the miscellaneous unit or portions of the unit being permitted.
3. For a unit which involves combustion, please provide emissions data or a trial burn plan. Tables V.H.1-5 for incinerators or Tables V.I.1-5 for boilers and industrial furnaces may be adapted as appropriate to provide operation, monitoring, and emission information for a miscellaneous combustion unit.

L. Containment Buildings

Complete [Table V.L](#) - Containment Buildings and list the containment buildings covered by this application to be permitted. List the N.O.R. unit number, whether the unit is for storage and/or processing, the waste or debris managed in each unit, the rated capacity of each unit, and the overall dimensions of the unit (including containment wall height) that will be in contact with the waste or debris.

TABLE OF APPENDICES

APPENDIX	TITLE
V.A	General (Table V.A and General Engineering Report)
V.B	Container Storage Areas (Not Applicable)
V.C	Tanks and Tank Systems (Not Applicable)
V.D	Surface Impoundments (Not Applicable)
V.E	Waste Piles (Not Applicable)
V.F	Land Treatment Units (Not Applicable)
V.G	Landfills (Not Applicable)
V.H	Incinerators (Not Applicable)
V.I	Boilers and Industrial Furnaces (Tables V.I.1, V.I.2, V.I.3, and V.I.4 and F-10 Boiler Engineering Report)
V.J	Drip Pads (Not Applicable)
V.K	Miscellaneous Units (Not Applicable)
V.L	Containment Buildings (Not Applicable)

Appendix V.A:
GENERAL
(TABLE V.A AND GENERAL ENGINEERING REPORT)

Permit No. 50385
Permittee: BASF Corporation

Page 1 of 1

Table V.A. - Facility Waste Management Handling Units

TCEQ Permit Unit No. ¹	Unit Name	NOR No. ¹	Unit Description ³	Capacity	Unit Status ²
2	F-10 Boiler	031	Liquid-fired boiler	180 MMBtu/hr	Active

¹ Permitted Unit No. and NOR No. cannot be reassigned to new units or used more than once and all units that were in the Attachment D of a previously issued permit must be listed.

² Unit Status options: Active, Closed, Inactive (built but not managing waste), Proposed (not yet built), Never Built, Transferred, Post-Closure.

³ If a unit has been transferred, the applicant should indicate which facility/permit it has been transferred to in the Unit Description column of Table V.A.



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BASF CORPORATION

PASADENA, TEXAS

**INDUSTRIAL AND HAZARDOUS WASTE
STORAGE/PROCESSING/DISPOSAL FACILITY
PERMIT No. 50385
SOLID WASTE REGISTRATION No. 33849
EPA ID No. TXD980808778**

GENERAL ENGINEERING REPORT

NOVEMBER 2025

1.0 INTRODUCTION

BASF Corporation (BASF) operates a liquid hazardous waste fired boiler at its facility in Pasadena, Texas. This unit is identified as the F-10 Boiler. The F-10 Boiler is the only permitted hazardous waste unit at the facility. The boiler is subject to the Resource Conservation and Recovery Act (RCRA) general permitting and operating requirements of Title 40 Code of Federal Regulations (CFR) Parts 264, 266, and 270 and Title 30 Texas Administrative Code (TAC) Chapter 335 Subchapters F and H. The boiler is also subject to the Hazardous Waste Combustor National Emission Standards for Hazardous Air Pollutants (HWC NESHAP) codified in 40 CFR Part 63 Subpart EEE.

This general engineering report provides the information required by 40 CFR §§ 270.14(b)(8) and (b)(10). The following sections address prevention of hazards and traffic patterns.

2.0 PREVENTION OF HAZARDS

In accordance with 40 CFR § 270.14(b)(8), this section provides information on the prevention of hazards from the processing and storage areas of the BASF Pasadena Site. BASF will use the appropriate procedures, structures, or equipment to prevent adverse conditions in the hazardous waste management area.

2.1 UNLOADING PROCEDURES

There are no unloading procedures associated with the permitted hazardous waste management unit. The waste liquid fuel is hard piped from the production units directly to the accumulation tank, Tank D-74, and is pumped directly to the F-10 Boiler.

2.2 RUN-OFF

Stormwater and any contaminated run-off water are handled in a manner that prevents the spread of contamination from the hazardous waste management area and facilitates prompt treatment of the wastes. The F-10 Boiler is located within a secondary containment system consisting of a concrete pad. The concrete paving is sloped to concrete drainage ditches that drain to concrete sumps. The slopes of the concrete are adequate to provide proper drainage. In the event of a spill, the containment area is washed down to the drainage system. The contaminated water is then collected by vacuum truck and disposed of appropriately.

2.3 WATER SUPPLIES

The primary pathways for contamination of surface water and groundwater drinking water supplies are rain water runoff and infiltration to the subsurface. As mentioned previously, the boiler area has secondary containment, eliminating the potential for groundwater infiltration and surface water runoff

contamination. Other standard procedures, such as managing the hazardous waste in tanks, cleaning up spills immediately, and maintaining the integrity of secondary containment, help prevent drinking water contamination.

The secondary containment is inspected daily by operations, as indicated in Table III.D in Section III of the Part B Permit Application. These inspections ensure that the concrete is maintained so that any spills will be contained. Any defects identified during inspections are entered into the maintenance notification system and assigned a priority level. The least severe issues are scheduled at the maintenance team's convenience, while more urgent issues require repair within two to three days.

2.4 EQUIPMENT AND POWER FAILURE

Power failure at the facility will not result in a release to the environment from the boiler. The plant is equipped with back-up battery power and an emergency generator to ensure a safe shutdown of the equipment without a release to the environment. If a power failure occurs, all operations at the facility will stop. Much of the facility equipment is designed to “fail safe” in case of power disruption or complete failure.

2.5 PERSONAL PROTECTION EQUIPMENT

During the handling of waste liquid fuel, personal protective equipment is worn (if the potential for exposure exists). Personal protective equipment consists of, at a minimum, flame resistant clothing (FRC), hard hats, steel-toed boots, protective eye wear, and impermeable gloves. Additional equipment may include chemical resistant boot covers, hearing protection, face shields, chemical goggles, impermeable full-body coveralls, as necessary. If the potential for vapor, mist, or dust generation exists, a properly fitted Mine Safety and Health Administration (MSHA) approved or National Institute for Occupational Safety and Health (NIOSH) approved respirator with appropriate cartridges is worn. For large spills, tank cleaning, or other confined-space entry, a supplied-air respiratory system is required.

Waste liquid fuel is managed as a flammable liquid. All sources of ignition are excluded when activities that could release flammable vapors are undertaken. Smoking is not permitted within the BASF Pasadena Site except in designated areas. "No Smoking" signs are posted at all entries to the facility.

2.6 PROCEDURES TO MINIMIZE RELEASES TO THE ATMOSPHERE

The F-10 is operated in accordance with good engineering practices to minimize releases to the atmosphere. The waste liquid fuel is piped directly from the accumulation tank to the boiler, which minimizes the potential for spills. The combustion chamber is sealed to minimize fugitive emissions.

3.0 TRAFFIC PATTERNS

In accordance with 40 CFR § 270.14(b)(10), this section provides information on the traffic patterns in and around the hazardous waste management area at the BASF Pasadena Site. Specifically, information is provided on the traffic pattern, estimated volumes, and control mechanisms.

Flow of traffic throughout the facility is regulated by access control at the Guard House, vehicle speed control, and various stop signs and directional signs. Vehicle traffic within the operational portion of the plant is mainly limited to semitrailers, forklift trucks, pickup trucks, and tractors and is restricted to a maximum speed of 9 miles per hour (mph). All personal vehicle traffic is confined to the parking lots.

Vehicle traffic includes tractor trailers, small vehicles, forklifts, and electric carts also contribute to the traffic in the plant. A breakdown of this traffic into the types and numbers of each type of vehicle is provided in Table 1.

TABLE 1
VEHICLE TRAFFIC VOLUME

VEHICLE TYPE	AVERAGE DAILY VOLUME
Small vehicles (pickups, cars, and vans)	6
Tractor trailers	6
Forklifts	4
Electric carts	2

4.0 FIGURES

In accordance with 40 CFR § 270.14(b)(19), this report contains a U.S. Geological Survey (USGS) topographic map of the site and an area of at least 1,000 feet around it in all directions. This map shows the topographic contours at an interval adequate to clearly show the pattern of surface water flow in the vicinity of and from each operational unit of the site. This map (Figure V.A.2) is provided using the required scale of one inch equals no more than 200 feet.

For clarity of the information presented, multiple figures have been provided to satisfy the general requirements of 40 CFR § 270.14(b)(19). These figures, when combined:

- Indicate the map's orientation, scale, and date;
- Show the legal boundaries of the hazardous waste management facility;
- Show all buildings, treatment, storage, and disposal operations, and other structures within the property boundary;
- Identify all operational units within the facility where hazardous waste is or will be treated, stored, or disposed;

-
- Show all access control points (*e.g.*, fences and gates);
 - Identify all nearby surface waters;
 - Define the 100-year floodplain area;
 - Show stormwater drainage systems;
 - Identify surrounding land use (*e.g.*, residential, commercial, agricultural, and recreational);
 - Identify all onsite and offsite wells; and
 - Provide a wind rose showing the predominant wind directions.

The following general maps and figures are included in Attachment A:



- Figure V.A.1 – Facility Plot Plan;
- Figure V.A.2 – 7.5-Minute Topographical Map;
- Figure V.A.3 – FEMA Flood Map;
- Figure V.A.4 – General Land Use Map;
- Figure V.A.5 – Wind Rose;
- Figure V.A.6 – Water Well Location Map;
- Figure V.A.7 – Fences and Gates; and
- Figure V.A.8 – Stormwater Drainage Systems.

Attachment A: MAPS AND FIGURES

C:_AD\ACCDocs\stemaple\Projects\BASF\Pasadena Facility\PCRA 2025\BASF Section V.aprx



Legend

-  BASF Corporation Property Boundary
-  Hazardous Waste Unit (F10 Boiler)



0 100 200
FEET

1" = 200 FEET
1:2,400

BASF CORPORATION
PASADENA SITE

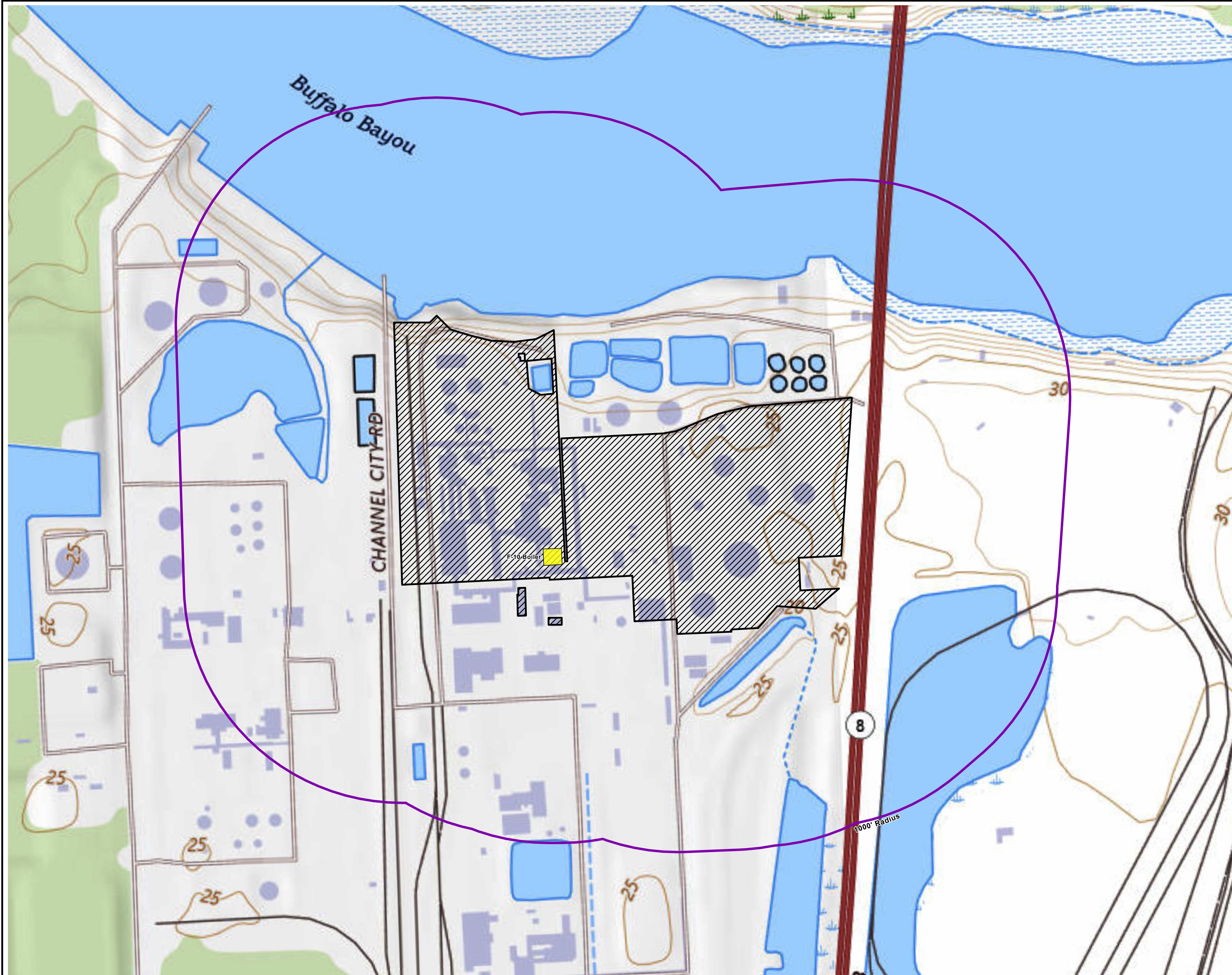
FIGURE V.A.1
FACILITY PLOT PLAN

DRAWN BY:	L WILSON	SCALE:	AS NOTED	PROJ. NO.	017-25-01
CHECKED BY:	H MCHALE	DATE PRINTED:	10/19/2025	FILE NO.	Facility Plot Plan
APPROVED BY:	H MCHALE	DATE:	October 2025		




Coterie
ENVIRONMENTAL

840 First Ave., Suite 400
King of Prussia, PA 19406

C:\AD\ACCD\Documents\Map\Projects\Project Files\BASF\Pasadena Facility\RCRA 2025\BASF Section V.aprx



Legend

-  BASF Corporation Property Boundary
-  1000' Radius
-  Hazardous Waste Unit (F10 Boiler)



Source:
USGS Topographic Quadrangles 7.5 Minute Series:
Pasadena, TX 2022

0 200 400
FEET
1" = 200 FEET
1:2,400

BASF CORPORATION PASADENA SITE

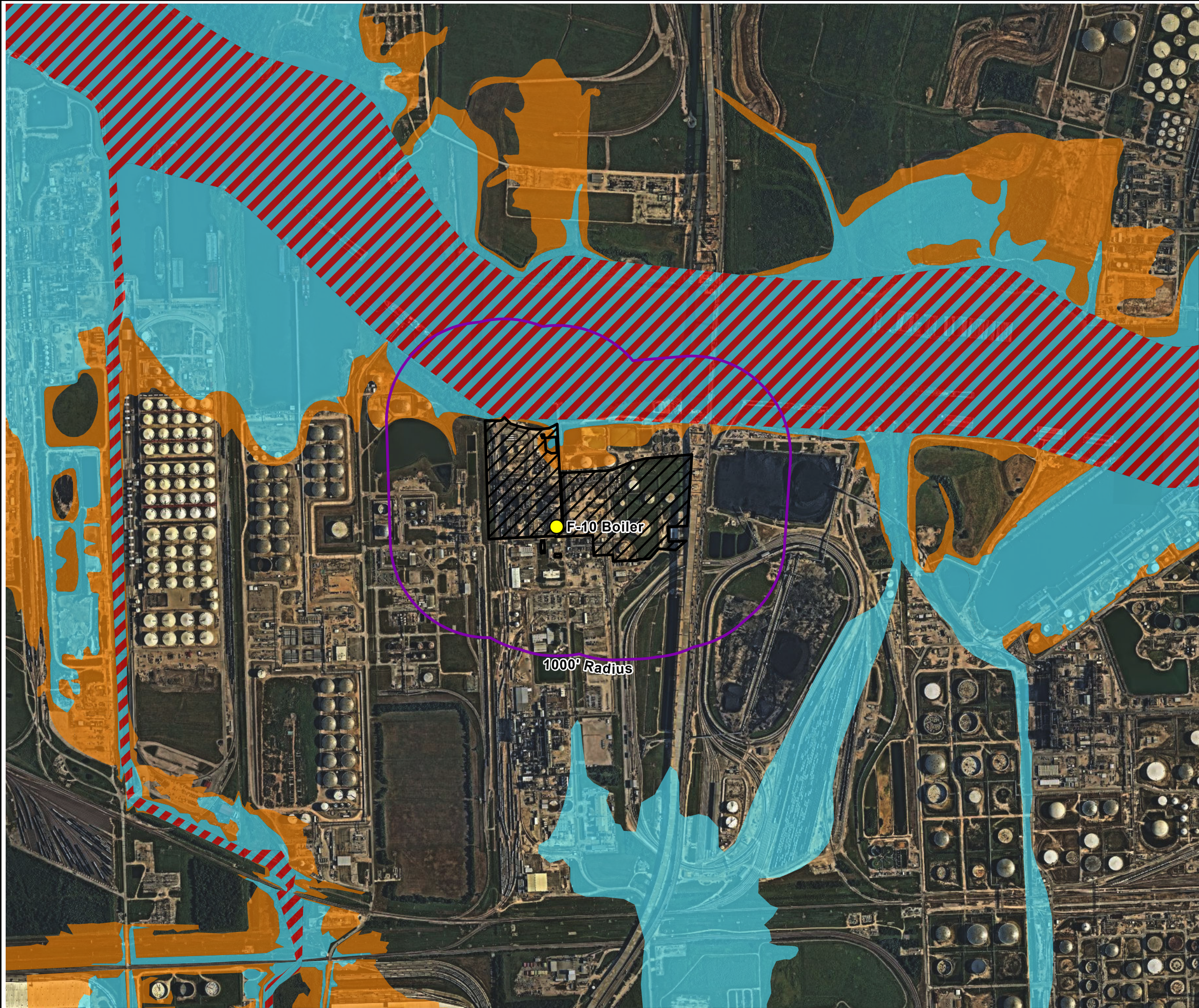
7.5-MINUTE TOPOGRAPHICAL MAP

DRAWN BY:	L WILSON	SCALE:	PROJ. NO.	017-25-01
CHECKED BY:	H MCHALE	AS NOTED	USGS Map	
APPROVED BY:	H MCHALE	DATE PRINTED:	FIGURE V.A.2	
DATE:	October 2025	10/17/2025		







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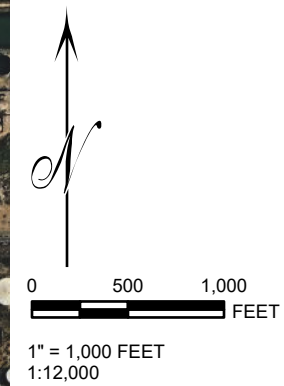
C:_ADACCDocs\stemaple\Projects\BASF\Pasadena Facility\PCRA 2025\BASF Section V.aprx



Legend

-  BASF Corporation Property Boundary
-  Hazardous Waste Unit (F10 Boiler)
-  1000' Radius
- Flood Hazard Zones**
-  1% Annual Chance Flood Hazard
-  Regulatory Floodway
-  0.2% Annual Chance Flood Hazard

Source:
FEMA National Flood Hazard Layer (NFHL). Data streamed
through GIS Rest Service, accessed October, 2025.
FIRM Panel 48201C0910M last updated 1/6/2017.



BASF CORPORATION PASADENA SITE

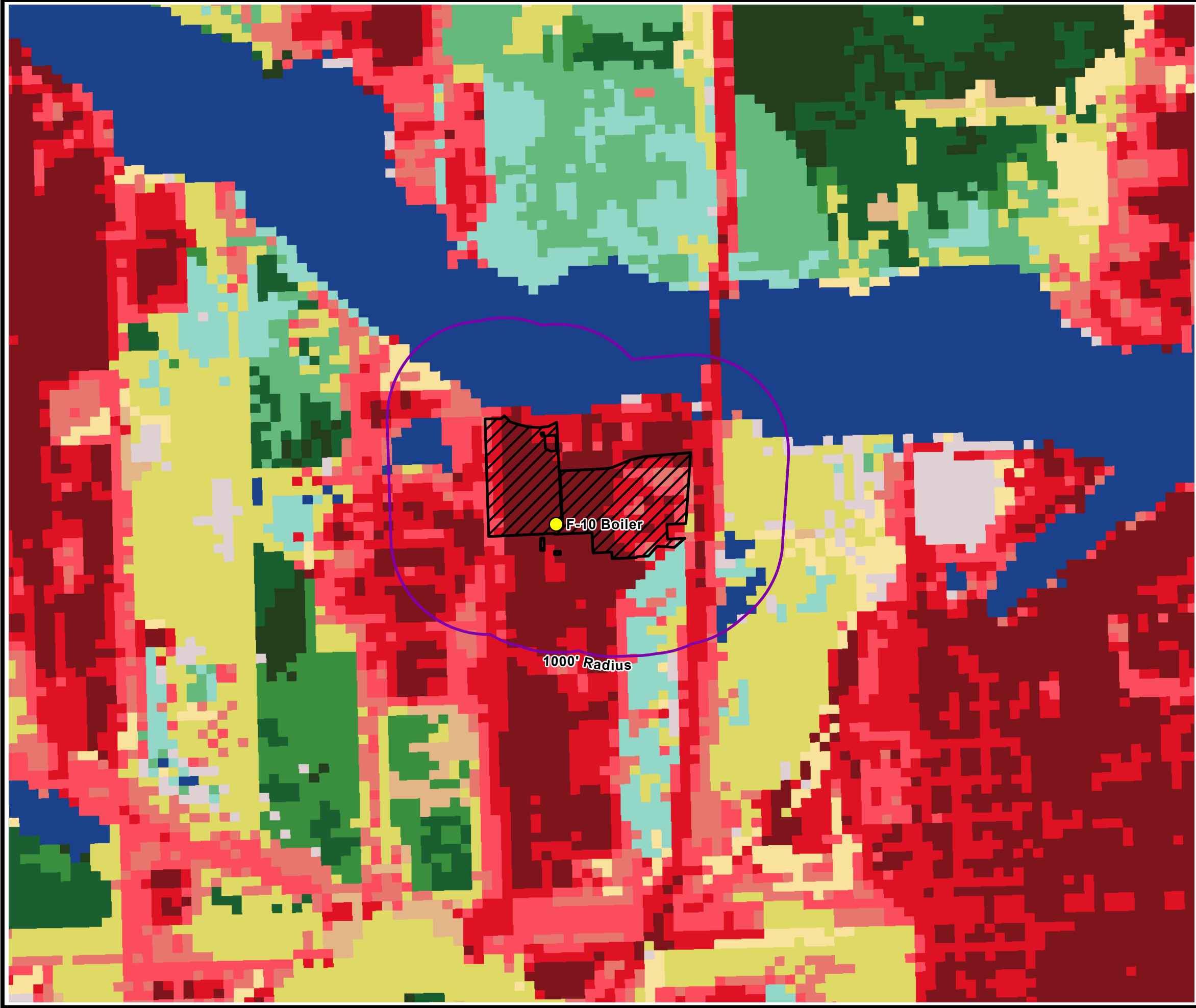
FIGURE V.A.3 FEMA FLOOD MAP

DRAWN BY:	L WILSON	SCALE:	AS NOTED	PROJ. NO.	017-25-01
CHECKED BY:	H MCHALE	DATE PRINTED:	10/17/2025	FILE NO.	Flood Map
APPROVED BY:	H MCHALE	DATE:	October 2025		

















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ENVIRONMENTAL

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C:_AD\ACCDocs\itemaple\Projects\BASF\Pasadena Facility\PCRA 2025\BASF Section V.aprx



Legend

-  BASF Corporation Property Boundary
-  Hazardous Waste Unit (F10 Boiler)
-  1000' Radius
- USA NLCD Land Cover**
-  Barren Land
-  Deciduous Forest
-  Developed High Intensity
-  Developed Low Intensity
-  Developed Medium Intensity
-  Developed Open Space
-  Emergent Herbaceous Wetlands
-  Evergreen Forest
-  Grassland/Herbaceous
-  Mixed Forest
-  Open Water
-  Pasture/Hay
-  Shrub/Scrub
-  Woody Wetlands



Source:
National Land Cover Database (NLCD), updated
April 11, 2025.

0 500 1,000
FEET

1" = 1,000 FEET
1:12,000

**BASF CORPORATION
PASADENA SITE**

**FIGURE V.A.4
GENERAL LAND USE MAP**

DRAWN BY:	L WILSON	SCALE:	PROJ. NO.
CHECKED BY:	H MCHALE	AS NOTED	017-25-01
APPROVED BY:	H MCHALE	DATE PRINTED:	FILE NO.
DATE:	October 2025	10/17/2025	General Land Use

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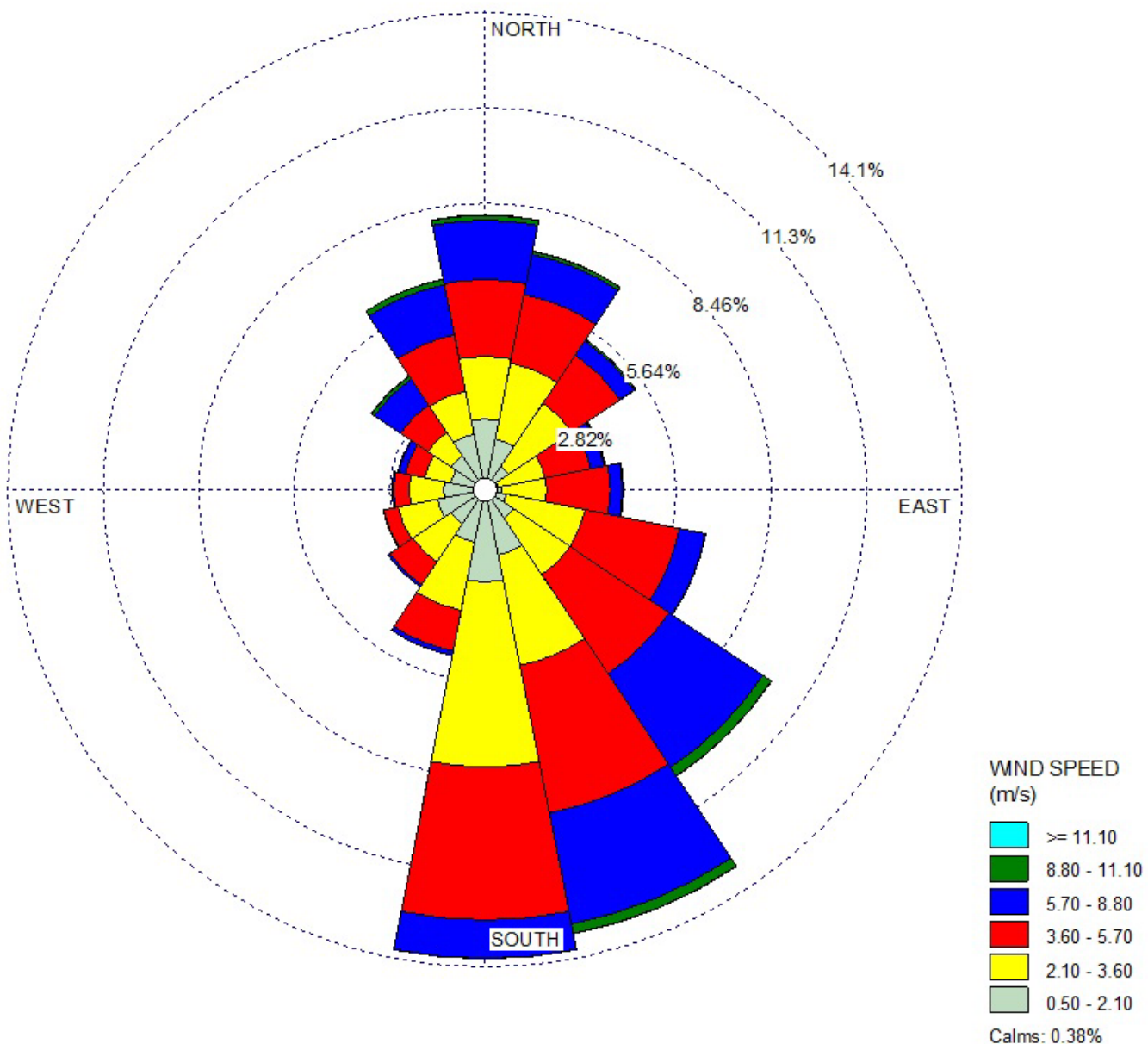
WIND ROSE PLOT:

Station #12960 - HOUSTON/INTERCONTINENTAL ARPT, TX

DISPLAY:

Wind Speed

Direction (blowing from)



DATA PERIOD:

Start Date: 01/01/2017 – 00:00

End Date: 12/31/2021 – 23:59

CALM WINDS:

0.38%

AVG. WIND SPEED:

3.77 m/s

TOTAL COUNT:

43798 hrs.

**BASF CORPORATION
PASADENA, TEXAS**

WIND ROSE

NOTES:

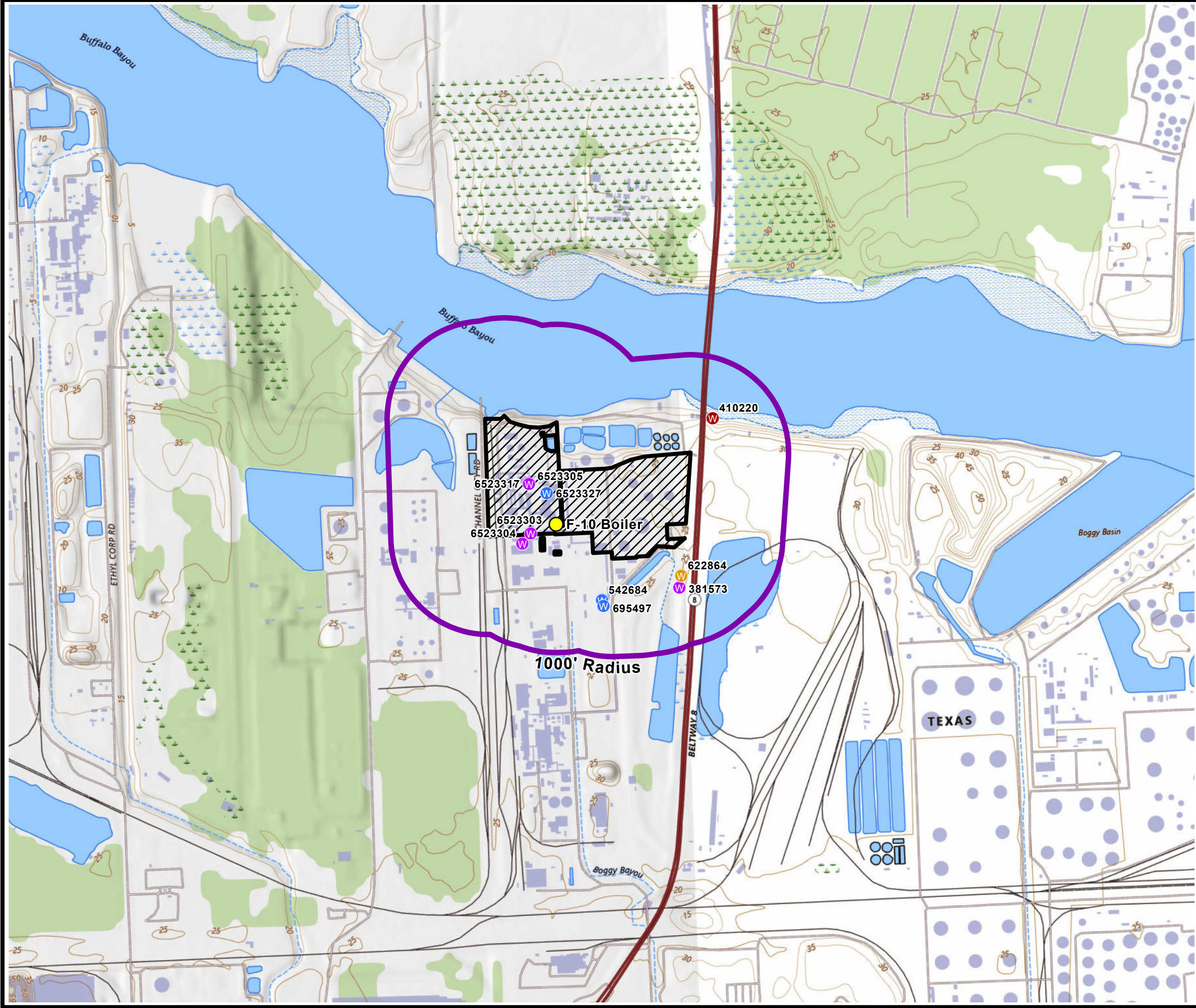
WRPLOT View –
Lakes Environmental Software

FIGURE V.A.1.5

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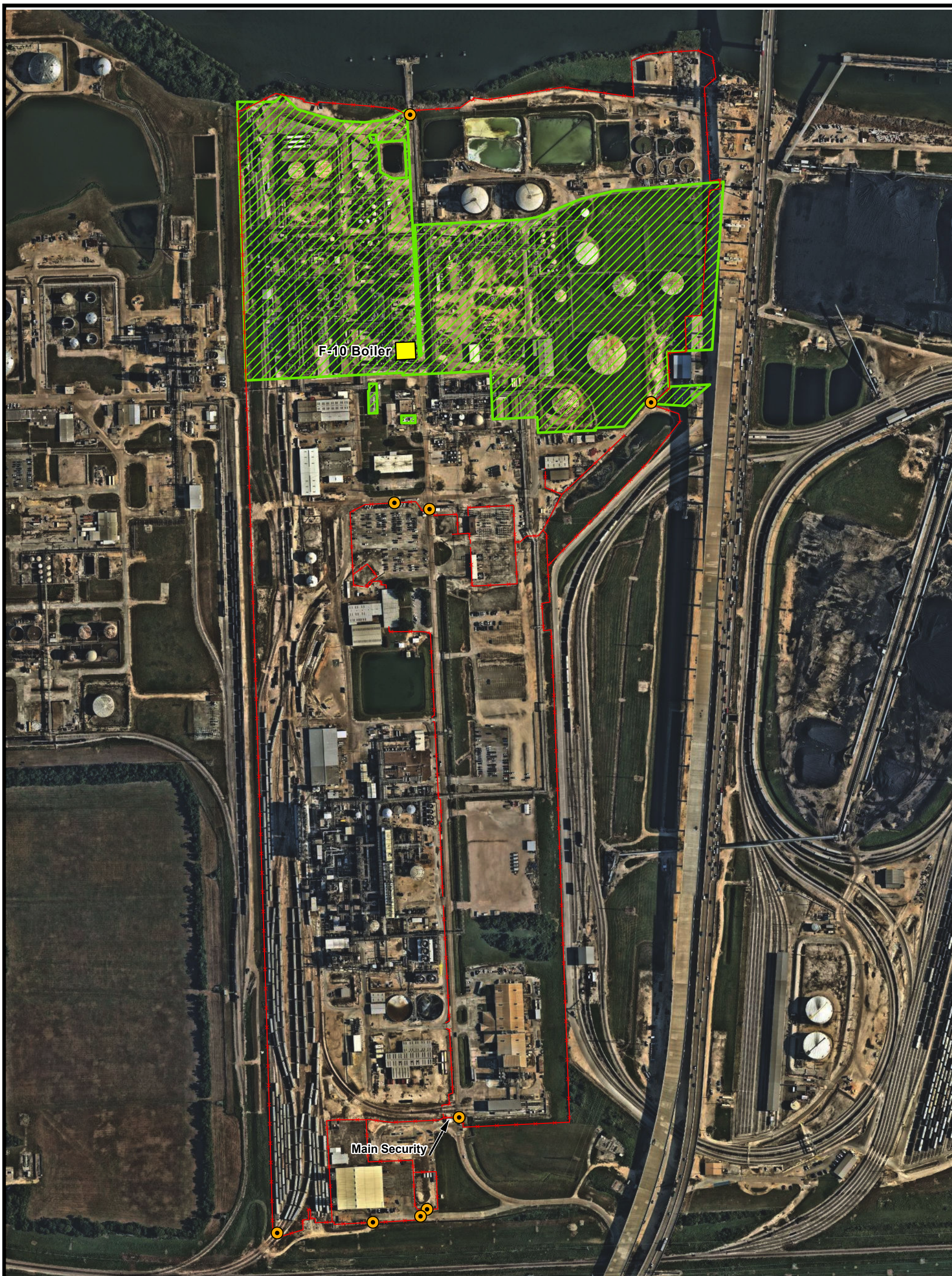
- Legend**
- BASF Corporation Property Boundary
 - Hazardous Waste Unit (F10 Boiler)
 - 1000' Radius
 - TWDB Well, ID#**
 - Domestic / Public Supply
 - Industrial
 - Monitor
 - Rig Supply / Test Well

Source:
TWDB Wells - Texas Water Development Board
GIS Database, accessed October, 2025.





0 500 1,000
FEET

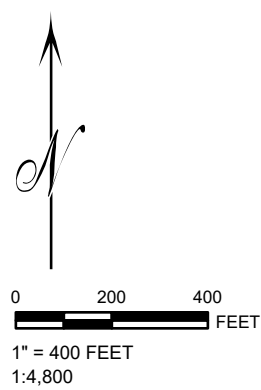
1" = 1,000 FEET
1:12,000

BASF CORPORATION PASADENA SITE			
FIGURE V.A.6 WELL LOCATION MAP			
DRAWN BY:	L WILSON	SCALE:	PROJ. NO. 017-25-01
CHECKED BY:	H MCHALE	AS NOTED	FILE NO. Water Well
APPROVED BY:	H MCHALE	DATE PRINTED:	
DATE:	October 2025	10/17/2025	
		840 First Ave., Suite 400 King of Prussia, PA 19406	



Legend

-  BASF Corporation Owned Property
 Hazardous Waste Unit (F10 Boiler)
 Fence
 Gate



**BASF CORPORATION
PASADENA SITE**

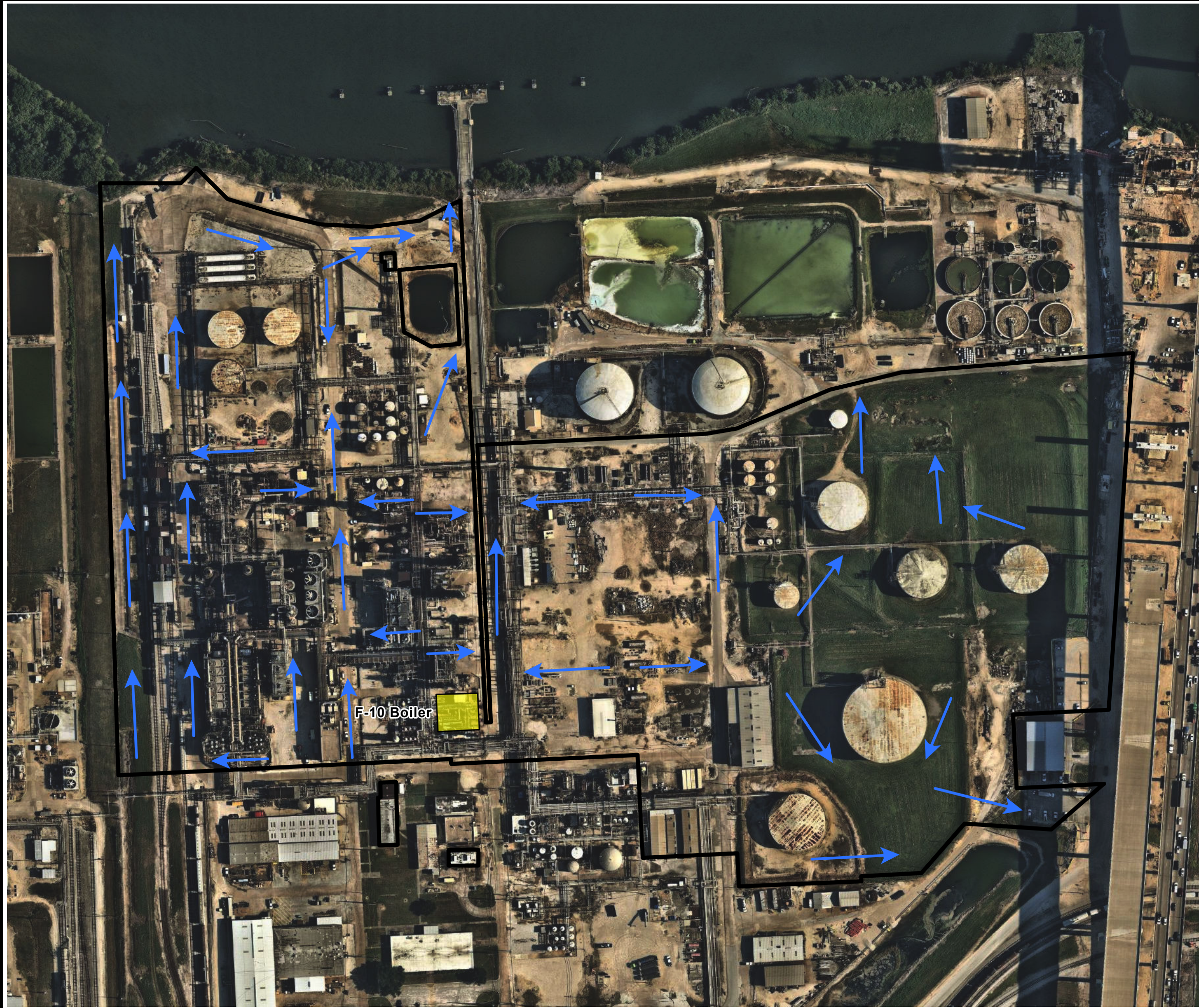
FENCES AND GATES

DRAWN BY:	L WILSON	SCALE:	PROJ. NO.	017-25-01
CHECKED BY:	H MCHALE	AS NOTED	FILE NO.	Fences and Gates
APPROVED BY:	H MCHALE	DATE PRINTED:	FIGURE V.A.7	
DATE:	October 2025	10/19/2025		

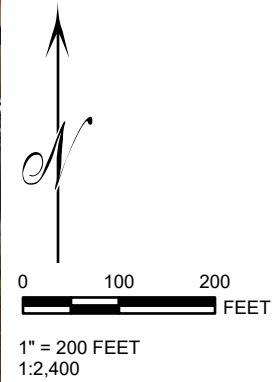
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- Legend**
- BASF Corporation Property Boundary
 - Hazardous Waste Unit (F10 Boiler)
 - Drainage Direction



BASF CORPORATION PASADENA SITE		
FIGURE V.A.8 STORMWATER DRAINAGE SYSTEMS		
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CHECKED BY:	H MCHALE	AS NOTED
APPROVED BY:	H MCHALE	DATE PRINTED:
DATE:	October 2025	10/19/2025

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Appendix V.I:
BOILERS AND INDUSTRIAL FURNACES
(TABLES V.I.1, V.I.2, V.I.3, AND V.I.4 AND F-10 BOILER
ENGINEERING REPORT)

Permit No. 50385
Permittee: BASF Corporation

Page 1 of 1

Table V.I.1. - Boilers/Industrial Furnaces

Permit Unit No. *	Boilers/Industrial Furnaces	N.O.R No.	Waste Nos. ¹	Waste Physical Form (Pumpable or Non- Pumpable)	Reactive, Incompatible, or F020, F021, F022, F023, F026, or F027 Waste	Unit Status
2	F-10 Boiler	031	1	Pumpable	No	Active

¹ From the first column of Table IV.B.

* If the unit is already permitted, use the established "Permit Unit No." If the unit is not yet permitted, the number given here for the unit will become the "Permit Unit No." The numbers should be in an order that will be convenient for the facility operator.

TCEQ Part B Application
TCEQ-00376

Revision No. 0
Revision Date November 4, 2025

Table V.I.2. - Boiler/Industrial Furnace Permit Conditions, Monitoring and Automatic Waste Feed Cutoff Systems

F-10 Boiler

Use a table for each unit and fill in all columns with the appropriate information

Parameter	Monitoring Basis ¹	Monitoring Device	Device Location	Permit Limit	AWFCO Y/N ²
Operating Parameters					
Maximum Total Hazardous Waste Feed Rate from Tank D-74 (waste liquid fuel)	Continuous, hourly rolling average	Coriolis mass flow meter	Feed line to burner	5.6 gpm	Y
Maximum Total Pumpable Hazardous Waste Mass Feed Rate [<i>Not applicable for Tier I or Tier I adjusted metals control limits</i>]	Not applicable	---	---	---	---
Minimum Primary Combustion Chamber Temperature	Not applicable	---	---	---	---
Minimum Secondary Combustion Chamber Temperature	Not applicable	---	---	---	---
Maximum Secondary and/or Primary Combustion Chamber Temperature [<i>Include if using Tier II, III metals controls only</i>]	Not applicable	---	---	---	---
Maximum Flue Gas Temperature at PM Control Device Inlet [<i>Tier II and Tier III Metals only as applicable</i>]	Not applicable	---	---	---	---
Maximum Device Production Rate (Steam)	Continuous, hourly rolling average	Vortex flow meter	Steam line from boiler	131 klb/hr	Y
Minimum Atomizing Fluid Differential Pressure	Continuous, hourly rolling average	Pressure transmitters	Atomizing steam lines	6 psig	Y
Feed Rates: (Metals, Total Chlorine, and Ash)	Calculated annually from analytical data and waste feed rate	Coriolis mass flow meter	Feed line to burner	Feed rate limits specified in Table V.I.3	N
Secondary Combustion Zone Pressure [<i>or other method for fugitives monitoring</i>]	Not applicable	---	---	---	---

Permit No. 50385
 Permittee: BASF Corporation

Page 2 of 3

Parameter	Monitoring Basis ¹	Monitoring Device	Device Location	Permit Limit	AWFCO Y/N ²
Primary Combustion Zone Pressure [<i>or other method for fugitives monitoring</i>]	Not applicable	---	---	---	---
CEMS Monitoring Parameters					
Stack Oxygen	Not applicable	---	---	---	---
Stack CO	Not applicable	---	---	---	---
Stack THC [<i>If specified in the permit</i>]	Not applicable	---	---	---	---
APCD Parameters					
Pressure drop across Baghouse [<i>or fabric filter</i>]	Not applicable	---	---	---	---
[Wet Scrubbers:]					
Ionizing Wet Scrubber minimum voltage	Not applicable	---	---	---	---
Minimum liquid to flue gas ratio (L/G)	Not applicable	---	---	---	---
Minimum scrubber blowdown	Not applicable	---	---	---	---
Minimum scrubber water pH	Not applicable	---	---	---	---
[Venturi Scrubbers:]					
Venturi scrubber minimum liquid to gas ratio (L/G)	Not applicable	---	---	---	---

Parameter	Monitoring Basis ¹	Monitoring Device	Device Location	Permit Limit	AWFCO Y/N ²
Minimum differential gas pressure across venturi scrubber	Not applicable	---	---	---	---
[Dry Scrubbers:]					
Minimum alkaline reagent <i>[insert name of reagent here, such as lime]</i> flow to the dry scrubber	Not applicable	---	---	---	---
Maximum flue gas flow rate	Not applicable	---	---	---	---
[Absorbers:]					
Absorber minimum pH of incoming liquid	Not applicable	---	---	---	---
Absorber minimum liquid to gas ratio (L/G)	Not applicable	---	---	---	---
Other Air Pollution Control Devices permit conditions as necessary	Not applicable	---	---	---	---

¹ Instantaneous as defined in 40 CFR 266.102(e)(6)(i)(A) shall mean a value which occurs at any time. A value shall be determined by the monitoring device no less than every 15 seconds. Continuous monitor is one which continuously samples or measures the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds. Hourly Rolling Average (HRA) as defined in 40 CFR 266.102(e)(6)(i)(B). -For carcinogenic metals and lead feed rates: Instantaneous as defined above or, rolling average as defined in 40 CFR 266.102(e)(6)(ii).

² AWFCO: Automatic Waste Feed Cutoff. For AWFCOs indicated by "Y", the Permit Limit in the table triggers an AWFCO.

Table V.I.3 - Maximum Constituent Feed Rates

The total feed rate of constituents to the boiler/industrial furnace(s) shall not exceed the following limitations in grams per hour (g/hr) or tons per year (T/yr), as noted. The metals limitations have been evaluated through risk assessment. The ash and chlorine limits are based upon testing or regulatory limits.

Constituent	Maximum Allowable Feed Rate In All Feedstreams Hourly Basis (g/hr)	Maximum Allowable Feed Rate In All Hazardous Waste Feedstreams Hourly Basis (g/hr) ¹	Maximum Allowable Feed Rate in All Pumpable Hazardous Waste Feedstreams Hourly Basis (g/hr) ¹	Maximum Allowable Feed Rate in All Feedstreams Annual Basis (T/yr)
Arsenic	5.4E+00	Not applicable	Not applicable	Not applicable
Beryllium	9.6E+00	Not applicable	Not applicable	Not applicable
Cadmium	1.3E+01	Not applicable	Not applicable	Not applicable
Total Chromium	1.9E+00	Not applicable	Not applicable	Not applicable
Antimony	7.2E+02	Not applicable	Not applicable	Not applicable
Barium	1.2E+05	Not applicable	Not applicable	Not applicable
Lead	2.1E+02	Not applicable	Not applicable	Not applicable
Silver	7.2E+03	Not applicable	Not applicable	Not applicable
Thallium	7.2E+02	Not applicable	Not applicable	Not applicable
Chlorine	9.6E+02	Not applicable	Not applicable	Not applicable
Ash	4.58E+02	Not applicable	Not applicable	Not applicable

¹ Not applicable for Tier I or Tier I adjusted metals feed rate screening limits. [Hourly feed rate limits must comply with the requirements of 40 CFR 266.106 for carcinogenic metals and non-carcinogenic metals. As applicable, the feed rate limit for chromium may be specified as hexavalent and total chromium limits.]

Table V.I.4. - Maximum Allowable Emission Rates

[Applicant to use a table for each operating mode as applicable and for each unit]

Carcinogenic Constituent	Compliance Tier	Maximum Allowable Emission Rate ¹	Units ²
Arsenic	I	Not applicable	g/hr
Beryllium	I	Not applicable	g/hr
Cadmium	I	Not applicable	g/hr
Chromium, Total	I	Not applicable	g/hr
Non-Carcinogenic Constituent	Compliance Tier	Maximum Allowable Emission Rate ¹	Units ²
Antimony	I	Not applicable	g/hr
Barium	I	Not applicable	g/hr
Lead	I	Not applicable	g/hr
Mercury	I	Not applicable	g/hr
Silver	I	Not applicable	g/hr
Thallium	I	Not applicable	g/hr
Hydrogen Chloride	I	Not applicable	g/hr
Free Chlorine	I	Not applicable	g/hr
Particulate Matter	Not applicable	0.08	gr/dscf

¹ Not applicable for Tier I or Tier I adjusted feed rate screening limits.

² g/hr denotes grams per hour. Grains/dscf denotes grains per dry standard cubic foot (standard conditions: 760 mm Hg, 68 °F) after correction to a stack gas concentration of 7% oxygen.

Note: Site-specific dispersion modeling factor x.xxx *[insert dispersion factor for Tier III as applicable]* micrograms per cubic meter per grams per second emission rate.



BASF CORPORATION

PASADENA, TEXAS

**INDUSTRIAL AND HAZARDOUS WASTE
STORAGE/PROCESSING/DISPOSAL FACILITY
PERMIT No. 50385
SOLID WASTE REGISTRATION No. 33849
EPA ID No. TXD980808778**

**F-10 BOILER
ENGINEERING REPORT**

NOVEMBER 2025

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1.0 INTRODUCTION

BASF Corporation (BASF) operates a liquid hazardous waste fired boiler at its facility in Pasadena, Texas. This unit is identified as the F-10 Boiler. The F-10 Boiler is the only permitted hazardous waste unit at the facility. The boiler is subject to the Resource Conservation and Recovery Act (RCRA) general permitting and operating requirements of Title 40 Code of Federal Regulations (CFR) Parts 264, 266, and 270 and Title 30 Texas Administrative Code (TAC) Chapter 335 Subchapters F and H. The boiler is also subject to the Hazardous Waste Combustor National Emission Standards for Hazardous Air Pollutants (HWC NESHAP) codified in 40 CFR Part 63 Subpart EEE.

40 CFR § 270.22 requires that BASF submit information about the F-10 Boiler with this permit application to demonstrate compliance with the standards contained in 40 CFR Part 266 Subpart H. However, pursuant to 40 CFR §§ 266.100(b) and 270.66, all waste analysis, performance standards, operating requirements, monitoring requirements, and inspection requirements do not apply to a hazardous waste boiler that becomes subject to RCRA permit requirements after October 12, 2005. The F-10 Boiler began burning hazardous waste in 2017. Accordingly, most of the information specified by 40 CFR § 270.22 is not applicable. Details related to operation and design of the boiler and associated equipment are addressed under the Clean Air Act's HWC NESHAP.

BASF has elected to remain subject to some of the Boiler and Industrial Furnace (BIF) performance standards codified in 40 CFR Part 266 Subpart H in lieu of complying with the entire suite of HWC NESHAP emission standards. BASF may use this option because the Pasadena Site is an area source of hazardous air pollutants (HAPs). The boiler complies with the BIF standards for particulate matter (PM), non-mercury metals, and hydrogen chloride and chlorine (HCl/Cl₂) in lieu of the HWC NESHAP emission standards for PM, semivolatile metals (SVM), chromium, and HCl/Cl₂. The following BIF standards are applicable:

- 40 CFR § 266.105, which requires compliance with a PM emission standard of 0.08 grains per dry standard cubic foot (gr/dscf) corrected to seven percent oxygen;
- 40 CFR § 266.106, which requires compliance with feed rate screening limits (Tier I or Adjusted Tier I) or emission rate screening limits (Tier II or Tier III) for each of nine non-mercury metals; and
- 40 CFR § 266.107, which requires compliance with feed rate screening limits for total chlorine (Tier I or Adjusted Tier I) or with emission rate screening limits (Tier II or Tier III) for hydrogen chloride (HCl) and chlorine gas (Cl₂).

Information pertaining to compliance with the PM, non-mercury metals, and HCl/Cl₂ performance standards is provided in this report.

The remaining sections of this report provide the following information:

- Section 2.0 describes the boiler's equipment;

-
- Section 3.0 discusses the continuous monitoring systems (CMS);
 - Section 4.0 discusses the Part B Section V application tables;
 - Section 5.0 addresses trial burn requirements;
 - Section 6.0 discusses special waste considerations; and
 - Section 7.0 addresses startup, shutdown, and malfunction requirements.

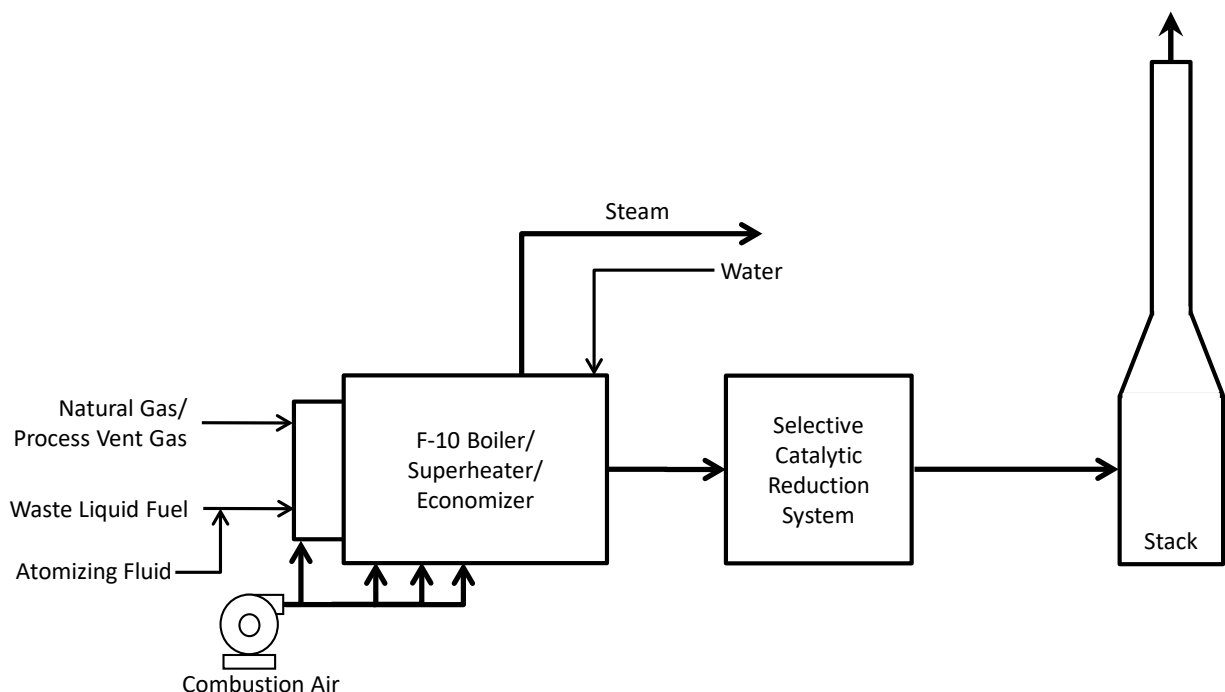
2.0 EQUIPMENT DESCRIPTION

The F-10 Boiler is used to provide energy recovery as steam, while destroying liquid hazardous wastes generated by onsite production units. The F-10 Boiler is designed for a nominal heat input of 180 million British thermal units per hour (MMBtu/hr) and is fired on a mixture of waste liquid fuel, process vent gas, and natural gas. Natural gas and process vent gas are the primary fuels for the boiler.

The main components of the boiler are a firebox, a superheater, an economizer, a selective catalytic reduction (SCR) system, a forced draft fan, and a stack. The F-10 Boiler uses a low-nitrogen oxides (NO_x) burner and the SCR system for control of NO_x emissions. No other air pollution control equipment is installed on the unit. The F-10 Boiler is a forced draft unit, and the primary motive force to move the combustion gases through the system is provided by the combustion air fan.

Figure 1 provides a general process schematic diagram of the boiler. Process and instrumentation diagrams (P&IDs) are provided in Attachment A.

FIGURE 1
PROCESS SCHEMATIC



2.1 WASTE STORAGE SYSTEM

The waste liquid fuel is hard piped from the production processes to a 20,000-gallon accumulation tank (Tank D-74). The waste liquid fuel is accumulated in Tank D-74 at ambient temperature. The vent gases from Tank D-74 are sent to a flare for processing.

2.2 WASTE AND FUEL DELIVERY SYSTEMS

Waste liquid fuel, process vent gas, and natural gas are fed to the F-10 Boiler. The following sections provide detail on each delivery system.

2.2.1 LIQUID WASTE DELIVERY SYSTEM

The waste liquid fuel is fed in batch fashion from Tank D-74 to the F-10 Boiler once a certain level is achieved in the accumulation tank. The waste liquid fuel is pumped through a carbon steel feed line and flow meter to a single waste gun located in the center of the burner air register. The waste liquid fuel is atomized with steam prior to combustion. The feed line from Tank D-74 is equipped with a control valve for flow control and two automated ball valves for isolation to ensure proper control and shutdown of the liquid feed.

2.2.2 PROCESS VENT GAS AND NATURAL GAS DELIVERY SYSTEM

Process vent gas from facility production activities and several other locations is utilized in combination with natural gas as the primary fuel in the F-10 Boiler. Both the natural gas and process vent gas feed lines are equipped with a flow meter, control valve loop, and a double block and bleed station for proper control and shutdown of the feed.

2.3 BOILER

The F-10 Boiler is a Cleaver Brooks D-type water-tube boiler, Model Number NB-601D. The boiler is equipped with one NATCOM low-NO_x burner, Model Number P-174-SLSGG-32-1623. The burner is factory-mounted in the windbox.

Combustion air is supplied to the boiler through a Chicago Blower Corporation forced draft fan, Model Number 5800 SW. The fan has a capacity of 37,250 actual cubic feet per minute (acfm) of air. The forced draft fan provides the primary motive force for the flue gas through the system.

The heat from the combustion of the feed materials is transferred to the boiler tubes to facilitate the production of steam from incoming feed water. Heat transfer occurs in two sections of the boiler: the superheater and the economizer. The combustion gas passes through the superheater section of the boiler prior to entering the economizer. Steam is generated in the boiler, and the economizer section is used to remove any additional heat from the combustion gas to preheat the incoming boiler feed water.

2.4 AIR POLLUTION CONTROL

The boiler is equipped with a low-NO_x burner and an anhydrous ammonia SCR system to control NO_x emissions. The SCR system includes a catalyst and an ammonia distribution system. The boiler is not equipped with any other air pollution control devices.

2.5 STACK

Combustion gas vents to the atmosphere through a stack. The stack discharge is approximately 75 feet above ground level. The stack has a diameter of 4.5 feet and is equipped with isokinetic sampling ports.

2.6 SECONDARY CONTAINMENT

The F-10 Boiler is set on a concrete pad. The concrete paving is sloped to concrete drainage ditches that drain to concrete sumps. The slopes of the concrete are adequate to provide proper drainage. In the event of a spill, the containment area is washed down to the drainage system. The contaminated water is then collected by vacuum truck and disposed of appropriately.

3.0 CONTINUOUS MONITORING SYSTEMS

The boiler is equipped with CMS, including continuous process monitoring systems (CPMS) and continuous emissions monitoring systems (CEMS). These CMS enable the facility to maintain safe operation of the boiler in compliance with the HWC NESHAP and BIF operating parameter limits (OPLs).

The data measured by the CMS is recorded in the facility operating records. The data measured by the CMS is recorded in the facility's historian from which reports are generated. System operations are monitored with a burner management system/programmable logic controller (BMS/PLC) and distributed control system (DCS).

3.1 CONTINUOUS PROCESS MONITORING SYSTEMS

Various CPMS are required for the boiler to document compliance with the applicable HWC NESHAP and BIF OPLs. Table 1 presents a summary of the CPMS for the boiler.

TABLE 1
CONTINUOUS PROCESS MONITORING SYSTEMS

TAG NO.	MEASURED PARAMETER	INSTRUMENT DESCRIPTION
TI-7428A-G	Combustion chamber temperature	Thermocouples and transmitters
FT-7420	Combustion air flow rate	Annubar and differential pressure transmitter
FT-7417	Steam production rate	Vortex flow meter
FT-7478	Total hazardous waste feed rate	Coriolis flow meter
PT-7608A	Waste liquid fuel feed pressure	Pressure transmitter
PT-7610AB PT-7612AB	Atomizing fluid pressure	Pressure transmitters

3.1.1 STEAM PRODUCTION RATE

The steam production rate is continuously monitored per 40 CFR § 266.102(e)(3)(i)(B) to demonstrate compliance with the BIF PM emission standard. The continuous measurements are used to calculate one-minute averages (OMAs) and hourly rolling averages (HRAs). The HRA values are compared to the OPL to demonstrate compliance with Table V.I.2 in Section V of the Part B Permit Application. BASF monitors steam production rate in thousand pounds per hour (klb/hr) using the instrument described in Table 1.

3.1.2 TOTAL HAZARDOUS WASTE FEED RATE

The total hazardous waste feed rate is continuously monitored per 40 CFR §§ 266.102(e)(4)(i)(B) and (e)(5)(i)(B) to demonstrate compliance with the BIF Tier I non-mercury metals and chlorine feed rate

OPLs. The continuous measurements are used to calculate OMAs and HRAs. The HRA values are compared to the OPL to demonstrate compliance with Table V.I.2 in Section V of the Part B Permit Application. BASF monitors the total hazardous waste feed rate in gallons per minute (gpm) using the instrument described in Table 1.

3.1.3 OPERATION OF WASTE FIRING SYSTEM

40 CFR § 266.102(e)(3)(i)(C) requires operating parameters and limits be established to ensure that proper operation of each hazardous waste firing system is maintained. BASF continuously monitors atomizing fluid differential pressure as an indicator of proper operation of the waste firing system. The continuous measurements are used to calculate OMAs and HRAs. The HRA values are compared to the OPL to demonstrate compliance with Table V.I.2 in Section V of the Part B Permit Application. BASF monitors the atomizing fluid differential pressure in pounds per square inch gauge (psig) using the instrument described in Table 1.

3.1.4 ASH FEED RATE

40 CFR § 266.102(e)(3)(i)(A) requires that the ash feed rate be monitored to demonstrate compliance with the BIF PM emission standard. The continuous measurements are used to calculate OMAs and HRAs. The HRA values are compared to the OPL to demonstrate compliance with Table V.I.3 in Section V of the Part B Permit Application. BASF calculates the ash feed rate on a mass basis in pounds per hour (lb/hr) using the following equation:

$$\text{Ash}_{\text{Total}} = \frac{\text{Ash}}{1,000,000} \times W \times SG \times 8.34 \times 60$$

where:

Ash _{Total}	=	Ash feed rate (lb/hr)
Ash	=	Ash weight fraction in hazardous waste (mg/kg or ppmw)
W	=	Hazardous waste feed rate (gpm)
SG	=	Specific gravity of hazardous waste (unitless)
1,000,000	=	Conversion factor for mg/kg to lb/lb
8.34	=	Conversion factor for specific gravity to density (lb/gal)
60	=	Conversion factor for minutes to hours

The ash weight fraction and specific gravity of the hazardous waste are determined via periodic analysis in accordance with the RCRA waste analysis plan. The total hazardous waste feed rate is determined in accordance with Section 3.1.2.

3.1.5 NON-MERCURY METALS AND CHLORINE FEED RATES

40 CFR §§ 266.102(e)(4)(i)(A) and (5)(i)(A) require that the non-mercury metals and chlorine feed rates be monitored to demonstrate compliance with the BIF Tier I feed rate limits. The continuous measurements are used to calculate OMAs and HRAs. The HRA values are compared to the OPLs to

demonstrate compliance with Table V.I.3 in Section V of the Part B Permit Application. BASF calculates the non-mercury metals and chlorine feed rates on a mass basis in grams per hour (g/hr) using the following equation:

$$X_{\text{Total}} = \frac{X}{1,000,000} \times W \times SG \times 8.34 \times 453.59 \times 60$$

where:

X_{Total}	=	Non-mercury metal or chlorine feed rate (g/hr)
X	=	Non-mercury metal or chlorine weight fraction in hazardous waste (mg/kg or ppmw)
W	=	Hazardous waste feed rate (gpm)
SG	=	Specific gravity of hazardous waste (unitless)
1,000,000	=	Conversion factor for mg/kg to lb/lb
8.34	=	Conversion factor for specific gravity to density (lb/gal)
453.59	=	Conversion factor for pounds to grams
60	=	Conversion factor for minutes to hours

The non-mercury metals and chlorine weight fractions and specific gravity of the hazardous waste are determined via periodic analysis in accordance with the RCRA waste analysis plan. The total hazardous waste feed rate is determined in accordance with Section 3.1.2.

3.2 CONTINUOUS EMISSIONS MONITORING SYSTEMS

BASF monitors the concentrations of carbon monoxide (CO) and oxygen in the stack gas of the boiler to comply with the HWC NESHAP. BASF utilizes a non-dispersive infrared (NDIR) analyzer to continuously monitor CO concentration in the stack gas. The analyzer is a dual range design with a span of zero to 200 parts per million by volume on a dry basis (ppmv dry) for the low range and a span of zero to 3,000 ppmv dry span for the high range. The oxygen analyzer that is used to correct CO emission concentrations to seven percent oxygen is a paramagnetic analyzer. The analyzer has a span of zero to 25 percent oxygen by volume on a dry basis.

3.3 AUTOMATIC WASTE FEED CUTOFF SYSTEMS

BASF operates the boiler with an automatic waste feed cutoff (AWFCO) system that immediately and automatically cut off the hazardous waste feed to the unit when operating conditions deviate from those established in the HWC NESHAP. The following AWFCOs are also required to demonstrate compliance with the BIF PM, non-mercury metals, and HCl/Cl₂ performance standards:

- Maximum steam production rate;
- Maximum total hazardous waste feed rate; and
- Minimum atomizing fluid differential pressure.

These AWFCOs are initiated based on the HRAs for the operating parameters. An AWFCO is initiated by the DCS, which sends the instruction to the BMS/PLC. An AWFCO only results in the waste feed valve being closed, while the boiler remains in operation.

3.4 EMERGENCY SHUTDOWN SYSTEMS

Emergency shutdown features are included to protect the equipment in the event of a malfunction. During an emergency shutdown, all waste feeds and fuel feeds are stopped. The trigger points for an emergency shutdown have been set independent of regulatory test conditions. These limits are based on equipment design and operating specifications and are considered good operating practices. The following conditions will trigger a complete shutdown of the F-10 Boiler:

- Low natural gas pressure to burner;
- High natural gas pressure to burner;
- Low level in steam drum;
- High level in steam drum;
- Loss of combustion air flow;
- High steam temperature exiting superheater;
- Furnace high pressure; and
- Instrument air low pressure.

4.0 APPLICATION TABLES

Section V of the Part B application includes several tables intended to define the operating conditions of hazardous waste fired boilers. The following tables are included in Section V for the F-10 Boiler:

- Table V.I.1., *Boilers/Industrial Furnaces* – This table lists the boilers included in the permit. This table is applicable to the BASF Pasadena Site and has been included in the permit application.
- Table V.I.2., *Boiler/Industrial Furnace Permit Conditions, Monitoring and Automatic Waste Feed Cutoff Systems* – This table establishes operating conditions for a boiler. The table is included for the F-10 Boiler to establish the OPLs for the applicable BIF performance standards.
- Table V.I.3., *Maximum Constituent Feed Rates* – This table establishes constituent feed rate limits for a boiler. The table is included for the F-10 Boiler to establish the OPLs for the applicable BIF feed rate limits.
- Table V.I.4., *Maximum Allowable Emission Rates* - This table establishes emission rate limits for a boiler. The table is included for the F-10 Boiler to establish the applicable BIF performance standard for PM.
- Table V.I.5., *Boiler/Industrial Furnace Permit Conditions, Monitoring and Automatic Waste Feed Cutoff Systems - Short-Term Operation* - This table establishes operating limits for shakedown and trial burn periods for a new boiler. The F-10 Boiler is an existing boiler. This table is not applicable and is therefore not included in the permit application.
- Table V.H.8., *Principal Organic Hazardous Constituents* – This table establishes the principal organic hazardous constituent (POHCs) to be used for the destruction and removal efficiency (DRE) demonstration during a trial burn. This table is not applicable to the F-10 Boiler and is therefore not included in the permit application. DRE trial burns are not applicable to the boiler because it was initially permitted under RCRA after October 12, 2005, and complies with the HWC NESHAP DRE standard.

5.0 TRIAL BURN

A trial burn is required for the F-10 Boiler to demonstrate compliance with the BIF PM, non-mercury metals, and HCl/Cl₂ performance standards and to establish applicable OPLs. The trial burns for the F-10 Boiler are performed in conjunction with the periodic HWC NESHAP comprehensive performance tests (CPTs). The PM, non-mercury metals, and HCl/Cl₂ testing is addressed in the CPT plans submitted one year prior to the CPTs. The most recent CPT plan for the F-10 Boiler was submitted in February 2022, and the CPT was performed in March 2023. A trial burn plan is not being submitted with this permit application.

6.0 SPECIAL WASTE CONSIDERATIONS

This section addresses special considerations for wastes managed in the F-10 Boiler.

6.1 REACTIVE OR INCOMPATIBLE WASTE

The F-10 Boiler does not manage reactive or incompatible wastes.

6.2 DIOXIN WASTES

The F-10 Boiler does not manage F020, F021, F022, F023, F026, and F027 wastes.

6.3 PRECAUTIONS FOR IGNITION OR REACTION

Precautions to prevent the ignition or reaction of wastes are based on normal plant safety protocol and specific hazardous waste area operations. Only one hazardous waste is fed to the boiler. This waste is hard-piped directly from the accumulation tank to the boiler's burner. There is no exposure to the atmosphere and therefore no potential for ignition or reaction.

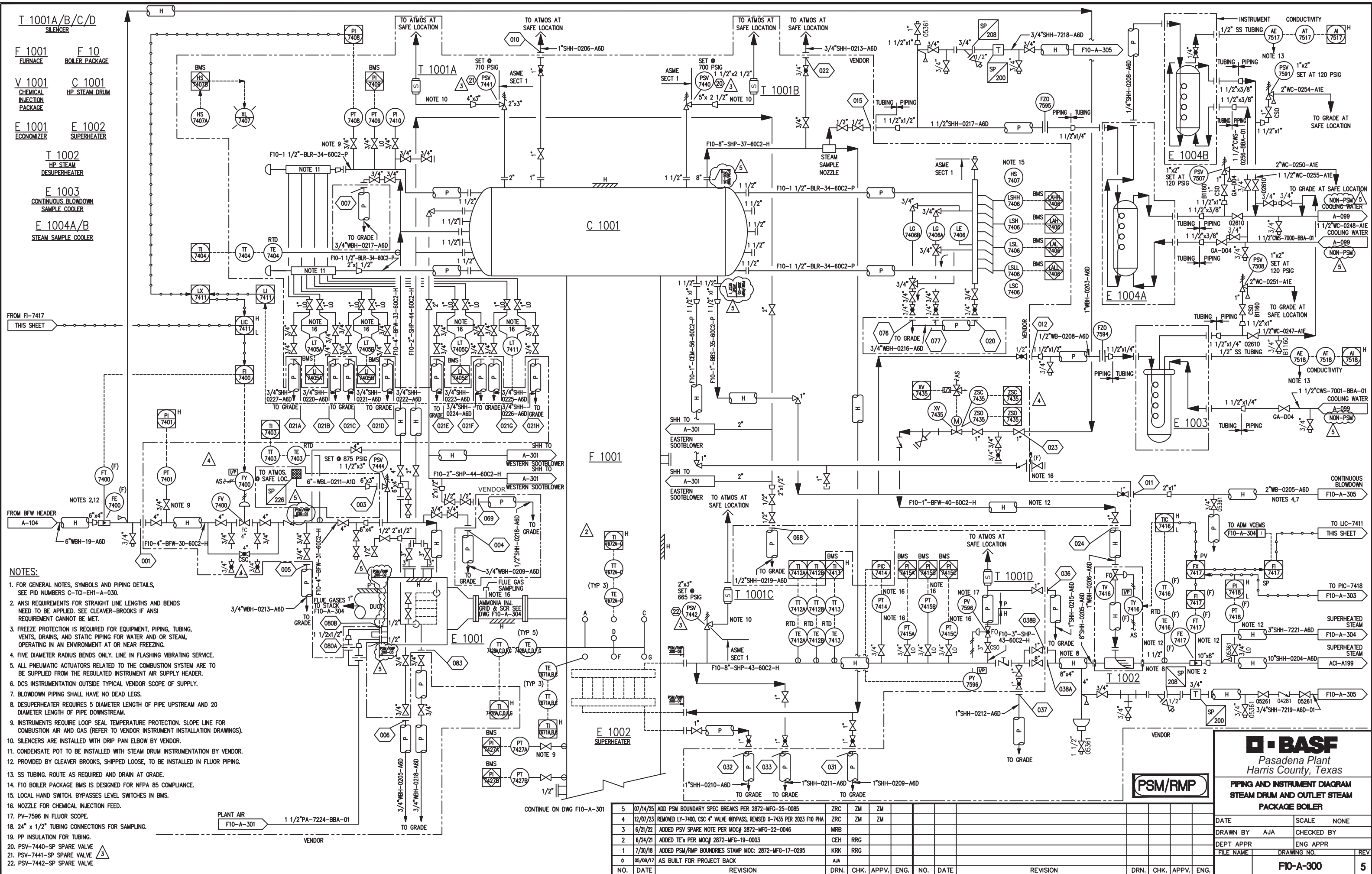
7.0 STARTUP, SHUTDOWN, AND MALFUNCTION

BASF maintains and operates in accordance with an HWC NESHAP startup, shutdown, and malfunction plan for the F-10 Boiler. The plan states that BASF intends to utilize the option under 40 CFR § 270.235(iii) to not include permit conditions that address startup, shutdown, and malfunction events in the RCRA permit. As such, the HWC NESHAP startup, shutdown, and malfunction plan for the F-10 Boiler has been submitted for review and approval. In the event that the startup, shutdown, and malfunction plan is not approved prior to issuing this permit renewal, we offer the following alternative for addressing startup, shutdown, and malfunction events in the permit.

As described in the HWC NESHAP startup, shutdown, and malfunction plan, BASF minimizes emissions from startup, shutdown, and malfunction events by not feeding hazardous waste during these time periods. No hazardous waste shall be fed to the boiler during startup, shutdown, or malfunction event. During a malfunction event, if an exceedance of any HWC NESHAP or BIF OPL occurs, hazardous waste feed to the boiler must be ceased immediately by activating the AFWCO system. When a malfunction is not associated with an OPL and related AFWCO system, the hazardous waste feed to the boiler shall be ceased as quickly as possible.

BASF believes that these waste feed restrictions adequately address emissions from startup, shutdown, and malfunction events.

Attachment A: FIGURES



- NOTES:
1. FOR GENERAL NOTES, SYMBOLS AND PIPING DETAILS, SEE PID NUMBERS C-TCI-EH1-A-030.
 2. ANSI REQUIREMENTS FOR STRAIGHT LINE LENGTHS AND BENDS NEED TO BE APPLIED. SEE CLEAVER-BROOKS IF ANSI REQUIREMENT CANNOT BE MET.
 3. FREEZE PROTECTION IS REQUIRED FOR EQUIPMENT, PIPING, TUBING, VENTS, DRAINS, AND STATIC PIPING FOR WATER AND OR STEAM, OPERATING IN AN ENVIRONMENT AT OR NEAR FREEZING.
 4. FIVE DIAMETER RADIUS BENDS ONLY. LINE IN FLASHING VIBRATING SERVICE.
 5. ALL PNEUMATIC ACTUATORS RELATED TO THE COMBUSTION SYSTEM ARE TO BE SUPPLIED FROM THE REGULATED INSTRUMENT AIR SUPPLY HEADER.
 6. DCS INSTRUMENTATION OUTSIDE TYPICAL VENDOR SCOPE OF SUPPLY.
 7. BLOWDOWN PIPING SHALL HAVE NO DEAD LEGS.
 8. DESUPERHEATER REQUIRES 5 DIAMETER LENGTH OF PIPE UPSTREAM AND 20 DIAMETER LENGTH OF PIPE DOWNSTREAM.
 9. INSTRUMENTS REQUIRE LOOP SEAL TEMPERATURE PROTECTION. SLOPE LINE FOR COMBUSTION AIR AND GAS (REFER TO VENDOR INSTRUMENT INSTALLATION DRAWINGS).
 10. SILENCERS ARE INSTALLED WITH DRIP PAN ELBOW BY VENDOR.
 11. CONDENSATE POT TO BE INSTALLED WITH STEAM DRUM INSTRUMENTATION BY VENDOR.
 12. PROVIDED BY CLEAVER BROOKS, SHIPPED LOOSE, TO BE INSTALLED IN FLUOR PIPING.
 13. SS TUBING. ROUTE AS REQUIRED AND DRAIN AT GRADE.
 14. F10 BOILER PACKAGE BMS IS DESIGNED FOR NFPA 85 COMPLIANCE.
 15. LOCAL HAND SWITCH. BYPASSES LEVEL SWITCHES IN BMS.
 16. NOZZLE FOR CHEMICAL INJECTION FEED.
 17. PV-7596 IN FLUOR SCOPE.
 18. 24" x 1/2" TUBING CONNECTIONS FOR SAMPLING.
 19. PP INSULATION FOR TUBING.
 20. PSV-7440-SP SPARE VALVE
 21. PSV-7441-SP SPARE VALVE
 22. PSV-7442-SP SPARE VALVE

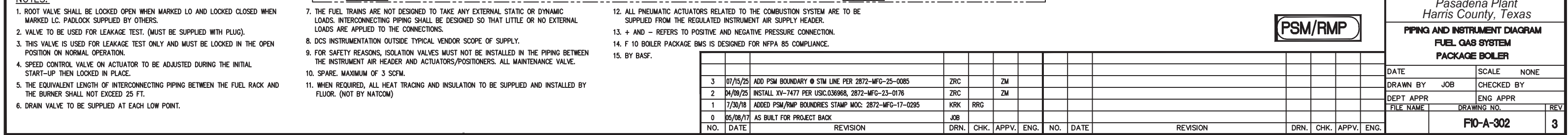
NO.	DATE	REVISION	DRN.	CHK.	APPV.	ENG.	NO.	DATE	REVISION	DRN.	CHK.	APPV.	ENG.	REV
5	07/14/25	ADD PSM BOUNDARY SPEC BREAKS PER 2872-MFG-25-0085	ZRC	ZM	ZM									
4	12/07/23	REMOVED LY-7400, CSC 4" VALVE 881PASS, REVISED X-7435 PER 2023 F10 PHA	ZRC	ZM	ZM									
3	6/21/22	ADDED PSV SPARE NOTE PER MOC# 2872-MFG-22-0046	MRB											
2	6/24/21	ADDED TE's PER MOC# 2872-MFG-19-0003	CEH	RRG										
1	7/30/18	ADDED PSM/RMP BOUNDRIES STAMP MOC: 2872-MFG-17-0295	KRK	RRG										
0	05/08/17	AS BUILT FOR PROJECT BACK	AJA											

PSM/RMP

BASF
Pasadena Plant
Harris County, Texas

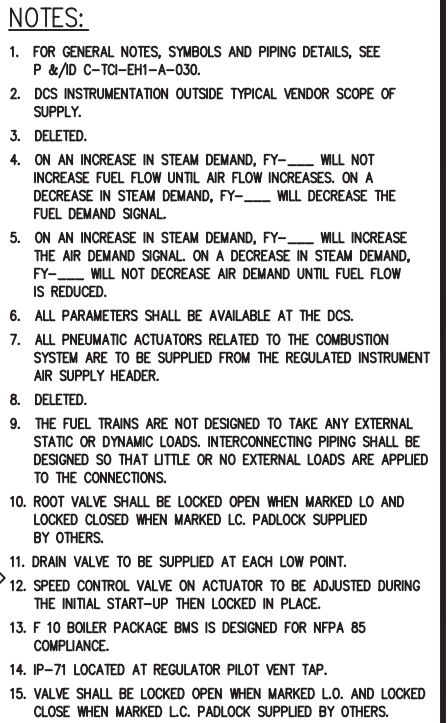
**PIPING AND INSTRUMENT DIAGRAM
STEAM DRUM AND OUTLET STEAM
PACKAGE BOILER**

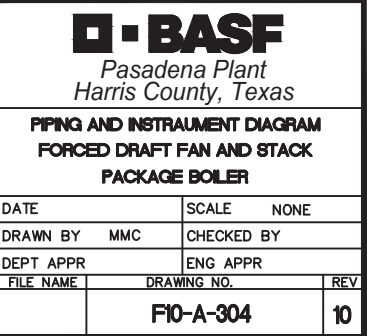
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VI. GEOLOGY REPORT

VI. Geology Report

Provide all Part B responsive information in Appendix VI. When preparing the physical format organize your submittal using the [Format of Hazardous Waste permit Application and Instructions](#).

This portion of the application applies to owners or operators of new hazardous waste management facilities; areal and/or capacity expansions of existing hazardous waste management facilities; and existing industrial solid waste facilities that store, process or dispose of hazardous waste in surface impoundments, landfills, land treatment units, waste piles (except those waste piles that meet the requirements of Section V.E.10.b. of this application), and tanks or drip pads which require a contingent post-closure plan.

For a new Compliance Plan or modification/amendment to an existing Compliance Plan of Section XI of this application, submit a Geology Report which contains updated site geologic information derived from on-going investigations since submittal of the last Permit modification/amendment application.

Submit a Geology Report which includes at a minimum the following information. This report and all specifications, details, calculations/estimates and each original sheet of plans, drawings, maps, cross-sections, other graphics, such as limits of contamination maps, etc. or any other geoscientific work must be signed and sealed by a Professional Geoscientist licensed in the State of Texas under the Professional Geoscientists Practice Act.

A. Geology and Topography

1. Active Geologic Processes

Provide a description and interpretation of the active geologic processes in the vicinity of the facility. This description should include:

- a. An identification of any faults (active or otherwise) in the area of the facility. The preparer should determine which Holocene sediments or man-made structures have been displaced. The report should contain a description of the investigation techniques used to identify faults and should assess the degree, if any, to which a particular fault increases the long-term potential for waste migration. The clearance required from active faults to ensure that liner systems will not be disrupted will be based upon site specific factors such as the zone of significant surface deformation, uncertainty in locating the fault, activity of the fault, and a distance to provide a reasonable margin of safety. These issues should be addressed when discussing the offset of an industrial solid waste facility unit from an active fault.

To satisfy the requirements of 30 TAC 305.50(a)(4)(D) and 305.50(a)(10)(E), for a proposed hazardous waste management facility or a modification or amendment of a permit which includes a capacity expansion of an existing hazardous waste management facility, submit the following.

- (1) A geologic literature review should be conducted, from which useful information on the possibility of faulting at a given site may be revealed. This includes, but is not limited to, maps of surface faults, subsurface structure, and field investigations by the author(s).
- (2) Descriptions and maps of faulting, fracturing, and lineations in the area are necessary. An aerial photo with lineation interpretations is suggested.

- (3) The maps and cross-sections are to be constructed using an amount of data necessary to adequately describe the geology of the area. Surface data, including data regarding known surface expressions, such as surface faults, gas seeps, lineations, etc., should be accounted for in the subsurface interpretations. A surface structure map should be prepared, incorporating all of the subsurface data as well as known surface features.
 - (4) A minimum of two structural cross-sections, utilizing available oil field and/or water well electric log data, shall be made perpendicular to each other, crossing at the proposed surface unit location. These cross-sections should define geologic units, indicating especially Holocene sediments and Underground Sources of Drinking Water (USDWs), as well as lithology. The cross-sections should be constructed from the surface, down through the shallowest major structure or the base of the Holocene, whichever is deeper. These cross-sections need to be on a scale necessary to depict the local geology (3000' radius from the site location minimum). If needed to adequately describe the local geology, then a larger radius or deeper area of review may be necessary.
 - (5) A minimum of two structural subsurface maps need to be prepared. One map should be made on the shallowest mappable subsurface marker, the other on a deeper horizon that shows the underlying major structure. Additional maps may be necessary.
 - (6) Field surveillance will be necessary to check the area of the facility for surface features, such as lineations, and to investigate potential surface faults as indicated by, but not limited to, aerial photos, topographic maps, and seismic and subsurface structural maps.
 - (7) The above requirements do not limit the use of any additional information, such as seismic data, isopach maps, or potentiometric maps, that may help in defining the geology of the area of review.
 - (8) If faulting exists within 3000 feet of the surface unit, it must be demonstrated that the fault has not had displacement within Holocene time. If such a fault does exist, it cannot pass within 200 feet of the surface unit.
 - (9) If a fault that has been active within the Holocene is located within 3000 feet of the surface unit, it must be demonstrated that, a.) the fault is not transmissive, i.e., it will not provide for groundwater movement that would result in endangerment to human health or the environment, and b.) there is no actual and/or potential problem of subsidence, which could endanger the stability of the surface unit.
- b. A discussion of the extent of land surface subsidence in the vicinity of the facility including total recorded subsidence and past and projected rates of subsidence. For facilities located at low elevations along the coast which have experienced appreciable rates of subsidence, the potential for future submergence beneath Gulf water should be addressed.

- c. A discussion of the degree to which the facility is subject to erosion. The potential for erosion due to surface water processes such as overland flow, channeling, gullying, and fluvial processes such as meandering streams and undercut banks should be evaluated. If the facility is located in a low-lying coastal area, historical rates of shoreline erosion should also be provided.

- d. Complete [Table VI.A.1.](#) - Major Geologic Formations

2. Applicable to Land Based Units Only. Regional Physiography and Topography (applicable only to owners or operators of facilities that store, process, or dispose of hazardous waste in surface impoundments, landfills, land treatment units, waste piles, except waste piles exempt from groundwater monitoring requirements, and tanks which require a contingent post-closure plan)

- a. Distance and direction to nearest surface water body
- b. Slope of land surface
- c. Direction of slope
- d. Maximum elevation of facility
- e. Minimum elevation of facility

3. Applicable to Land Based Units Only. Regional Geology (applicable only to owners or operators of facilities that store, process, or dispose of hazardous waste in surface impoundments, landfills, land treatment units, waste piles, except waste piles exempt from groundwater monitoring requirements, and tanks which require a contingent post-closure plan)

Provide a description of the regional geology of the area. This section should include:

- a. A geologic map of the region with text describing the stratigraphic and lithologic properties of the map units. An appropriate section of a published map series such as the Geologic Atlas of Texas prepared by the Bureau of Economic Geology is acceptable.
- b. A description of the generalized stratigraphic column in the facility area from the base of the lowermost aquifer capable of providing usable groundwater to the land surface. At least the uppermost 1,000 feet of section below the facility should be described. The geologic age, lithology, variation in lithology, thickness, depth, geometry, hydraulic conductivity, and depositional history of each geologic unit should be described based upon available geologic information. Regional stratigraphic cross sections should be provided, where available.

4. **Subsurface Soils Investigation Report (Applicable to land based units or units requiring contingent closure and post-closure).**

This section should contain the results of an investigation of subsurface conditions for each land based unit and/or unit which requires contingent closure and post-closure care. If several units are in close proximity, a single investigation for the area will suffice. This report should include:

- a. The logs of borings performed at the waste management area. All borings must be conducted in accordance with established field exploration methods. Investigation procedures should be discussed in the report. A sufficient number of borings should be performed to establish subsurface stratigraphy and to identify and allow assessment of potential pathways for pollution migration. Borings must be sufficiently deep to allow identification of the uppermost aquifer and underlying hydraulically interconnected aquifers. Borings should penetrate through the uppermost aquifer and all deeper hydraulically interconnected aquifers, deep enough to identify the aquiclude at the lower boundary. Borings should be completed to a depth at least 30 feet below the deepest excavation planned at the waste management area.
- b. A text which describes the investigator's interpretations of the subsurface stratigraphy based upon the field investigation. If appropriate, soils may be assigned to generalized strata to aid in the discussion.
- c. A text which describes the investigator's interpretations of the subsurface stratigraphy based upon the field investigation. If appropriate, soils may be assigned to generalized strata to aid in the discussion.
- d. Complete [Table VI.A.4](#) - Waste Management Area Subsurface Conditions and provide in the report data which describes the geotechnical properties of the subsurface soil materials. All laboratory and field tests must be performed in accordance with recognized procedures. A brief discussion of test procedures should be included. All major strata encountered during the field investigation phase should be characterized with regard to: Unified Soil Classification, moisture content, percent less than number 200 sieve, Atterberg limits (liquid limit, plastic limit, and plasticity index), and coefficient of permeability. Field permeability tests should be used to determine the coefficient of permeability of sand or silt units and should also be used to supplement laboratory tests for more clay-rich soils. In addition, particle size distribution and relative density based upon penetration resistance should be determined for coarse-grained soils. For fine-grained soils the following parameters should also be determined: cohesive shear strength based upon either penetrometer or unconfined compression tests, dry unit weight, and degree of saturation(s). For the major soil strata encountered, the maximum, minimum, and average for each of these variables should be compiled.
- e. For land treatment units, provide a description of the surficial soils at the site which includes:

- (1) The name and description of the soil series at the site;
- (2) Important physical properties of the series such as depth, permeability, available water capacity, soil pH, and erosion factors;
- (3) Engineering properties and classifications such as USDA texture, Unified Soil Classification, size gradation, and Atterberg limits (liquid limit, plastic limit, and plasticity index); and
- (4) The cation exchange capacity (CEC) of the soil(s) expressed in units of meq/100g.

Much of this information may be obtained by consulting the county soil survey published by the United States Department of Agriculture, Soil Conservation Service. If available, a copy of an aerial photograph showing soil series units on the land treatment area should be provided.

If an aerial photograph is not available, include a soil series map as an attachment to this subsurface soils investigation report.

B. Facility Groundwater

If past monitoring has shown the presence of hazardous constituents in the groundwater, the owner or operator must submit a Compliance Plan Application with this application. The Compliance Plan Application and instructions can be found in Section XI of this application form.

1. Regional Aquifers

Provide a description of the regional aquifers in the vicinity of the facility based upon available geologic references. The section should provide:

- a. Aquifer names and their association with geologic units described in Section VI.A.3.b.;
- b. A description of the constituent materials of the aquifer(s);
- c. A description of the water-bearing and transmitting properties of the aquifer(s);
- d. Whether the aquifers are under water table or artesian conditions;
- e. Whether the aquifers are hydraulically connected;
- f. A regional water table contour map or potentiometric surface map for each aquifer, if available, from published references;
- g. An estimate of the rate of groundwater flow in units of ft/yr;
- h. Values for total dissolved solids content of groundwater from the aquifers;
- i. Identification of areas of recharge to the aquifers; and

Note: An application for a new hazardous waste surface impoundment, waste pile, land treatment unit, or landfill, which is to be located in the apparent recharge zone of a major or minor aquifer, as designated by the Texas Water Development Board, must include a hydrogeologic report documenting the potential effects, if any, on the regional aquifer in the event of a release from the waste containment system. See the publication entitled Water for Texas, Today and Tomorrow (1990) or subsequent revision (Available at <http://www.twdb.texas.gov/waterplanning/swp/1990/index.asp>) for more information [30 TAC 305.50(6)]

- j. The present use of groundwater withdrawn from aquifers in the vicinity of the facility.

The preparer should update Section III.C.1.e. of the Part A permit application to ensure that all water wells within 1 mile of the property boundaries of the facility have been located. The aquifer(s) yielding water should be identified for each well.

2. Provide groundwater conditions for each land based unit or unit which requires post closure care which includes all the information specified in 30 TAC 335.156-335.167. This discussion should also include:
 - a. Records of water level measurements in borings. The boring logs prepared in response to Section VI.A.4.a. should be annotated to note the level at which groundwater is first encountered and the level of groundwater after equilibration. Normally a 24-hour period is adequate for equilibration of groundwater but an extended period may be required for saturated clay deposits. This information should also be presented on the cross sections required in Section VI.A.4.b. and recorded and retained in the facility groundwater monitoring record.
 - b. Records of historical maximum and minimum static water level measurements in monitor wells. Historic water level measurements made during any previous groundwater monitoring should be presented in a table for each well.
 - c. Upper and lower limits of the uppermost aquifer and deeper aquifers which are hydraulically interconnected to it beneath the facility boundary. In most cases this identification would include surface contour maps of the top and bottom surfaces. Indicate the typical depth at which groundwater is first encountered.
 - d. A site specific water table contour map or potentiometric surface map for the uppermost aquifer, and the basis for such identification (the information obtained from hydrogeologic investigations of the facility area). The predicted groundwater flow direction and rate should be indicated.
 - e. A discussion of the variation of hydraulic gradient across the site, including vertical gradient. Calculations for the maximum, minimum, and average groundwater flow velocities for each aquifer identified should also be provided, including pump test data where appropriate.
 - f. An analysis of the most likely pathway(s) for pollutant migration in the event that the primary barrier liner system is penetrated.
3. Description of the Detection Monitoring Program

It is important to note that even if the proposed program may use the same well system as the present program, the sampling parameters may be different.

- a. Include in the design report a description of the proposed detection monitoring program. This description should contain all requirements of 30 TAC 335.163-335.164.
- b. Provide a justification for the selected suite of waste specific parameters specified in Table VI.B.3.c. - Groundwater Sample Analysis based on toxicity, mobility, persistence, and concentrations in light and dense non-aqueous phase components of the waste.
- c. (Sampling and Analysis Plan) Describe the proposed sampling and analysis methods, as well as statistical comparison procedures to be utilized in evaluating groundwater monitoring data. Note: Methods listed for use in groundwater programs may provide flexibility allowing for updates of the base method. For methods other than the standard acceptable methods, applicant must provide a demonstration that the proposed methods are appropriate for groundwater analysis per 30 TAC 335.163(5).
- d. Specify the statistical method and process for determining whether constituent concentrations in groundwater are above background, in accordance with 30 TAC 335.163. Refer to the EPA guidance document entitled Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities - Unified Guidance (March 2009) (document # EPA 530-F-09-020) for recommended methods.

All data submitted to the TCEQ shall be in a manner consistent with the latest version of the "*Quality Assurance Project Plan for Environmental Monitoring and Measurement Activities Relating to the Resource Conservation Recovery Act and Underground Injection Control*" (TCEQ QAPP) which can be found on the agency's website.

Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity. The method used to obtain a representative sample of the material to be analyzed shall be the appropriate method from ***Ground Water, Volume II: Methodology***, (document # EPA/625/6-90/016b) or an equivalent method approved by the Executive Director of the TCEQ. Laboratory methods shall be those specified in ***Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846***, 1987, as revised; ***Standard Methods for the Examination of Water and Wastewater, Fifteenth Edition***, 1980, and 1981 supplement, or current adopted edition; ***RCRA Ground-Water Monitoring: Draft Technical Guidance***, 1992, ***OSWER Directive 9950.1***, or an equivalent method approved in writing prior to use by the Executive Director. [30 TAC Section 305.125(11)(A)]

- e. For inclusion into a permit, complete [Table VI.B.3.b.](#) - Unit Groundwater Detection Monitoring System to specify the proposed well system for each unit or waste management area which requires groundwater monitoring.
- f. For inclusion into a permit, complete [Table VI.B.3.c](#) to specify:

- (1) the suite of waste specific parameters (indicator parameters, waste constituents, or reaction products) which will be analyzed at each sampling event for each well or group of wells. These parameters must provide a reliable indication of the presence of hazardous constituents in the groundwater;
 - (2) the sampling frequencies and calendar intervals (e.g., monthly; quarterly within the second 30 days of each quarter; semiannually within the first 30 days of the 2nd and 4th quarters, etc.);
 - (3) the analytical method and the laboratory predicted detection limit and predicted Practical Quantification Limit (PQL) of the sample preparation and analysis methods for the selected parameters. This detection limit will represent the capability of the sampling and analysis to reliably and accurately determine the presence of the selected parameters in the sample; and
 - (4) the concentration limit which will be the basis for determining whether a release has occurred from the waste management unit/area. Concentration limits shall be based on background values for the waste management unit/area, or PQL values developed through laboratory data obtained using practices consistent with the latest version of the TCEQ QAPP. If background values are lower than PQLs, the applicant may choose respective PQLs as concentration limits for hazardous constituents.
- g. Submit drawings depicting the monitoring well design, current and proposed.
- h. Submit at least one map of the entire facility and additional maps or drawings if necessary on one or more 8.5" x 11" sheets of sufficient scale to show the following in adequate detail:
- (1) Monitoring well locations, current and proposed;
 - (2) Soil-pore liquid and core sampling points, current and proposed;
 - (3) Waste management unit(s)/area;
 - (4) Property boundary;
 - (5) Point of compliance;
 - (6) Direction of groundwater flow; and
 - (7) Extent of any known plume of contamination
- i. For the description of site-specific groundwater for inclusion in permit summary documents, please complete the following:

Table VI.A.2. Description of Uppermost Aquifer

C. Exemption from Groundwater Monitoring for an Entire Facility

In accordance with 30 TAC 335.156(b)(4), a waste management facility may be exempt from groundwater monitoring if the owner or operator can demonstrate that there is no potential for migration of liquid from any regulated unit to the uppermost aquifer during the active life of the regulated unit (including the closure period) and post-closure care period. This demonstration must be submitted with the permit application, and must be certified by a qualified geologist or geotechnical engineer.

This exemption does not apply to Unsaturated Zone Monitoring. Owners and operators of Land Treatment Units must monitor the unsaturated zone under all circumstances.

The following areas should be addressed in the demonstration, and any predictions must be made on assumptions that maximize the rate of liquid migration:

1. Thickness of soil between the base of the unit and saturated zone;
2. Thickness of saturated zone;
3. Head pressure of the fluids;
4. Properties of the saturated and unsaturated zone (including permeability, effective porosity, and homogeneity), and
5. Total life of facility

The criteria used for the evaluation of this demonstration are more stringent than those used for evaluations of demonstrations submitted prior to permitting. Thus it is necessary for an owner or operator to submit another demonstration even if one was submitted and approved previously.

This type of exemption differs from the exemptions described in Sections V.D. (Surface Impoundments), V.E. (Waste Piles), and V.G. (Landfills). An owner or operator may pursue a facility-wide exemption as well as an exemption for a particular unit, if the owner or operator wishes.

D. Unsaturated Zone Monitoring

1. List all hazardous constituents that have been or will be monitored.
 - a. Current parameters.
 - b. Proposed parameters.
2. Number of soil-pore liquid sampling points.
 - a. Depth of sampling points.
 - b. Equipment used for soil pore liquid monitoring.
3. Number of soil core sampling points.
 - a. Depth of soil core sampling points.
 - b. Indicate on a facility map locations of all sampling points.

TABLE OF APPENDICES

APPENDIX	TITLE
VI.A	Geology and Topography (Geology Report)
VI.B	Facility Groundwater (Not Applicable)
VI.C	Exemption from Groundwater Monitoring for an Entire Facility (Not Applicable)
VI.D	Unsaturated Zone Monitoring (Not Applicable)

Appendix VI.A: GEOLOGY AND TOPOGRAPHY (GEOLOGY REPORT)



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BASF CORPORATION

PASADENA, TEXAS

**INDUSTRIAL AND HAZARDOUS WASTE
STORAGE/PROCESSING/DISPOSAL FACILITY
PERMIT No. 50385
SOLID WASTE REGISTRATION No. 33849
EPA ID No. TXD980808778**

GEOLOGY REPORT

NOVEMBER 2025

1.0 INTRODUCTION

BASF Corporation (BASF) operates a liquid hazardous waste fired boiler at its facility in Pasadena, Texas. This unit is identified as the F-10 Boiler. The F-10 Boiler is the only permitted hazardous waste unit at the facility. The boiler is subject to the Resource Conservation and Recovery Act (RCRA) general permitting and operating requirements of Title 40 Code of Federal Regulations (CFR) Parts 264, 266, and 270 and Title 30 Texas Administrative Code (TAC) Chapter 335 Subchapters F and H. The boiler is also subject to the Hazardous Waste Combustor National Emission Standards for Hazardous Air Pollutants (HWC NESHAP) codified in 40 CFR Part 63 Subpart EEE.

This document presents the geology report.

2.0 APPLICABILITY

Section VI is not applicable to this renewal application. The facility is not a new hazardous waste management facility and is not undergoing an areal expansion. There are no land based units and no post-closure tanks or drip pads included in this application.

VII. CLOSURE AND POST-CLOSURE PLANS

VII. Closure and Post-Closure Plans

Provide all Part B responsive information in Appendix VII. When preparing the physical format organize your submittal using the [Format of Hazardous Waste permit Application and Instructions](#).

For multiple units provide an include all Part B responsive information in a separate Appendix for each unit.

Submit a full closure plan and post-closure plan, if applicable, which contains all the information required by 30 TAC 335.8, 335.169, 335.172, 335.174, 335.177, 335.178, 335.551-335.569, 30 TAC Chapter 350, 40 CFR 264.112, 264.118, 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, 264.575, 264.601, 264.603, 264.1102, 270.14(b)(13), 270.17(f), 270.18(h), 270.20(f), 270.21(e), 270.23(a)(2) & (3), and 270.26(c)(16) where applicable. The owner of property on which an existing disposal facility is located must also submit documentation that a notation has been placed in the deed to the facility that will in perpetuity notify any potential purchasers of the property that the land has been used to manage hazardous wastes and its use is restricted (see 30 TAC 335.5). For hazardous waste disposal units that were closed before submission of the application, the applicant should submit documentation to show that plats and notices required under 40 CFR 264.116 and 264.119 have been filed.

A. Closure

This section applies to the owners and operators of all hazardous waste management facilities to be permitted. The applicant must close the facility in a manner that minimizes need for further maintenance and controls, or eliminates, to the extent necessary to protect human health and the environment, the post-closure release of hazardous waste, hazardous constituents, leachate, contaminated rainfall, or waste decomposition products to the groundwater, surface waters, or to the atmosphere.

The facility type and type of unit to be closed can determine the level of detail sufficient for a closure plan.

For each unit to be permitted, complete [Table VII.A](#) - Unit Closure and list the facility components to be decontaminated, possible methods of decontamination, and possible methods of disposal of wastes and waste residues generated during unit closure. All ancillary components must be included in calculating closure cost estimates.

Additionally, if the applicant plans to close a surface impoundment in accordance with 30 TAC 335.169(a)(1) and the impoundment does not comply with the liner requirements of 30 TAC Section 335.168(a) then the closure plan for the impoundment must include both a plan for complying with 30 TAC 335.169(a)(1) and a contingent plan for complying with 30 TAC 335.169(a)(2).

Guidance on design of a closure cap and final cover for landfills is given in TCEQ Technical Guideline No. 3, and EPA publication 530-SW-85-014 presents guidance on construction quality assurance of liner construction.

If a waste pile does not comply with the liner requirements of 30 TAC Section 335.170(a)(1) then the closure plan for the waste pile must include both a plan for complying with 40 CFR 264.258(a) and a contingent plan for complying with 40 CFR 264.258(b).

The final certification of closure of a land treatment unit may be prepared by an independent licensed Professional Geoscientist in lieu of an independent licensed Professional Engineer. [30 TAC 335.172(b)]

B. Closure Cost Estimate (including contingent closure) [30 TAC 335.178, 40 CFR 264.142]

This section applies to owners or operators of all hazardous waste facilities, except state and federal agencies. A detailed estimate, in current dollars, of the cost of closing the facility should be included in the report. The cost estimate must include the cost of closure at the point in the facilities operating life when the extent and manner of its operation would make closure the most expensive. The TCEQ has published Technical Guideline No. 10, Closure and Post-Closure Cost Estimates, for calculating closure costs which should be consulted. Closure costs should be developed on the basis of abandonment of the site at full capacity and closure activities to be conducted by a third party with no operable on-site equipment. The costs for closing each unit must be detailed.

1. If closure costs are based on contractor bids, the applicant should submit a copy of the bid specification and each contractor's response.
2. If closure costs are based on a detailed analysis, the applicant should submit details of item costs and number of each item, and details of costs for equipment rental, third party labor and supervision, transportation, analytical costs, etc. Provide an itemized cost on [Table VII.B. - Unit Closure Cost Estimate](#) for a complete, third party permitted facility closure.
As units are added or deleted from these tables through future permit amendments or modifications, the remaining itemized unit costs should be updated for inflation when re-calculating the revised total cost in current dollars.
3. The closure plan may propose on-site disposal of wastes, residues, etc. during closure of a unit, and this may be executed if on-site capacity exists in other units during closure of a unit. However, the cost estimate for closure must be based on off-site shipment and disposal during closure of all wastes, waste residues, wastes generated by decontamination, contaminated stormwater, and leachate.
4. For each surface impoundment, waste pile, or tank system required to have a contingent closure plan, the cost for closure under the contingent closure plan should be detailed, as well as the cost of proposed closure. The more expensive of the cost of the proposed closure of a unit versus the cost of the contingent closure of the unit should be used in the total facility closure cost estimate.

C. Post-closure

This section applies to owners or operators of all hazardous waste disposal facilities. This section also applies to certain waste piles, tanks and surface impoundments from which the owner or operator intends to remove wastes at closure but which are required to have contingent post-closure plans.

For Landfills, and Waste Piles, Surface Impoundments, and Tanks Closed as a Landfill

1. Provide as-built plans and specifications for the final cover system, individually for each unit that is sealed, signed and dated by a licensed professional engineer with current Texas registration along with the Registered Engineering Firm's name and

Registration Number would satisfy this requirement; Other as-built plans and specifications for the unit may be submitted upon request.

2. Complete the following tables, as applicable:

a. [Complete Table VII.G - Post Closure Period.](#)

b. Complete [Table V.G.1](#) - Landfills and list the landfills (and number of cells, if applicable) covered by this application. List the waste(s) managed in each unit and the rated capacity or size of the unit. If wastes are segregated in some manner, list the cell number in which wastes are placed next to each waste type.

c. [Table V.G.3.](#) - Landfill Liner System and specify the type of liner used for the landfill.

d. [Table V.G.4.](#) - Landfill Leachate Collection System used for the landfill.

e. [Table V.E.1](#) - Waste Piles and list the waste piles covered by this application. List the waste managed in each unit and the rated capacity or size of the unit.

f. [Table V.E. 3](#) - Waste Pile Liner System and specify the type of containment/liner system.

g. [Table V.D.1](#) - Surface Impoundments and list the surface impoundments, covered by this application, to be permitted. List the waste(s) managed in each unit and the rated capacity or size of each unit.

h. [Table V.D. 6.](#) - Surface Impoundment Liner System for each surface impoundment to be permitted.

i. [Table V.C.](#) Tanks and Tank Systems.

Post-closure care of each hazardous waste management unit must continue for 30 years after the date of completing closure of the unit and must consist of monitoring and reporting of the groundwater monitoring systems in addition to the maintenance and monitoring of waste containment systems. Continuation of certain security requirements may be necessary after the date of closure. Post-closure use of property on or in which hazardous waste remains after closure must never be allowed to disrupt the integrity of the containment system. In addition, submit the following information.

1. The post-closure care plan for a landfill or of a surface impoundment, waste pile, miscellaneous unit, or tank system closed with wastes or waste constituents left in place, or closed under a contingent closure plan, must demonstrate compliance with 30 TAC 335.174(b).
2. The name, address, and phone number of the person or office to contact about the disposal facility during the post-closure period; and
3. A discussion of the future use of the land associated with each unit.
4. For landfills, surface impoundments, waste piles, and land treatment areas closed under interim status, submit the required documentation of 40 CFR 270.14(b)(14).
5. Landfills, surface impoundments, waste piles and land treatment areas that received hazardous wastes after July 26, 1982 or for which closure was certified after January 26, 1983 must be included in post-closure care plans unless they have been determined to have closed by removal equivalent to the closure standards in 40 CFR 264 Subpart G. If such a demonstration has been made pursuant to 40 CFR 270.1(c)(5), but an equivalency determination has not been

made, please submit a copy of the demonstration documentation. If an equivalency determination has been made pursuant to 40 CFR 270.1(c)(6), applicant should submit a copy of the determination. Complete [Table VII.C.5.](#) - Land-Based Units Closed Under Interim Status for all land based units closed under interim status.

D. Post-closure Cost Estimate [40 CFR 264.144]

This section regarding post-closure cost estimate applies to owners or operators of all hazardous waste disposal facilities, except state and federal agencies, and certain waste piles, tank systems, and surface impoundments from which the owner or operator intends to remove wastes at closure, but which are required to have contingent closure and post-closure plans. A detailed estimate, in current dollars, of the annual cost of monitoring and maintenance of the facility in accordance with the applicable post-closure regulations must be included in the report. The TCEQ has published Technical Guideline No. 10 for calculating post-closure costs, which should be consulted. Costs should be developed in detail for 30 years of post-closure care activities to be conducted by a third party, for each applicable unit.

1. The applicant should submit details of item costs and number of each item for off-site disposal of leachate and bailed monitor well water, labor and supervision, monitor well sampling and analyses, inspection and repair of the cap(s), mowing and re-seeding of the vegetative cover, maintaining site security, etc. Provide an itemized cost estimate on [Table VII.D.](#) - Unit Post-Closure Cost Estimate for complete, third party permitted facility post-closure care.
2. As units are added or deleted from these tables through future permit amendments or modifications, the remaining itemized unit costs should be updated for inflation when re-calculating the revised total cost in current dollars.
3. Total annual cost of post-closure care for the facility including costs of contingent post-closure care should be multiplied by 30 years.

E. Closure and Post-Closure Cost Summary

Please Complete [Table VII.E.1.](#) - Permitted Unit Closure Cost Summary

Please Complete [Table VII.E.2.](#) - Permitted Unit Post-Closure Cost Summary

TABLE OF APPENDICES

APPENDIX	TITLE
VII.A	Closure (Table VII.A and Closure Plan)
VII.B	Closure Cost Estimate (including contingent closure) (Table VII.B)
VII.C	Post-closure (Not Applicable)
VII.D	Post-closure Cost Estimate (Not Applicable)
VII.E	Closure and Post-Closure Cost Summary (Table VII.E.1)

Appendix VII.A: CLOSURE (TABLE VII.A AND CLOSURE PLAN)

Table VII.A. - Unit Closure

For each unit to be permitted, list the facility components to be decontaminated, the possible methods of decontamination, and the possible methods of disposal of wastes and waste residues generated during unit closure:

Equipment or HWM Unit	Possible Methods of Decontamination ¹	Possible Methods of Disposal ¹
F-10 Boiler (NOR Unit No. 031)		
Combustion chamber	Burning natural gas Steam, detergent, or high-pressure rinse	Offsite treatment storage and/or disposal facility (TSDF)
Ancillary equipment	Steam, detergent, or high-pressure rinse	Offsite TSDF
Concrete slab	Steam, detergent, or high-pressure rinse	Offsite TSDF

¹ Applicants may list more than one appropriate method..



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BASF CORPORATION

PASADENA, TEXAS

**INDUSTRIAL AND HAZARDOUS WASTE
STORAGE/PROCESSING/DISPOSAL FACILITY
PERMIT No. 50385
SOLID WASTE REGISTRATION No. 33849
EPA ID No. TXD980808778**

CLOSURE PLAN

NOVEMBER 2025

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Attachment A: Closure Cost Estimate Calculations

1.0 INTRODUCTION

BASF Corporation (BASF) operates a liquid hazardous waste fired boiler at its facility in Pasadena, Texas. This unit is identified as the F-10 Boiler. The F-10 Boiler is the only permitted hazardous waste unit at the facility. The boiler is subject to the Resource Conservation and Recovery Act (RCRA) general permitting and operating requirements of Title 40 Code of Federal Regulations (CFR) Parts 264, 266, and 270 and Title 30 Texas Administrative Code (TAC) Chapter 335 Subchapters F and H. The boiler is also subject to the Hazardous Waste Combustor National Emission Standards for Hazardous Air Pollutants (HWC NESHAP) codified in 40 CFR Part 63 Subpart EEE.

40 CFR § 264.112 requires an owner or operator of a hazardous waste management facility to develop a written closure plan. The plan must identify the steps necessary to perform partial and/or final closure of the facility at any point during its active life and must address the items identified in 40 CFR § 264.112(b). The purpose of the closure plan presented herein is to ensure that the boiler at the BASF Pasadena Site will be closed pursuant to 40 CFR Part 264 Subpart G.

This closure plan includes a description of how the boiler will be closed in accordance with 40 CFR § 264.111. The following information is provided in this plan:

- A description of the methods to be used during partial or final closure;
- An estimate of the maximum inventory of hazardous wastes ever onsite over the active life of the unit;
- Methods for removing, transporting, treating, storing, or disposing of all hazardous wastes, and identification of the type(s) of the offsite hazardous waste management units to be used;
- A description of the steps needed to remove or decontaminate any hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure, including methods for decontaminating piping and equipment, removing contaminated soils, and sampling and testing surrounding soils, as well as criteria for determining the extent of decontamination required to satisfy the closure performance standard and 40 CFR § 264.112(b)(5);
- A detailed description of other activities necessary during the closure period to ensure that all run-on and run-off waters are controlled; and
- An example schedule for closure of a unit, including the total estimated time required to close the unit and the time required for intervening closure activities, which allows tracking of the progress of partial or final closure.

The remaining sections of this plan provide the following information:

- Section 2.0 discusses the closure performance standards;
- Section 3.0 describes the hazardous waste management unit;
- Section 4.0 specifies maximum waste inventory;

-
- Section 5.0 describes the specific closure procedures;
 - Section 6.0 presents a schedule for closure;
 - Section 7.0 addresses post closure;
 - Section 8.0 presents the closure cost estimates;
 - Section 9.0 discusses certifications;
 - Section 10.0 addresses amendments to the plan; and
 - Attachment A contains the closure cost calculations.

2.0 CLOSURE PERFORMANCE STANDARDS

BASF intends to close the boiler as required by 40 CFR § 264.111. When implemented, the closure plan will achieve the following:

- Minimize the need for further maintenance;
- Eliminate the potential for any post-closure escape of hazardous waste or hazardous constituents to the environment; and
- Comply with 40 CFR Part 264 Subpart G requirements and unit-specific closure standards.

Closure will be accomplished by:

- Physically removing contaminated equipment for offsite treatment/disposal;
- Cleaning the equipment to established background standards;
- Cleaning to risk based standards if cleaning to background standards cannot be accomplished; and/or
- Cleaning by application of the debris standards codified in 40 CFR § 268.48.

3.0 FACILITY DESCRIPTION

The BASF Pasadena Site operates one liquid hazardous waste fired boiler. This unit is designated as the F-10 Boiler.

The F-10 Boiler is a Cleaver Brooks D-type water-tube boiler, Model Number NB-601D. The boiler is equipped with one NATCOM low-nitrogen oxides burner, Model Number P-174-SLSGG-32-1623. The burner is factory-mounted in the windbox. The boiler is designed for a nominal heat input of 180 million British thermal units per hour (MMBtu/hr). The boiler is equipped with a superheater, an economizer, a selective catalytic reduction (SCR) system, a forced draft fan, and a stack. The F-10 Boiler is fired on a mixture of natural gas, process vent gas, and liquid hazardous waste.

4.0 MAXIMUM WASTE INVENTORY

Waste is not stored in the boiler. Neither ash waste nor any other hazardous waste material or hazardous waste residue is generated from the combustion of the wastes. Therefore, the maximum F-10 Boiler waste inventory is zero.

5.0 CLOSURE PROCEDURES

This section describes the procedures that will be used for closure of the F-10 Boiler. The following two closure scenarios may apply to the boiler:

- Closure without demolition; and
- Closure with demolition.

Closure without demolition involves closure of the boiler with respect to hazardous waste service. This scenario would leave the boiler intact. This scenario would apply if the boiler ceases hazardous waste service but has not reached the end of its useful life as a natural gas-fired steam production unit.

Closure with demolition involves closure of the boiler by demolition and complete removal of the unit. This scenario would apply if the boiler has reached the end of its useful life as both a waste-fired and a natural gas-fired steam production unit.

5.1 WASTE INVENTORY REMOVAL

As discussed previously, there will be no waste inventory in the boiler at closure. Therefore, there is no need for waste removal.

5.2 DECONTAMINATION OF COMBUSTION CHAMBER

A two-stage decontamination process is applied to the boiler. These steps include:

- Organic decontamination; and
- Metals decontamination.

5.2.1 ORGANIC DECONTAMINATION

The boiler will be subjected to a burn-out period of not less than four hours at combustion chamber temperatures of not less than the minimum allowable temperature applicable to waste feed operations. No waste will be fed during the burn-out period.

5.2.2 METALS DECONTAMINATION

Following combustion chamber cooling, and once the combustion chamber can be safely entered, the combustion chamber will be water washed by hydroblasting, hand scrubbing, or any similar method of washing metal contamination from the surface of the refractory. Pre-wash samples of each portion of the wash water will be collected prior to water washing. All samples will be tested for the presence of BIF regulated metals reasonably expected to be present in the waste based on knowledge of the waste (e.g., historical waste analytical data). The pre-wash and post-wash samples will be analyzed using the same procedures as described in the RCRA waste analysis plan (See Appendix IV.D).

Determination that contamination is complete will be based on direct comparison of pre-wash and post-wash sample analytical results. Metals results in the post-wash samples that exceed the pre-wash samples will indicate that decontamination is not complete. Water washing and wash sample collection and analysis will be repeated until decontamination is complete.

The pre-wash and post-wash samples may be analyzed for a single indicator metal instead of all RCRA metals reasonably expected to be present in the waste. This single indicator metal will be a predominant metal in the waste based on historical waste analytical data.

All wash water will be classified in accordance with Texas Commission on Environmental Quality (TCEQ) Waste Classification Rules codified in 30 TAC Chapter 335 Subchapter R and disposed of properly.

As an alternative to water washing, decontamination of the incinerator may be achieved by complete removal of the refractory. Removed refractory will be characterized in accordance with TCEQ Waste Classification Rules codified in 30 TAC Chapter 335 Subchapter R and disposed of properly.

5.3 DECONTAMINATION OF ASSOCIATED EQUIPMENT

The waste liquid fuel feed system will be steam cleaned. All rinsate from the steam cleaning will be collected, characterized, and disposed of properly. The rinsate will be sampled and analyzed for those compounds most likely to be present in hazardous waste that was contained in the feed lines. The samples will be analyzed using the same procedures as described in the RCRA waste analysis plan (See Appendix IV.D). Decontamination of the feed system will be deemed complete when the concentrations of chosen analytes in the rinsate are less than or equal to the Tier 1 protective concentration levels (PCLs) for groundwater for residential land use or the method quantitation limits (MQLs) (whichever is higher). If the constituent concentrations are found to exceed PCLs/MQLs, the decontamination/rinsate sample collection and analysis process will be repeated.

All rinsate will be classified in accordance with TCEQ Waste Classification Rules codified in 30 TAC Chapter 335 Subchapter R and disposed of properly.

5.4 DECONTAMINATION OF CONTAINMENT AREA

Decontamination of the concrete pad will be accomplished using high-pressure water rinsing that may include additives (*e.g.*, detergent, caustic, etc.). The rinsate will be sampled and analyzed for those compounds most likely to be present in hazardous wastes that were managed in the boiler. The samples will be analyzed using the same procedures as described in the RCRA waste analysis plan (See Appendix IV.D). Decontamination of the concrete pad will be deemed complete when the concentrations of chosen analytes in the rinsate are less than or equal to the Tier 1 PCLs for groundwater for residential land use or the MQLs (whichever is higher). If the constituent concentrations are found to exceed PCLs/MQLs, the decontamination/rinsate sample collection and analysis process will be repeated.

All rinsate will be classified in accordance with TCEQ Waste Classification Rules codified in 30 TAC Chapter 335 Subchapter R and disposed of properly.

5.5 DEMOLITION

After decontamination, the boiler may be left in place to operate in natural gas service, or it may be completely demolished. For the purposes of this closure plan, demolition only includes demolition of the hazardous waste feed equipment and refractory (if necessary).

5.6 CONTAMINATION ASSESSMENT AND REMEDIATION

Contamination assessment will be conducted to determine the extent to which the area around the boiler may be impacted and therefore subject to remediation. Assessment establishes the rate, extent, and nature of soil impact by hazardous waste constituents. The assessment will be conducted in accordance with the 30 TAC Chapter 350, Texas Risk Reduction Program.

The boiler resides on a concrete pad. There is presently no exposed soil in the vicinity of the boiler. Assessment will be conducted on the soil under the concrete foundation and under the concrete around the boiler by way of a two-step process.

5.6.1 STEP 1 – ASSESSMENT VIA OPERATING RECORD SURVEY

BASF maintains a program to inspect the boiler area for spills or releases. If spills or releases are found, they are cleaned up in order to prevent exposure and soil contamination. Upon closure, BASF will survey its historical operating records to determine 1) the occurrence of spills, 2) the effectiveness of clean-up, and 3) if waste constituents from the spills may have permeated the concrete and impacted the soil.

If the operating record survey indicates that spills were effectively cleaned up (*e.g.*, by comparison of the amount spilled with the amount recovered) and that the soil under the concrete has not been impacted, the assessment may end with this step. The results of this survey will be submitted in association with a Closure Report.

5.6.2 STEP 2 – ASSESSMENT VIA SAMPLING AND ANALYSIS

If the operating record survey indicates that spills have not been effectively cleaned up and that the soil under the concrete and thus underlying soil may have been impacted, the assessment will continue with sampling and analysis. Sampling locations will be identified around the boiler where likely spill impact has occurred based upon the operating record survey. Discrete samples from three depths will be obtained at one or more sample locations. These depths are designated as top, middle, and bottom samples as follows:

- Top – 0 to 6 inches below grade;
- Middle – 30 to 36 inches below grade; and

-
- Bottom – 54 to 60 inches below grade.

Soil samples will be collected by first jackhammering or hydraulic augering the concrete to expose the soil. Soil sampling will follow with the aid of a push-probe-type drilling rig, a hand auger, or trowel. Sampling tools will be decontaminated prior to their first use and between each sampling location. Decontamination of sample equipment will be conducted by cleaning using a non-phosphate detergent and potable water. The decontamination water will be disposed of properly.

The samples will be packed directly into pre-cleaned glass sample jars to minimize headspace. The resulting boreholes will be plugged using bentonite pellets. Boring logs will be maintained describing the geological conditions encountered during sampling.

Each sample will be analyzed for those compounds most likely to be present in hazardous waste that was managed in the boiler. These waste constituents will be determined by review of historical waste fuel analytical data just prior to closure. The samples will be analyzed using the same procedures as described in the RCRA waste analysis plan (See Appendix IV.D). Additional sampling and analysis may be conducted based upon the initial analytical results.

Waste constituent impact of the soil will be confirmed if analytical results of the soil samples exceed background concentrations determined from indigenous soil.

5.6.3 REMEDIATION

Soils found impacted will be excavated with a trackhoe, backhoe, or similar equipment, as appropriated, for the 30 TAC Chapter 350 Texas Risk Reduction Program remediation option selected. Removed soils are either transported to the onsite industrial landfill or containerized for offsite shipment to a disposal facility. The type(s) of offsite disposal facilities to be used include permitted hazardous waste incinerators and permitted hazardous waste landfills.

6.0 SCHEDULE FOR CLOSURE

The closure process will begin with notification to the TCEQ of BASF's intent to close and an expected date closure begins (*i.e.*, waste removal begins). Closure will be completed with the submittal of a closure report including professional engineer's certification. This report and certification must be submitted within 60 days of completion of onsite closure activities. Table 1 provides an example schedule for the closure of the boiler. This schedule is an example only. Actual closure may differ in schedule but will comply with the applicable scheduling requirements set forth in 40 CFR Part 264.

TABLE 1
EXAMPLE SCHEDULE FOR CLOSURE

ACTIVITY/MILESTONE	DAYS FROM SUBMITTAL OF NOTIFICATION
Submittal of notification of closure	0
Most recent receipt of waste	0
Final receipt of waste	180
Begin closure	180
Complete waste removal	180
Complete decontamination	200
Complete demolition	270
Complete contamination assessment sampling and analysis	300
Complete contamination closure report	330
Submit closure report	360
Certification of closure	420

7.0 POST-CLOSURE

The boiler is not a land-based disposal or treatment unit. Therefore, this unit is not subject to post-closure plan requirements.

8.0 CLOSURE COST ESTIMATE

The estimated cost of closing the F-10 boiler is \$532,200. This estimate is in 2024 dollars. The cost calculations are presented in Attachment A. The attachment contains the unit costs and key assumptions used in the closure cost estimate. The cost estimate was prepared in accordance with 40 CFR § 264.142. The following assumptions were used in the estimate:

- All closure activities and supervision are performed by an independent third party;
- All wastes generated in the closure will be shipped offsite to an authorized storage, processing, or disposal facility;
- All onsite monitoring equipment associated with the waste management are inoperable;
- Unit components have no salvage value;
- Water washing/hydroblasting/steam cleaning is conducted twice, along with pre-wash, post-wash, and/or rinsate sampling and analysis;
- Assessment via sampling and analysis is necessary and three discrete sampling locations are identified during the operating record survey; and
- Certification of closure will be obtained by a professional engineer registered in the State of Texas.

A summary of the closure cost estimate is provided in Table 2. Calculation and assumptions supporting this estimate are included in Appendix A.

TABLE 2
CLOSURE COST ESTIMATE

TASK	COST
Waste removal	\$ 0
Burn out period	\$ 3,200
Combustion chamber decontamination/testing/disposal	\$ 53,400
Associated equipment decontamination/testing/disposal	\$ 53,400
Concrete pad decontamination/testing/disposal	\$ 63,600
Soil contamination assessment/removal	\$ 65,200
Third party oversight	\$ 117,000
Closure certification	\$ 64,000
Final closure report	\$ 64,000
Subtotal	\$ 483,800
Contingency (10 percent)	\$ 48,400
Total	\$ 532,200

Closure costs estimates subsequent to 2024 will be adjusted once annually for inflation. The adjusted closure cost estimate is obtained using the inflation factor calculated from the annual Implicit Price Deflator (IPD) for Gross National Product. The inflation factor is calculated by dividing the latest IPD by the IPD for the previous year. This inflation factor is then multiplied by the closure cost estimate for the preceding year.

While different types of IPD's are available, the IPD for Gross National Product must be used. The IPD is published by the US Department of Commerce Bureau of Economic Analysis in the Survey of Current Business. The IPD is published quarterly. Annual IPD's are typically published at the end of the first quarter (March) for the previous year.

9.0 CERTIFICATION

An independent professional engineer licensed in Texas is required to certify that closure procedures are performed in accordance with this closure plan. Site inspections will be performed by the independent registered professional engineer to verify the processes and procedures which are being utilized to implement this plan.

Within 60 days of completion of final closure, BASF will submit a certification to the administrative authority, signed by BASF and the independent registered professional engineer, that the hazardous waste management unit has been closed in accordance with the specifications of the closure plan.

10.0 AMENDMENT OF CLOSURE PLAN

BASF will amend the closure plan whenever:

- Changes in the operating plan or facility design affect the closure procedures;
- There is a change in the expected year of facility closure; and/or
- Modifications to the plan become necessary due to partial or final closure activities.

Any proposed changes will be promptly submitted to the TCEQ for approval in accordance with 40 CFR § 264.112(c). A copy of the closure plan and all plan revisions will be maintained at the BASF Pasadena Site until certification of closure completeness has been submitted to and approved by the TCEQ.

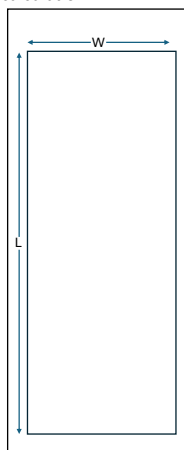
Attachment A: CLOSURE COST ESTIMATE CALCULATIONS

CLOSURE OF F-10 BOILER

	Unit Cost	Quantity	Unit	Cost	Estimated Cost
Waste removal	\$0.00	0	lb	\$0	\$0
Burn out period (180 MMBtu/hr design, 75% capacity, 6 hours)	\$4.00	810	MMBtu	\$3,240	\$3,200
Decontamination of combustion chamber:					\$53,400
1. Equipment rental	\$8,300.00	2	days	\$16,600	
2. Labor	\$75.00	80	man-hour	\$6,000	
3. Triple steam, detergent, and/or high-pressure rinsing	\$1.50	1,980	sq ft	\$2,970	
4. Verification rinsate sampling/analysis	\$1,000.00	10	sample	\$10,000	
5. Transport hazardous waste by tanker trailer (5000 gal/load)	\$1,000.00	3	load	\$3,000	
6. Disposal of bulk liquid by RCRA incineration facility	\$1.25	11,880	gal	\$14,850	
Decontamination of associated equipment:					\$53,400
1. Equipment rental	\$8,300.00	2	days	\$16,600	
2. Labor	\$75.00	80	man-hour	\$6,000	
3. Triple steam, detergent, and/or high-pressure rinsing	\$1.50	1,980	sq ft	\$2,970	
4. Verification rinsate sampling/analysis	\$1,000.00	10	sample	\$10,000	
5. Transport hazardous waste by tanker trailer (5000 gal/load)	\$1,000.00	3	load	\$3,000	
6. Disposal of bulk liquid by RCRA incineration facility	\$1.25	11,880	gal	\$14,850	
Decontamination of concrete pad:					\$63,600
1. Equipment rental	\$8,300.00	2	days	\$16,600	
2. Labor	\$75.00	80	man-hour	\$6,000	
3. Triple steam, detergent, and/or high-pressure rinsing	\$1.50	3,000	sq ft	\$4,500	
4. Verification rinsate sampling/analysis	\$1,000.00	10	sample	\$10,000	
5. Transport hazardous waste by tanker trailer (5000 gal/load)	\$1,000.00	4	load	\$4,000	
6. Disposal of bulk liquid by RCRA incineration facility	\$1.25	18,000	gal	\$22,500	
Sampling and analysis of soil (if needed)					\$54,800
1. Boring equipment rental, 2 day rental	\$320.00	2	day	\$640	
2. Labor	\$75.00	40	man-hour	\$3,000	
3. Analysis of soil samples	\$3,200.00	16	sample	\$51,200	
Soil removal (assume 10 tons)					\$10,400
1. Soil removal equipment	\$640.00	2	day	\$1,280	
2. Labor	\$75.00	20	man-hour	\$1,500	
3. Transport soil to RCRA Subtitle C landfill	\$2,825.00	2	rolloff	\$5,650	
4. Disposal of soil at RCRA Subtitle C landfill	\$100.00	20	ton	\$2,000	
Third party oversight	\$1,300.00	90	day	\$117,000	\$117,000
Closure certification	\$64,000.00	1	lump sum	\$64,000	\$64,000
Closure report	\$64,000.00	1	lump sum	\$64,000	\$64,000

Subtotal	\$483,800
Contingency (10%)	\$48,400
Total	\$532,200

Surface area calculation:



L =	40 feet
W =	15 feet
H =	15 feet
Surface area =	1,650.0 sq feet
Add 20% =	330.0 sq feet
Total surface area =	1,980.0 sq feet
Concrete slab area =	3,000 sq feet

Assumptions			
Natural gas cost	4.00	\$/MMBtu	EIA.GOV industry average for Texas 2025
Transport (liquid waste)	1,000.00	\$/load	Veolia - Transportation-Bulk-Liquid, 2025 cost
Transport (solid waste)	2,825.00	\$/load	Veolia - Transportation-Bulk-Rolloff, 2025 cost
Disposal (aqueous liquid bulk)	1.25	\$/gal	Average vendor quote
Disposal - (hazardous solids bulk)	250.00	\$/ton	Veolia - Landfill, Haz Solids for Direct Landfill
Disposal - (non-hazardous solids bulk)	100.00	\$/ton	Veolia - Nonhaz Solids for Direct Subtitle C Landfill, 2025 cost
Labor	75.00	\$/man-hour	Heritage Environmental Services estimate 2025
Steam, detergent, and/or high-pressure rinsing	1.50	\$/sq ft	Average vendor quote
Equipment rental	8,300.00	\$/day	Inflation adjusted estimate
Concrete core equipment rental	320.00	\$/day	Inflation adjusted estimate
Soil removal equipment	640.00	\$/day	Inflation adjusted estimate
Liquid sampling/analysis	1,000.00	\$/sample	Average vendor quote
Soil sampling/analysis	3,200.00	\$/sample	Average vendor quote
Oversight	1,300.00	\$/day	Inflation adjusted estimate
Certification	64,000.00	\$/item	Inflation adjusted estimate
Report	64,000.00	\$/item	Inflation adjusted estimate

Conversions

1 gallon	8.00	lbs
1 hour	60.00	minutes
1 ton	2,000.00	lbs
1 drum	55.00	gallons
1 drum (solid avg)	400.00	lbs
1 load	5,000.00	gallons
1 rolloff	20,000.00	lbs
1 rolloff	10.00	ton

Appendix VII.B:

CLOSURE COST ESTIMATE (INCLUDING CONTINGENT CLOSURE)

(TABLE VII.B)

Table VII.B. - Unit Closure Cost Estimate

Task	Cost
Name: F-10 Boiler (NOR Unit No. 031)	
Waste removal	\$ 0
Decontamination by fuel gas firing	\$ 3,200
Combustion chamber decontamination/testing/disposal	\$ 53,400
Associated equipment decontamination/testing/disposal	\$ 53,400
Concrete pad decontamination/testing/disposal	\$ 63,600
Soil contamination assessment/removal	\$ 65,200
Third party oversight	\$ 117,000
Closure certification	\$ 64,000
Final closure report	\$ 64,000
	\$
	\$
	\$
	\$
Subtotal	\$ 483,800
Contingency (10% minimum)	\$ 48,400
Total Closure Cost Year 2024	\$ 532,200

Appendix VII.E:

CLOSURE AND POST-CLOSURE COST SUMMARY

(TABLE VII.E.1)

Table VII.E.1. - Permitted Unit Closure Cost Summary

Existing Unit Closure Cost Estimate		
Unit		Cost
F-10 Boiler (NOR Unit No. 031)		\$ 532,200
		\$
		\$
		\$
		\$
		\$
Total Existing Unit Closure Cost Estimate ¹		Year 2024 \$ 532,200

Proposed Unit Closure Cost Estimate		
Unit		Cost
		\$
		\$
		\$
		\$
		\$
		\$
Total Proposed Unit Closure Cost Estimate ¹		Year 2024 \$

¹ As units are added or deleted from these tables through future permit amendments or modifications, the remaining itemized unit costs should be updated for inflation when recalculating the revised total cost in current dollars.

VIII. FINANCIAL ASSURANCE

VIII. Financial Assurance

Provide all Part B responsive information in Appendix VI. When preparing the physical format organize your submittal using the [Format of Hazardous Waste permit Application and Instructions](#).

A. Financial Assurance Information Requirements for all Applicants (30 TAC Chapter 37, Subchapter P, 305.50(a)(4)(A-E), 335.152(a)(6) and 335.179)

1. Financial Assurance for Closure

An owner or operator must establish financial assurance for the closure of the facility no later than 60 days prior to the first receipt of waste [30 TAC Section 37.31(a)]. Please refer to 30 TAC Chapter 37, Subchapter P, for the financial assurance requirements for closure and provide a signed statement from an authorized signatory per 30 TAC 305.44 regarding how the owner or operator will comply with this provision.

If a financial mechanism has been obtained, provide a copy of the mechanism.

For applications involving a permit transfer, the new owner or operator must provide a financial assurance mechanism (in original form) satisfactory to the TCEQ executive director. Prior to the executive director issuing the permit modification transferring the permit, the new owner or operator must provide proof of financial assurance in compliance with 30 TAC Section 305.64 (g) and Chapter 37, Subchapter P.

2. Financial Assurance for Post-Closure Care (applicable to disposal facilities and contingent post-closure care facilities only)

An owner or operator subject to post-closure monitoring or maintenance requirements must establish financial assurance for the post-closure care of the facility no later than 60 days prior to the first receipt of waste [30 TAC Section 37.31(a)]. Please refer to 30 TAC Chapter 37, Subchapter P for the financial assurance requirements for post-closure and provide a signed statement from an authorized signatory per 30 TAC 305.44 regarding how the owner or operator will comply with this provision.

If a financial mechanism has been obtained, provide a copy of the mechanism.

For applications involving a permit transfer, the new owner or operator must provide a financial assurance mechanism (in original form) satisfactory to the TCEQ executive director. Prior to the executive director issuing the permit modification transferring the permit, the new owner or operator must provide proof of financial assurance in compliance with 30 TAC Section 305.64 (g) and Chapter 37, Subchapter P.

3. Financial Assurance for Corrective Action

An owner or operator must establish financial assurance for corrective action of the facility no later than 60 days after the permit or order requiring the corrective action financial assurance is signed by the executive director or commission [30 TAC Section 37.31(b)]. Please refer to 30 TAC Chapter 37, Subchapter P, for the financial assurance requirements for closure and provide a signed statement from an authorized signatory per 30 TAC 305.44 regarding how the owner or operator will comply with this provision and indicate below the type of financial assurance mechanism to cover corrective action for the

facility.

If a financial mechanism has been obtained, provide a copy of the mechanism.

For applications involving permit transfers, the new owner or operator must provide a financial assurance mechanism (in original form) satisfactory to the TCEQ executive director. Prior to the executive director issuing the permit modification transferring the permit, the new owner or operator must provide proof of financial assurance in compliance with 30 TAC Section 305.64 (g) and Chapter 37, Subchapter P.

4. Liability Requirements (not required for post-closure care)

All owners or operators must establish financial assurance for third party sudden liability coverage of the facility no later than 60 days prior to the first receipt of waste [30 TAC Section 37.31(a)]. Owners or operators of disposal facilities must establish financial assurance for third party sudden and nonsudden liability coverage of the facility no later than 60 days prior to the first receipt of hazardous waste. Please refer to 30 TAC Chapter 37, Subchapter P, for the financial assurance requirements for liability coverage, and provide a signed statement from an authorized signatory per 30 TAC 305.44 regarding how the owner or operator will comply with this provision.

If a financial mechanism has been obtained, provide a copy of the mechanism.

For applications involving a permit transfer, the new owner or operator must provide a financial assurance mechanism (in original form) satisfactory to the TCEQ executive director. Prior to the executive director issuing the permit modification transferring the permit, the new owner or operator must provide proof of financial assurance in compliance with 30 TAC Section 305.64 (g) and Chapter 37, Subchapter P.

B. Applicant Financial Disclosure Statements for a new permit, permit amendment, or permit modification, or permit renewal (30 TAC 305.50(a)(4))

Refer to the Supplemental Technical Information Guidance for Applicants Subject to Financial Capability Requirements, included in Section VIII.B., and the requirements listed below as you complete this section.

1. Provide information required in 30 TAC 305.50(a)(4), as applicable to the application request.
2. Complete [Table VIII.B.](#) if requesting capacity expansion or new construction.
3. For new commercial hazardous waste management facility applications, a written statement signed by an authorized signatory per 30 TAC 305.44 explaining how the applicant intends to provide emergency response financial assurance per 30 TAC 305.50(a)(12)(C) or (D).
4. For renewal applications with no capacity expansion, please complete and submit the attached Financial Disclosure Letter.

Information for Applicants Subject to Financial Capability Requirements

Certain applications involving Hazardous Waste facilities are subject to review of the applicant's financial ability to construct, operate, and/or close the facility, perform post-closure care and corrective action at the facility in accordance with State law as specified in

Section 361.085 of the Texas Health and Safety Code. TCEQ refers to these reviews as financial capability reviews. This document summarizes and clarifies the information required in an application to meet the TCEQ requirements of 30 Texas Administrative Code (TAC) 305.50.

Information requirements vary depending on the type of financial information available to applicants, primarily whether audited financial statements are available as well as the type of application submitted. For each scenario described below, financial information must be provided for the specific applicant.

I. New Facilities, Facility Expansions and Permit Transfers

A. Publicly traded Entities

1. Securities and Exchange Commission (SEC) Form 10-Ks

This portion of the requirement calls for the two most recent 10-K reports filed.

2. SEC Form 10-Q

This portion of the requirement calls for a copy of the most recent quarterly report.

3. Explanation statement

This portion of the requirement calls for a statement signed by an authorized signatory [as described in 30 TAC 305.44(a)] explaining in detail how the applicant demonstrates sufficient financial resources to construct, safely operate, properly close, perform post-closure care, perform corrective action and provide adequate liability coverage for the facility. This statement must also address how the closure, post-closure, corrective action, and liability coverage financial assurance requirements of Chapter 37, Subchapter P will be met. (ie. which financial assurance mechanism is or will be used).

4. Construction capital cost estimates

This portion of the requirement calls for estimates of capital costs for expansion and/or initial construction if the application encompasses facility expansion, capacity expansion, or new construction.

B. Privately held entities with audited financial statements

1. Audited financial statements

This portion of the requirement calls for complete copies of the audited financial statements for each of the most recent two fiscal years. If an audit has not been completed for one of the previous two years, a complete copy of the fiscal year end financial statement and federal tax return may be substituted in lieu of the audit not performed. The tax return must be certified by original signature of an authorized signatory as being a "true and correct copy of the return filed with the Internal Revenue Service." Financial statements must be prepared consistent with generally accepted accounting principles and include a balance sheet, income statement, cash flow statement, notes to the financial statement, and an accountant's opinion letter.

2. Quarterly financial statement

This portion of the requirement calls for a complete copy of the most current quarterly financial statement prepared consistent with generally accepted accounting principles. Internally prepared statements are satisfactory.

3. Supplementary information statement

This portion of the requirement calls for a written statement detailing the information that would normally be found in SEC's Form 10-K including descriptions of the business and its operations; identification of any affiliated relationships; credit agreements and terms; any legal proceedings involving the applicant; contingent liabilities; and significant accounting policies.

4. Construction capital cost estimates

This portion of the requirement calls for estimates of capital costs for expansion and/or initial construction if the application encompasses facility expansion, capacity expansion, or new construction.

5. Explanation statement

This portion of the requirement calls for a statement signed by an authorized signatory [as described in 30 TAC 305.44(a)] explaining in detail how the applicant demonstrates sufficient financial resources to construct, safely operate, properly close, perform post-closure care, perform corrective action and provide adequate liability coverage for the facility. This statement must also address how the closure, post-closure, corrective action, and liability coverage financial assurance requirements of Chapter 37, Subchapter P will be met (ie. which financial assurance mechanism is or will be used).

C. Entities without audited financial statements or entities choosing not to provide the information listed above

1. Financial Plan

This portion of the requirement calls for a financial plan (including balance sheets listing assets, liabilities and capital accounts) sufficiently detailed to clearly demonstrate that the applicant will be in a position to readily secure financing for construction, operation, and closure, post-closure, and corrective action if the permit is issued. At least 3 balance sheets should be included as of: a) approximately the date of the permit application, b) 12 months after any construction is completed (or assumption of operational control for a permit transfer), and c) 24 months after any construction is completed (or assumption of operational control for a permit transfer).

2. Letters of opinion

The submitted financial plan must be accompanied by original letters of opinion from two financial experts, not otherwise employed by the applicant, who have the demonstrated ability to either finance the facility or place the required financing. If the permit action sought involves construction of a new facility or expansion of an existing facility, the opinion letters must certify that financing is obtainable within 180 days of permit approval and include the time schedule contingent upon permit finality for securing the financing as well as certify the financial plan is reasonable. Even if the application does not involve a facility or capacity expansion, the opinion letters must certify that the financial plan is reasonable. Only one opinion letter from a financial expert, not otherwise employed by the applicant, is required if the letter renders a firm commitment to provide all the necessary financing.

Letters of opinion are usually issued by investment or commercial bankers but there could be additional sources. Applicants are encouraged to verify the adequacy of the credentials of their chosen financial expert with TCEQ's financial assurance unit prior to a formal engagement. Financial experts should describe their qualifications and disclose their independence from the applicant and/or any entity or person affiliated with the applicant.

3. Operating and cash flow statement

This portion of the requirement calls for a written detail of the annual operating costs of the facility and a projected cash flow statement including the period of construction and first two years of operation. The cash flow statement must demonstrate the financial resources to meet operating costs, debt service, and provide financial assurance for closure, post-closure care, and liability coverage requirements. A list of the assumptions made to forecast cash flow must also be provided.

4. Explanation statement

This portion of the requirement calls for a statement addressing how the closure, post-closure, corrective action, and liability coverage financial assurance requirements of Chapter 37, Subchapter P will be met (ie. which financial assurance mechanism is or will be used).

5. Construction capital cost estimates

This portion of the requirement calls for estimates of capital costs for expansion and/or initial construction if the application encompasses facility expansion, capacity expansion, or new construction.

D. Entities with a resolution from a governing body approving or agreeing to approve the issuance of bonds to satisfy financial assurance requirements (e.g. a city or county)

1. Explanation statement

This portion of the requirement calls for a statement signed by an authorized signatory [as described in 30 TAC 305.44(a)] explaining in detail how the applicant demonstrates sufficient financial resources to construct, safely operate, properly close, perform post-closure, perform corrective action and provide adequate liability coverage for the facility. This statement must also address how the closure, post-closure, corrective action, and liability coverage

financial assurance requirements of Chapter 37, Subchapter P will be met (ie. which financial assurance mechanism is or will be used).

2. Certified copy of the resolution from the governing body.
3. Certification by the governing body of passage of the resolution.

II. Permit Renewals

Complete the [Financial Disclosure Letter](#) letter with applicable information inserted into the parentheses. *Note that additional information must be provided if requested by TCEQ.*

TABLE OF APPENDICES

APPENDIX	TITLE
VIII.A	Financial Assurance Information Requirements for all Applicants (30 TAC Chapter 37, Subchapter P, 305.50(a)(4)(A-E), 335.152(a)(6) and 335.179)
VIII.B	Applicant Financial Disclosure Statements for a new permit, permit amendment, or permit modification, or permit renewal

Appendix VIII.A:

FINANCIAL ASSURANCE INFORMATION REQUIREMENTS FOR ALL APPLICANTS

AMENDMENT TO STANDBY LETTER OF CREDIT NO. 31261

March 28, 2025

BENEFICIARY:

Texas Commission on Environmental
Quality (TCEQ)
Financial Assurance Section (MC-184)
P.O. Box 13087
Austin, Texas 78711-3087
Attention: Executive Director

APPLICANT:

BASF Corporation
100 Park Avenue
Florham Park, NJ 07932

Amendment No. 39

The above mentioned Letter of Credit has been amended as follows:

- **Effective immediately, the Letter of Credit amount is Decreased by US\$ 149,452.00 to a new balance of US\$ 3,996,715.00 (Three Million Nine Hundred Ninety Six Thousand Seven Hundred Fifteen and 00/100 U.S. Dollars).**
- All other terms and conditions remain the same.
- This amendment is to be considered an integral part of the above-mentioned Letter of Credit and must be attached thereto.
- This amendment is subject to Beneficiary's approval, please confirm your agreement to this amendment by returning duly signed the attached copy.

Intesa Sanpaolo SPA, New York



Louis NG
V.P., Head of Commercial Department



Charles S. Sweeney
Head of Treasury Settlement, Americas

Accepted by:

Texas Commission on Environmental Quality (TCEQ)

IMI

**CORPORATE &
INVESTMENT
BANKING**

Appendix VIII.B:
APPLICANT FINANCIAL DISCLOSURE STATEMENTS FOR A NEW
PERMIT, PERMIT AMENDMENT, OR PERMIT MODIFICATION, OR
PERMIT RENEWAL



We create chemistry

November 4, 2025

Martin Torres
Manager, Industrial and Hazardous Waste Permits Section
Waste Permits Division
Texas Commission on Environmental Quality
Building F, MC 130
12100 Park 35 Circle
Austin, Texas 78753

Re: Financial Disclosure Letter for BASF Corporation
Permit Renewal
Hazardous Waste Permit No. 50385, Industrial Solid Waste Registration No. 33849
EPA ID No. TXD980808778, RN100225689/ CN600124895

Dear Mr. Torres:

This letter is furnished to you in response to financial disclosure requirements as applicable under Texas Health and Safety Code Section 361.085 and Title 30, Texas Administrative Code (30 TAC), Section 305.50 to provide assurance that BASF Corporation has sufficient financial resources.

In keeping with the above law and rule requirements I hereby certify that BASF Corporation is adequately capitalized and has sufficient financial resources to operate, close, provide postclosure care for and perform corrective action for the above-referenced facility in a safe manner, and in compliance with the permit and all applicable rules.

BASF Corporation currently provides, as financial assurance mechanism as set out in 30 TAC, Chapter 37, Subchapter C to meet BASF Corporation's financial assurance obligations the following:

Letter of credit

I am authorized to make these statements on behalf of BASF Corporation. I understand that the Texas Commission on Environmental Quality (TCEQ) may request additional information as part of their review.

Sincerely,
BASF Corporation

A handwritten signature in blue ink, appearing to read "Abe Ahmed".

Abe Ahmed
Site Director

IX. RELEASES FROM SOLID WASTE UNITS AND CORRECTIVE ACTION

IX. Releases from Solid Waste Units and Corrective Action

Provide all Part B responsive information in Appendix IX. When preparing the physical format organize your submittal using the [Format of Hazardous Waste permit Application and Instructions](#).

The Texas Solid Waste Disposal Act, 30 TAC 335.167, 40 CFR 270.14(d) and Section 3004(u) of the Hazardous and Solid Waste Amendments of 1984 (HSWA) *require that each hazardous waste management permit application review shall address corrective action for all releases of hazardous waste and hazardous constituents* listed in 40 CFR 261, Appendix VIII, 40 CFR Part 264, Appendix IX, and/or other constituents of concern from any solid waste management unit (SWMU) and/ or Areas of Concern (AOCs) at a facility, regardless of the time at which waste was placed in such unit². For the purposes of HSWA Corrective Action, a SWMU may include, but is not limited to, any landfill, surface impoundment, land treatment unit, waste pile, underground injection well, incinerator, boiler, industrial furnace, tank, container storage area, drip pad, containment building, miscellaneous unit; any units exempt from hazardous waste permitting requirements, such as wastewater treatment units, elementary neutralization units, totally enclosed treatment units, waste recycle/reuse units, and 90-day accumulation time units; or process units or areas which may have routine and/or systematic releases to the environment (e.g., process drainage ditches or product storage tanks). Current EPA interpretation of this requirement has resulted in a Corrective Action process that begins with a RCRA Facility Assessment (RFA) to determine if corrective action is necessary.

²For the purposes of HSWA Corrective Action, a SWMU may include, but is not limited to, any landfill, surface impoundment, land treatment unit, waste pile, underground injection well, incinerator, boiler, industrial furnace, tank, container storage area, drip pad, containment building, miscellaneous unit; any units exempt from hazardous waste permitting requirements, such as wastewater treatment units, elementary neutralization units, totally enclosed treatment units, waste recycle/reuse units, and 90-day accumulation time units; or process units or areas which may have routine and/or systematic releases to the environment (e.g., process drainage ditches or product storage tanks).

The first step in the RFA is the development of a Preliminary Review (PR) from all available documentation for a facility (including but not limited to all facility documents, Part A, and Part B of the permit application, TCEQ correspondence files and inspection reports, etc.). The PR compiles available information on every SWMU and/or AOC that has ever existed at the facility. A unit checklist is completed for each SWMU and/ or AOC. On a unit-by-unit basis, the PR may recommend no further action for:

- well-designed and well-managed units
- units that have not managed hazardous wastes or wastes containing hazardous constituents;
- units already under corrective action by enforcement order; or
- units scheduled to be addressed in a compliance plan.

In addition, the unit checklists are summarized in a *Facility Checklist*. If there is a known release or potential for a release of hazardous waste or hazardous constituents from a unit/area, the PR may recommend a *RCRA Facility Investigation* (RFI), or an *Affected Property Assessment* (APA), if 30 TAC Chapter 350, Texas Risk Reduction Program (TRRP) applies, to determine the extent of the release for future corrective action, or stabilization as an appropriate and immediate corrective action.

The second step is a *Visual Site Inspection* (VSI) of the entire facility. The RFA is the combination of the PR and VSI documentation and any sample results. The RFA process should be scheduled so as to be completed during the latter stages of the Technical Review process or no later than one month in advance of the preparation of an initial draft permit for the facility. The RFA includes recommendations for whether further investigation or corrective action is warranted.

The requirements for an RFI or any other corrective action will be included in the permit, in the associated compliance plan which is mandatory for facilities with known groundwater contamination, or pursuant to 40 CFR 270.14(d)(3), the applicant may be required to start the RFI or other corrective action before the permit is issued. The RFI shall comply with all the applicable items contained in the U.S. EPA publication EPA/520-R-94-004, OSWER Directive 9902.3-2A, RCRA Corrective Action Plan (Final), May 1994, unless an alternate investigation approach is approved by the Executive Director. An RFI workplan may typically include a soil boring program, installation of monitoring wells, and sampling and analysis for 40 CFR 261 Appendix VIII and 40 CFR 264 Appendix IX hazardous constituents for surface soils, subsurface strata, surface water, groundwater, and/or air.

The permittee shall perform the RFI or APA and report the results. Corrective Action under 30 TAC Chapter 350 consists of an APA, determination of protective concentration levels, selection of a remedy standard (if necessary), development and implementation of a response action (if necessary), and submittal of required report according to 30 TAC Chapter 350.

If the RFI report indicates releases of hazardous waste or hazardous constituents for SWMUs and/or AOCs that have been grandfathered under 30 TAC Chapter 335 Subchapters A and S, Corrective Action shall consist of, if necessary, Interim Corrective Measures, *Baseline Risk Assessment* (BLRA)/*Corrective Measures Study* (CMS) Report, and *Corrective Measures Implementation* (CMI).

For grandfathered SWMUs and/or AOCs, the permittee may continue to complete the Corrective Action requirements under 30 TAC Chapter 335, Subchapter A and S, provided the permittee complies with the notification and schedule requirements pursuant to 30 TAC 335.8 and 350.(2)(m).

This report shall evaluate the risk, identify and evaluate corrective measure alternatives, and recommend appropriate corrective measure(s) to protect human health and the environment. The BLRA/CMS Report shall address all of the applicable items in 30 TAC 350, 30 TAC 335 Subchapter S, and the U.S. EPA publication EPA/520-R-94-004, OSWER Directive 9902.3-2A, RCRA Corrective Action Plan (Final), May 1994.

Upon approval of the BLRA/CMS Report by the TCEQ, the permittee shall submit a CMI Workplan to address all of the items for CMI Workplan contained in the U.S. EPA publication EPA/520-R-94-004, OSWER Directive 9902.3-2A, RCRA Corrective Action Plan (Final), May 1994. For projects conducted under TRRP, the risk assessment process shall be addressed in the *Affected Property Assessment Report* (APAR), and the evaluation of corrective measures shall be

conducted as part of the remedy standard selection process provided in the *Response Action Plan* (RAP). If the CMI or RAP does not propose a permanent remedy, then a CMI Workplan or RAP shall be submitted as part of a new compliance plan application or as a modification/amendment application to an existing compliance plan. The workplan or RAP shall contain detailed final engineering design, monitoring plans, and schedules necessary to implement the selected remedy. Implementation of the corrective measures shall be addressed through a new and/or a modified/amended compliance plan. Upon installation of a corrective action system based upon the approved CMI Workplan or RAP, the permittee shall submit a CMI Report or RAP which includes as-built drawings of the corrective action system. To report the progress of the corrective measures, the permittee shall submit periodic CMI Progress Reports or Response Action Effectiveness Reports to the TCEQ in accordance with the schedule specified in the compliance plan. Upon completion of the corrective action requirements, the permittee shall submit CMI Report or Response Action Completion Reports for review and approval.

Please note that the applicant/permittee may perform voluntary corrective action, stabilization, or "interim measures" at any time prior to or during the RFA/RFI/CMS/CMI or the APAR/RAP process without prior TCEQ approval. The TCEQ strongly supports these actions when undertaken to mitigate releases or reduce or minimize exposure and releases to human health and the environment.

A. Preliminary Review Checklists

For Applications for a New Hazardous Waste Permit:

- For all facility Solid Waste Management Units (SWMUs) and/or Areas of Concern (AOCs), complete the accompanying forms entitled "Preliminary Review Facility Checklist" and "Preliminary Review Unit Checklist". Make additional copies as necessary.

For Applications for a Renewal/Amendment/Modification of an Existing Hazardous Waste Permit:

- Update the Preliminary Review Facility Checklist to include any newly identified SWMUs and/or AOCs that were not incorporated into the previous permit issuance (new, amendment, modification, or renewal), and to update the status of all previously identified SWMUs or AOCs which are incorporated into the existing permit under either Section IX - Corrective Action for Solid Waste Management Units, or Section XI - Compliance Plan. Status updates should include notes regarding whether the SWMU or AOC has been incorporated into a compliance plan, has received approval of no further action (NFA), has had changes in its corrective action status, or has had other determinations issued by the TCEQ. Include the date of the status change in the updated checklist;
- Complete the Preliminary Review Unit Checklists for any newly identified SWMUs or AOCs that were not incorporated into the previous permit issuance (new, amendment, modification, or renewal);
- Update the status on the Preliminary Review Unit Checklists for all previously identified SWMUs or AOCs that had not yet received TCEQ approval of NFA at the time of the previous permit issuance;
- Provide copies of the letters from the TCEQ approving NFA or other determinations that were issued since the previous permit issuance;
- For previously identified SWMUs and/or AOCs which are incorporated into the existing permit and are included in Section XI - Compliance Plan of this application, you may forego filling out the Preliminary Review Unit Checklists for these units. Briefly note on the Preliminary Review Facility Checklist that the SWMUs or AOCs are addressed in

Section XI. Provide the location where the SWMU's and addressed in Section XI. ; or

- If all previously identified SWMUs and/or AOCs reached NFA status at or before the last permit issuance you may forego filling out the Preliminary Review Unit Checklists, indicate Not Applicable, and provide a brief explanation of the facts.

Complete Preliminary Review Facility Checklist (located in attachments)

[Instructions for Preliminary Review Unit Checklist](#)

[Preliminary Review Facility Checklist](#)

[Preliminary Review Unit Checklist](#)

TABLE OF APPENDICES

APPENDIX	TITLE
IX.A	Preliminary Review Checklists

Appendix IX.A: PRELIMINARY REVIEW CHECKLISTS

Permit No. 50385
Permittee: BASF Corporation

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Preliminary Review Facility Checklist

Facility	BASF Pasadena	City	Pasadena
ISW Reg. No.:	33849	Date	October 31, 2025
Permit No.	50385	Reviewer:	
EPA ID No.	TXD980909778		

A. Waste Management Units:
RCRA Regulated Units:

NOR. No.	Description	Status
006	Storage Tank D-74 (permit exempt)	Active
007	Container Storage Area (permit exempt)	Active
008	Storage Tank D-746 (permit exempt)	Active
009	Storage Tank D-668 (permit exempt)	Active
010	F-8 Boiler	Closed
011	Storage Tank D-749 (permit exempt)	Closed
014	Drum Storage Area at QC Lab (permit exempt)	Active
015	Misc. Container Storage at Maintenance Shop (permit exempt)	Active
016	Satellite Accumulation Containers at PA Unit (permit exempt)	Inactive
017	Satellite Accumulation Containers at 2-EH Unit (permit exempt)	Inactive
018	Satellite Accumulation Containers at Loading Area (permit exempt)	Inactive
020	Misc. Storage Containers (permit exempt)	Active
021	Bulk Storage Containers for Temporary Storage (permit exempt)	Active
022	Misc. Storage Containers (permit exempt)	Active

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NOR. No.	Description	Status
023	Container Storage Area (permit exempt)	Inactive
024	Storage Tank D-669 (permit exempt)	Active
025	Vessel Used to Evaporate Water from Feed (permit exempt)	Active
031	F-10 Boiler	Active

Solid Waste Management Units:

NOR. No.	Description	Status
AOC3	Groundwater	Inactive

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B. Reviewed Documents

RCRA:

Part A ☒

Part B ☒

Permit ☒

CERCLA:

Inspection Reports: Not applicable

Enforcement Actions Not applicable

Exposure Information Not applicable

Other Information: TCEQ approval letter dated August 24, 2015, for 2014 annual groundwater monitoring report RFI AOC3

C. Summary:

The only new SWMU at the facility is the F-10 Boiler (NOR No. 031). A Preliminary Review Unit Checklists is provided for this unit. All other Preliminary Review Unit Checklists were provided with the previous renewal application.

The groundwater monitoring program for AOC3 concluded in 2015. No further actions are required. The Preliminary Review Unit Checklist for this AOC has been updated.

There are no new AOCs or releases identified at the facility.

D. Recommended Action:

None

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Permittee: BASF Corporation

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Preliminary Review Unit Checklist

Facility	BASF Pasadena	City	Pasadena
ISW Reg. No.:	33849	Date	November 4, 2025
Permit No.	50385	Reviewer:	
EPA ID No.	TXD980909778		

Waste Management Unit(s):

A. NOR No.:

031

B. Description:

T-80, F-10 Boiler

C. Dates of Operation:

2016 - Present

Wastes Managed:

0221219H
D001, D018
OxoAlcohol process and Plasticizer process based waste liquid fuel

Evidence of Release:

None

Pollutant Dispersal Pathways:

Not applicable

Summary:

180 MMBtu/hr water-tube steam boiler. See Appendix V.I for description.
No potential for releases.

Recommended Action:

None

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Permittee: BASF Corporation

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Preliminary Review Unit Checklist

Facility	BASF Pasadena	City	Pasadena
ISW Reg. No.:	33849	Date	November 4, 2025
Permit No.	50385	Reviewer:	
EPA ID No.	TXD980909778		

Waste Management Unit(s):

A. NOR No.:

AOC3

B. Description:

Groundwater

C. Dates of Operation:

Not applicable

Wastes Managed:

None

Evidence of Release:

See affected property assessment report (APAR)

Pollutant Dispersal Pathways:

Groundwater

Summary:

Groundwater monitoring was conducted for AOC3. The monitoring program concluded in 2015 when it was determined that the chlorinated hydrocarbon plume had been documented to be stable or shrinking (TCEQ approval letter dated August 24, 2015).

Recommended Action:

None

X. AIR EMISSION STANDARDS

X. Air Emission Standards

Provide all Part B responsive information in Appendix X. When preparing the physical format organize your submittal using the [Format of Hazardous Waste permit Application and Instructions](#).

Section X.D. applies to Permittees with "one-stop" permits applying for an amendment, modification, or renewal of the Air Permits Division portions of their combined "one-stop" permit.

A. Process Vents

Does the facility have process vents and equipment subject to the requirements of 40 CFR Part 264, Subpart AA?

If Yes: please provide a report that includes all of the information required by 40 CFR §270.24. Indicate on a facility plot plan the approximate location of process vents.

1. For incorporation into the permit, complete [Table X.A](#) - Process Vents for all vents on waste management units that manage hazardous waste with an annual average total organics concentration of 10 ppmw or greater ("process vents"). Specifically include:
 - a. process vents on distillation, fractionation, thin-film evaporation, solvent extraction, air or steam stripping operations, and vents on condensers serving these operations; and
 - b. process vents on tanks (e.g., distillate receivers, bottom receivers, surge control tanks, separator tanks, and hot wells) associated with distillation, fractionation, thin-film evaporation, solvent extraction, and air or steam stripping processes if emissions from these process operations are vented through the tanks.
Emissions caused by natural means such as daily temperature changes or by tank loading and unloading are not subject to control.
2. For process vents, include the following certification as part of the air emissions report:

I, [owner or operator] , certify that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

I further certify that the control device is designed to operate at an efficiency of 95 weight percent or greater.

OR

I further certify that the total organic emission limits of 40 CFR §264.1032(a) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent.

[Signature] _____ *[Date]* _____.

B. Equipment Leaks

Does the facility have equipment subject to the requirements of 40 CFR Part 264, Subpart BB?

If No: please provide the regulatory exclusion/exemption(s):

If Yes: please provide a report that includes all of the information required by 40 CFR §270.25.

1. For incorporation into the permit, complete [Table X.B.](#) - Equipment Leaks for all valves, pumps, compressors, pressure relief devices, sampling connection systems, and open-ended valves or lines that contain or contacts hazardous waste streams with organic concentrations of 10% by weight or greater. Equipment in vacuum service is not subject to control if identified in the facility operating record.
2. For equipment, include the following statement as part of the air emissions report:
I, [owner or operator] , certify that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur.
I further certify that the control device is designed to operate at an efficiency of 95 weight percent or greater.
[Signature] _____ [Date] _____.

C. Tanks, Surface Impoundments, and Containers

Does the facility have tanks subject to the requirements of 40 CFR Part 264, Subpart CC?

☐ Yes ☐ No ☐ Not Applicable (no permitted tanks)

If No: provide the regulatory exception/exemption(s) for each tank subject to regulation under 40 CFR Part 264, Subpart J:

Does the facility have surface impoundments subject to the requirements of 40 CFR Part 264, Subpart CC?

☐ Yes ☐ No ☐ Not Applicable (no permitted surface impoundments)

If No: provide the regulatory exception/exemption(s) for each permitted surface impoundment subject to regulation under 40 CFR Part 264, Subpart K:

Does the facility have containers subject to the requirements of 40 CFR Part 264, Subpart CC?

☐ Yes ☐ No ☐ Not Applicable (no permitted container storage areas)

If No: provide the regulatory exception/exemption(s) applicable to the authorized containers subject to regulation under 40 CFR Part 264, Subpart I:

If the facility contains tanks, surface impoundments, and containers subject to the requirements of 40 CFR Part 264 Subpart CC, please provide a report that includes all of the information required by 40 CFR §270.27.

1. For incorporation into the permit, complete [Table X.C.](#)
2. As applicable, include the following floating roof cover certification as part of the air emissions report for tanks:
I, [owner or operator] , certify that the floating roof cover meets the applicable design specifications as listed in 40 CFR §264.1084(e)(1) or 40 CFR §264.1084(f)(1).
[Signature] _____ [Date] _____.
3. As applicable, include the following floating membrane cover certification as part of the air emissions report for surface impoundments:
I, [owner or operator] , certify that the floating membrane cover meets the applicable design specifications listed in 40 CFR §264.1085(c)(1).
[Signature] _____ [Date] _____.
4. As applicable, include the following container certification as part of the air emissions report for containers:
I, [owner or operator] , certify that the requirements of 40 CFR Part §264, Subpart CC, are met for all containers subject to control.
[Signature] _____ [Date] _____.
5. As applicable, include the following control device certification as part of the air emissions report:
I, [owner or operator] , certify that the control device is designed to operate at the performance level documented by a design analysis as specified in 40 CFR 264.1089 (e)(1)(ii) or by performance tests as specified in 40 CFR §264.1089(e)(1)(iii) when the tank, surface impoundment, or container is or would be operating at capacity or the highest level reasonably expected to occur.
[Signature] _____ [Date] _____.

D. "One-Stop" Permits:

Does the facility have a "one-stop" permit?

☐ Yes ☒ No

If yes: does this permit application propose to delete the "one-stop" portion of the permit?

☐ Yes ☐ No

Does the facility want the application processed in accordance with 30 TAC Chapter 33

- Consolidated Permit Applications?

☐ Yes ☒ No

If yes: please provide a copy of the notification of intent required by 30 TAC 33.43.

Permittees having "one-stop" permits may elect to combine the air and waste management amendment, modification, or renewal of permitted waste management units. The combined amendment, modification, or renewal application will follow the application processing procedures for an industrial solid waste permit. "One-Stop" permit applications shall include the following air quality information, as applicable.

1. Area map (to scale) showing the location of the plant and land use in the vicinity of the facility including buildings, schools, residences, etc. within 3000 feet.
2. Plot plan (to scale) with latitude and longitude showing the plant layout, property boundary and location of all emission points of air contaminants. Emission points are to be numbered.
3. Specific chemical name of each air contaminant and emission rate in maximum pounds per hour, maximum tons per year and calculations used to determine emission rates. Fugitive emissions are to be included. Complete Table 1(a) entitled "Emission Sources."
4. Process description, operating schedule, and flow chart in sufficient detail that will explain the process and operation and a material balance for processes where applicable. The description should include a discussion of disposal methods for any generated residues and associated air emissions.
5. Design specifications about each emission control device using the appropriate OAQ table.
6. Volatile organic compound (VOC) concentrations in water or sludges or soil and volumes or weights of water, sludges or soils to be processed.
7. Exhaust stack or emission point parameters for each emission point including height, diameter, temperature, velocity and flow rate, except ground level fugitive emissions.
8. Best available control technology (BACT) documentation for all new and modified facilities.
9. Documentation of compliance with any applicable Federal New Source Performance Standard (NSPS) and Federal National Emission Standard for Hazardous Air Pollutants (NESHAPS).
10. Documentation as to whether a permit is required under new source review requirements of part C or D or Title I of the Federal Clean Air Act, 42 U.S.C. 7401 et seq., for a major source or major modification.
11. Information that demonstrates reliability of emission control systems including process instrumentation, equipment redundancy and operating procedures.
12. Results of atmospheric dispersion modeling certified to have been conducted in accordance with applicable TCEQ Office of Air Quality (OAQ) procedures. Model results must show maximum off-property 30-minute and annual ground level concentrations of each air contaminant. Dispersion modeling results must indicate compliance with all OAQ Rules and Regulations. Dimensions of buildings/structures that may influence dispersion modeling are to be

furnished. Please consult with OAQ before beginning any modeling study.

13. Storage tank data including capacity in gallons, diameter, height, paint color, composition, density, vapor pressure and molecular weight of liquid stored, maximum hourly and annual throughput and number of turnovers per year. Complete Table 7 entitled "Storage Tank Summary" for each tank.
14. A statement addressing the applicability of each OAQ regulation.
15. All methods of calculating emissions must be properly referenced with justification for selecting and assuming the values used in any equation.

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APPENDIX	TITLE
X	Air Emissions Report
X.A	Process Vents (Not Applicable)
X.B	Equipment Leaks (Table X.B)
X.C	Tanks, Surface Impoundments, and Containers (Not Applicable)
X.D	"One-Stop" Permits (Not Applicable)

Appendix X: AIR EMISSIONS REPORT



BASF CORPORATION

PASADENA, TEXAS

**INDUSTRIAL AND HAZARDOUS WASTE
STORAGE/PROCESSING/DISPOSAL FACILITY
PERMIT No. 50385
SOLID WASTE REGISTRATION No. 33849
EPA ID No. TXD980808778**

AIR EMISSION REPORT

NOVEMBER 2025

1.0 INTRODUCTION

BASF Corporation (BASF) operates a liquid hazardous waste fired boiler at its facility in Pasadena, Texas. This unit is identified as the F-10 Boiler. The F-10 Boiler is the only permitted hazardous waste unit at the facility. The boiler is subject to the Resource Conservation and Recovery Act (RCRA) general permitting and operating requirements of Title 40 Code of Federal Regulations (CFR) Parts 264, 266, and 270 and Title 30 Texas Administrative Code (TAC) Chapter 335 Subchapters F and H. The boiler is also subject to the Hazardous Waste Combustor National Emission Standards for Hazardous Air Pollutants (HWC NESHAP) codified in 40 CFR Part 63 Subpart EEE.

This report addresses the air emission standards provided in 40 CFR Part 264 Subparts AA, BB, and CC.

2.0 SUBPART AA

The RCRA air emission standards of 40 CFR Part 264 Subpart AA for process vents do not apply to the permitted hazardous waste management unit because this unit does not meet the applicability requirements specified in 40 CFR § 264.1030.

3.0 SUBPART BB

The RCRA air emission standards of 40 CFR Part 264 Subpart BB apply to equipment that contains or comes in contact with hazardous wastes with organic concentrations of 10 percent by weight (*i.e.*, in light liquid service) that are managed in one of the following:

- A unit that is subject to the permitting requirements of 40 CFR Part 270; or
- A unit that is not exempt from permitting due to the short-term accumulation exemption under 40 CFR § 262.17 and that is located at a hazardous waste management facility otherwise subject to the permitting requirements of 40 CFR Part 270; or
- A unit that is exempt from permitting under 40 CFR § 262.17 and that is not a recycling unit under the provisions of 40 CFR § 261.6.

Hazardous waste, identified as waste liquid fuel, is transferred from the OxoAlcohol process and the plasticizer process to a permit-exempt (less than 90-day) accumulation tank, identified as Tank D-74, for storage prior to being fed to the F-10 Boiler. The air emission standards for equipment leaks provided in 40 CFR Part 264 Subpart BB are applicable to the hazardous waste transfer systems used to transfer liquid waste from the accumulation tank to the boiler.

Specific standards are provided for each of the following types of equipment:

- Pumps in light liquid service;
- Compressors;
- Pressure relief devices in gas/vapor service;

-
- Sampling connection systems;
 - Open-ended valves or lines;
 - Valves in gas/vapor service or in light liquid service; and
 - Pumps and valves in heavy liquid service, pressure relief devices in light or heavy liquid service, and flanges and other connectors.

These standards are applicable to the hazardous waste transfer systems used at BASF to transfer wastes from Tank D-74 to the F-10 Boiler. Of the equipment subject the Subpart BB, only the following equipment is associated with the boiler:

- Pumps;
- Valves; and
- Flanges and other connectors.

The facility maintains the following operating records for at least three years:

- A log of applicable equipment pursuant to 40 CFR § 264.1064(g);
- Information pertaining to valves pursuant to 40 CFR §§ 264.1064(h) and (i);
- Design criteria information pursuant to 40 CFR § 264.1064(j); and
- Analytical records pursuant to 40 CFR § 264.1064(k).

4.0 SUBPART CC

The RCRA air emission standards of 40 CFR Part 264 Subpart CC for tanks, surface impoundment, and containers do not apply to the permitted hazardous waste management unit. BASF does not operate any permitted hazardous waste tanks, surface impoundment, or containers at the Pasadena Site. BASF operates permit-exempt accumulation tanks and containers that are subject to and in compliance with 40 CFR Part 265 Subpart CC.

5.0 CERTIFICATION STATEMENT

The following certification statement is stipulated by the Part B Permit Application instructions and pertains to the information used to classify equipment under the Subpart AA, BB, and CC standards:

I, Abe Ahmed, certify that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. I further certify that the control device is designed to operate at an efficiency of 95 weight percent or greater.

Signature

Date

11/3/25

Appendix X.B: EQUIPMENT LEAK (TABLE X.B)

Table X.B. - Equipment Leaks

List all process vents covered by this application.

Equipment I.D. No.	Equipment Type	Waste Management Unit N.O.R. No.	Waste Management Unit Name	% by Weight Total Organics in Haz. Waste Stream	Waste State (gas, vapor, liquid)	Method of Compliance
4807.10	VALVE	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4807.11	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4807.12	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4808.10	VALVE	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4808.11	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4808.12	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4811	PUMP	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4812	VALVE	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4813	VALVE	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4814	VALVE	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4816A	VALVE	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4816A.1	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4816A.2	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4814.1	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4814.2	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4814.3	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4815	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4816	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4816.10	VALVE	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4816.11	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4816.12	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4816.13	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4817	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4817.10	VALVE	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4817.11	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4817.12	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4817.13	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21

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Permittee: BASF Corporation

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Equipment I.D. No.	Equipment Type	Waste Management Unit N.O.R. No.	Waste Management Unit Name	% by Weight Total Organics in Haz. Waste Stream	Waste State (gas, vapor, liquid)	Method of Compliance
4817.14	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4818	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4819	CONNECT	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21
4820	PUMP	031	F-10 Boiler	>10	LIGHT LIQUID	METHOD 21

XI. COMPLIANCE PLAN (NOT APPLICABLE)

TABLE OF APPENDICES

APPENDIX	TITLE
XI	Compliance Plan (Not Applicable)

XII. HAZARDOUS WASTE PERMIT APPLICATION FEE

XII. Hazardous Waste Permit Application Fee

Provide all Part B responsive information in Appendix XII. When preparing the physical format organize your submittal using the [Format of Hazardous Waste permit Application and Instructions](#).

In accordance with 30 TAC 305.53, complete [Tables XII.A.](#) - Hazardous Waste Units (For Application Fee Calculations) and XII.B. - Hazardous Waste Permit Application Fee Worksheet. Use the following information in calculating your fee. The application fee will be non-refundable once an initial review of the application has been completed. The applicant's fees are subject to evaluation by the technical staff of the Texas Commission on Environmental Quality (TCEQ). However, the TCEQ reserves the right to assess further fees as may be necessary.

- A. The minimum permit application fee for a permit or a permit renewal for each hazardous waste facility to be used for Storage, Processing, Disposal, or Closure/Post-Closure Care (disposal has already occurred) of hazardous waste shall be \$2,000, plus notice fee, and the maximum shall be \$50,000, calculated according to these instructions:
1. Process Analysis - \$1,000.00.
 2. Management/Facility Analysis - \$500.00.
 3. A facility unit(s) analysis of \$500 per unit is charged for the following:
 - a. each cell of a landfill (note that multiple cells that are identical in type and use are subject to a single \$500 fee);
 - b. tanks and container storage areas (note that multiple tanks and container storage areas that are identical in type and use are subject to a single \$500 fee)
 - c. identical in type and use means the following:
 - (1) made of the same material and same design;
 - (2) the same size/capacity within + 10%;
 - (3) store the same waste (as identified by USEPA hazardous waste number - 40 CFR 261 Subparts C & D); and
 - (4) have the same management characteristics (e.g., storage only).
 - d. Each incinerator, boiler/industrial furnace unit, surface impoundment, waste pile, land treatment unit, drip pad, miscellaneous unit, or containment building.
 4. Site Evaluation - \$100 per acre of surface used for hazardous waste management up to 300 acres. No additional fee thereafter. This shall be calculated as any acreage which will be permitted to manage hazardous waste. This shall include, for example, the entire area within the secondary containment of a tank farm, the area within a fence that surrounds individual units (other than the facility fence), or the area defined by the toe of the dike surrounding a landfill or impoundment, etc.
 5. An applicant shall also include with each initial application a fee of \$50 to be applied toward the cost of providing the required notice. An additional notice

fee of \$15 is required with each application for renewal.

- B. The application fee for a major amendment or a Class 2 or 3 modification to a hazardous waste permit for operation, closure, or post-closure care is subject to the fees listed below:
1. A management/facility analysis fee of \$500.
 2. The notice fee is \$50.
 3. If a unit is added or a unit area is expanded for any purpose, \$100 per additional acre is assessed, until the total additional acreage reaches 300 acres.
 4. If one or more of the following reports are added or are significantly revised, the process analysis fee of \$1000 is assessed:
 - a. waste analysis plan;
 - b. site-specific or regional geology report;
 - c. site-specific or regional geohydrology report;
 - d. groundwater and/or unsaturated zone monitoring;
 - e. closure and/or post-closure care plan; or
 - f. RCRA Facility Assessments (RFAs), or corrective action reports;
 - g. Alternate Concentration Limit (ACL) demonstration or Development of Protective Concentration Limits (PCLs);
 - h. Regulated Unit Facility Assessment, Corrective Action (CA) work plans or reports for Regulated Units; and/or
 - i. RCRA Facility Investigation (RFI)/Affected Property Assessment (APA), Remedy Selection, Corrective Measure Implementation (CMI)/Remedial Action Plan for solid waste management units, and/or areas of concern;
 - j. Facility Operations Area (FOA).
 5. A unit analysis fee of \$500 per unit is assessed if any of the following occur:
 - a. if a unit is added (even if identical to units already in place, using the criteria discussed in A.3 above);
 - b. if there are design changes in an existing unit; or
 - c. if a unit status changes from closure to post-closure care;
 - d. Changes in the number, location, depth, or design of wells approved in compliance plan or a permit (unless it is a replacement well);
 - e. Changes in point of compliance and compliance monitoring program;
 - f. Changes in Groundwater Protection Standards, indicator parameters, Alternate Concentration Limits or Protective Concentration Limits; and/or
 - g. Changes in corrective action program.
- C. The application fee for a minor amendment, a Class 1, or a Class 1¹ modification of a

hazardous waste permit is \$100 plus the notice fee of \$50.

TABLE OF APPENDICES

APPENDIX	TITLE
XII.A	Hazardous Waste Units (Table XII.A)
XII.B	Hazardous Waste Permit Application Fee (Table XII.B)

Appendix XII.A:

HAZARDOUS WASTE UNITS

(TABLE XII.A)

Table XII.A. - Hazardous Waste Units (For Application Fee Calculations)

Verbal Description of Unit	Rated Capacity	Surface Acreage ¹	# of Unit Types ²	Identical Unit Justification ³
F-10 Boiler	180 MMBtu/hr	0.25	1	
		Total ⁴ 0.25	Total ⁴ 1	

1. Number of calculated acres.
2. Enter number of units except for units identical in type and use which only count toward a single \$500.00 fee.
3. Explain justification for any units claimed as identical in type and use.
4. Enter these totals on the worksheet.

Appendix XII.B:

HAZARDOUS WASTE PERMIT APPLICATION FEE

(TABLE XII.B)

Table XII.B. - Hazardous Waste Permit Application Fee Worksheet

Name of Facility: _____ BASF Corporation

Solid Waste Registration Number: _____ 33849

1. Process Analysis - \$1,000..... \$ _____ 1,000

2. Facility Management Analysis - \$500..... \$ _____ 500

3. Unit Analysis - $\frac{1}{}$ units @ \$500 per unit..... \$ _____ 500

4. Site Evaluation - $\frac{0.25}{}$ acres @ \$100 per acre..... \$ _____ 25

(Maximum of 300 acres)

5. Minor amendment, Class 1, or Class 1¹ modification - \$100..... \$ _____ 0

6. Cost of Providing Notice - \$50 (+ \$15 for a renewal)..... \$ _____ 65

Pay This Amount

Total \$ _____ **2,090**

Pay Online through ePay portal www3.tceq.texas.gov/epay/

Enter ePay Trace Number: _____

For Payment by check, make checks Payable To:

Texas Commission on Environmental Quality - Fund 549
(your canceled check will be your receipt)

Complete And Return With Payment To:

Texas Commission on Environmental Quality
Financial Administration Division - MC 214
P.O. BOX 13088
Austin, Texas 78711-3088

The applicant's fees are subject to evaluation by the technical staff of the Texas Commission on Environmental Quality (TCEQ). However, the TCEQ reserves the right to assess further fees as may be necessitated.

Please do not submit a photocopy of the check (or equivalent transaction submittal) with your application packet but provide only the following account information:

Check No.	Date of Check	Check Amount
Not applicable	Not applicable	Not applicable