

FEDERAL OPERATING PERMIT - TECHNICAL REVIEW SUMMARY

SITE OPERATING PERMIT (SOP) RENEWAL

Permit #:	O1598	Company:	TPC Group LLC
Project #:	33608	Site:	Houston Plant
Regulated Entity #:	RN100219526	Application Area:	Houston Plant
Region:	12	Customer #:	CN603624289
NAICS Code:	325199	County:	Harris
Permit Reviewer:	Jasmine Yuan, Ph.D., P.E.	NAICS Name:	All Other Basic Organic Chemical Manufacturing

SITE INFORMATION

Physical Location: 8600 Park Place Blvd
Nearest City: Houston
Major Pollutants: CO, HAPS, NOX, PM, VOC
Additional FOPs: None

PROJECT SUMMARY

TPC Group LLC's Houston Plant is an all other basic organic chemical manufacturing facility subject to the requirements of 30 TAC Chapter 122 and holds a Federal Operating Permit (FOP) #O1598 which was last renewed on February 20, 2018. A timely application for renewal was received by the TCEQ on April 19, 2022. The permit was expedited on June 27, 2022.

Significant emission sources at the site include boilers, heaters, process vents, cooling towers, solvent degreasing machines, SRIC engines, tanks, and fugitive equipment, which are subject to State and/or Federal regulations.

A compliance plan and schedule for boilers 1B-505 and 1B-506 was included in the application submitted on April 19, 2022 to address a non-compliance issue. During the review period, an updated OP-ACPS was submitted on March 29, 2023 to show the non-compliance issue was resolved with amended NSR 19806 issued on June 13, 2022 and all units are in compliance.

The FOP includes general and special terms and conditions and unit-specific applicable requirements which were identified using information provided by the applicant in various forms (OP-SUMR, OP-REQ1, OP-PBR SUP, OP-REQ2, OP-REQ3, OP-MON, and various Unit Attribute forms).

This permit has an updated Appendix B for permits as follows:

NSR 46426/PSDTX999M1/N290/GHGPSDTX203 issued on June 13, 2022,

NSR 46307/PSDTX1580/N288/GHGPSDTX202 issued on June 13, 2022,

NSR 19806/PSDTX1586 issued on June 13, 2022, and

NSR 22052/PSDTX1578/N286/GHGPSDTX201 issued on June 13, 2022.

PROCESS DESCRIPTION

TPC owns and operates a petrochemical production facility in Houston, Harris County, Texas. The area covered by this permit include the production area, marine facility, utility operations and wastewater treatment.

The Houston plant's production area includes, but is not limited to, the following process units: Dehydrogenation, Butadiene, Isobutylene, Polyisobutylene (PIB), Raffinate MTBE, Diisobutylene (DIB) and Butene-1. The plant manufactures light olefin products including butadiene, butenes, isobutylene, DIB, methyl tert-butyl ether (MTBE), and PIB.

The utility area includes Boilers 9, 10, 11, and 12 that are used to generate electricity and steam for the production units and other plant needs.

The marine facility consists of two docks where materials are loaded onto ships and barges. Loading/unloading operations are either atmospheric or pressurized depending on the material being transferred. There is a vapor control system which collects any hydrocarbon vapors displaced during the atmospheric loading operations and routes them control.

TECHNICAL REVIEW

Permit Content Summary

1. Was Periodic Monitoring (PM) required and included in the permit?..... Yes
2. Was Compliance Assurance Monitoring (CAM) required and included in the permit?..... No
3. Was case-by-case PM or CAM included in the permit?..... Yes
4. Was a permit shield requested?..... Yes
5. If a permit shield was requested, was any permit shield request denied?..... No
6. Identify if the following are applicable for this project:
 - (a) Manually-built applicable requirements..... Yes
 - (b) Customized Special Terms and Conditions..... Yes
 - (c) Manual changes to the IMS-generated applicable requirements..... No
 - (d) Alternate means of compliance for any emission unit/source at the site..... No
7. Is the site subject to the requirements of 40 CFR Part 72 (Acid Rain Permit)?..... No
8. Did the applicant's review/comments on the working draft permit result in changes to the permit content?..... Yes
9. Will the draft permit be sent to public notice with unresolved issues (i.e., disagreements with applicant)?..... No

Permit reviewer notes:

The unit 1B-2501 is subject to PM for rule 30 TAC Chapter 117, Subchapter B for pollutant CO. Case-by-case PM for the CO limit in 30 TAC Chapter 117, Subchapter B was added for 1B-2501. This monitoring was approved by PM/CAM specialist Carolyn Maus. The applicant will monitor heat input on an hourly basis. (Chapter 117 requires a fuel flow monitor but does not specify a direct correlation with the emission limit, so this periodic monitoring addresses that correlation.) The maximum heat input in the deviation limit, 98 MMBTU/hr, is the value that was used in the NSR permit application to determine the authorized CO emission limit in the MAERT for NSR permit 19806. The MAERT limit corresponds to a CO concentration of 50 ppmv, which is less than the 400 ppmv limit in Chapter 117. Therefore, complying with the maximum heat input demonstrates compliance with the NSR limit and by extension the Chapter 117 limit. The emission calculations are found in the Project File Folder for NSR project 271644 (WCC Content ID 3538046).

Existing PMs were reviewed and remain valid.

Applicant requested multiple permit shields. They were reviewed and approved.

Unit 4D-1510 (SOP index numbers 4D-1510-P and 4D-1510-P2) is subject to treatment process requirements for MACT G – Wastewater. Due to several RRT errors, logic could not be built. These errors will be fixed in future maintenance, but in this project, the requirements were built manually. Applicable citations were identified and approved by technical specialist Carolyn Maus. The approval email dated 02/11/2023 was included in the permit file. The QAQC report shows the hollow for the unit due to the manually built requirements.

Retained customized term and condition (IMS term A.001.G) which incorporates MACT F, G, H, Y, FFFF, ZZZZ, and DDDDD into 30 TAC Chapter 113, Subchapter C, §§ 113.110, 113.120, 113.130, 113.300, 113.890, 113.1090, and 113.1130, respectively.

Permit Term 28 (IMS term B.142) was customized to identify the current project number and submittal date on Form OP-PBRUP.

Applicant has reviewed the working draft permit and provided comments on March 24, 2023, June 23, 2023, September 11 and 14, 2023. With the updated forms submission, the permit was updated, and all comments were resolved.

Statement of Basis

A Statement of Basis sets forth the legal and factual basis for the applicable requirements that are included in the FOP. A Statement of Basis was prepared for this project and is included in the permit file.

Compliance History Review

- 1. In accordance with 30 TAC Chapter 60, the compliance history was reviewed on May 26, 2022.
 Site rating: 22.64 / Satisfactory Company rating: 10.63 / Satisfactory
 (High < 0.10; Satisfactory ≥ 0.10 and ≤ 55; Unsatisfactory > 55)
- 2. Has the permit changed on the basis of the compliance history or site/company rating?..... No

Site/Permit Area Compliance Status Review

- 1. Were there any out-of-compliance units listed on Form OP-ACPS?..... No
- 2. Is a compliance plan and schedule included in the permit?..... No

Permit reviewer notes:

In the initial application, the OP-ACPS indicates the units 1B-505 and 1B-506 are out of compliance as they are not authorized in the table entitled "Emission Sources- Maximum Allowable Emission Rates" for pollutant PM. During the review period, however, TPC resolved the 1B-505 and 1B-506 compliance issue for PM_{2.5}, PM₁₀, and PM with an amendment for NSR19806, which was issued on June 13, 2022. The subsequent stack testing and corresponding report required by NSR amendment were completed in December 2022. Therefore, an updated OP-ACPS was submitted on March 29, 2023, to show no units are out of compliance.

Delinquent Fee Check

- 1. The delinquent fee check was performed on 05/25/2023.
- 2. Were there any delinquent fees owed? No

Public Notice Information

- 1. Were comments received from the applicant after the draft permit was mailed and before Public Notice was published?..... No
- 2. Was a revised draft permit or public notice authorization package (PN-Errata) sent for any reason?..... No
- 3. Publication date: 10/25/2023 Newspaper name: Pasadena Citizen
- 4. Was bilingual public notice published?..... Yes
 Publication date: 10/25/2023 Newspaper name: LA VOZ DE HOUSTON
- 5. Were comments received during Public Notice period?..... Yes
 - (a) Was a public hearing requested?..... Yes
 - (b) Was a public hearing held?..... Yes
 - (c) Was the public hearing request withdrawn?..... No
 - (d) Was permit content changed as a result of any public comments?..... Yes
- 6. Was re-publication necessary?..... No

Permit reviewer notes:

During the public notice comment period, a comment was received on 11/03/2023. The commenter commented that the permitted facilities release toxic air pollution that can harm people’s health, increasing the risk of asthma, cancers, birth defects, and neurological and cardiovascular damage. He requested a public meeting for the residents who live in proximity of the proposed facility. The second comment was received on 11/27/2023 from Air Alliance Houston. As a result, a public hearing was granted by TCEQ. Subsequently, the Notice and Comment Hearing was published in the Houston Chronicle and the La Prensa on 03/06/2024 and 03/16/2024, respectively. The public hearing was held on 04/11/2024 at 7:00 pm at Raul Yzaguirre Schools for Success located at 2950 Broadway Street, Houston, as indicated in the notice. During the hearing, TCEQ received many public comments regarding health and environmental adverse effects. TCEQ has responded to the public comments from 10/25/2023-04/11/2024 and the permit draft was revised to address certain comments.

EPA Review

- 1. Did EPA comment on the draft permit?..... No

2. Was a separate NOPP - Notice of Proposed Permit sent to the EPA?..... Yes
 If yes, did the EPA comment on the proposed permit?..... No
3. Were any changes made to the permit after the EPA Review Period?..... No
 If yes, were these changes made within the 60 day Public Petition Period?..... No

Permit reviewer notes:

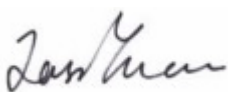
The Response to the Comments letter (PN-5) along with proposed permit and revised statement of basis were sent to EPA for review on 11/01/2024.
 The CID was checked on 12/27/2024 to confirm no EPA comments.

IMPORTANT MILESTONES

Milestone (Standard)	Start Date	End Date
Date Application Received by TCEQ	04/19/2022	
Date Project Received by Engineer	05/09/2022	
Technical Review Period	05/26/2022	09/17/2023
Working Draft Permit Reviewed by Applicant	02/15/2023	09/14/2023
Date PNAP/Draft Permit Mailed	10/04/2023	
Public Notice Comment Period	10/25/2023	04/11/2024
Date Notice and Comment Hearing Mailed	02/23/2024	
EPA Review Period	11/05/2024	12/20/2024
Date Sign Posting Certification Received	12/05/2023	

Milestone (Optional)	Start Date	End Date
Deficiency Cycle 1		
Deficiency Cycle 2		
Request for Comments on Compliance Plan		
Date Comment on Draft Permit Received from Public	11/03/2023	
Date Comment on Draft Permit Received from Public	11/27/2023	
Date comment on Draft Permit Received from EPA		
Date Public Hearing Requested	11/03/2023	
Date Public Hearing Held	04/11/2024	

EFFECTIVE PERMIT ISSUANCE DATE: January 9, 2025



 Jasmine Yuan, Ph.D., P.E.
 Permit Reviewer
 Operating Permits Section
 Air Permits Division

12/27/2024
 Date

01/03/2025

 Elizabeth Moorhead
 Team Leader
 Operating Permits Section
 Air Permit Division



CONTACT INFORMATION

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