Storage Tank F-751 PBR Registration

30 TAC §106.261 and §106.262

Freeport Facility

Brazoria County, Texas

January 2025

PREPARED FOR:

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Freeport, Texas

FOR SPIRIT ENVIRONMENTAL:

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1.0 Introduction

SI Group, Inc. (SI Group) operates a specialty chemical processing facility located in Freeport, Texas (the Freeport Facility or the Facility). SI Group is submitting this Permit by Rule (PBR) registration to authorize the storage of Flashed 2,4,6 Tri-Tert-Butylphenol (TTBP) in Storage Tank F-751 (F-751) [Emission Point Number [EPN]: T6001]. Storage Tank F-751 is a fixed roof storage tank that vents to the atmosphere and is currently authorized under New Source Review (NSR) Permit No. 2341 to store p-tert-amyl phenol (PTAP). This PBR authorizes an additional storage operation of Flashed 2,4,6 TTBP; F-751 authorization to store PTAP will remain active.

The storage of Flashed 2,4,6 TTBP in Tank F-751 is not a result of increased production, and there are no upstream or downstream changes associated with the project. Flashed 2,4,6 TTBP is currently stored in F-612A. Flashed 2,4,6 TTBP will be stored in F-751 when storage tank F-612A is not in service or is needed for another service, therefore no upstream or downstream impacts will occur.

This document demonstrates that the project emissions will meet the PBR requirements of Title 30 of the Texas Administrative Code (30 TAC) §106.4, §106.261, §106.262, and any additional applicable requirements. The storage of Flashed 2,4,6 TTBP does not meet the definition of modification under New Source Performance Standards (NSPS) Subpart Kc (see Section 4) and is therefore not an NSPS Subpart Kc affected source. This registration is being submitted via STEERS and therefore meets the certification requirements.

The Freeport Facility is located in Brazoria County. Brazoria County is classified as a severe nonattainment area for ozone and an attainment area for all other criteria pollutants for which a National Ambient Air Quality Standard (NAAQS) has been promulgated. The Freeport Facility is defined as a major source for Nonattainment New Source Review (NNSR) and Prevention of Significant Deterioration (PSD). The emissions associated with the project include Volatile Organic Compounds (VOC). As shown in Section 5 (Table 5.3), the project emissions are less than five (5) tons per year (tpy) and require no further review.

Sections 2.0 through 6.0 of this document contain supporting information for this registration. Section 2.0 provides a process description. Section 3.0 provides the proposed potential to emit (PTE) emission calculation methodology. Section 4.0 provides a summary of all applicable and

potentially applicable State, Federal, and Standard Permit Requirements. Section 5.0 contains all required TCEQ forms. Section 6.0 contains CONFIDENTIAL attachments to this application, including the supporting emission calculations for all emission sources associated with this project.

2.0 Process Description

The Freeport Facility, in Brazoria County, Texas, is a specialty chemical manufacturing complex that currently operates eight (8) alkylphenol production units (Plants 1 through 8) from which a variety of alkylated phenols are produced. The manufacture of alkylphenols is accomplished by feeding raw materials, primarily phenol and olefins, into reactors. Crude intermediate products are removed from the reactors and fed into distillation columns where separation of final products is performed. Products are stored on-site in tanks and shipped off-site to customers via railcars, tank wagons, bulk containers, totes, and drums.

This PBR authorizes the storage of Flashed 2,4,6 TTBP in Tank F-751 (EPN: T6001). NSR Permit 2341 authorizes the storage of PTAP in F-751 and Flashed 2,4,6 TTBP in F-612A. All existing authorizations remain active.

3.0 Emissions Summary

The following section outlines the emission rates, operating parameters, calculation methodologies, and assumptions for this PBR registration. Table 5.4, included in Section 5, contains a speciated emission summary. All detailed calculations are included as attachments in Section 6.0.

3.1.1 Product Storage Tank F-751 (EPN: T6001; FIN: F-751)

This PBR is authorizing the storage of Flashed 2,4,6 TTBP in Tank F-751 (EPN: T6001).

Annual emissions from Tank F-751 are calculated using the Environmental Protection Agency's (EPA's) AP-42 Chapter 7, Section 7.1.3.1 "Total Losses from Fixed Roof Tanks" (June 2020) calculation methodologies, the annual throughput of 3,000,000 gallons/year, and the annual speciation as currently represented in NSR 2341 for Flashed 2,4,6 TTBP in Tank F-612A. Tank F-751 is fully insulated (walls and roof); per AP-42, standing losses are not calculated for fully insulated storage tanks. The annual throughput is based on the total amount of product.

Hourly emission rates are calculated using the equations from the TCEQ Guidance Document "*Estimating Short Term Emission Rates from Tanks (APDG 6250)"*. Hourly emissions are calculated based on the Flashed 2,4,6 TTBP composition as represented in NSR 2341 in Tank F-612A.

A summary of the emission calculations basis for the storage of Flashed 2,4,6 TTBP is provided below:

- Maximum fill rate: 1,300 gallons per hour
- Maximum and annual storage temperature: 275 °F
- Annual throughput: 3,000,000 gallons/year.

4.0 Regulatory Applicability

The following information demonstrates conformance with applicable rule requirements for the project.

4.1 Requirements for Permitting by Rule - 30 TAC §106.4

(a) To qualify for a permit by rule, the following general requirements must be met.

(1) Total actual emissions authorized under permit by rule from the facility shall not exceed the following limits, as applicable:

(A) 250 tons per year (tpy) of carbon monoxide (CO) or nitrogen oxides (NOx);

(B) 25 tpy of volatile organic compounds (VOC), sulfur dioxide (SO_2), or inhalable particulate matter (PM);

(C) 15 tpy of particulate matter with diameters of 10 microns or less (PM_{10});

(D) 10 tpy of particulate matter with diameters of 2.5 microns or less ($PM_{2.5}$); or

(E) 25 tpy of any other air contaminant except:

(i) water, nitrogen, ethane, hydrogen, and oxygen; and

(ii) notwithstanding any provision in any specific permit by rule to the contrary, greenhouse gases as defined in §101.1 of this title (relating to Definitions).

The project will not emit VOCs or other contaminants in excess of 25 tpy. Emission estimates are provided in Table 5.3 and Table 5.4.

(2) Any facility or group of facilities, which constitutes a new major stationary source, as defined in §116.12 of this title (relating to Nonattainment and Prevention of

Significant Deterioration Review Definitions), or any modification which constitutes a major modification, as defined in §116.12 of this title, under the new source review requirements of the Federal Clean Air Act (FCAA), Part D (Nonattainment) as amended by the FCAA Amendments of 1990, and regulations promulgated thereunder, must meet the permitting requirements of Chapter 116, Subchapter B of this title (relating to New Source Review Permits) and cannot qualify for a permit by rule under this chapter. Persons claiming a permit by rule under this chapter should see the requirements of §116.150 of this title (relating to New Major Source or Major Modification in Ozone Nonattainment Areas) to ensure that any applicable netting requirements have been satisfied.

The project does not meet the definition of a major modification.

(3) Any facility or group of facilities, which constitutes a new major stationary source, as defined in 40 Code of Federal Regulations (CFR) §52.21, or any change which constitutes a major modification, as defined in 40 CFR §52.21, under the new source review requirements of the FCAA, Part C (Prevention of Significant Deterioration) as amended by the FCAA Amendments of 1990, and regulations promulgated thereunder because of emissions of air contaminants other than greenhouse gases, must meet the permitting requirements of Chapter 116, Subchapter B of this title and cannot qualify for a permit by rule under this chapter. Notwithstanding any provision in any specific permit by rule to the contrary, a new major stationary source or major modification which is subject to Chapter 116, Subchapter B, Division 6 of this title due solely to emissions of greenhouse gases may use a permit by rule under this chapter for air contaminants that are not greenhouse gases. However, facilities or projects which require a prevention of significant deterioration permit due to emissions of greenhouse gases may not commence construction or operation until the prevention of significant deterioration permit is issued.

The project does not meet the definition of a major modification.

(4) Unless at least one facility at an account has been subject to public notification and comment as required in Chapter 116, Subchapter B or Subchapter D of this title (relating to New Source Review Permits or Permit Renewals), total actual emissions from all facilities permitted by rule at an account shall not exceed 250 tpy of CO or NOx; or 25 tpy of VOC or SO2 or PM; or 15 tpy of PM10; or 10 tpy of PM2.5; or 25 tpy of any other air contaminant except water, nitrogen, ethane, hydrogen, oxygen, and GHGs (as specified in §106.2 of this title (relating to Applicability)).

The Freeport Facility has been subject to public notice; therefore, the site is not subject to these PBR emission limits.

(5) Construction or modification of a facility commenced on or after the effective date of a revision of this section or the effective date of a revision to a specific permit by rule in this chapter must meet the revised requirements to qualify for a permit by rule.

SI Group will comply with any revisions to the PBR rules.

(6) A facility shall comply with all applicable provisions of the FCAA, §111 (Federal New Source Performance Standards) and §112 (Hazardous Air Pollutants), and the new source review requirements of the FCAA, Part C and Part D and regulations promulgated thereunder.

SI Group will comply with the referenced requirements.

(7) There are no permits under the same commission account number that contain a condition or conditions precluding the use of a permit by rule under this chapter.

There are no special or additional orders that prevent SI Group from using PBRs.

(8) The proposed facility or group of facilities shall obtain allowances for NOx if they are subject to Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program).

This project does not include NOx emissions.

(b) No person shall circumvent by artificial limitations the requirements of §116.110 of this title (relating to Applicability).

SI Group will not use artificial limitations to circumvent the requirements of 30 TAC §116.110.

(c) The emissions from the facility shall comply with all rules and regulations of the commission and with the intent of the Texas Clean Air Act (TCAA), including protection of health and property of the public, and all emissions control equipment shall be maintained in good condition and operated properly during operation of the facility.

The emissions from the project will comply with the commission and intent of the TCAA.

(d) Facilities permitted by rule under this chapter are not exempted from any permits or registrations required by local air pollution control agencies. Any such requirements must be in accordance with Texas Health and Safety Code, §382.113 and any other applicable law.

No additional permits or registrations are required by local agencies for this project.

4.2 30 TAC §106.261 – Facilities (Emission Limitations)

(a) Except as specified under subsection (b) of this section, facilities, or physical or operational changes to a facility, are permitted by rule provided that all of the following conditions of this section are satisfied.

(1) The facilities or changes shall be located at least 100 feet from any recreational area or residence or other structure not occupied or used solely by the owner or operator of the facilities or the owner of the property upon which the facilities are located.

The emissions from this project will be located at least 100 feet from any off-plant receptor.

(2) Total new or increased emissions, including fugitives, shall not exceed 6.0 pounds per hour (lb/hr) and ten tons per year of the following materials: acetylene, argon, butane, crude oil, refinery petroleum fractions (except for pyrolysis naphthas and pyrolysis gasoline) containing less than ten volume percent benzene, carbon monoxide, cyclohexane, cyclohexene, cyclopentane, ethyl acetate, ethanol, ethyl ether, ethylene, fluorocarbons Numbers 11, 12, 13, 14, 21, 22, 23, 113, 114, 115, and 116, helium, isohexane, isopropyl alcohol, methyl acetylene, methyl chloroform, methyl cyclohexane, neon, nonane, oxides of nitrogen, propane, propyl alcohol, propylene, propyl ether, sulfur dioxide, alumina, calcium carbonate, calcium silicate, cellulose fiber, cement dust, emery dust, glycerin mist, gypsum, iron oxide dust, kaolin, limestone, magnesite, marble, pentaerythritol, plaster of paris, silicon, silicon carbide, starch, sucrose, zinc stearate, or zinc oxide.

This project has no emission increases associated with the materials listed under 106.261(a)(2).

(3) Total new or increased emissions, including fugitives, shall not exceed 1.0 lb/hr of any chemical having a limit value (L) greater than 200 milligrams per cubic meter (mg/m3) as listed and referenced in Table 262 of §106.262 of this title (relating to Facilities (Emission and Distance Limitations)) or of any other chemical not listed or referenced in Table 262. Emissions of a chemical with a limit value of less than 200 mg/m3 are not allowed under this section.

Total proposed project emissions will not exceed 1.0 lb/hr of any chemical having an L value greater than 200 milligrams per cubic meter (mg/m3) or any chemical not listed or referenced in Table 262. Emissions from chemicals with a limit value of less than 200 mg/m3 are not requested to be authorized under this section.

(4) For physical changes or modifications to existing facilities, there shall be no changes to or additions of any air pollution abatement equipment.

There are no proposed physical changes or modifications to existing air pollution abatement equipment with this registration.

(5) Visible emissions, except uncombined water, to the atmosphere from any point or fugitive source shall not exceed 5.0% opacity in any six-minute period.

Visible emissions, except uncombined water, to the atmosphere will not exceed 5.0% opacity in any six (6)-minute period.

(6) For emission increases of five tons per year or greater, notification must be provided using Form PI-7 within ten days following the installation or modification of the facilities. The notification shall include a description of the project, calculations, data identifying specific chemical names, limit values, and a description of pollution control equipment, if any.

(7) For emission increases of less than five tons per year, notification must be provided using either:

(A) Form PI-7 within ten days following the installation or modification of the facilities. The notification shall include a description of the project, calculations, data identifying specific chemical names, limit values, and a description of pollution control equipment, if any; or

(B) Form PI-7 by March 31 of the following year summarizing all uses of this permit by rule in the previous calendar year. This annual notification shall include a description of the project, calculations, data identifying specific chemical names, limit values, and a description of pollution control equipment, if any.

SI Group is submitting this application via STEERS and is therefore satisfying the PI-7 CERT submittal requirement.

(b) The following are not authorized under this section:

(1) construction of a facility authorized in another section of this chapter or for which a standard permit is in effect; and

(2) any change to any facility authorized under another section of this chapter or authorized under a standard permit.

This project is not for construction of a facility authorized in another section of this chapter, or for which a standard permit is in effect, or to address any change to any facility authorized under another section of this chapter or authorized under a standard permit.

4.3 30 TAC §106.262 – Facilities (Emission and Distance Limitations)

(a) Facilities, or physical or operational changes to a facility, are permitted by rule provided that all of the following conditions of this section are satisfied.

(1) Emission points associated with the facilities or changes shall be located at least 100 feet from any off-plant receptor. Off-plant receptor means any recreational area or residence or other structure not occupied or used solely by the owner or operator of the facilities or the owner of the property upon which the facilities are located.

The emissions from this project will be located at least 100 feet from any off-plant receptor.

(2) New or increased emissions, including fugitives, of chemicals shall not be emitted in a quantity greater than five tons per year nor in a quantity greater than E as determined using the equation E = L/K and the following table.

The emissions from this project will comply with these limits. K values are calculated by interpolating intermediate values from Figure 1 in 30 TAC §106.262(a)(2) using the distance to the nearest off-plant receptor.

(3) Notification must be provided using Form PI-7 within ten days following the installation or modification of the facilities. The notification shall include a description of the project, calculations, and data identifying specific chemical names, L values, D values, and a description of pollution control equipment, if any.

This application is being submitted via STEERS and includes a certification.

(4) The facilities in which the following chemicals will be handled shall be located at least 300 feet from the nearest property line and 600 feet from any off-plant receptor and the cumulative amount of any of the following chemicals resulting from one or more authorizations under this section (but not including permit authorizations) shall not exceed 500 pounds on the plant property and all listed chemicals shall be handled only in unheated containers operated in compliance with the United States Department of Transportation regulations (49 Code of Federal Regulations, Parts 171-178): acrolein, allyl chloride, ammonia (anhydrous), arsine, boron trifluoride, bromine, carbon disulfide, chlorine, chlorine dioxide, chlorine trifluoride, chloroacetaldehyde, chloropicrin, chloroprene, diazomethane, diborane, diglycidyl ether, dimethylhydrazine, ethyleneimine, ethyl mercaptan, fluorine, formaldehyde (anhydrous), hydrogen bromide, hydrogen chloride, hydrogen cyanide, hydrogen fluoride, hydrogen selenide, hydrogen sulfide, ketene, methylamine, methyl bromide, methyl hydrazine, methyl isocyanate, methyl mercaptan, nickel carbonyl, nitric acid, nitric oxide, nitrogen dioxide, oxygen difluoride, ozone, pentaborane, perchloromethyl mercaptan, perchloryl fluoride, phosgene, phosphine, phosphorous trichloride, selenium hexafluoride, stibine, liquified sulfur dioxide, sulfur pentafluoride, and tellurium hexafluoride. Containers of these chemicals may not be vented or opened directly to the atmosphere at any time.

The project associated with this PBR will not emit or handle any of the chemicals mentioned in paragraph (a)(4).

(5) For physical changes or modifications to existing facilities, there shall be no changes or additions of air pollution abatement equipment.

There are no proposed physical changes or modifications to existing air pollution abatement equipment with this certification.

(6) Visible emissions, except uncombined water, to the atmosphere from any point or fugitive source shall not exceed 5.0% opacity in any six-minute period.

Visible emissions, except uncombined water, to the atmosphere will not exceed 5.0% opacity in any six (6)-minute period.

(b) The following are not authorized under this section except as noted in subsection (c) of this section:

(1) construction of a facility authorized in another section of this chapter or for which a standard permit is in effect; and

(2) any change to any facility authorized under another section of this chapter or authorized under a standard permit.

This project is not for construction of a facility authorized in another section of this chapter, or for which a standard permit is in effect, or to address any change to any facility authorized under another section of this chapter or authorized under a standard permit.

(c) If a facility has been authorized under another section of this chapter or under a standard permit, subsection (a)(2) and (3) of this section may be used to qualify the use of other chemicals at the facility.

This project does not include a facility that has been authorized under another section of this chapter or under a standard permit.

4.3.1 Hourly Emission Limits Under §106.262

As stated in 30 TAC §106.262(a)(2), new or increased emissions of certain pollutants are permitted no greater than E as determined using the equation E=L/K, where E is not to exceed six (6) lb/hr. This emission limit, E, is calculated using the following equation:

$$E = L/K$$

Where,

E = Maximum allowable hourly emission rate (lb/hr), not to exceed six (6) lb/hr

L = Value as listed or referenced in Table 262: Limit Values (L) for Use with Exemptions from Permitting §106.262 or the ACGIH (1997)
K = Value from the table in §106.262 (Figure 2: 30 TAC §106.262[a][2]) that is the interpolated distance to the nearest off-plant receptor.

The closest source affected by this PBR is located 1,025 feet from the nearest off-property receptor.

4.4 40 CFR 60 Subpart Kc

…the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 20,000 gallons (gal) (75.7 cubic meters (m^3)) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after October 4, 2023. (§60.110c(a))

The phrase “change in the method of operation of, an existing facility which increases the amount of any air pollutant” in the definition of modification in § 60.2 or “operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies” in § 60.14(a) means a change in operation occurs if the storage vessel is used to store a VOL that has a greater maximum true vapor pressure than all VOL historically stored or permitted; (§60.110c(e))

Storage Tank F-751 is not being modified per the definition provided in §60.110c(e). F-751 is 100,000 gallon storage tank and the maximum true vapor pressure at operating temperature of 2,4,6 TTBP is 0.42 psia (see confidential Tank F-751 Hourly Emission Calculations). PBR 172804 issued May 17, 2023 authorized the storage of 2,6 xylenol with a maximum true vapor pressure at operating temperature of 0.99 psia. Because F-751 was historically authorized to store a VOL with a greater maximum true vapor pressure, F-751 is not modified and is not an affected source under Subpart Kc.

5.0 TCEQ Forms

The following information is included in this section:

1. TCEQ 106.4 Checklist
2. PBR Compliance Table
3. NNSR Applicability
4. Speciated Emissions Summary
5. TCEQ Table 1(a) Page 1

Note: The below file was submitted through STEERS:

- 106.261 and 262 TCEQ Workbook F-751.xlsx

Texas Commission on Environmental Quality
Permit by Rule Applicability Checklist
Title 30 Texas Administrative Code § 106.4

The following checklist was developed by the Texas Commission on Environmental Quality (TCEQ), **Air Permits Division**, to assist applicants in determining whether or not a facility meets all of the applicable requirements. Before claiming a specific Permit by Rule (PBR), a facility must first meet all of the requirements of **Title 30 Texas Administrative Code § 106.4** (30 TAC § 106.4), "Requirements for Permitting by Rule." Only then can the applicant proceed with addressing requirements of the specific Permit by Rule being claimed.

The use of this checklist is not mandatory; however, it is the responsibility of each applicant to show how a facility being claimed under a PBR meets the general requirements of 30 TAC § 106.4 and also the specific requirements of the PBR being claimed. If all PBR requirements cannot be met, a facility will not be allowed to operate under the PBR and an application for a construction permit may be required under 30 TAC § 116.110(a).

Registration of a facility under a PBR can be performed by completing **Form PI-7** (Registration for Permits by Rule) or **Form PI-7-CERT** (Certification and Registration for Permits by Rule). The appropriate checklist should accompany the registration form. Check the most appropriate answer and include any additional information in the spaces provided. If additional space is needed, please include an extra page and reference the question number. The PBR forms, tables, checklists, and guidance documents are available from the TCEQ, Air Permits Division website at: www.tceq.texas.gov/permitting/air/nav/air_pbr.html.

1. 30 TAC § 106.4(a)(1) and (4): Emission Limits	**Answer**
List emissions in tpy for **each** facility (add additional pages or table if needed):	
Are the SO_2, PM_{10}, VOC, or other air contaminant emissions claimed for **each** facility in this PBR submittal less than 25 tpy?	☒ YES ☐ NO
Are the NO_x and CO emissions claimed for each facility in this PBR submittal less than 250 tpy?	☒ YES ☐ NO
*If the answer to both is "Yes," continue to the question below. If the answer to either question is "No," a **PBR cannot be claimed**.*	
Has any facility at the property had public notice and opportunity for comment under 30 TAC Section 116 for a regular permit or permit renewal? (This does not include public notice for voluntary emission reduction permits, grandfathered existing facility permits, or federal operating permits.)	☒ YES ☐ NO
If "Yes," skip to Section 2. If "No," continue to the questions below.	
If the site has had no public notice, please answer the following:	
Are the SO_2, PM_{10}, VOC, or other emissions claimed for **all** facilities in this PBR submittal less than 25 tpy?	☐ YES ☐ NO
Are the NO_x and CO emissions claimed for all facilities in this PBR submittal less than 250 tpy?	☐ YES ☐ NO
If the answer to both questions is "Yes," continue to Section 2.	
*If the answer to either question is "No," **a PBR cannot be claimed**. A permit will be required under Chapter 116.*	

Texas Commission on Environmental Quality
Permit by Rule Applicability Checklist
Title 30 Texas Administrative Code § 106.4

2. 30 TAC § 106.4(a)(2): Nonattainment Check	Answer
Are the facilities to be claimed under this PBR located in a designated ozone nonattainment county?	☒ YES ☐ NO
If "Yes," please indicate which county by checking the appropriate box to the right.	
(Moderate) - Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller counties:	☒ HGB
(Moderate) - Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise counties:	☐ DFW
If "Yes," to any of the above, continue to the next question. If "No," continue to Section 3.	
Does this project trigger a nonattainment review?	☐ YES ☒ NO
Is the project's potential to emit (PTE) for emissions of VOC or NO_x increasing by 100 tpy or more?	☐ YES ☒ NO
PTE is the maximum capacity of a stationary source to emit any air pollutant under its worst-case physical and operational design unless limited by a permit, rules, or made federally enforceable by a certification.	
Is the site an existing major nonattainment site and are the emissions of VOC or NO_x increasing by 40 tpy or more?	☐ YES ☒ NO
If needed, attach contemporaneous netting calculations per nonattainment guidance.	
Additional information can be found at: www.tceq.texas.gov/permitting/air/forms/newsourcereview/tables/nsr_table8.html and www.tceq.texas.gov/permitting/air/nav/air_docs_newsource.html	
*If "Yes," to any of the above, the project is a major source or a major modification and **a PBR may not be used**. A Nonattainment Permit review must be completed to authorize this project. If "No," continue to Section 3.*	
3. 30 TAC § 106.4(a)(3): Prevention of Significant Deterioration (PSD) check	
Does this project trigger a review under PSD rules?	
To determine the answer, review the information below:	
Are emissions of any regulated criteria pollutant increasing by 100 tpy of any criteria pollutant at a named source?	☐ YES ☒ NO
Are emissions of any criteria pollutant increasing by 250 tpy of any criteria pollutant at an unnamed source?	☐ YES ☒ NO
Are emissions increasing above significance levels at an existing major site?	☐ YES ☒ NO
PSD information can be found at: www.tceq.texas.gov/assets/public/permitting/air/Forms/NewSourceReview/Tables/10173tbl.pdf and www.tceq.texas.gov/permitting/air/nav/air_docs_newsource.html	
*If "Yes," to any of the above, **a PBR may not be used**. A PSD Permit review must be completed to authorize the project.*	
If "No," continue to Section 4.	

Texas Commission on Environmental Quality
Permit by Rule Applicability Checklist
Title 30 Texas Administrative Code § 106.4

4. 30 TAC § 106.4(a)(6): Federal Requirements	Answer
Will all facilities under this PBR meet applicable requirements of Title 40 Code of Federal Regulations (40 CFR) Part 60, New Source Performance Standards (NSPS)?	☒ YES ☐ NO ☐ NA
If "Yes," which Subparts are applicable? *(answer below.)*	
NSPS Kb	
Will all facilities under this PBR meet applicable requirements of 40 CFR Part 63, Hazardous Air Pollutants Maximum Achievable Control Technology (MACT) standards?	☐ YES ☐ NO ☒ NA
If "Yes," which Subparts are applicable? *(answer below.)*	
Will all facilities under this PBR meet applicable requirements of 40 CFR Part 61, National Emissions Standards for Hazardous Air Pollutants (NESHAPs)?	☐ YES ☐ NO ☒ NA
If "Yes," which Subparts are applicable? *(answer below.)*	
If "Yes" to any of the above, please attach a discussion of how the facilities will meet any applicable standards.	
5. 30 TAC § 106.4(a)(7): PBR prohibition check	
Are there any air permits at the site containing conditions which prohibit or restrict the use of PBRs?	☐ YES ☒ NO
If "Yes," PBRs may not be used or their use must meet the restrictions of the permit. A new permit or permit amendment may be required.	
List permit number(s):	
6. 30 TAC § 106.4(a)(8): NO_x Cap and Trade	
Is the facility located in Harris, Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery, or Waller County?	☒ YES ☐ NO
If "Yes," answer the question below.	
If "No," continue to Section 7.	
Will the proposed facility or group of facilities obtain required allowances for NO_x if they are subject to 30 TAC Chapter 101, Subchapter H, Division 3 (relating to the Mass Emissions Cap and Trade Program)?	☒ YES ☐ NO

Texas Commission on Environmental Quality
Permit by Rule Applicability Checklist
Title 30 Texas Administrative Code § 106.4

7. Highly Reactive Volatile Organic Compounds (HRVOC) check		
Is the facility located in Harris County?		☐ YES ☒ NO
If "Yes," answer the next question. If "No," skip to the box below.		
Will the project be constructed after June 1, 2006?		☐ YES ☐ NO
If "Yes," answer the next question.		
If "No," skip to the box below.		
Will one or more of the following HRVOC be emitted as a part of this project?		☐ YES ☐ NO
If "Yes," complete the information below:		
Information	**lb/hr**	**tpy**
► 1,3-butadiene		
► all isomers of butene (e.g., isobutene [2-methylpropene or isobutylene])		
► alpha-butylene (ethylethylene)		
► beta-butylene (dimethylethylene, including both cis- and trans-isomers)		
► ethylene		
► propylene		
Is the facility located in Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery, or Waller County?		☒ YES ☐ NO
If "Yes," answer the next question. If "No," the checklist is complete.		
Will the project be constructed after June 1, 2006?		☒ YES ☐ NO
If "Yes," answer the next question. If "No," the checklist is complete.		
Will one or more of the following HRVOC be emitted as a part of this project?		☐ YES ☒ NO
If "Yes," complete the information below:		
Information	**lb//hr**	**tpy**
► ethylene		
► propylene		

Save Form Reset Form

SI Group, Inc.

Freeport, Texas

Tank F-751 (additional storage of 2,4,6 TTBP Flashed) Project
Table 5.2 PBR Compliance Table

Compliance with §106.4 - Requirements for Permitting by Rule

Compound	Emission Rate Increase		§106.4 Allowable Increase	Complies?
	Max. Hourly (lb/hr)	Annual (tpy)	Annual (tpy)	
VOC	3.33	0.25	25	Complies

§106.262 Health Effects Values

Parameter	Value	Unit
Distance to Nearest Off-Plant Receptor [D]	1025	ft
§106.262 K Value [K]	33.50	

Compliance with §106.261 and §106.262 - Facilities (Emission Limitations)

Compound	CAS #	Tank F-751 Emission Rate (EPN: T6001)		Total Emission Rate Increase		Limit [L]	Allowable Emission Increase		Compliance Check		Authorization
		Max. Hourly (lb/hr)	Annual (tpy)	Max. Hourly (lb/hr)	Annual (tpy)	(mg/m^3)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	
2,4,6-Tri-Tert-Butylphenol	732-26-3	0.99	0.12	0.99	0.12	N/A	1.00	4.38	Complies	Complies	§106.261(a)(3)
2,4-Di-Tert-Butylphenol	96-76-4	0.46	0.04	0.46	0.04	N/A	1.00	4.38	Complies	Complies	§106.261(a)(3)
2,5-Di-Tert-Butylphenol	5875-45-6	0.38	0.05	0.38	0.05	N/A	1.00	4.38	Complies	Complies	§106.261(a)(3)
2,6-Di-Tert-Butylphenol	128-39-2	0.59	0.04	0.59	0.04	N/A	1.00	4.38	Complies	Complies	§106.261(a)(3)
Ortho-Tert-Butylphenol	88-18-6	0.17	3.59E-03	0.17	3.59E-03	N/A	1.00	4.38	Complies	Complies	§106.261(a)(3)
Phenol	108-95-2	0.55	3.59E-03	0.55	3.59E-03	19.00	0.57	2.48	Complies	Complies	§106.262(a)(2)
Para-Tert-Butylphenol	98-54-4	0.11	4.78E-03	0.11	4.78E-03	N/A	1.00	4.38	Complies	Complies	§106.261(a)(3)
PTBP/OTBP Ether	31603-95-9	0.08	3.59E-03	0.08	3.59E-03	N/A	1.00	4.38	Complies	Complies	§106.261(a)(3)

SI Group, Inc.
Freeport, Texas
Tank F-751 (additional storage to 2,4,6 TTBP Flashed) Project
Table 5.3: NNSR Applicability

FIN	EPN	Source	Pollutant	Actuals (tpy)		Actual 2 year average (tpy)	Proposed (tpy)	Proposed minus Actual	Netting Threshold (tpy)	Netting required?
				2016	2017					
F-751	T6001	Tank F-751	VOC	0.0114	0.0089	0.0102	0.255	0.245		
			Total VOC	0.01	0.01	0.01	0.255	0.245	5.00	No

SI Group, Inc.

Freeport, Texas

Table 5.4 Speciated Emissions

Compound	CAS #	Tank F-751 Emission Rate (EPN: T6001)[1]	
		Max. Hourly (lb/hr)[2]	Annual (tpy)
PTBP	98-54-4	0.11	4.78E-03
Phenol	108-95-2	0.55	3.59E-03
OTBP	88-18-6	0.17	3.59E-03
2,4 DTBP	96-76-4	0.46	3.59E-02
2,5 DTBP	5875-45-6	0.38	4.78E-02
2,6 DTBP	128-39-2	0.59	3.59E-02
2,4,6 TTBP	732-26-3	0.99	1.20E-01
PTBP/OTBP Ether	31603-95-9	0.08	3.59E-03
VOC		**2.34**	**0.25**

[1] Additional storage of Flashed 2,4,6 TTBP.

[2] Maximum hourly is worst case for each chemical and exceeds 100%. 2,4,6 TTBP = 100% and is therefore excluded from the total.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Table 1(a) Emission Point Summary

Date:	January 2025
Permit No.:	TBD
Regulated Entity No.:	RN100218999
Area Name:	SI Group, Inc.
Customer Reference No.:	CN603119280

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this Table.

EPN	FIN	Name	Component or Air Contaminant Name	Air Contaminant Emission Rate lb/hr	Air Contaminant Emission Rate TPY
T6001	F-751	Storage Tank F-751 (additional storage of Flashed 2,4,6 TTBP)	VOC	2.34	0.25

EPN = Emission Point Number
FIN = Facility Identification Number