



TCEQ PERMIT BY RULE APPLICATION
30 TAC §106.261
30 TAC §106.262



Corpus Christi Liquefaction LLC

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Project 254404.0195

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1. INTRODUCTION

Corpus Christi Liquefaction, LLC (CCL), owns and operates a liquefied natural gas (LNG) terminal located in San Patricio and Nueces County, Texas. The majority of the terminal processes are authorized under NSR Permit No. 105710/PSDTX1306M1/GHGPSDTX123M1. Additional processes and units at this terminal operate under separate authorizations (New Source Review Permits and Permits by Rules). The site operates under Site Operating Permit O3580.

This registration is being submitted to authorize the addition of new fugitive components to an existing process area (Emission Point Number [EPN] FUG). The additional fugitive component will result in increased fugitive emissions of volatile organic compounds (VOCs) and hydrogen sulfide (H₂S).

The changes qualify for authorization through Title 30 of the Texas Administrative Code (30 TAC) Section (§) 106.261 – Facilities (Emission Limitations) and 30 TAC §106.262 - Facilities (Emission and Distance Limitations). Additionally, this document demonstrates that the associated emissions comply with the general requirements for authorization through Permits by Rule (PBR) as outlined in 30 TAC §106.4. This documentation includes the supporting documentation for the PBR application, including an area map, emission calculations, review of potentially applicable regulatory requirements, and PBR checklists.

A Title V off-permit notification is not required for the addition of a new component to a fugitive emission source.¹

¹ Texas Commission on Environmental Quality Air Permits Division Site Operation Permit (SOP) Revision Application Guidance, TCEQ-(APD-ID151v1.0, revised 05/22), Section VII.D.

2. PERMIT BY RULE FEE

In accordance with 30 TAC §106.50 – Registration Fees for New Permits By Rule, a \$450 fee is required to be submitted for this registration. The fee has been submitted via TCEQ ePay.

3. EMISSIONS DATA

This section provides detailed emissions data associated with the proposed fugitive components. The Emission Summary table is provided at the end of this section. The listed emissions represent only the emission increases from the Emission Point Number (EPN) being updated. An emissions summary are shown in Table 3-1 and detailed emission calculations are provided in Appendix A.

Fugitive emissions from equipment leaks are calculated using component counts and emission factors for each component type taken from TCEQ, *Uncontrolled SOCMIs Without Ethylene (C₂) Fugitive Emission Factors*.² Control efficiencies are obtained from TCEQ, *Control Efficiencies for LDAR*, APDG 6422v2, June 2018, for 28M and 28VHP leak detection and repair (LDAR) program, depending on the process area where the new components are located. The component associated with the proposed project is monitored by the above LDAR programs. Speciated VOC other compositions are based on the composition of the supplemental process stream.

Hourly emissions are calculated as follows:

$$\begin{aligned} &\text{Hourly Emissions } \left(\frac{\text{lb}}{\text{hr}} \right) \\ &= \text{Component Count} \times \text{Emission Factor } \left(\frac{\text{lb}}{\text{hr} \cdot \text{comp.}} \right) \\ &\quad \times \text{Content in Fugitives (\%)} \times \% \text{ comp. in LDAR Program} \times [1 - \text{LDAR Program Control Efficiency (\%)}] \end{aligned}$$

This project includes fugitives from several different streams, each with their own unique composition. Total emissions were calculated using the above methodology for each composition, and totaled together to determine hourly and annual emissions.

The annual emission rate is based on maximum operation equivalent to 8,760 hr/yr.

Table 3-1: Emission Summary

Fugitive Emissions Summary		
EPN ¹	VOC	
	Hourly (lb/hr)	Annual (tpy)
FUG	0.22	0.96
30 TAC §106.4 Limits ²		25
Below 30 TAC §106.4 Limits?		YES

¹ Emission rates are represented as project-related increases.

² Per 30 TAC §106.4 (a)(1)

² <https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/NewSourceReview/fugitive-guidance.pdf>, last accessed in February 2025.

4. PBR APPLICABILITY ANALYSIS

This PBR documentation is to demonstrate compliance with PBR §106.4, §106.261 and §106.262 for fugitive emissions.

4.1 §106.4 General Requirements for Permitting by Rule

A completed §106.4 checklist is included in Section 5 demonstrating the source will meet the requirements for permitting by rule. The total project emissions, shown in Table 3-1 demonstrate compliance with the limits listed in §106.4(a)(1).

4.2 §106.261 Facilities (Emission Limitations)

The following subsections identify the applicable requirements of PBR 106.261 and PBR 106.262, as well as document how the CCL facility will comply with each requirement. General requirements for authorization under a PBR are discussed in Section 4 of this registration application. Regulatory text is provided in italics with responses in bold text.

(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 location of the new fugitive components are at least 100 feet from any off-property recreational area, residence, or other structure not occupied or used solely by CCL.

(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.

Emissions of chemicals authorized by this subparagraph do not exceed 6.0 pound per hour and 10 tons per year.

(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.

Emissions of chemicals authorized by this paragraph will not exceed 1.0 pound per hour.

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

The project does not involve the modification of any air pollution abatement equipment.

- (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.*

Emissions from the additional fugitive components will not exceed 5.0% opacity in any six-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.*

The total emissions authorized under this section are less than 5 tpy. Therefore, this section does not apply.

- (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.*

The total emissions authorized under this section are less than 5 tpy. This application is being submitted to authorize the changes at the CLL facility under PBR.

- (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.*

None of the facilities associated with this PBR are authorized under another PBR or standard permit.

4.3 §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 new fugitive components are located at least 100 feet from any off-plant receptor not occupied by CCL.

- (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.*

Emissions will be emitted in a quantity greater than five tons per year, nor in a quantity greater than E.

- (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 registration package includes all data referenced above.

- (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, phosphorus 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.*

None of the listed chemicals are handled as part of this application.

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

The project does not involve the modification of any air pollution abatement equipment.

(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.

Emissions from the additional fugitive components will not exceed 5.0% opacity in any six-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.*

The new fugitive components cannot be authorized under another PBR or 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.

The project does not meet the requirements of other sections of Chapter 106 and therefore will not be authorized under another section. There are no standard permits covering the facilities associated with this project.

5. ADMINISTRATIVE FORMS

This section contains the following form:

- ▶ TCEQ PBR §106.4 Checklist.

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
<i>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.</i>	
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
<i>If "Yes," skip to Section 2. If "No," continue to the questions below.</i>	
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
<i>If the answer to both questions is "Yes," continue to Section 2.</i>	
<i>If the answer to either question is "No," a PBR cannot be claimed. A permit will be required under Chapter 116.</i>	

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
<i>If "Yes," please indicate which county by checking the appropriate box to the right.</i>	
(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
<i>If "Yes," to any of the above, continue to the next question. If "No," continue to Section 3.</i>	
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
<i>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.</i>	
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
<i>If needed, attach contemporaneous netting calculations per nonattainment guidance.</i>	
Additional information can be found at: www.tceq.texas.gov/permitting/air/forms/newsource/tables/nsr_table8.html and www.tceq.texas.gov/permitting/air/nav/air_docs_newsource.html	
<i>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.</i>	
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	
<i>If "Yes," to any of the above, a PBR may not be used. A PSD Permit review must be completed to authorize the project.</i>	
<i>If "No," continue to Section 4.</i>	

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? (<i>answer below.</i>)	
Subpart VVa	
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? (<i>answer below.</i>)	
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? (<i>answer below.</i>)	
<i>If "Yes" to any of the above, please attach a discussion of how the facilities will meet any applicable standards.</i>	
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
<i>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.</i>	
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
<i>If "Yes," answer the question below.</i>	
<i>If "No," continue to Section 7.</i>	
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	
<i>If "Yes," answer the next question. If "No," skip to the box below.</i>		
Will the project be constructed after June 1, 2006?	☐ YES ☐ NO	
<i>If "Yes," answer the next question.</i>		
<i>If "No," skip to the box below.</i>		
Will one or more of the following HRVOC be emitted as a part of this project?	☐ YES ☐ NO	
<i>If "Yes," complete the information below:</i>		
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	
<i>If "Yes," answer the next question. If "No," the checklist is complete.</i>		
Will the project be constructed after June 1, 2006?	☐ YES ☐ NO	
<i>If "Yes," answer the next question. If "No," the checklist is complete.</i>		
Will one or more of the following HRVOC be emitted as a part of this project?	☐ YES ☐ NO	
<i>If "Yes," complete the information below:</i>		
Information	lb/hr	tpy
▶ ethylene		
▶ propylene		

Save Form

Reset Form

6. STATE AND FEDERAL APPLICABILITY

This section provides a summary of applicable state and federal requirements potentially applicable to the fugitive source in the PBR documentation.

6.1 State Requirements Review

- ▶ 30 TAC Chapter 111:
 - The equipment leaks proposed to be authorized under this registration do not have PM emissions; therefore, requirements in this chapter do not apply.
- ▶ 30 TAC Chapter 112:
 - The equipment leaks will comply with the applicable requirements of Chapter 112, regarding the control of sulfur compounds. Subchapters C and D do not apply to the CCL facility because the site does not emit sulfuric acid or total reduced sulfur from a Kraft pulp mill. Subchapter A does not apply as there are no sulfur dioxide (SO₂) emissions from the fugitives. Subchapter B applies to emissions of H₂S. Cheniere will comply with all applicable Subchapter B requirements.
- ▶ 30 TAC Chapter 115:
 - The CLL facility is located in San Patricio and Nueces County and, therefore, the project will be regulated by Chapter 115. Subpart D applies to the fugitive emissions of the CLL facility. The equipment leaks components will be added to the existing LDAR program that meets the requirements of these rules.
- ▶ 30 TAC Chapter 117:
 - The equipment leaks do not have emissions of nitrogen compounds; therefore, this project is not subject to any requirements in this chapter.
- ▶ 30 TAC Chapter 122:
 - The CCL facility operates under a site operating permit (SOP No. O3580). An off-permit notification is not required for this project as described in Section 1.

6.2 Federal Requirements Review

Part 60 – New Source Performance Standards

- ▶ 40 CFR Part 60 Subpart A:
 - This subpart applies to any site that has applicable New Source Performance Standards (NSPS) Subpart; therefore, Cheniere will comply with the general requirements in Subpart A.
- ▶ 40 CFR Part 60 Subpart VVa:
 - This subpart applies to equipment leaks of VOC in the synthetic organic chemicals manufacturing industry for which construction, reconstruction, or modification commenced after November 7, 2006.
 - The equipment leaks included in this project are new fugitive components to be installed after November 7, 2006. Therefore, the new equipment leaks are subject to the requirements of NSPS Subpart VVa. Cheniere will comply with all applicable requirements under NSPS VVa for the equipment leaks.

Part 61 – National Emission Standards for Hazardous Air Pollutants

- ▶ 40 CFR Part 61 Subpart A:
 - This subpart applies to any site that has an applicable National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart. The CCL facility is not subject to any Part 61 Subparts; therefore; Cheniere is not subject to the general requirements in Subpart A.

Part 63 – National Emission Standards for Hazardous Air Pollutants

- ▶ 40 CFR Part 63 Subpart A:
 - This subpart applies to any site that has applicable Maximum Achievable Control Technology (MACT) Subpart. Since the Beaumont Plant is subject to at least one MACT Subpart, Cheniere will continue to comply with the general requirements in Subpart A. However, no MACT Subparts are directly applicable to this project.

6.3 NNSR & PSR Applicability Review

Under U.S. Environmental Protection Agency (EPA) and TCEQ rules, sites located in areas that are designated in attainment of the National Ambient Air Quality Standards (NAAQS) for a criteria pollutant are potentially regulated under the PSD program if they are considered *major sources*. Major source thresholds are defined in 40 CFR §52.21 (b)(1)(i). The CCL facility is a major source under the PSD program, as noted in Section 1. However, this project itself does not constitute a major source, as emissions increases associated with this project do not exceed the applicable PSD VOC SER. Therefore, PSD permitting does not apply to this project.

NNSR applies to facilities located in areas designated as nonattainment for one or more of the criteria pollutants. The CCL facility is located in San Patricio and Nueces County, which has been designated as an attainment or unclassified area for all pollutants.³ Therefore, the facility is not subject to the NNSR.

³ U.S. EPA Green Book. Source: http://www3.epa.gov/airquality/greenbook/anayo_tx.html, accessed in February 2025.

APPENDIX A. EMISSION CALCULATIONS

Table A-1
Emission Summary
Corpus Christi Liquefaction Stage 1&2
EPN: FUG

Compound	Stream:						Emissions:	
	Feed Gas	Fuel Gas	Propane	Ethylene	Condensate (LL)	Condensate (GV)	Short-Term (lb/hr)	Annual (tpy)
Nitrogen	0.81%	9.01%	--	--	--	--	7.5E-03	3.3E-02
Water	0.02%	0.08%	--	--	--	--	1.0E-04	4.6E-04
Carbon Dioxide	3.39%	0.65%	--	--	--	--	1.6E-02	7.2E-02
Methane	91.09%	89.07%	--	1.00%	--	--	4.7E-01	2.1E+00
Ethane	3.37%	0.80%	--	--	--	--	1.6E-02	7.2E-02
Ethylene	--	--	1.00%	99.00%	--	--	8.2E-02	3.6E-01
Propane	0.65%	0.17%	98.00%	--	--	--	8.0E-02	3.5E-01
Isobutane	0.21%	0.06%	--	--	--	--	1.0E-03	4.4E-03
n-Butane	0.17%	0.05%	--	--	2.36%	8.64%	3.5E-03	1.5E-02
Isopentane	0.09%	0.03%	--	--	--	--	4.2E-04	1.8E-03
n-Pentane	0.04%	0.01%	--	--	25.42%	43.50%	1.7E-02	7.7E-02
n-Hexane	0.10%	0.04%	0.17%	--	36.56%	38.73%	2.0E-02	8.8E-02
Benzene	0.01%	0.01%	--	--	2.99%	1.24%	1.2E-03	5.3E-03
n-Heptane	0.06%	0.03%	0.33%	--	17.95%	6.15%	7.3E-03	3.2E-02
Hydrogen Sulfide	0.00%	0.00%	--	--	--	--	4.1E-06	1.8E-05
Cyclopentane	--	--	0.16%	--	--	--	1.3E-04	5.5E-04
n-Decane	--	--	--	--	0.96%	0.01%	2.9E-04	1.3E-03
n-Nonane	--	--	0.17%	--	2.25%	0.11%	8.3E-04	3.6E-03
n-Octane	--	--	0.17%	--	8.88%	1.23%	3.1E-03	1.3E-02
Toluene	--	--	--	--	1.64%	0.30%	5.6E-04	2.4E-03
Xylene (-o)	--	--	--	--	1.00%	0.08%	3.2E-04	1.4E-03

Table A-2
Emissions by Stream
Corpus Christi Liquefaction Stage 1&2
EPN: FUG

Stream	GV or LL	Component Type	Component Count	LDAR Program ¹	SOCMI w/o C2 Emission Factor ²	LDAR Control Efficiency ³	Controlled (lb/hr)	Controlled (tpy)
Fuel Gas	GV	Valve	3	28M	0.0089	0.75	0.0067	0.0292
Feed Gas	GV	Valve	8	28M	0.0089	0.75	0.0178	0.0780
Ethylene	LL	Connector	1	28VHP	0.0005	0.3	0.0004	0.0015
Fuel Gas	GV	Valve	4	28M	0.0089	0.75	0.0089	0.0390
Feed Gas	GV	Connector	54	28M	0.0029	0.3	0.1096	0.4801
Feed Gas	GV	Valve	32	28M	0.0089	0.75	0.0712	0.3119
Propane	GV	Connector	32	28VHP	0.0029	0.3	0.0650	0.2845
Propane	LL	Connector	15	28VHP	0.0005	0.3	0.0053	0.0230
Propane	GV	Valve	18	28VHP	0.0089	0.97	0.0048	0.0211
Propane	LL	Valve	10	28VHP	0.0035	0.97	0.0011	0.0046
Ethylene	GV	Connector	34	28VHP	0.0029	0.3	0.0690	0.3023
Ethylene	LL	Connector	3	28VHP	0.0005	0.3	0.0011	0.0046
Ethylene	GV	Valve	28	28VHP	0.0089	0.97	0.0075	0.0327
Fuel Gas	GV	Valve	4	28M	0.0089	0.75	0.0089	0.0390
Feed Gas	GV	Connector	29	28M	0.0029	0.3	0.0589	0.2579
Feed Gas	GV	Valve	8	28M	0.0089	0.75	0.0178	0.0780
Condensate (GV)	GV	Connector	8	28VHP	0.0029	0.3	0.0162	0.0711
Condensate (GV)	GV	Valve	6	28VHP	0.0089	0.97	0.0016	0.0070
Fuel Gas	GV	Valve	4	28M	0.0089	0.75	0.0089	0.0390
Feed Gas	GV	Connector	27	28M	0.0029	0.3	0.0548	0.2401
Feed Gas	GV	Valve	32	28M	0.0089	0.75	0.0712	0.3119
Feed Gas	GV	Connector	12	28M	0.0029	0.3	0.0244	0.1067
Feed Gas	LL	Connector	8	28M	0.0005	0.3	0.0028	0.0123
Feed Gas	GV	Valve	9	28M	0.0089	0.75	0.0200	0.0877
Feed Gas	LL	Valve	5	28M	0.0035	0.75	0.0044	0.0192
Propane	LL	Connector	6	28VHP	0.0005	0.3	0.0021	0.0092
Propane	LL	Valve	2	28VHP	0.0035	0.97	0.0002	0.0009
Condensate (LL)	LL	Connector	8	28VHP	0.0005	0.3	0.0028	0.0123
Condensate (LL)	LL	Valve	4	28VHP	0.0035	0.97	0.0004	0.0018
Condensate (LL)	LL	Connector	64	28VHP	0.0005	0.3	0.0224	0.0981
Condensate (LL)	LL	Valve	42	28VHP	0.0035	0.97	0.0044	0.0193
Condensate (GV)	GV	Connector	2	28VHP	0.0029	0.3	0.0041	0.0178
Condensate (GV)	GV	Valve	1	28VHP	0.0089	0.97	0.0003	0.0012
Fuel Gas	GV	Connector	2	28M	0.0029	0.3	0.0041	0.0178
Fuel Gas	GV	Valve	1	28M	0.0089	0.75	0.0022	0.0097
Feed Gas	GV	Connector	7	28M	0.0029	0.3	0.0142	0.0622
Feed Gas	GV	Valve	2	28M	0.0089	0.75	0.0045	0.0195
Ethylene	GV	Connector	2	28VHP	0.0029	0.3	0.0041	0.0178
Feed Gas	GV	Connector	2	28M	0.0029	0.3	0.0041	0.0178
Feed Gas	GV	Valve	1	28M	0.0089	0.75	0.0022	0.0097

¹ LDAR program selected based on the stream as stated in the Special Conditions of the Permit.

² SOCMI w/o ethylene emission factors are outlined in Table I of TCEQ (APDG 6422v2, Revised 06/18).

³ LDAR control efficiencies are outlined in Table V of TCEQ (APDG 6422v2, Revised 06/18).

APPENDIX B. TCEQ GENERAL FACILITIES WORKBOOK

Please fill out all input / yellow cells unless marked optional. Also, please note that emissions must be fully speciated and cannot have general categories listed (e.g. "Organics").

☐ Yes

II. §106.262(a)(3)-(a)(4)	
Notification must be provided using Form PI-7 within ten days following the installation or modification of the facilities.	I agree
*Does this registration handle any of the following chemicals?	Yes
**Distance to property line (feet):	1600.00
**Distance to any off-plant receptor (feet):	1600.00
Cumulative amount of the above listed chemicals authorized under this section (pounds):	0.00
Containers of these chemicals may not be vented or opened directly to the atmosphere at any time:	I agree
*Chemical List: acrolein, allyl chloride, ammonia (anhydrous), arsine, boron trifluoride, bromine, carbon disulfide, chlorine, chlorine dioxide, chlorine trifluoride, chloroacetaldehyde, chloroplatin, 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, phosphorus trichloride, selenium hexafluoride, stibine, liquified sulfur dioxide, sulfur pentafluoride, and tellurium hexafluoride.	
**These chemicals shall be handled at least 300 feet from the nearest property line and 600 feet from any off-plant receptor, and the cumulative amount of any of these 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).	

This sheet provides the emissions summary from chemicals authorized under §106.261 and/or §106.262.

If the company is representing a different method to demonstrate compliance, please include a note next to the applicable chemical and attach additional sheets to the application.

[illegible][illegible]

Emission Point Summary Table

The emission point summary table provided here is optional.

Instructions:

Please fill out the Emission Point Summary Table for the project emissions, including all emissions and rules being registered. Additional rows can be added if needed.

"Other" Criteria Pollutant (Optional)

EPN / Source Name	Rule(s)	VOC (lb/hr)	VOC (tpy)	NO _x (lb/hr)	NO _x (tpy)	CO (lb/hr)	CO (tpy)	SO ₂ (lb/hr)	SO ₂ (tpy)	PM (lb/hr)	PM (tpy)	PM ₁₀ (lb/hr)	PM ₁₀ (tpy)	PM _{2.5} (lb/hr)	PM _{2.5} (tpy)	Other (lb/hr)	Other (tpy)
FUG / Fugitive Emissions	\$106.261(a)	0.17	0.73														
FUG / Fugitive Emissions	\$106.261(a)	< 0.01	0.01														
FUG / Fugitive Emissions	\$106.262(a)	0.03	0.13														
FUG / Fugitive Emissions	\$106.262(a)	0.02	0.09														