

Corpus Christi Liquefaction, LLC  
CCL Midscale 8-9, LLC

Corpus Christi Liquefaction Midscale Trains 8 & 9 Project

Docket No. CP23-129-000

Submitted to FERC November 24, 2023

**ATTACHMENT 1**

**AIR QUALITY IMPACT ANALYSIS FOR HAPS  
CORPUS CHRISTI LIQUEFACTION, LLC  
FERC DOCKET NO. CP23-129-000  
Midscale Trains 8&9 Project**

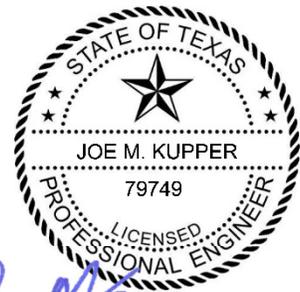


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A handwritten signature in blue ink that reads "Joe M. Kupper".

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## 1. EXECUTIVE SUMMARY

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Corpus Christi Liquefaction, LLC (CCL), a subsidiary of Cheniere Energy, Inc, owns and operates the liquefied natural gas (LNG) Terminal (the "Terminal"), located near Gregory, in San Patricio and Nueces Counties, Texas. CCL is currently authorized to construct and operate a natural gas liquefaction and export plant, referred to as the LNG Terminal. Three liquefaction trains, Trains 1, 2, and 3, are authorized to operate at the LNG Terminal. CCL is also authorized to construct seven additional liquefaction trains, as well as the equipment needed to support the new trains (also known as the Stage 3 Project). CCL is seeking to expand the Stage 3 Project by adding 2 additional trains (Trains 8 and 9) and update representations to reflect final design of the entire Stage 3 project.

Per the request of Federal Energy Regulatory Commission (FERC) staff, Trinity Consultants has prepared this modeling analysis to determine the air quality impact from hazardous air pollutants (HAPs) within a 50 kilometer (km) radius of the Terminal. The report identifies the maximum ground-level concentrations at location outside Terminal property; also known as off-property ground level concentration (GLCmax) and maximum concentration in each census block that has been identified as an environmental justice (EJ) community.

This modeling report presents the methodology followed in conducting the HAP impact analysis. The modeling methodologies used in this analysis are consistent with current Texas Commission on Environmental Quality (TCEQ) and U.S. Environmental Protection Agency (EPA) guidelines.<sup>1,2</sup>

The model results, discussed in Section 5, demonstrate that none of the maximum HAP concentrations exceed their respective TCEQ Effects Screening Level (ESL).

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<sup>1</sup> Code of Federal Regulations, Title 40-Protection of the Environment, Part 51, Appendix W, Guideline on Air Quality Models, January 2017.

<sup>2</sup> TCEQ, *Air Quality Modeling Guidelines*, APDG 6232v4, November 2019.

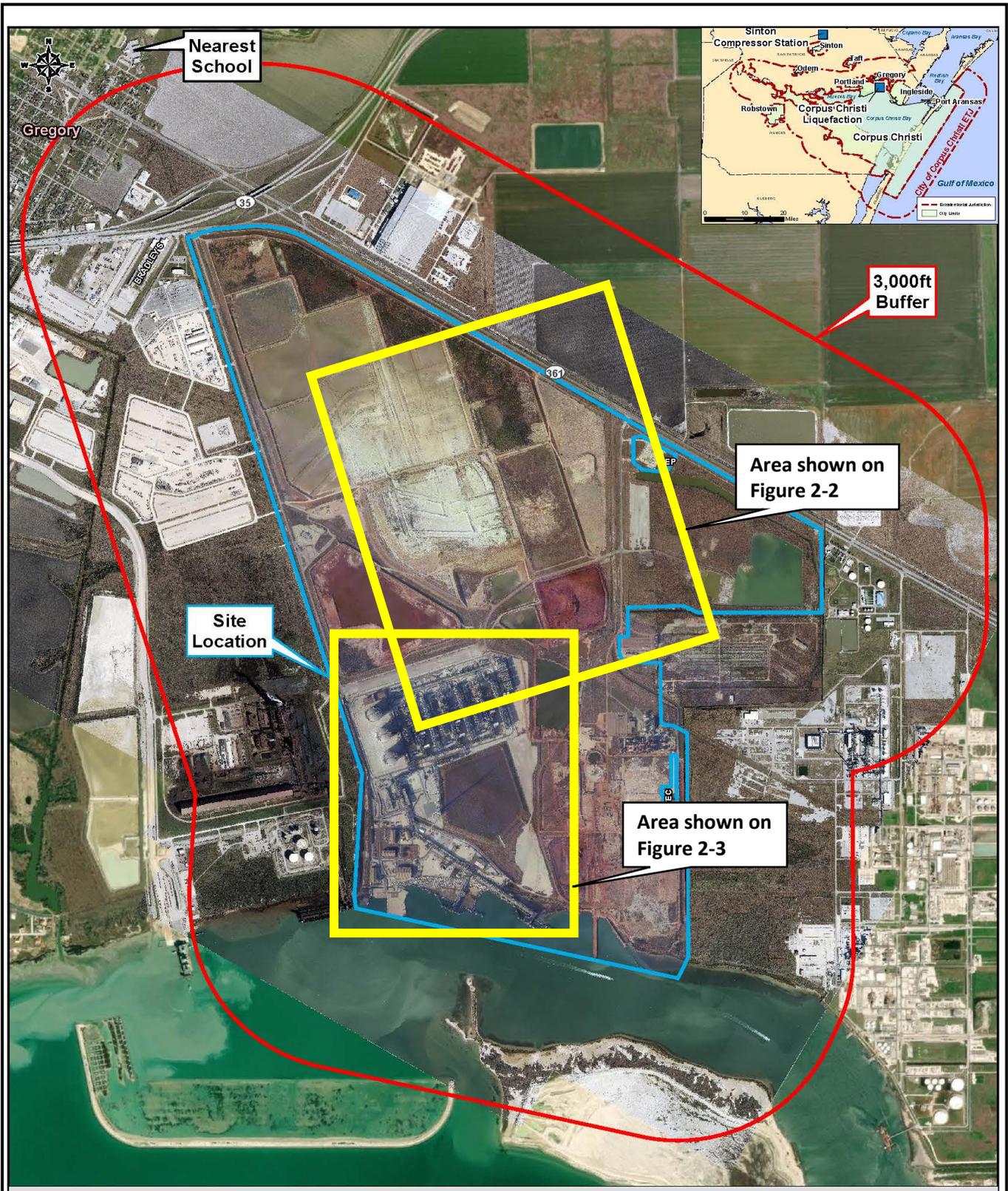
## 2. AREA MAP AND PLOT PLAN

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The Terminal is located on the northern shore of Corpus Christi Bay in San Patricio and Nueces Counties.

Figure 2-1 is the Area Map illustrating the location of the facility, using an underlay of an aerial view retrieved using the Google™ Earth program. The figure shows the property boundary (blue line), including the safety zones excluded from ambient air impacts surrounding the marine loading areas. The Universal Transverse Mercator (UTM) coordinates are based on the North American Datum (NAD) of 1983.

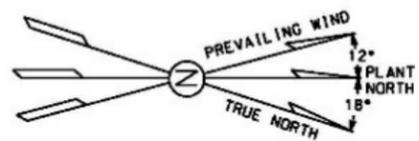
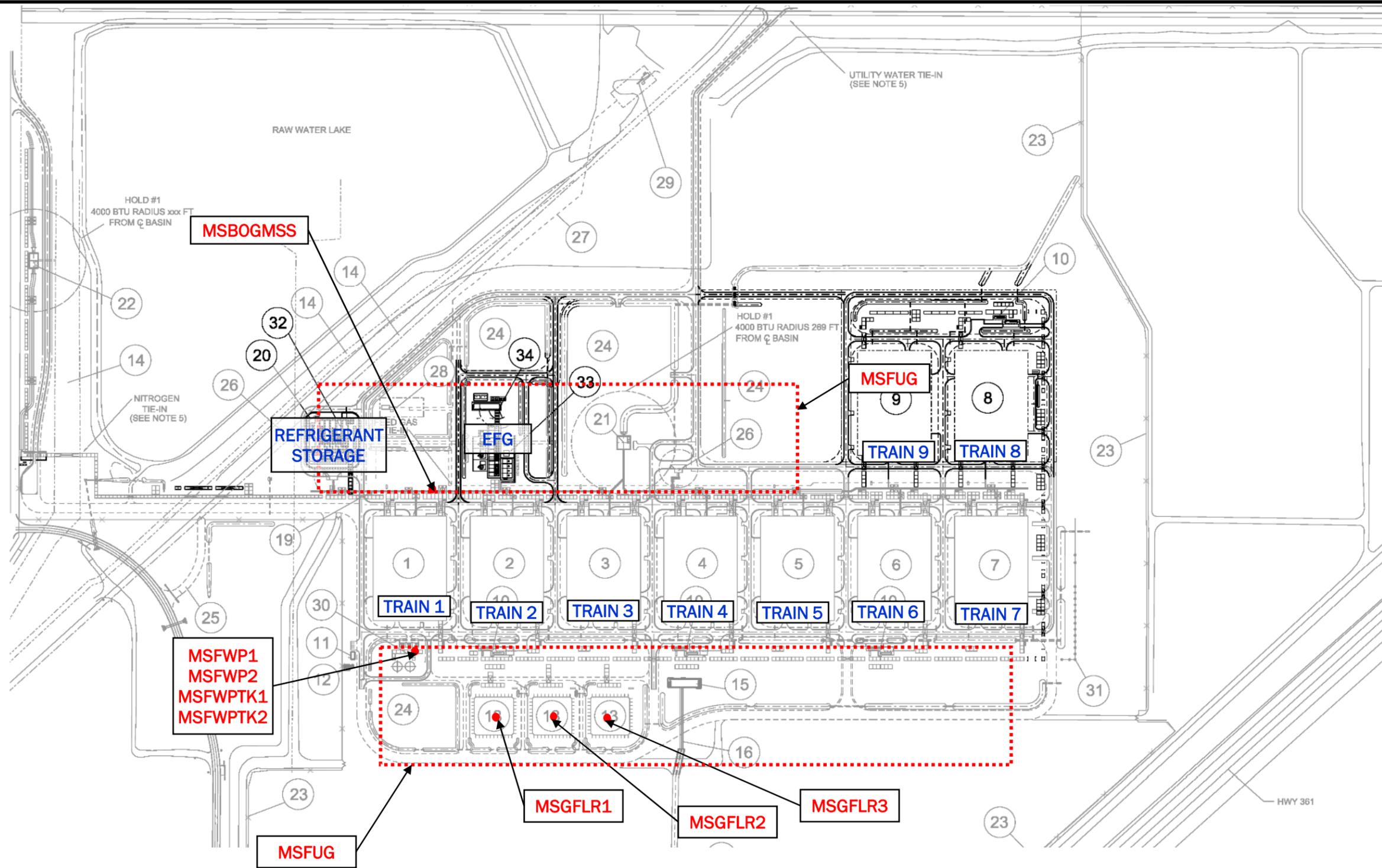
The overall plot plan for the Stage 3 project is presented in Figure 2-2 and a detailed figure for one of the individual train for Stage 3 is presented in Figure 2-3. The Stage 1 and 2 project plot plan is presented in Figure 2-4.



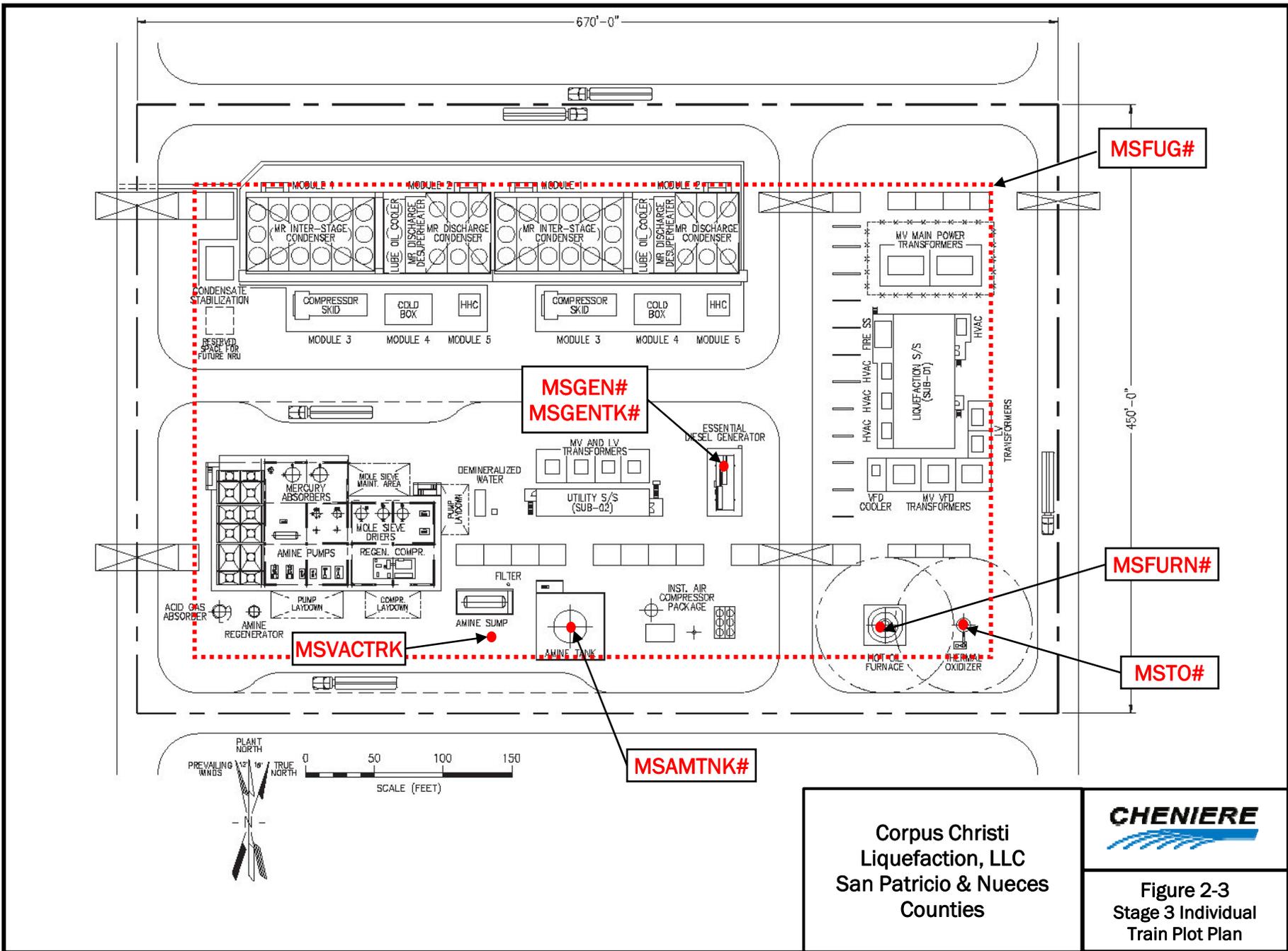
**CHENIERE CORPUS CHRISTI LIQUEFACTION SITE**



Figure 2-1  
Area Map



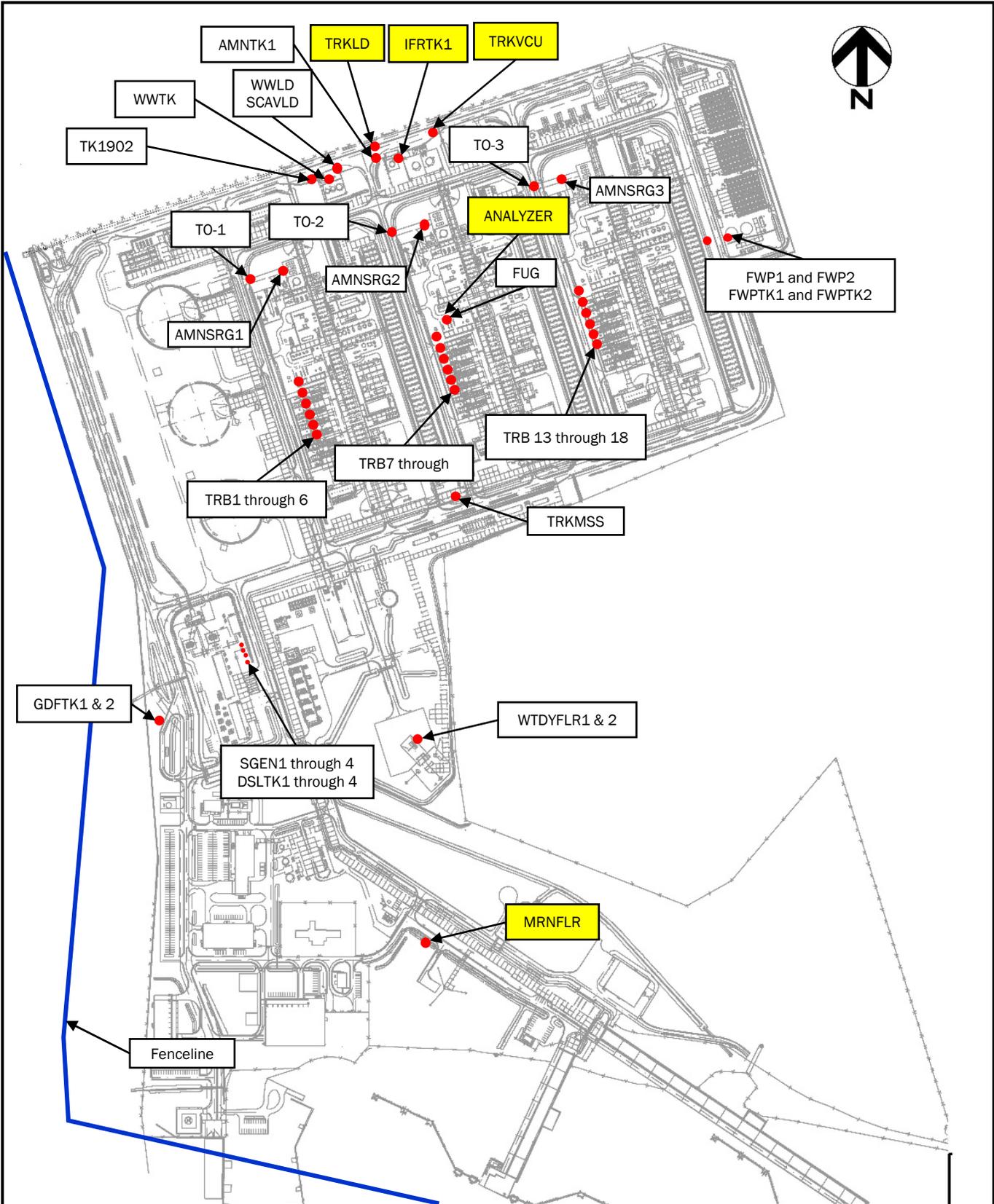
<p>Corpus Christi Liquefaction, LLC San Patricio &amp; Nueces Counties</p>	 <p>Figure 2-2 Stage 3 Overall Plot Plan</p>
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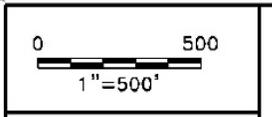
Corpus Christi  
Liquefaction, LLC  
San Patricio & Nueces  
Counties



Figure 2-3  
Stage 3 Individual  
Train Plot Plan



### New/Modified EPNs



Corpus Christi Liquefaction, LLC  
 Stage 1 and 2 Project  
 San Patricio & Nueces Counties



Figure 2-4  
 Stage 1&2 Plot Plan

## 3. MODELING INPUTS

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This section contains a description of the model selection, meteorological data, terrain, building wake effects, and the receptor inputs used in the air dispersion analysis submittal.

### 3.1 Dispersion Modeling Selection

The most current version of the AERMOD model (version 22112) has been used in conducting the modeling analysis for the proposed project. The modeling has been performed using the regulatory default option, which includes the following:

- ▶ Stack-tip downwash; and
- ▶ A routine for processing averages when calm wind conditions occur or when meteorological data is missing.

The current version of AERMOD contains algorithms for modeling the effects of aerodynamic downwash on point source emissions due to nearby buildings and structures. In accordance with EPA requirements, direction-specific building dimensions were used for the Schulman downwash algorithms. The downwash algorithm is discussed in Section 3.5.

### 3.2 Meteorological Data

Site-specific dispersion models require a sequential hourly record of dispersion meteorology representative of the region within which the source is located. The EPA AERMOD program utilizes meteorological data preprocessed with the AERMET program. Three additional variables are considered when preprocessing the surface and meteorological data for a site. These variables are:

- ▶ Surface roughness;
- ▶ Albedo; and
- ▶ Bowen Ratio.

To be consistent with the previous modeling analyses for the Stage 3 project, the meteorological data proposed to be used in the modeling will be processed specifically for the CCL Stage 3 Project using AERMET v 23132 and data for the 2020 year period. Surface data files and one-minute automated surface observing systems (ASOS) data files were obtained from the National Climatic Data Center (NCDC), while upper air data was obtained from the National Oceanic and Atmospheric Association (NOAA) Earth Systems Research Laboratory Radiosonde database.

- Surface data source: <ftp://ftp.ncdc.noaa.gov/pub/data/noaa/>
- ASOS data source: <https://www.ncei.noaa.gov/data/automated-surface-observing-system-one-minute-pg1/access/>
- Upper air data source: <https://ruc.noaa.gov/raobs/Welcome.cgi>

The data files downloaded for the year 2020. The surface station data and upper air data was from Corpus Christi International Airport (CRP, ID #12924), the station closest to the site. A time correction of +6 hours was used for both the surface files and upper air files to correct from GMT to CST. The threshold wind speed of 0.5 m/s was used within AERMINUTE to define winds less than 0.5 m/s as calm.

The adj\_u\* option was also used in AERMET to address issues with AERMOD over prediction under stable conditions with low wind speeds. The revisions to the federal Guideline on Air Quality Models published in the Federal Register on January 17, 2017 incorporate this option as a regulatory default option in AERMET. Therefore, the use of this option to address model over prediction under stable conditions with low wind speeds is justified.

The EPA's AERSURFACE preprocessor was used to derive the surface characteristics (albedo, bowen ratio, and surface roughness) specific to the site. As discussed in the EPA's AERSURFACE User's Guide (EPA-454/B-08-001), the surface roughness is related to the height of obstacles to the wind flow and is, in principle, the height at which the mean horizontal wind speed is zero based on a logarithmic profile. The surface roughness length influences the surface shear stress and is an important factor in determining the magnitude of mechanical turbulence and the stability of the boundary layer.

The analysis was conducted using the latest version of AERSURFACE (version 20060) to determine the appropriate surface variables used in AERMET. AERSURFACE requires the input of land cover data from U. S. Geological Survey (USGS) National Land Cover Data (NLCD), which is used to determine the land cover types for the user-specified location. A 1 km radius, the default, was used to determine the appropriate surface variables.

Since this is a new site, the current land use for the Stage 3 site does not represent the surface roughness that will be present when this plant is operating. To correctly account for the surface characteristics of the industrial complex, a location near the CCL property that has already been developed was used, since this is representative of the roughness that will be present once the project site is constructed.

The classification for surface moisture was average for 2020. This selection was made consistent with the procedure outlined in the AERSURFACE User's Guide. For more information, please see the "KCRP\_MoistureCharacterization\_1993-2022.xlsx" spreadsheet included with the electronic files provided.

The modeling analysis uses a profile base elevation of 13.4 meters, which is the elevation that is recommended by TCEQ for San Patricio County per the "counties.xls" spreadsheet. The AERSURFACE input and output files, raw meteorological data (surface, upper air, and ASOS data files), and the five years of processed meteorological data to be used in the modeling have been provided with the electronic files provided with this modeling report.

### **3.3 Urban Option**

Currently the urban option has not been used for the modeling analysis. Not using the urban option is conservative.

### **3.4 Terrain**

Receptor terrain elevations input to the AERMOD model has been determined using National Elevation Dataset (NED) data obtained from the U.S. Geological Survey (USGS) National Map with a 1 arc second resolution (approximately 30-meters). The receptor elevations were calculated using the AERMOD terrain preprocessor, AERMAP (version 18081). The elevations for the on-property sources are set at the actual elevation of the construction areas.

In addition to terrain elevation, an additional parameter called the hill height scale is required for each receptor to feed AERMOD's terrain modeling algorithms. AERMOD computes the impact at a receptor as a

weighted interpolation between horizontal and terrain-following states using a critical dividing streamline approach. This scheme assumes that part of the plume mass will contain enough energy to ascend and traverse over a terrain feature while the remainder will impinge and traverse around a terrain feature under certain meteorological conditions. The hill height scale is computed by the AERMAP terrain preprocessor for each receptor as a measure of the one terrain feature in the modeling domain that would have the greatest effect on plume behavior at that receptor.

The hill height scale does not represent the critical dividing streamline height itself but supplies the computational algorithms with an indication of the relative relief within the modeling domain for the determination of the critical dividing streamline height for each hour of meteorological data.

According to Section 2.1.2 of the AERMAP User's Guide, the NED array boundary for AERMAP must include all terrain features that exceed a 10 percent elevation slope from any given receptor to properly calculate the hill height scale at each receptor.<sup>3</sup> The domain for the hill height analysis is set to at least the minimum area required for proper handling of elevation slope.

### 3.5 Building Wake Effects (Downwash)

The stack emission sources for the Terminal were evaluated in terms of the proximity to nearby structures. The purpose of this evaluation is to determine whether stack discharges will be caught in the turbulent wakes of these structures, leading to downwash of the plumes. Wind blowing around a building creates zones of turbulence that are greater than if the building was absent. These effects generally cause higher ground-level pollutant concentrations since building downwash inhibits dispersion from elevated stack discharges. AERMOD incorporates the Plume Rise Model Enhancements (PRIME) algorithms for estimating enhanced plume growth and restricted plume rise for plumes affected by building wakes.<sup>4</sup>

EPA has promulgated stack height regulations that restrict the use of stack heights in excess of "Good Engineering Practice" (GEP) in air dispersion modeling analyses. Under these regulations, that portion of a stack in excess of the GEP height is generally not creditable when modeling to determine source impacts. This essentially prevents the use of excessively tall stacks to reduce the ground-level pollutant concentrations. The stack height not subject to the effects of downwash, called the GEP stack height, is defined as the greater of 65 meters or by the following formula:

$$H_{GEP} = H + 1.5L$$

Where:

$H_{GEP}$  = GEP stack height,

H = structure height, and

L = lesser dimension of the structure (height or projected width).

This equation is limited to stacks located within 5L of a structure. Stacks located at a distance greater than 5L are not subject to the wake effects of the structure. If there is more than one stack at a given facility, the above equation must be successively applied to each stack. If more than one structure is involved, the

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<sup>3</sup> U.S. EPA, Office of Air Quality Planning and Standards, *User's Guide for the AERMOD Terrain Preprocessor (AERMAP)*, Research Triangle Park, NC, EPA-454/B-18-004, April 2018.

<sup>4</sup> L.L. Schulman, D.G. Strimaitis, and J.S. Scire, *Development and Evaluation of the Prime Plume Rise and Building Downwash Model*, AWMA, 50:378-390, 2000.

equations must also be successively applied to each structure. In general, the lowest GEP stack height for any source is 65 meters by default.<sup>5</sup>

The current *Building Profile Input Program with Plume Rise Model Enhancements* (BPIP-PRIM) downwash pre-processor (Version 04274) was utilized to calculate downwash parameters for the modeling analysis. The output from the BPIP-PRIME downwash analysis lists the names and dimensions of the structures generating wake effects and the locations and heights of the affected emission sources (i.e., stacks). In addition, the output contains a summary of the dominant structure for each emission unit (considering all wind directions) and the actual building height and projected widths for all wind directions. This information is then incorporated into the data input files for the AERMOD air dispersion model.

The location of the buildings (structures) are shown in Figure 3-1 for one of the Stage 3 trains and is typical for all trains. The building locations for the Stage1/2 project are shown on Figure 3-2. The height for the structures considered in the downwash analysis are shown on Table 3-1. The locations of the modeled downwash structures are also provided in the electronic GoogleEarth™ kmz file included with the modeling files submitted with this report.

### 3.6 Receptor Design

In the air quality dispersion modeling significance analysis, the modeled ground-level concentrations were determined within a series of nested grids:

- ▶ Fenceline grid with receptors placed at 25 m intervals along the modeling boundary;
- ▶ Tight Cartesian receptor grid with 25 m resolution extending 200-300 m from the nearest Terminal Sources;
- ▶ Fine Cartesian receptor grid with 100 m resolution extending from tight grid to approximately 1.0 km from the Terminal property boundary;
- ▶ Medium Cartesian receptor grid with 500 m resolution extending from the fine grid to approximately 10 km from the Terminal property boundary; and
- ▶ Course Cartesian receptor grid with 1,000 m resolution extending from the medium grid to 50 km from the Terminal property boundary.

The receptor grids resulted in census blocks with one or no receptor, therefore; discrete receptors were randomly added too each of those census blocks such that all census blocks included at least two receptors.

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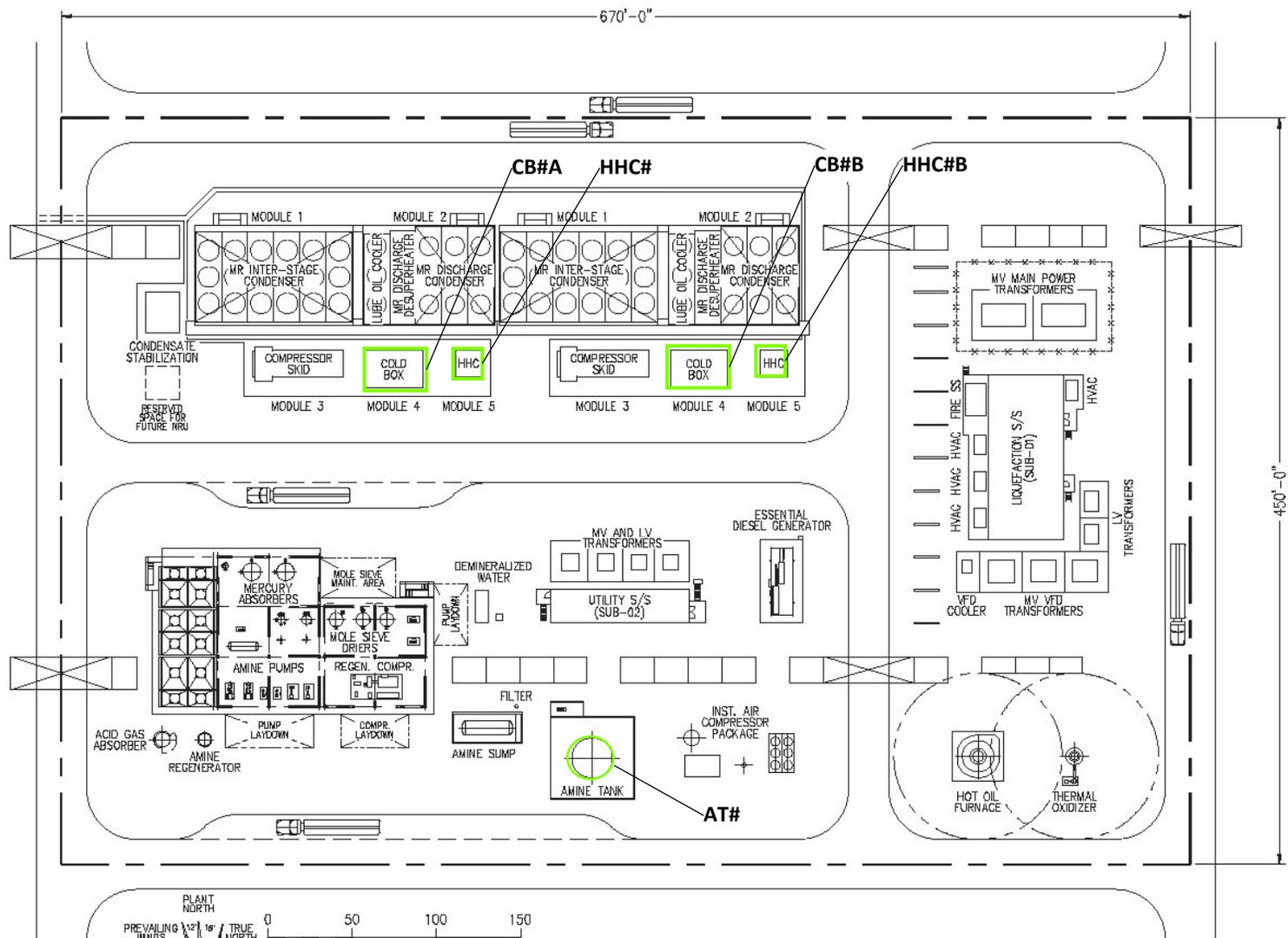
<sup>5</sup> 40 CFR §51.100(ii)

**Table 3-1**  
**Downwash Structures**  
**Corpus Christi Liquefaction LLC**

Structure Name	Number of Tiers	Tier Height	
		(ft)	(m)
TRBSTR1	1	96.0	29.3
BLD13	1	30.0	9.1
BLD4	1	25.0	7.6
BLD19	1	25.0	7.6
BLD2	1	40.0	12.2
RFGVSL1	1	106.0	32.3
BLD18	1	25.0	7.6
C1CLDBX1	1	94.0	28.7
C2CLDBX1	1	94.0	28.7
XSFD42IS	1	96.0	29.3
XSFD42IT	1	25.0	7.6
XSFD42IU	1	15.0	4.6
XSFD42IV	1	40.0	12.2
XSFD42IW	1	106.0	32.3
XSFD42IX	1	94.0	28.7
XSFD42IY	1	94.0	28.7
XSFD42J6	1	96.0	29.3
XSFD42J7	1	25.0	7.6
XSFD42J8	1	15.0	4.6
XSFD42J9	1	40.0	12.2
XSFD42JA	1	106.0	32.3
XSFD42JB	1	94.0	28.7
XSFD42JC	1	94.0	28.7
ACMC	1	11.0	3.4
BLDG1	1	15.0	4.6
CB1A	1	53.5	16.3
HHC1A	1	109.0	33.2
CB1B	1	53.5	16.3
HHC1B	1	109.0	33.2
CB2A	1	53.5	16.3
HHC2A	1	109.0	33.2
CB2B	1	53.5	16.3
HHC2B	1	109.0	33.2
CB3A	1	53.5	16.3
HHC3A	1	109.0	33.2
CB3B	1	53.5	16.3
HHC3B	1	109.0	33.2
CB4A	1	53.5	16.3
HHC4A	1	109.0	33.2
CB4B	1	53.5	16.3
HHC4B	1	109.0	33.2
CB5A	1	53.5	16.3
HHC5A	1	109.0	33.2
CB5B	1	53.5	16.3
HHC5B	1	109.0	33.2

**Table 3-1**  
**Downwash Structures**  
**Corpus Christi Liquefaction LLC**

Structure Name	Number of Tiers	Tier Height	
		(ft)	(m)
HHC6B	1	109.0	33.2
CB6B	1	53.5	16.3
HHC6A	1	109.0	33.2
CB6A	1	53.5	16.3
CB7A	1	53.5	16.3
HHC7A	1	109.0	33.2
CB7B	1	53.5	16.3
HHC7B	1	109.0	33.2
CB8A	1	53.5	16.3
HHC8A	1	109.0	33.2
CB8B	1	53.5	16.3
HHC8B	1	109.0	33.2
CB9A	1	53.5	16.3
HHC9A	1	109.0	33.2
CB9B	1	53.5	16.3
HHC9B	1	109.0	33.2
TK-1	1	178.4	54.4
TK-2	1	178.4	54.4
TK-3	1	178.4	54.4
BLD14	1	6.0	1.8
BLD15	1	6.0	1.8
AMNSRG1T	1	27.0	8.2
AMNSRG2T	1	27.0	8.2
AMNSRG3T	1	27.0	8.2
AT1	1	20.0	6.1
FWTNK2	1	51.0	15.5
FWTNK1	1	51.0	15.5
AT2	1	20.0	6.1
AT3	1	20.0	6.1
AT4	1	20.0	6.1
AT5	1	20.0	6.1
AT6	1	20.0	6.1
AT7	1	20.0	6.1
AT8	1	20.0	6.1
AT9	1	20.0	6.1
CARGO21	1	52.5	16.0
CARGO22	1	75.5	23.0
CARGO23	1	101.7	31.0
CARGO24	1	118.1	36.0
CARGO25	1	141.1	43.0
CARGO11	1	55.8	17.0
CARGO12	1	75.5	23.0
CARGO13	1	95.1	29.0
CARGO14	1	111.5	34.0
CARGO15	1	124.7	38.0



Corpus Christi  
Liquefaction, LLC  
San Patricio & Nueces  
Counties



Figure 3-1  
Stage 3 Buildings  
(single train)



Corpus Christi Liquefaction, LLC  
 San Patricio & Nueces Counties



Figure 3-2  
 Stage 1&2 Buildings

## 4. MODELING EMISSIONS INVENTORY

The following sections discuss the emission sources included in this air quality dispersion modeling analysis.

### 4.1 Modeled Emission Rates

The HAP emissions from both the stationary sources and marine mobile sources (LNG carriers, tugs, and pilot vessels) are included in the modeling analysis.

The marine mobile source HAP emission rates have been calculated using the fraction of total VOC and PM<sub>2.5</sub> emission rates that are provided in Table 7 in Appendix 9B of the Resource Report 9. The fractions are taken from Table D.1 found in Appendix D of the USEPA document "Port Emissions Inventory Guidance: Methodologies for Estimating Port-Related and Goods Movement Mobile Source Emissions", EPA-420-B-22-011, April 2022. The calculated HAP emission rates found in Appendix A. Table 12 shows the maximum short-term emission rates and annual emissions for the total LNG carrier calls of 480 per year. The annual emission rate increases associated with the Trains 8 and 9 project are shown on Table 13 and are based on 80 LNG carrier calls per year.

The HAP emission rates for the stationary sources have been represented in initial air permit applications and subsequent amendments for the CCL Stage1/2 and Stage 3 projects. The most recently authorized or pending emission rates have been used in the modeling and copies of the emission calculation tables are found in Appendix E. A summary of the total CCL HAP emission rates are shown in Table 4-1.

**Table 4-1. Total HAP Emissions Modeled**

Subset of Sources	Total HAP Emissions	
	lb/hr	tpy
Stage 1 and 2	35.15	40.10
Stage 3 (Approved)	11.33	10.59
Stage 3 (Trains 8 and 9)	0.71	0.65
Marine Sources Trains 8 and 9)	0.00	0.20
Marine Sources (Total)	0.79	1.18
<b>Total:</b>	<b>48.0</b>	<b>52.5</b>

The short-term (lb/hr) and annual (tpy) emission rates by source are shown on Tables 4-2 and 4-3, respectively.

## 4.2 Modeled Source Parameters

The modeling parameters for the Terminal sources and marine vessel sources are shown on Table 4-4 for the point sources and on Table 4-5 for the fugitive type sources modeled as volume sources. The following provides the justification for how each type of emission source was modeled for this air quality analysis.

The combustion sources (i.e. turbines, thermal oxidizers, heaters, engines) were modeled with vertical stacks using the actual stack parameters.

The storage tanks were modeled as volume sources. The use of volume sources is justified because the storage tanks can have multiple vents located at the top of the tank. According to the TCEQ's ADMT guidance, buildings with multiple vents on top may be appropriately represented as volume sources. In addition, the American Meteorological Society and EPA Regulatory Model (AERMOD) User's Guide states that in volume sources "...algorithms are used to model releases from a variety of industrial sources, such as building roof monitors, multiple vents, and conveyor belts." Also, the storage tank vents disperse three-dimensionally and have insignificant plume rise. The horizontal extent of the volume source is based on a small square (1 meter x 1 meter) at the center of the tank to conservatively represent that the tanks may have multiple vents at several locations on the roof of the tank. The sigma-y was calculated using the "single volume source" guidance where the horizontal extent is divided by 4.3. The sigma-z parameter was calculated using the "elevated source (he>0) on or Adjacent to a Building", where the tank height is divided by 2.15. A release height at the top of the tank was used for the tank emissions since that is where the emissions are vented to the atmosphere.

The Stage 1 and 2 piping fugitive emissions were modeled as a single surface based volume source. The size of the volume source is a 1,000 foot square based on an engineering judgement. The Stage 3 piping fugitive emissions were modeled as a single surface-based volume sources. The size of the 9 volume sources used to represent each of the 9 process trains (EPN MSFUG1 through MSFGU9) is 350-foot square, which is the approximate width of the major equipment for each train. The size of the volume source for EPN MSFUG is a 1000-foot square based on an engineering judgement. The piping equipment is located throughout the process units and the size of the volume source was determined by placing the volume source inside the area where the majority of the piping equipment is located. Although the majority of the piping equipment is located inside the area of the modeled volume sources, there are some piping fugitive equipment are located outside this area of the modeled volume sources; however, it is conservative to use a smaller volume source size and justifies the use of the 1,000 foot square volume source. It is conservative to use a smaller volume source since it concentrates the emissions over a smaller area and will result in higher off-property concentrations than if a larger volume source is used. The horizontal sigma-y values were calculated based on length of side divided by 4.3. The vertical sigma-z values were calculated based on the vertical extent, assumed to be approximately 90 feet, and divided by 2.15. A release height of 45 feet was used as an estimate of the average height of the emissions.

Flares were modeled using the following TCEQ flare parameters<sup>6 7</sup>, which includes using the actual stack height, default exit velocity of 20 m/s (65.6 fps), default exit temperature of 1,273 K (1831.7 °F), and the effective flare diameter calculated from the heat release and average molecular weight of the flare stream. The effective flare diameter calculations are summarized in Table 4-6.

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<sup>6</sup> *Air Quality Modeling Guidelines, APDG 6232v4*, TCEQ, November 2019, pages 73-74.

<sup>7</sup> Memorandum from Dom Ruggeri (TCEQ) to APD Technical Staff, *Technical Basis for Flare Parameters*, September 10, 2004

All of the stack heights meet the definition of good engineering practice (GEP) stack height. A stack is defined in 40 CFR 51.100(ff) as a point in a source designed to emit solids, liquids, or gases into the air, including a pipe or duct but not including flares. Therefore, the height of the flares are not subject to GEP.

**Table 4-2**  
**Short-term HAP Emission Rates**  
 Corpus Christi Liquefaction LLC

Project	EPN	Model ID	Facility Name	Total:												
				2.5E+01	6.3E+00	1.5E+00	5.7E+00	2.4E+00	2.3E-01	1.1E-02	5.1E-02	3.8E-01	6.5E-02	1.3E-03	5.6E-05	5.1E-04
				Hexane 110-54-3	Benzene 71-43-2	Ethylbenzene 100-41-4	Toluene 108-88-3	Xylenes 1330-20-7	Propylene Oxide 75-56-9	1,3-Butadiene 106-99-0	2,2,4-Trimethylpentane 540-84-1	Acetaldehyde 75-07-0	Acrolein 107-02-8	Antimony 7440-36-0	Arsenic 7440-38-2	Cadmium 7440-43-9
Stage 1/2	TRB1	TRB1	Propane Refrigeration Turbine		5.20E-03	1.38E-02	5.59E-02	2.75E-02	1.25E-02	2.00E-04		1.72E-02	2.80E-03			
Stage 1/2	TRB2	TRB2	Propane Refrigeration Turbine		5.20E-03	1.38E-02	5.59E-02	2.75E-02	1.25E-02	2.00E-04		1.72E-02	2.80E-03			
Stage 1/2	TRB7	TRB3	Propane Refrigeration Turbine		5.20E-03	1.38E-02	5.59E-02	2.75E-02	1.25E-02	2.00E-04		1.72E-02	2.80E-03			
Stage 1/2	TRB8	TRB4	Propane Refrigeration Turbine		5.20E-03	1.38E-02	5.59E-02	2.75E-02	1.25E-02	2.00E-04		1.72E-02	2.80E-03			
Stage 1/2	TRB13	TRB5	Propane Refrigeration Turbine		5.20E-03	1.38E-02	5.59E-02	2.75E-02	1.25E-02	2.00E-04		1.72E-02	2.80E-03			
Stage 1/2	TRB14	TRB6	Propane Refrigeration Turbine		5.20E-03	1.38E-02	5.59E-02	2.75E-02	1.25E-02	2.00E-04		1.72E-02	2.80E-03			
Stage 1/2	TRB3	TRB7	Ethylene Refrigeration Turbine		5.20E-03	1.38E-02	5.59E-02	2.75E-02	1.25E-02	2.00E-04		1.72E-02	2.80E-03			
Stage 1/2	TRB4	TRB8	Ethylene Refrigeration Turbine		5.20E-03	1.38E-02	5.59E-02	2.75E-02	1.25E-02	2.00E-04		1.72E-02	2.80E-03			
Stage 1/2	TRB9	TRB9	Ethylene Refrigeration Turbine		5.20E-03	1.38E-02	5.59E-02	2.75E-02	1.25E-02	2.00E-04		1.72E-02	2.80E-03			
Stage 1/2	TRB10	TRB10	Ethylene Refrigeration Turbine		5.20E-03	1.38E-02	5.59E-02	2.75E-02	1.25E-02	2.00E-04		1.72E-02	2.80E-03			
Stage 1/2	TRB15	TRB11	Ethylene Refrigeration Turbine		5.20E-03	1.38E-02	5.59E-02	2.75E-02	1.25E-02	2.00E-04		1.72E-02	2.80E-03			
Stage 1/2	TRB16	TRB12	Ethylene Refrigeration Turbine		5.20E-03	1.38E-02	5.59E-02	2.75E-02	1.25E-02	2.00E-04		1.72E-02	2.80E-03			
Stage 1/2	TRB5	TRB13	Methane Refrigeration Turbine		5.20E-03	1.38E-02	5.59E-02	2.75E-02	1.25E-02	2.00E-04		1.72E-02	2.80E-03			
Stage 1/2	TRB6	TRB14	Methane Refrigeration Turbine		5.20E-03	1.38E-02	5.59E-02	2.75E-02	1.25E-02	2.00E-04		1.72E-02	2.80E-03			
Stage 1/2	TRB11	TRB15	Methane Refrigeration Turbine		5.20E-03	1.38E-02	5.59E-02	2.75E-02	1.25E-02	2.00E-04		1.72E-02	2.80E-03			
Stage 1/2	TRB12	TRB16	Methane Refrigeration Turbine		5.20E-03	1.38E-02	5.59E-02	2.75E-02	1.25E-02	2.00E-04		1.72E-02	2.80E-03			
Stage 1/2	TRB17	TRB17	Methane Refrigeration Turbine		5.20E-03	1.38E-02	5.59E-02	2.75E-02	1.25E-02	2.00E-04		1.72E-02	2.80E-03			
Stage 1/2	TRB18	TRB18	Methane Refrigeration Turbine		5.20E-03	1.38E-02	5.59E-02	2.75E-02	1.25E-02	2.00E-04		1.72E-02	2.80E-03			
Stage 1/2	TO-1	TO1	Thermal Oxidizer	1.90E-03	7.72E-02	2.09E-02	7.66E-02	3.39E-02		-		-	-			
Stage 1/2	TO-2	TO2	Thermal Oxidizer	1.90E-03	7.72E-02	2.09E-02	7.66E-02	3.39E-02		-		-	-			
Stage 1/2	TO-3	TO3	Thermal Oxidizer	1.90E-03	7.72E-02	2.09E-02	7.66E-02	3.39E-02		-		-	-			
Stage 1/2	WTDYFLR1	WTDYFLR1	Flare (Routine)	2.84E+00	1.57E+00	4.18E-01	1.53E+00	6.78E-01		-		-	-			
Stage 1/2	WTDYFLR2	WTDYFLR2	Flare (Routine)	2.84E+00	1.57E+00	4.18E-01	1.53E+00	6.78E-01		-		-	-			
Stage 1/2	MRNFLR	MRNFLR	Marine Flare	1.09E+00	8.11E-05											
Stage 1/2	IFRTK1	IFRTK1	Condensate Tank	1.86E-02	8.01E-03	1.60E-03	6.46E-03	2.03E-03		-						
Stage 1/2	WWTK1	WWTK1	Wastewater Tank		1.14E-02	8.13E-05	3.72E-03	5.59E-04								
Stage 1/2	GEN1	SGEN1	Emergency Generator		1.33E-02		4.80E-03	3.30E-03				4.31E-04	1.35E-04			
Stage 1/2	GEN2	SGEN2	Emergency Generator		1.33E-02		4.80E-03	3.30E-03				4.31E-04	1.35E-04			
Stage 1/2	GEN3	SGEN3	Emergency Generator		1.33E-02		4.80E-03	3.30E-03				4.31E-04	1.35E-04			
Stage 1/2	GEN4	SGEN4	Emergency Generator		1.33E-02		4.80E-03	3.30E-03				4.31E-04	1.35E-04			
Stage 1/2	FWPUMP1	FWP1	Firewater Pump		2.52E-03		9.13E-04	6.27E-04				8.19E-05	2.56E-05			
Stage 1/2	FWPUMP2	FWP2	Firewater Pump		2.52E-03		9.13E-04	6.27E-04				8.19E-05	2.56E-05			
Stage 1/2	TRKLD	TRKLD	Condensate Truck Loading	4.37E-02	1.88E-02	3.75E-03	1.52E-02	4.76E-03		-						
Stage 1/2	TRKVCU	TRKVCU	Condensate Truck Loading VCU	3.36E-02	1.45E-02	2.88E-03	1.17E-02	3.66E-03		-						
Stage 1/2	WWLD	WWLD	Wastewater Truck Loading		2.49E-01	1.77E-03	8.12E-02	1.22E-02								
Stage 1/2	FUG	FUG	Piping Fugitives	1.17E-01	4.52E-02	1.12E-02	3.93E-02	1.42E-02		-		-	-			
Stage 1/2	WTDYFLR1_MSS	WTDYFLRM	Wet/Dry Gas Flare (MSS)	2.96E+00	9.01E-01											
Stage 1/2	TRKMSS	TRKMSS	Truck Loading (MSS)	3.36E+00	1.45E+00	2.88E-01	1.17E+00	3.66E-01		-		-	-			
Stage 3	MSFURN1	MSFURN1	Train 1 Hot Oil Furnace	1.33E-01	1.55E-04	-	2.51E-04			-		-	-			
Stage 3	MSFURN2	MSFURN2	Train 2 Hot Oil Furnace	1.33E-01	1.55E-04	-	2.51E-04			-		-	-			
Stage 3	MSFURN3	MSFURN3	Train 3 Hot Oil Furnace	1.33E-01	1.55E-04	-	2.51E-04			-		-	-			
Stage 3	MSFURN4	MSFURN4	Train 4 Hot Oil Furnace	1.33E-01	1.55E-04	-	2.51E-04			-		-	-			
Stage 3	MSFURN5	MSFURN5	Train 5 Hot Oil Furnace	1.33E-01	1.55E-04	-	2.51E-04			-		-	-			
Stage 3	MSFURN6	MSFURN6	Train 6 Hot Oil Furnace	1.33E-01	1.55E-04	-	2.51E-04			-		-	-			
Stage 3	MSFURN7	MSFURN7	Train 7 Hot Oil Furnace	1.33E-01	1.55E-04	-	2.51E-04			-		-	-			
Stage 3 (Exp.)	MSFURN8	MSFURN8	Train 8 Hot Oil Furnace	1.33E-01	1.55E-04	-	2.51E-04			-		-	-			
Stage 3 (Exp.)	MSFURN9	MSFURN9	Train 9 Hot Oil Furnace	1.33E-01	1.55E-04	-	2.51E-04			-		-	-			
Stage 3	MSTO1	MSTO1	Train 1 Thermal Oxidizer	1.73E-03						-		-	-			
Stage 3	MSTO2	MSTO2	Train 2 Thermal Oxidizer	1.73E-03						-		-	-			
Stage 3	MSTO3	MSTO3	Train 3 Thermal Oxidizer	1.73E-03						-		-	-			
Stage 3	MSTO4	MSTO4	Train 4 Thermal Oxidizer	1.73E-03						-		-	-			
Stage 3	MSTO5	MSTO5	Train 5 Thermal Oxidizer	1.73E-03						-		-	-			
Stage 3	MSTO6	MSTO6	Train 6 Thermal Oxidizer	1.73E-03						-		-	-			
Stage 3	MSTO7	MSTO7	Train 7 Thermal Oxidizer	1.73E-03						-		-	-			

**Table 4-2**  
**Short-term HAP Emission Rates**  
 Corpus Christi Liquefaction LLC

Project	EPN	Model ID	Facility Name	Total:												
				2.5E+01	6.3E+00	1.5E+00	5.7E+00	2.4E+00	2.3E-01	1.1E-02	5.1E-02	3.8E-01	6.5E-02	1.3E-03	5.6E-05	5.1E-04
				Hexane	Benzene	Ethylbenzene	Toluene	Xylenes	Propylene Oxide	1,3-Butadiene	2,2,4-Trimethylpentane	Acetaldehyde	Acrolein	Antimony	Arsenic	Cadmium
				110-54-3	71-43-2	100-41-4	108-88-3	1330-20-7	75-56-9	106-99-0	540-84-1	75-07-0	107-02-8	7440-36-0	7440-38-2	7440-43-9
Stage 3 (Exp.)	MSTO8	MSTO8	Train 8 Thermal Oxidizer	1.73E-03					-	-		-	-			
Stage 3 (Exp.)	MSTO9	MSTO9	Train 9 Thermal Oxidizer	1.73E-03					-	-		-	-			
Stage 3	MSGFLR1	MSGFLR1	Stage 1 Ground Flare (Continuous)	1.58E-02	-	-	-		-	-		-	-			
Stage 3	MSGFLR2	MSGFLR2	Stage 2 Ground Flare (Continuous)	1.58E-02	-	-	-		-	-		-	-			
Stage 3	MSGFLR3	MSGFLR3	Stage 3 Ground Flare (Continuous)	1.58E-02	-	-	-		-	-		-	-			
Stage 3	MSGFLR3M	MSGFLR_M	Multi-Point Ground Flare (MSS)	8.80E+00	-	-	-		-	-		-	-			
Stage 3	MSFUG1	MSFUG1	Train 1 Fugitives	1.96E-01	1.11E-05	-	-		-	-		-	-			
Stage 3	MSFUG2	MSFUG2	Train 2 Fugitives	1.96E-01	1.11E-05	-	-		-	-		-	-			
Stage 3	MSFUG3	MSFUG3	Train 3 Fugitives	1.96E-01	1.11E-05	-	-		-	-		-	-			
Stage 3	MSFUG4	MSFUG4	Train 4 Fugitives	1.96E-01	1.11E-05	-	-		-	-		-	-			
Stage 3	MSFUG5	MSFUG5	Train 5 Fugitives	1.96E-01	1.11E-05	-	-		-	-		-	-			
Stage 3	MSFUG6	MSFUG6	Train 6 Fugitives	1.96E-01	1.11E-05	-	-		-	-		-	-			
Stage 3	MSFUG7	MSFUG7	Train 7 Fugitives	1.96E-01	1.11E-05	-	-		-	-		-	-			
Stage 3 (Exp.)	MSFUG8	MSFUG8	Train 8 Fugitives	1.96E-01	1.11E-05	-	-		-	-		-	-			
Stage 3 (Exp.)	MSFUG9	MSFUG9	Train 9 Fugitives	1.96E-01	1.11E-05	-	-		-	-		-	-			
Stage 3	MSFUG	MSFUG	Common Equipment Fugitives	5.13E-03		-	-		-	-		-	-			
Stage 3	MSFWP1	MSFWP1	Fire Water Pump	-	1.32E-03	-	4.77E-04	3.27E-04	-	-		4.27E-05	1.34E-05			
Stage 3	MSFWP2	MSFWP2	Fire Water Pump	-	1.32E-03	-	4.77E-04	3.27E-04	-	-		4.27E-05	1.34E-05			
Stage 3	MSGEN1	MSGEN1	Train 1 Diesel Generator	-	7.94E-03	-	2.88E-03	1.97E-03	-	-		2.58E-04	8.06E-05			
Stage 3	MSGEN2	MSGEN2	Train 2 Diesel Generator	-	7.94E-03	-	2.88E-03	1.97E-03	-	-		2.58E-04	8.06E-05			
Stage 3	MSGEN3	MSGEN3	Train 3 Diesel Generator	-	7.94E-03	-	2.88E-03	1.97E-03	-	-		2.58E-04	8.06E-05			
Stage 3	MSGEN4	MSGEN4	Train 4 Diesel Generator	-	7.94E-03	-	2.88E-03	1.97E-03	-	-		2.58E-04	8.06E-05			
Stage 3	MSGEN5	MSGEN5	Train 5 Diesel Generator	-	7.94E-03	-	2.88E-03	1.97E-03	-	-		2.58E-04	8.06E-05			
Stage 3	MSGEN6	MSGEN6	Train 6 Diesel Generator	-	7.94E-03	-	2.88E-03	1.97E-03	-	-		2.58E-04	8.06E-05			
Stage 3	MSGEN7	MSGEN7	Train 7 Diesel Generator	-	7.94E-03	-	2.88E-03	1.97E-03	-	-		2.58E-04	8.06E-05			
Stage 3 (Exp.)	MSGEN8	MSGEN8	Train 8 Diesel Generator	-	7.94E-03	-	2.88E-03	1.97E-03	-	-		2.58E-04	8.06E-05			
Stage 3 (Exp.)	MSGEN9	MSGEN9	Train 9 Diesel Generator	-	7.94E-03	-	2.88E-03	1.97E-03	-	-		2.58E-04	8.06E-05			
Marine (Exp.)	NA	E_HOTEL1	Cargo Ship 1 Hoteling													
Marine (Exp.)	NA	E_HOTEL2	Cargo Ship 2 Hoteling													
Marine (Exp.)	NA	E_1MTUG1	Tug 1 Maneuvering Cargo Ship 1													
Marine (Exp.)	NA	E_1MTUG2	Tug 2 Maneuvering Cargo Ship 1													
Marine (Exp.)	NA	E_1MTUG3	Tug 3 Maneuvering Cargo Ship 1													
Marine (Exp.)	NA	E_1MTUG4	Tug 4 Maneuvering Cargo Ship 1													
Marine (Exp.)	NA	E_1STUG	Standby Tug for Cargo Ship 1													
Marine (Exp.)	NA	E_2STUG	Standby Tug for Cargo Ship 2													
Marine (Exp.)	NA	E_PILOT	Pilot Vessel													
Marine (Total)	NA	T_HOTEL1	Cargo Ship 1 Hoteling	8.37E-03	1.42E-02	1.32E-03	6.10E-03	5.80E-03	-	3.04E-03	2.14E-02	2.93E-02	5.54E-03	5.50E-04	2.32E-05	2.11E-04
Marine (Total)	NA	T_HOTEL2	Cargo Ship 2 Hoteling	8.37E-03	1.42E-02	1.32E-03	6.10E-03	5.80E-03	-	3.04E-03	2.14E-02	2.93E-02	5.54E-03	5.50E-04	2.32E-05	2.11E-04
Marine (Total)	NA	T_1MTUG1	Tug 1 Maneuvering Cargo Ship 1	6.25E-04	1.06E-03	9.83E-05	4.56E-04	4.33E-04	-	2.27E-04	1.60E-03	2.19E-03	4.14E-04	2.90E-05	1.22E-06	1.11E-05
Marine (Total)	NA	T_1MTUG2	Tug 2 Maneuvering Cargo Ship 1	6.25E-04	1.06E-03	9.83E-05	4.56E-04	4.33E-04	-	2.27E-04	1.60E-03	2.19E-03	4.14E-04	2.90E-05	1.22E-06	1.11E-05
Marine (Total)	NA	T_1MTUG3	Tug 3 Maneuvering Cargo Ship 1	6.25E-04	1.06E-03	9.83E-05	4.56E-04	4.33E-04	-	2.27E-04	1.60E-03	2.19E-03	4.14E-04	2.90E-05	1.22E-06	1.11E-05
Marine (Total)	NA	T_1MTUG4	Tug 4 Maneuvering Cargo Ship 1	6.25E-04	1.06E-03	9.83E-05	4.56E-04	4.33E-04	-	2.27E-04	1.60E-03	2.19E-03	4.14E-04	2.90E-05	1.22E-06	1.11E-05
Marine (Total)	NA	T_1STUG	Standby Tug for Cargo Ship 1	3.44E-04	5.84E-04	5.41E-05	2.51E-04	2.38E-04	-	1.25E-04	8.77E-04	1.21E-03	2.28E-04	1.60E-05	6.72E-07	6.12E-06
Marine (Total)	NA	T_2STUG	Standby Tug for Cargo Ship 2	3.44E-04	5.84E-04	5.41E-05	2.51E-04	2.38E-04	-	1.25E-04	8.77E-04	1.21E-03	2.28E-04	1.60E-05	6.72E-07	6.12E-06
Marine (Total)	NA	T_PILOT	Pilot Vessel	2.41E-04	4.10E-04	3.80E-05	1.76E-04	1.67E-04	-	8.76E-05	6.16E-04	8.46E-04	1.60E-04	7.70E-05	3.24E-06	2.96E-05

- Notes:
1. Polycyclic Organic Materials (POM), includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100 °C.
  2. All emission rates are pounds per hour (lb/hr)

**Table 4-2**  
**Short-term HAP Emission Rates**  
 Corpus Christi Liquefaction LLC

Project	EPN	Model ID	Facility Name	Total:												
				Chromium (VI) 18540-29-9	Formaldehyde 50-00-0	Lead 7439-92-1	Manganese 7439-96-5	Mercury 7439-97-6	Naphthalene 91-20-3	Nickel 7440-02-0	Polychlorinated Biphenyl 1336-36-3	Propionaldehyde 123-38-6	Selenium 7782-49-2	POM [1] 130498-29-2		
Stage 1/2	TRB1	TRB1	Propane Refrigeration Turbine		3.05E-01					6.00E-04						9.00E-04
Stage 1/2	TRB2	TRB2	Propane Refrigeration Turbine		3.05E-01					6.00E-04						9.00E-04
Stage 1/2	TRB7	TRB3	Propane Refrigeration Turbine		3.05E-01					6.00E-04						9.00E-04
Stage 1/2	TRB8	TRB4	Propane Refrigeration Turbine		3.05E-01					6.00E-04						9.00E-04
Stage 1/2	TRB13	TRB5	Propane Refrigeration Turbine		3.05E-01					6.00E-04						9.00E-04
Stage 1/2	TRB14	TRB6	Propane Refrigeration Turbine		3.05E-01					6.00E-04						9.00E-04
Stage 1/2	TRB3	TRB7	Ethylene Refrigeration Turbine		3.05E-01					6.00E-04						9.00E-04
Stage 1/2	TRB4	TRB8	Ethylene Refrigeration Turbine		3.05E-01					6.00E-04						9.00E-04
Stage 1/2	TRB9	TRB9	Ethylene Refrigeration Turbine		3.05E-01					6.00E-04						9.00E-04
Stage 1/2	TRB10	TRB10	Ethylene Refrigeration Turbine		3.05E-01					6.00E-04						9.00E-04
Stage 1/2	TRB15	TRB11	Ethylene Refrigeration Turbine		3.05E-01					6.00E-04						9.00E-04
Stage 1/2	TRB16	TRB12	Ethylene Refrigeration Turbine		3.05E-01					6.00E-04						9.00E-04
Stage 1/2	TRB5	TRB13	Methane Refrigeration Turbine		3.05E-01					6.00E-04						9.00E-04
Stage 1/2	TRB6	TRB14	Methane Refrigeration Turbine		3.05E-01					6.00E-04						9.00E-04
Stage 1/2	TRB11	TRB15	Methane Refrigeration Turbine		3.05E-01					6.00E-04						9.00E-04
Stage 1/2	TRB12	TRB16	Methane Refrigeration Turbine		3.05E-01					6.00E-04						9.00E-04
Stage 1/2	TRB17	TRB17	Methane Refrigeration Turbine		3.05E-01					6.00E-04						9.00E-04
Stage 1/2	TRB18	TRB18	Methane Refrigeration Turbine		3.05E-01					6.00E-04						9.00E-04
Stage 1/2	TO-1	TO1	Thermal Oxidizer		-					-						-
Stage 1/2	TO-2	TO2	Thermal Oxidizer		-					-						-
Stage 1/2	TO-3	TO3	Thermal Oxidizer		-					-						-
Stage 1/2	WTDYFLR1	WTDYFLR1	Flare (Routine)		-					-						-
Stage 1/2	WTDYFLR2	WTDYFLR2	Flare (Routine)		-					-						-
Stage 1/2	MRNFLR	MRNFLR	Marine Flare													
Stage 1/2	IFRTK1	IFRTK1	Condensate Tank													
Stage 1/2	WWTK1	WWTK1	Wastewater Tank													
Stage 1/2	GEN1	SGEN1	Emergency Generator		1.35E-03					2.23E-03						3.62E-03
Stage 1/2	GEN2	SGEN2	Emergency Generator		1.35E-03					2.23E-03						3.62E-03
Stage 1/2	GEN3	SGEN3	Emergency Generator		1.35E-03					2.23E-03						3.62E-03
Stage 1/2	GEN4	SGEN4	Emergency Generator		1.35E-03					2.23E-03						3.62E-03
Stage 1/2	FWPUMP1	FWP1	Firewater Pump		2.56E-04					4.23E-04						6.89E-04
Stage 1/2	FWPUMP2	FWP2	Firewater Pump		2.56E-04					4.23E-04						6.89E-04
Stage 1/2	TRKLD	TRKLD	Condensate Truck Loading													
Stage 1/2	TRKVCU	TRKVCU	Condensate Truck Loading VCU													
Stage 1/2	WWLD	WWLD	Wastewater Truck Loading													
Stage 1/2	FUG	FUG	Piping Fugitives		-					-						-
Stage 1/2	WTDYFLR1_MSS	WTDYFLRM	Wet/Dry Gas Flare (MSS)													
Stage 1/2	TRKMSS	TRKMSS	Truck Loading (MSS)													
Stage 3	MSFURN1	MSFURN1	Train 1 Hot Oil Furnace		5.54E-03					4.50E-05						6.64E-06
Stage 3	MSFURN2	MSFURN2	Train 2 Hot Oil Furnace		5.54E-03					4.50E-05						6.64E-06
Stage 3	MSFURN3	MSFURN3	Train 3 Hot Oil Furnace		5.54E-03					4.50E-05						6.64E-06
Stage 3	MSFURN4	MSFURN4	Train 4 Hot Oil Furnace		5.54E-03					4.50E-05						6.64E-06
Stage 3	MSFURN5	MSFURN5	Train 5 Hot Oil Furnace		5.54E-03					4.50E-05						6.64E-06
Stage 3	MSFURN6	MSFURN6	Train 6 Hot Oil Furnace		5.54E-03					4.50E-05						6.64E-06
Stage 3	MSFURN7	MSFURN7	Train 7 Hot Oil Furnace		5.54E-03					4.50E-05						6.64E-06
Stage 3 (Exp.)	MSFURN8	MSFURN8	Train 8 Hot Oil Furnace		5.54E-03					4.50E-05						6.64E-06
Stage 3 (Exp.)	MSFURN9	MSFURN9	Train 9 Hot Oil Furnace		5.54E-03					4.50E-05						6.64E-06
Stage 3	MSTO1	MSTO1	Train 1 Thermal Oxidizer		-					-						-
Stage 3	MSTO2	MSTO2	Train 2 Thermal Oxidizer		-					-						-
Stage 3	MSTO3	MSTO3	Train 3 Thermal Oxidizer		-					-						-
Stage 3	MSTO4	MSTO4	Train 4 Thermal Oxidizer		-					-						-
Stage 3	MSTO5	MSTO5	Train 5 Thermal Oxidizer		-					-						-
Stage 3	MSTO6	MSTO6	Train 6 Thermal Oxidizer		-					-						-
Stage 3	MSTO7	MSTO7	Train 7 Thermal Oxidizer		-					-						-

**Table 4-2**  
**Short-term HAP Emission Rates**  
 Corpus Christi Liquefaction LLC

Project	EPN	Model ID	Facility Name	Total:										
				1.6E-08	5.9E+00	2.7E-04	6.9E-06	9.0E-08	2.5E-01	1.5E-03	9.0E-07	1.1E-02	9.4E-08	6.8E-02
				Chromium (VI)	Formaldehyde	Lead	Manganese	Mercury	Naphthalene	Nickel	Polychlorinated Biphenyl	Propionaldehyde	Selenium	POM [1]
				18540-29-9	50-00-0	7439-92-1	7439-96-5	7439-97-6	91-20-3	7440-02-0	1336-36-3	123-38-6	7782-49-2	130498-29-2
Stage 3 (Exp.)	MSTO8	MSTO8	Train 8 Thermal Oxidizer		-				-					-
Stage 3 (Exp.)	MSTO9	MSTO9	Train 9 Thermal Oxidizer		-				-					-
Stage 3	MSGFLR1	MSGFLR1	Stage 1 Ground Flare (Continuous)		-				-					-
Stage 3	MSGFLR2	MSGFLR2	Stage 2 Ground Flare (Continuous)		-				-					-
Stage 3	MSGFLR3	MSGFLR3	Stage 3 Ground Flare (Continuous)		-				-					-
Stage 3	MSGFLR3M	MSGFLR_M	Multi-Point Ground Flare (MSS)		-				-					-
Stage 3	MSFUG1	MSFUG1	Train 1 Fugitives		-				-					-
Stage 3	MSFUG2	MSFUG2	Train 2 Fugitives		-				-					-
Stage 3	MSFUG3	MSFUG3	Train 3 Fugitives		-				-					-
Stage 3	MSFUG4	MSFUG4	Train 4 Fugitives		-				-					-
Stage 3	MSFUG5	MSFUG5	Train 5 Fugitives		-				-					-
Stage 3	MSFUG6	MSFUG6	Train 6 Fugitives		-				-					-
Stage 3	MSFUG7	MSFUG7	Train 7 Fugitives		-				-					-
Stage 3 (Exp.)	MSFUG8	MSFUG8	Train 8 Fugitives		-				-					-
Stage 3 (Exp.)	MSFUG9	MSFUG9	Train 9 Fugitives		-				-					-
Stage 3	MSFUG	MSFUG	Common Equipment Fugitives		-				-					-
Stage 3	MSFWP1	MSFWP1	Fire Water Pump		1.34E-04				-					3.60E-04
Stage 3	MSFWP2	MSFWP2	Fire Water Pump		1.34E-04				-					3.60E-04
Stage 3	MSGEN1	MSGEN1	Train 1 Diesel Generator		8.07E-04				-					2.17E-03
Stage 3	MSGEN2	MSGEN2	Train 2 Diesel Generator		8.07E-04				-					2.17E-03
Stage 3	MSGEN3	MSGEN3	Train 3 Diesel Generator		8.07E-04				-					2.17E-03
Stage 3	MSGEN4	MSGEN4	Train 4 Diesel Generator		8.07E-04				-					2.17E-03
Stage 3	MSGEN5	MSGEN5	Train 5 Diesel Generator		8.07E-04				-					2.17E-03
Stage 3	MSGEN6	MSGEN6	Train 6 Diesel Generator		8.07E-04				-					2.17E-03
Stage 3	MSGEN7	MSGEN7	Train 7 Diesel Generator		8.07E-04				-					2.17E-03
Stage 3 (Exp.)	MSGEN8	MSGEN8	Train 8 Diesel Generator		8.07E-04				-					2.17E-03
Stage 3 (Exp.)	MSGEN9	MSGEN9	Train 9 Diesel Generator		8.07E-04				-					2.17E-03
Marine (Exp.)	NA	E_HOTEL1	Cargo Ship 1 Hoteling											
Marine (Exp.)	NA	E_HOTEL2	Cargo Ship 2 Hoteling											
Marine (Exp.)	NA	E_1MTUG1	Tug 1 Maneuvering Cargo Ship 1											
Marine (Exp.)	NA	E_1MTUG2	Tug 2 Maneuvering Cargo Ship 1											
Marine (Exp.)	NA	E_1MTUG3	Tug 3 Maneuvering Cargo Ship 1											
Marine (Exp.)	NA	E_1MTUG4	Tug 4 Maneuvering Cargo Ship 1											
Marine (Exp.)	NA	E_1STUG	Standby Tug for Cargo Ship 1											
Marine (Exp.)	NA	E_2STUG	Standby Tug for Cargo Ship 2											
Marine (Exp.)	NA	E_PILOT	Pilot Vessel											
Marine (Total)	NA	T_HOTEL1	Cargo Ship 1 Hoteling	6.47E-09	1.28E-01	1.12E-04	2.88E-06	3.74E-08	9.39E-02	6.14E-04	3.74E-07	4.55E-03	3.92E-08	6.38E-03
Marine (Total)	NA	T_HOTEL2	Cargo Ship 2 Hoteling	6.47E-09	1.28E-01	1.12E-04	2.88E-06	3.74E-08	9.39E-02	6.14E-04	3.74E-07	4.55E-03	3.92E-08	6.38E-03
Marine (Total)	NA	T_1MTUG1	Tug 1 Maneuvering Cargo Ship 1	3.41E-10	9.56E-03	5.90E-06	1.52E-07	1.97E-09	7.01E-03	3.24E-05	1.97E-08	3.40E-04	2.07E-09	4.70E-04
Marine (Total)	NA	T_1MTUG2	Tug 2 Maneuvering Cargo Ship 1	3.41E-10	9.56E-03	5.90E-06	1.52E-07	1.97E-09	7.01E-03	3.24E-05	1.97E-08	3.40E-04	2.07E-09	4.70E-04
Marine (Total)	NA	T_1MTUG3	Tug 3 Maneuvering Cargo Ship 1	3.41E-10	9.56E-03	5.90E-06	1.52E-07	1.97E-09	7.01E-03	3.24E-05	1.97E-08	3.40E-04	2.07E-09	4.70E-04
Marine (Total)	NA	T_1MTUG4	Tug 4 Maneuvering Cargo Ship 1	3.41E-10	9.56E-03	5.90E-06	1.52E-07	1.97E-09	7.01E-03	3.24E-05	1.97E-08	3.40E-04	2.07E-09	4.70E-04
Marine (Total)	NA	T_1STUG	Standby Tug for Cargo Ship 1	1.88E-10	5.26E-03	3.24E-06	8.35E-08	1.08E-09	3.86E-03	1.78E-05	1.08E-08	1.87E-04	1.14E-09	2.59E-04
Marine (Total)	NA	T_2STUG	Standby Tug for Cargo Ship 2	1.88E-10	5.26E-03	3.24E-06	8.35E-08	1.08E-09	3.86E-03	1.78E-05	1.08E-08	1.87E-04	1.14E-09	2.59E-04
Marine (Total)	NA	T_PILOT	Pilot Vessel	9.07E-10	3.69E-03	1.57E-05	4.03E-07	5.24E-09	2.71E-03	8.60E-05	5.24E-08	1.31E-04	5.49E-09	2.15E-04

- Notes:
1. Polycyclic Organic Materials (POM), includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100 °C.
  2. All emission rates are pounds per hour (lb/hr)

**Table 4-3**  
**Annual HAP Emission Rates**  
 Corpus Christi Liquefaction LLC

Project	EPN	Model ID	Facility Name	Total: 1.4E+01 1.7E+00 1.3E+00 5.3E+00 2.5E+00 9.8E-01 2.7E-02 8.9E-02 1.5E+00 2.4E-01 2.6E-03 1.1E-04 9.9E-04													
				Hexane 110-54-3	Benzene 71-43-2	Ethylbenzene 100-41-4	Toluene 108-88-3	Xylenes 1330-20-7	Propylene Oxide 75-56-9	1,3-Butadiene 106-99-0	2,2,4-Trimethylpentane 540-84-1	Acetaldehyde 75-07-0	Acrolein 107-02-8	Antimony 7440-36-0	Arsenic 7440-38-2	Cadmium 7440-43-9	
Stage 1/2	TRB1	TRB1	Propane Refrigeration Turbine		2.26E-02	6.03E-02	2.45E-01	1.21E-01	5.46E-02	8.00E-04			7.53E-02	1.21E-02			
Stage 1/2	TRB2	TRB2	Propane Refrigeration Turbine		2.26E-02	6.03E-02	2.45E-01	1.21E-01	5.46E-02	8.00E-04			7.53E-02	1.21E-02			
Stage 1/2	TRB7	TRB3	Propane Refrigeration Turbine		2.26E-02	6.03E-02	2.45E-01	1.21E-01	5.46E-02	8.00E-04			7.53E-02	1.21E-02			
Stage 1/2	TRB8	TRB4	Propane Refrigeration Turbine		2.26E-02	6.03E-02	2.45E-01	1.21E-01	5.46E-02	8.00E-04			7.53E-02	1.21E-02			
Stage 1/2	TRB13	TRB5	Propane Refrigeration Turbine		2.26E-02	6.03E-02	2.45E-01	1.21E-01	5.46E-02	8.00E-04			7.53E-02	1.21E-02			
Stage 1/2	TRB14	TRB6	Propane Refrigeration Turbine		2.26E-02	6.03E-02	2.45E-01	1.21E-01	5.46E-02	8.00E-04			7.53E-02	1.21E-02			
Stage 1/2	TRB3	TRB7	Ethylene Refrigeration Turbine		2.26E-02	6.03E-02	2.45E-01	1.21E-01	5.46E-02	8.00E-04			7.53E-02	1.21E-02			
Stage 1/2	TRB4	TRB8	Ethylene Refrigeration Turbine		2.26E-02	6.03E-02	2.45E-01	1.21E-01	5.46E-02	8.00E-04			7.53E-02	1.21E-02			
Stage 1/2	TRB9	TRB9	Ethylene Refrigeration Turbine		2.26E-02	6.03E-02	2.45E-01	1.21E-01	5.46E-02	8.00E-04			7.53E-02	1.21E-02			
Stage 1/2	TRB10	TRB10	Ethylene Refrigeration Turbine		2.26E-02	6.03E-02	2.45E-01	1.21E-01	5.46E-02	8.00E-04			7.53E-02	1.21E-02			
Stage 1/2	TRB15	TRB11	Ethylene Refrigeration Turbine		2.26E-02	6.03E-02	2.45E-01	1.21E-01	5.46E-02	8.00E-04			7.53E-02	1.21E-02			
Stage 1/2	TRB16	TRB12	Ethylene Refrigeration Turbine		2.26E-02	6.03E-02	2.45E-01	1.21E-01	5.46E-02	8.00E-04			7.53E-02	1.21E-02			
Stage 1/2	TRB5	TRB13	Methane Refrigeration Turbine		2.26E-02	6.03E-02	2.45E-01	1.21E-01	5.46E-02	8.00E-04			7.53E-02	1.21E-02			
Stage 1/2	TRB6	TRB14	Methane Refrigeration Turbine		2.26E-02	6.03E-02	2.45E-01	1.21E-01	5.46E-02	8.00E-04			7.53E-02	1.21E-02			
Stage 1/2	TRB11	TRB15	Methane Refrigeration Turbine		2.26E-02	6.03E-02	2.45E-01	1.21E-01	5.46E-02	8.00E-04			7.53E-02	1.21E-02			
Stage 1/2	TRB12	TRB16	Methane Refrigeration Turbine		2.26E-02	6.03E-02	2.45E-01	1.21E-01	5.46E-02	8.00E-04			7.53E-02	1.21E-02			
Stage 1/2	TRB17	TRB17	Methane Refrigeration Turbine		2.26E-02	6.03E-02	2.45E-01	1.21E-01	5.46E-02	8.00E-04			7.53E-02	1.21E-02			
Stage 1/2	TRB18	TRB18	Methane Refrigeration Turbine		2.26E-02	6.03E-02	2.45E-01	1.21E-01	5.46E-02	8.00E-04			7.53E-02	1.21E-02			
Stage 1/2	TO-1	TO1	Thermal Oxidizer	6.39E-03	1.78E-01	4.81E-02	1.76E-01	7.80E-02			-						
Stage 1/2	TO-2	TO2	Thermal Oxidizer	6.39E-03	1.78E-01	4.81E-02	1.76E-01	7.80E-02			-						
Stage 1/2	TO-3	TO3	Thermal Oxidizer	6.39E-03	1.78E-01	4.81E-02	1.76E-01	7.80E-02			-						
Stage 1/2	WTDYFLR1	WTDYFLR1	Flare (Routine														
Stage 1/2	WTDYFLR2	WTDYFLR2	Flare (Routine														
Stage 1/2	MRNFLR	MRNFLR	Marine Flare	4.93E-01	3.55E-04												
Stage 1/2	IFRTK1	IFRTK1	Condensate Tank	3.34E-02	1.44E-02	2.87E-03	1.16E-02	3.63E-03									
Stage 1/2	WWTK1	WWTK1	Wastewater Tank		3.97E-04	2.83E-06	1.30E-04	1.94E-05									
Stage 1/2	GEN1	SGEN1	Emergency Generator		6.03E-04		2.18E-04	1.50E-04				1.96E-05	6.12E-06				
Stage 1/2	GEN2	SGEN2	Emergency Generator		6.03E-04		2.18E-04	1.50E-04				1.96E-05	6.12E-06				
Stage 1/2	GEN3	SGEN3	Emergency Generator		6.03E-04		2.18E-04	1.50E-04				1.96E-05	6.12E-06				
Stage 1/2	GEN4	SGEN4	Emergency Generator		6.03E-04		2.18E-04	1.50E-04				1.96E-05	6.12E-06				
Stage 1/2	FWPUMP1	FWP1	Firewater Pump		1.15E-04		4.15E-05	2.85E-05				3.72E-06	1.16E-06				
Stage 1/2	FWPUMP2	FWP2	Firewater Pump		1.15E-04		4.15E-05	2.85E-05				3.72E-06	1.16E-06				
Stage 1/2	TRKLD	TRKLD	Condensate Truck Loading	1.04E-01	4.46E-02	8.90E-03	3.60E-02	1.13E-02									
Stage 1/2	TRKVCU	TRKVCU	Condensate Truck Loading VCU	7.98E-02	3.43E-02	6.85E-03	2.77E-02	8.69E-03									
Stage 1/2	WWLD	WWLD	Wastewater Truck Loading		2.49E-01	1.77E-03	8.12E-02	1.22E-02									
Stage 1/2	FUG	FUG	Piping Fugitives	5.12E-01	1.98E-01	4.90E-02	1.72E-01	6.22E-02			-						
Stage 1/2	WTDYFLR1_MSS	WTDYFLRM	Wet/Dry Gas Flare (MSS)	1.38E+00	9.76E-02												
Stage 1/2	TRKMSS	TRKMSS	Truck Loading (MSS)	3.83E-02	1.65E-02	3.29E-03	1.33E-02	4.17E-03									
Stage 3	MSFURN1	MSFURN1	Train 1 Hot Oil Furnace	3.01E-01	3.52E-04	-	5.69E-04		-	-		-	-				
Stage 3	MSFURN2	MSFURN2	Train 2 Hot Oil Furnace	3.01E-01	3.52E-04	-	5.69E-04		-	-		-	-				
Stage 3	MSFURN3	MSFURN3	Train 3 Hot Oil Furnace	3.01E-01	3.52E-04	-	5.69E-04		-	-		-	-				
Stage 3	MSFURN4	MSFURN4	Train 4 Hot Oil Furnace	3.01E-01	3.52E-04	-	5.69E-04		-	-		-	-				
Stage 3	MSFURN5	MSFURN5	Train 5 Hot Oil Furnace	3.01E-01	3.52E-04	-	5.69E-04		-	-		-	-				
Stage 3	MSFURN6	MSFURN6	Train 6 Hot Oil Furnace	3.01E-01	3.52E-04	-	5.69E-04		-	-		-	-				
Stage 3	MSFURN7	MSFURN7	Train 7 Hot Oil Furnace	3.01E-01	3.52E-04	-	5.69E-04		-	-		-	-				
Stage 3 (Exp.)	MSFURN8	MSFURN8	Train 8 Hot Oil Furnace	3.01E-01	3.52E-04	-	5.69E-04		-	-		-	-				
Stage 3 (Exp.)	MSFURN9	MSFURN9	Train 9 Hot Oil Furnace	3.01E-01	3.52E-04	-	5.69E-04		-	-		-	-				
Stage 3	MSTO1	MSTO1	Train 1 Thermal Oxidizer	6.98E-03					-	-		-	-				
Stage 3	MSTO2	MSTO2	Train 2 Thermal Oxidizer	6.98E-03					-	-		-	-				
Stage 3	MSTO3	MSTO3	Train 3 Thermal Oxidizer	6.98E-03					-	-		-	-				
Stage 3	MSTO4	MSTO4	Train 4 Thermal Oxidizer	6.98E-03					-	-		-	-				
Stage 3	MSTO5	MSTO5	Train 5 Thermal Oxidizer	6.98E-03					-	-		-	-				
Stage 3	MSTO6	MSTO6	Train 6 Thermal Oxidizer	6.98E-03					-	-		-	-				
Stage 3	MSTO7	MSTO7	Train 7 Thermal Oxidizer	6.98E-03					-	-		-	-				

**Table 4-3**  
**Annual HAP Emission Rates**  
 Corpus Christi Liquefaction LLC

Project	EPN	Model ID	Facility Name	Total: 1.4E+01 1.7E+00 1.3E+00 5.3E+00 2.5E+00 9.8E-01 2.7E-02 8.9E-02 1.5E+00 2.4E-01 2.6E-03 1.1E-04 9.9E-04													
				Hexane 110-54-3	Benzene 71-43-2	Ethylbenzene 100-41-4	Toluene 108-88-3	Xylenes 1330-20-7	Propylene Oxide 75-56-9	1,3-Butadiene 106-99-0	2,2,4-Trimethylpentane 540-84-1	Acetaldehyde 75-07-0	Acrolein 107-02-8	Antimony 7440-36-0	Arsenic 7440-38-2	Cadmium 7440-43-9	
Stage 3 (Exp.)	MSTO8	MSTO8	Train 8 Thermal Oxidizer	6.98E-03						-	-		-	-			
Stage 3 (Exp.)	MSTO9	MSTO9	Train 9 Thermal Oxidizer	6.98E-03						-	-		-	-			
Stage 3	MSGFLR1	MSGFLR1	Stage 1 Ground Flare (Continuous)	3.68E-02	-	-	-			-	-		-	-			
Stage 3	MSGFLR2	MSGFLR2	Stage 2 Ground Flare (Continuous)	3.68E-02	-	-	-			-	-		-	-			
Stage 3	MSGFLR3	MSGFLR3	Stage 3 Ground Flare (Continuous)	3.68E-02	-	-	-			-	-		-	-			
Stage 3	MSGFLR3M	MSGFLR_M	Multi-Point Ground Flare (MSS)	4.60E-01													
Stage 3	MSFUG1	MSFUG1	Train 1 Fugitives	8.60E-01	4.88E-05	-	-			-	-		-	-			
Stage 3	MSFUG2	MSFUG2	Train 2 Fugitives	8.60E-01	4.88E-05	-	-			-	-		-	-			
Stage 3	MSFUG3	MSFUG3	Train 3 Fugitives	8.60E-01	4.88E-05	-	-			-	-		-	-			
Stage 3	MSFUG4	MSFUG4	Train 4 Fugitives	8.60E-01	4.88E-05	-	-			-	-		-	-			
Stage 3	MSFUG5	MSFUG5	Train 5 Fugitives	8.60E-01	4.88E-05	-	-			-	-		-	-			
Stage 3	MSFUG6	MSFUG6	Train 6 Fugitives	8.60E-01	4.88E-05	-	-			-	-		-	-			
Stage 3	MSFUG7	MSFUG7	Train 7 Fugitives	8.60E-01	4.88E-05	-	-			-	-		-	-			
Stage 3	MSFUG8	MSFUG8	Train 8 Fugitives	8.60E-01	4.88E-05	-	-			-	-		-	-			
Stage 3	MSFUG9	MSFUG9	Train 9 Fugitives	8.60E-01	4.88E-05	-	-			-	-		-	-			
Stage 3	MSFUG	MSFUG	Common Equipment Fugitives	2.25E-02		-	-			-	-		-	-			
Stage 3	MSFWP1	MSFWP1	Fire Water Pump	-	5.98E-05	-	2.17E-05	1.49E-05		-	-		1.94E-06	6.07E-07			
Stage 3	MSFWP2	MSFWP2	Fire Water Pump	-	5.98E-05	-	2.17E-05	1.49E-05		-	-		1.94E-06	6.07E-07			
Stage 3	MSGEN1	MSGEN1	Train 1 Diesel Generator	-	3.61E-04	-	1.31E-04	8.98E-05		-	-		1.17E-05	3.67E-06			
Stage 3	MSGEN2	MSGEN2	Train 2 Diesel Generator	-	3.61E-04	-	1.31E-04	8.98E-05		-	-		1.17E-05	3.67E-06			
Stage 3	MSGEN3	MSGEN3	Train 3 Diesel Generator	-	3.61E-04	-	1.31E-04	8.98E-05		-	-		1.17E-05	3.67E-06			
Stage 3	MSGEN4	MSGEN4	Train 4 Diesel Generator	-	3.61E-04	-	1.31E-04	8.98E-05		-	-		1.17E-05	3.67E-06			
Stage 3	MSGEN5	MSGEN5	Train 5 Diesel Generator	-	3.61E-04	-	1.31E-04	8.98E-05		-	-		1.17E-05	3.67E-06			
Stage 3	MSGEN6	MSGEN6	Train 6 Diesel Generator	-	3.61E-04	-	1.31E-04	8.98E-05		-	-		1.17E-05	3.67E-06			
Stage 3	MSGEN7	MSGEN7	Train 7 Diesel Generator	-	3.61E-04	-	1.31E-04	8.98E-05		-	-		1.17E-05	3.67E-06			
Stage 3 (Exp.)	MSGEN8	MSGEN8	Train 8 Diesel Generator	-	3.61E-04	-	1.31E-04	8.98E-05		-	-		1.17E-05	3.67E-06			
Stage 3 (Exp.)	MSGEN9	MSGEN9	Train 9 Diesel Generator	-	3.61E-04	-	1.31E-04	8.98E-05		-	-		1.17E-05	3.67E-06			
Marine (Exp.)	NA	E_HOTEL1	Cargo Ship 1 Hoteling	1.88E-03	3.20E-03	2.96E-04	1.37E-03	1.31E-03			6.83E-04	4.80E-03	6.60E-03	1.25E-03	1.55E-04	6.52E-06	5.94E-05
Marine (Exp.)	NA	E_HOTEL2	Cargo Ship 2 Hoteling	1.88E-03	3.20E-03	2.96E-04	1.37E-03	1.31E-03			6.83E-04	4.80E-03	6.60E-03	1.25E-03	1.55E-04	6.52E-06	5.94E-05
Marine (Exp.)	NA	E_1MTUG1	Tug 1 Maneuvering Cargo Ship 1	2.42E-04	4.10E-04	3.80E-05	1.76E-04	1.68E-04			8.77E-05	6.17E-04	8.47E-04	1.60E-04	1.12E-05	4.72E-07	4.30E-06
Marine (Exp.)	NA	E_1MTUG2	Tug 2 Maneuvering Cargo Ship 1	2.42E-04	4.10E-04	3.80E-05	1.76E-04	1.68E-04			8.77E-05	6.17E-04	8.47E-04	1.60E-04	1.12E-05	4.72E-07	4.30E-06
Marine (Exp.)	NA	E_1MTUG3	Tug 3 Maneuvering Cargo Ship 1	2.42E-04	4.10E-04	3.80E-05	1.76E-04	1.68E-04			8.77E-05	6.17E-04	8.47E-04	1.60E-04	1.12E-05	4.72E-07	4.30E-06
Marine (Exp.)	NA	E_1MTUG4	Tug 4 Maneuvering Cargo Ship 1	2.42E-04	4.10E-04	3.80E-05	1.76E-04	1.68E-04			8.77E-05	6.17E-04	8.47E-04	1.60E-04	1.12E-05	4.72E-07	4.30E-06
Marine (Exp.)	NA	E_1STUG	Standby Tug for Cargo Ship 1	1.24E-04	2.10E-04	1.95E-05	9.03E-05	8.58E-05			4.49E-05	3.16E-04	4.34E-04	8.20E-05	5.74E-06	2.42E-07	2.20E-06
Marine (Exp.)	NA	E_2STUG	Standby Tug for Cargo Ship 2	1.24E-04	2.10E-04	1.95E-05	9.03E-05	8.58E-05			4.49E-05	3.16E-04	4.34E-04	8.20E-05	5.74E-06	2.42E-07	2.20E-06
Marine (Exp.)	NA	E_PILOT	Pilot Vessel	9.65E-06	1.64E-05	1.52E-06	7.04E-06	6.70E-06			3.51E-06	2.46E-05	3.39E-05	6.39E-06	3.08E-06	1.30E-07	1.18E-06
Marine (Total)	NA	T_HOTEL1	Cargo Ship 1 Hoteling	1.13E-02	1.92E-02	1.78E-03	8.24E-03	7.83E-03			4.10E-03	2.88E-02	3.96E-02	7.48E-03	9.29E-04	3.91E-05	3.57E-04
Marine (Total)	NA	T_HOTEL2	Cargo Ship 2 Hoteling	1.13E-02	1.92E-02	1.78E-03	8.24E-03	7.83E-03			4.10E-03	2.88E-02	3.96E-02	7.48E-03	9.29E-04	3.91E-05	3.57E-04
Marine (Total)	NA	T_1MTUG1	Tug 1 Maneuvering Cargo Ship 1	1.45E-03	2.46E-03	2.28E-04	1.06E-03	1.01E-03			5.26E-04	3.70E-03	5.08E-03	9.60E-04	6.73E-05	2.83E-06	2.58E-05
Marine (Total)	NA	T_1MTUG2	Tug 2 Maneuvering Cargo Ship 1	1.45E-03	2.46E-03	2.28E-04	1.06E-03	1.01E-03			5.26E-04	3.70E-03	5.08E-03	9.60E-04	6.73E-05	2.83E-06	2.58E-05
Marine (Total)	NA	T_1MTUG3	Tug 3 Maneuvering Cargo Ship 1	1.45E-03	2.46E-03	2.28E-04	1.06E-03	1.01E-03			5.26E-04	3.70E-03	5.08E-03	9.60E-04	6.73E-05	2.83E-06	2.58E-05
Marine (Total)	NA	T_1MTUG4	Tug 4 Maneuvering Cargo Ship 1	1.45E-03	2.46E-03	2.28E-04	1.06E-03	1.01E-03			5.26E-04	3.70E-03	5.08E-03	9.60E-04	6.73E-05	2.83E-06	2.58E-05
Marine (Total)	NA	T_1STUG	Standby Tug for Cargo Ship 1	7.43E-04	1.26E-03	1.17E-04	5.42E-04	5.15E-04			2.70E-04	1.89E-03	2.60E-03	4.92E-04	3.45E-05	1.45E-06	1.32E-05
Marine (Total)	NA	T_2STUG	Standby Tug for Cargo Ship 2	7.43E-04	1.26E-03	1.17E-04	5.42E-04	5.15E-04			2.70E-04	1.89E-03	2.60E-03	4.92E-04	3.45E-05	1.45E-06	1.32E-05
Marine (Total)	NA	T_PILOT	Pilot Vessel	5.79E-05	9.84E-05	9.11E-06	4.23E-05	4.02E-05			2.10E-05	1.48E-04	2.03E-04	3.84E-05	1.85E-05	7.79E-07	7.09E-06

Notes:  
 1. Polycyclic Organic Materials (POM), includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100 °C.  
 2. All emission rates are pounds per hour (tpy)

**Table 4-3**  
**Annual HAP Emission Rates**  
 Corpus Christi Liquefaction LLC

Project	EPN	Model ID	Facility Name	Total:												
				Chromium (VI) 18540-29-9	Formaldehyde 50-00-0	Lead 7439-92-1	Manganese 7439-96-5	Mercury 7439-97-6	Naphthalene 91-20-3	Nickel 7440-02-0	Polychlorinated Biphenyl 1336-36-3	Propionaldehyde 123-38-6	Selenium 7782-49-2	POM [1] 130498-29-2		
Stage 1/2	TRB1	TRB1	Propane Refrigeration Turbine		1.34E+00					2.40E-03						4.10E-03
Stage 1/2	TRB2	TRB2	Propane Refrigeration Turbine		1.34E+00					2.40E-03						4.10E-03
Stage 1/2	TRB7	TRB3	Propane Refrigeration Turbine		1.34E+00					2.40E-03						4.10E-03
Stage 1/2	TRB8	TRB4	Propane Refrigeration Turbine		1.34E+00					2.40E-03						4.10E-03
Stage 1/2	TRB13	TRB5	Propane Refrigeration Turbine		1.34E+00					2.40E-03						4.10E-03
Stage 1/2	TRB14	TRB6	Propane Refrigeration Turbine		1.34E+00					2.40E-03						4.10E-03
Stage 1/2	TRB3	TRB7	Ethylene Refrigeration Turbine		1.34E+00					2.40E-03						4.10E-03
Stage 1/2	TRB4	TRB8	Ethylene Refrigeration Turbine		1.34E+00					2.40E-03						4.10E-03
Stage 1/2	TRB9	TRB9	Ethylene Refrigeration Turbine		1.34E+00					2.40E-03						4.10E-03
Stage 1/2	TRB10	TRB10	Ethylene Refrigeration Turbine		1.34E+00					2.40E-03						4.10E-03
Stage 1/2	TRB15	TRB11	Ethylene Refrigeration Turbine		1.34E+00					2.40E-03						4.10E-03
Stage 1/2	TRB16	TRB12	Ethylene Refrigeration Turbine		1.34E+00					2.40E-03						4.10E-03
Stage 1/2	TRB5	TRB13	Methane Refrigeration Turbine		1.34E+00					2.40E-03						4.10E-03
Stage 1/2	TRB6	TRB14	Methane Refrigeration Turbine		1.34E+00					2.40E-03						4.10E-03
Stage 1/2	TRB11	TRB15	Methane Refrigeration Turbine		1.34E+00					2.40E-03						4.10E-03
Stage 1/2	TRB12	TRB16	Methane Refrigeration Turbine		1.34E+00					2.40E-03						4.10E-03
Stage 1/2	TRB17	TRB17	Methane Refrigeration Turbine		1.34E+00					2.40E-03						4.10E-03
Stage 1/2	TRB18	TRB18	Methane Refrigeration Turbine		1.34E+00					2.40E-03						4.10E-03
Stage 1/2	TO-1	TO1	Thermal Oxidizer													
Stage 1/2	TO-2	TO2	Thermal Oxidizer													
Stage 1/2	TO-3	TO3	Thermal Oxidizer													
Stage 1/2	WTDYFLR1	WTDYFLR1	Flare (Routine													
Stage 1/2	WTDYFLR2	WTDYFLR2	Flare (Routine													
Stage 1/2	MRNFLR	MRNFLR	Marine Flare													
Stage 1/2	IFRTK1	IFRTK1	Condensate Tank													
Stage 1/2	WWTK1	WWTK1	Wastewater Tank													
Stage 1/2	GEN1	SGEN1	Emergency Generator		6.13E-05					1.01E-04						1.65E-04
Stage 1/2	GEN2	SGEN2	Emergency Generator		6.13E-05					1.01E-04						1.65E-04
Stage 1/2	GEN3	SGEN3	Emergency Generator		6.13E-05					1.01E-04						1.65E-04
Stage 1/2	GEN4	SGEN4	Emergency Generator		6.13E-05					1.01E-04						1.65E-04
Stage 1/2	FWPUMP1	FWP1	Firewater Pump		1.17E-05					1.92E-05						3.13E-05
Stage 1/2	FWPUMP2	FWP2	Firewater Pump		1.17E-05					1.92E-05						3.13E-05
Stage 1/2	TRKLD	TRKLD	Condensate Truck Loading													
Stage 1/2	TRKVCU	TRKVCU	Condensate Truck Loading VCU													
Stage 1/2	WWLD	WWLD	Wastewater Truck Loading													
Stage 1/2	FUG	FUG	Piping Fugitives													
Stage 1/2	WTDYFLR1_MSS	WTDYFLRM	Wet/Dry Gas Flare (MSS)													
Stage 1/2	TRKMSS	TRKMSS	Truck Loading (MSS)													
Stage 3	MSFURN1	MSFURN1	Train 1 Hot Oil Furnace		1.26E-02					1.02E-04						1.54E-05
Stage 3	MSFURN2	MSFURN2	Train 2 Hot Oil Furnace		1.26E-02					1.02E-04						1.54E-05
Stage 3	MSFURN3	MSFURN3	Train 3 Hot Oil Furnace		1.26E-02					1.02E-04						1.54E-05
Stage 3	MSFURN4	MSFURN4	Train 4 Hot Oil Furnace		1.26E-02					1.02E-04						1.54E-05
Stage 3	MSFURN5	MSFURN5	Train 5 Hot Oil Furnace		1.26E-02					1.02E-04						1.54E-05
Stage 3	MSFURN6	MSFURN6	Train 6 Hot Oil Furnace		1.26E-02					1.02E-04						1.54E-05
Stage 3	MSFURN7	MSFURN7	Train 7 Hot Oil Furnace		1.26E-02					1.02E-04						1.54E-05
Stage 3 (Exp.)	MSFURN8	MSFURN8	Train 8 Hot Oil Furnace		1.26E-02					1.02E-04						1.54E-05
Stage 3 (Exp.)	MSFURN9	MSFURN9	Train 9 Hot Oil Furnace		1.26E-02					1.02E-04						1.54E-05
Stage 3	MSTO1	MSTO1	Train 1 Thermal Oxidizer		-											
Stage 3	MSTO2	MSTO2	Train 2 Thermal Oxidizer		-											
Stage 3	MSTO3	MSTO3	Train 3 Thermal Oxidizer		-											
Stage 3	MSTO4	MSTO4	Train 4 Thermal Oxidizer		-											
Stage 3	MSTO5	MSTO5	Train 5 Thermal Oxidizer		-											
Stage 3	MSTO6	MSTO6	Train 6 Thermal Oxidizer		-											
Stage 3	MSTO7	MSTO7	Train 7 Thermal Oxidizer		-											

**Table 4-3**  
**Annual HAP Emission Rates**  
 Corpus Christi Liquefaction LLC

Project	EPN	Model ID	Facility Name	Total:	3.0E-08	2.5E+01	5.3E-04	1.4E-05	1.8E-07	4.4E-01	2.9E-03	1.8E-06	1.9E-02	1.8E-07	1.0E-01
				Chromium (VI) 18540-29-9	Formaldehyde 50-00-0	Lead 7439-92-1	Manganese 7439-96-5	Mercury 7439-97-6	Naphthalene 91-20-3	Nickel 7440-02-0	Polychlorinated Biphenyl 1336-36-3	Propionaldehyde 123-38-6	Selenium 7782-49-2	POM [1] 130498-29-2	
Stage 3 (Exp.)	MSTO8	MSTO8	Train 8 Thermal Oxidizer												
Stage 3 (Exp.)	MSTO9	MSTO9	Train 9 Thermal Oxidizer												
Stage 3	MSGFLR1	MSGFLR1	Stage 1 Ground Flare (Continuous)												
Stage 3	MSGFLR2	MSGFLR2	Stage 2 Ground Flare (Continuous)												
Stage 3	MSGFLR3	MSGFLR3	Stage 3 Ground Flare (Continuous)												
Stage 3	MSGFLR3M	MSGFLR_M	Multi-Point Ground Flare (MSS)												
Stage 3	MSFUG1	MSFUG1	Train 1 Fugitives												
Stage 3	MSFUG2	MSFUG2	Train 2 Fugitives												
Stage 3	MSFUG3	MSFUG3	Train 3 Fugitives												
Stage 3	MSFUG4	MSFUG4	Train 4 Fugitives												
Stage 3	MSFUG5	MSFUG5	Train 5 Fugitives												
Stage 3	MSFUG6	MSFUG6	Train 6 Fugitives												
Stage 3	MSFUG7	MSFUG7	Train 7 Fugitives												
Stage 3	MSFUG8	MSFUG8	Train 8 Fugitives												
Stage 3	MSFUG9	MSFUG9	Train 9 Fugitives												
Stage 3	MSFUG	MSFUG	Common Equipment Fugitives												
Stage 3	MSFWP1	MSFWP1	Fire Water Pump		6.08E-06										1.63E-05
Stage 3	MSFWP2	MSFWP2	Fire Water Pump		6.08E-06										1.63E-05
Stage 3	MSGEN1	MSGEN1	Train 1 Diesel Generator		3.67E-05										9.86E-05
Stage 3	MSGEN2	MSGEN2	Train 2 Diesel Generator		3.67E-05										9.86E-05
Stage 3	MSGEN3	MSGEN3	Train 3 Diesel Generator		3.67E-05										9.86E-05
Stage 3	MSGEN4	MSGEN4	Train 4 Diesel Generator		3.67E-05										9.86E-05
Stage 3	MSGEN5	MSGEN5	Train 5 Diesel Generator		3.67E-05										9.86E-05
Stage 3	MSGEN6	MSGEN6	Train 6 Diesel Generator		3.67E-05										9.86E-05
Stage 3	MSGEN7	MSGEN7	Train 7 Diesel Generator		3.67E-05										
Stage 3 (Exp.)	MSGEN8	MSGEN8	Train 8 Diesel Generator		3.67E-05										
Stage 3 (Exp.)	MSGEN9	MSGEN9	Train 9 Diesel Generator		3.67E-05										
Marine (Exp.)	NA	E_HOTEL1	Cargo Ship 1 Hoteling	1.82E-09	2.88E-02	3.15E-05	8.11E-07	1.05E-08	2.11E-02	1.73E-04	1.05E-07	1.02E-03	1.10E-08	1.45E-03	
Marine (Exp.)	NA	E_HOTEL2	Cargo Ship 2 Hoteling	1.82E-09	2.88E-02	3.15E-05	8.11E-07	1.05E-08	2.11E-02	1.73E-04	1.05E-07	1.02E-03	1.10E-08	1.45E-03	
Marine (Exp.)	NA	E_1MTUG1	Tug 1 Maneuvering Cargo Ship 1	1.32E-10	3.70E-03	2.28E-06	5.87E-08	7.62E-10	2.71E-03	1.25E-05	7.62E-09	1.31E-04	7.99E-10	1.82E-04	
Marine (Exp.)	NA	E_1MTUG2	Tug 2 Maneuvering Cargo Ship 1	1.32E-10	3.70E-03	2.28E-06	5.87E-08	7.62E-10	2.71E-03	1.25E-05	7.62E-09	1.31E-04	7.99E-10	1.82E-04	
Marine (Exp.)	NA	E_1MTUG3	Tug 3 Maneuvering Cargo Ship 1	1.32E-10	3.70E-03	2.28E-06	5.87E-08	7.62E-10	2.71E-03	1.25E-05	7.62E-09	1.31E-04	7.99E-10	1.82E-04	
Marine (Exp.)	NA	E_1MTUG4	Tug 4 Maneuvering Cargo Ship 1	1.32E-10	3.70E-03	2.28E-06	5.87E-08	7.62E-10	2.71E-03	1.25E-05	7.62E-09	1.31E-04	7.99E-10	1.82E-04	
Marine (Exp.)	NA	E_1STUG	Standby Tug for Cargo Ship 1	6.76E-11	1.89E-03	1.17E-06	3.01E-08	3.90E-10	1.39E-03	6.42E-06	3.90E-09	6.73E-05	4.09E-10	9.31E-05	
Marine (Exp.)	NA	E_2STUG	Standby Tug for Cargo Ship 2	6.76E-11	1.89E-03	1.17E-06	3.01E-08	3.90E-10	1.39E-03	6.42E-06	3.90E-09	6.73E-05	4.09E-10	9.31E-05	
Marine (Exp.)	NA	E_PILOT	Pilot Vessel	3.63E-11	1.48E-04	6.26E-07	1.61E-08	2.09E-10	1.08E-04	3.44E-06	2.09E-09	5.25E-06	2.19E-10	8.61E-06	
Marine (Total)	NA	T_HOTEL1	Cargo Ship 1 Hoteling	1.09E-08	1.73E-01	1.89E-04	4.87E-06	6.32E-08	1.27E-01	1.04E-03	6.32E-07	6.14E-03	6.62E-08	8.70E-03	
Marine (Total)	NA	T_HOTEL2	Cargo Ship 2 Hoteling	1.09E-08	1.73E-01	1.89E-04	4.87E-06	6.32E-08	1.27E-01	1.04E-03	6.32E-07	6.14E-03	6.62E-08	8.70E-03	
Marine (Total)	NA	T_1MTUG1	Tug 1 Maneuvering Cargo Ship 1	7.92E-10	2.22E-02	1.37E-05	3.52E-07	4.57E-09	1.63E-02	7.52E-05	4.57E-08	7.88E-04	4.79E-09	1.09E-03	
Marine (Total)	NA	T_1MTUG2	Tug 2 Maneuvering Cargo Ship 1	7.92E-10	2.22E-02	1.37E-05	3.52E-07	4.57E-09	1.63E-02	7.52E-05	4.57E-08	7.88E-04	4.79E-09	1.09E-03	
Marine (Total)	NA	T_1MTUG3	Tug 3 Maneuvering Cargo Ship 1	7.92E-10	2.22E-02	1.37E-05	3.52E-07	4.57E-09	1.63E-02	7.52E-05	4.57E-08	7.88E-04	4.79E-09	1.09E-03	
Marine (Total)	NA	T_1MTUG4	Tug 4 Maneuvering Cargo Ship 1	7.92E-10	2.22E-02	1.37E-05	3.52E-07	4.57E-09	1.63E-02	7.52E-05	4.57E-08	7.88E-04	4.79E-09	1.09E-03	
Marine (Total)	NA	T_1STUG	Standby Tug for Cargo Ship 1	4.06E-10	1.14E-02	7.00E-06	1.80E-07	2.34E-09	8.33E-03	3.85E-05	2.34E-08	4.04E-04	2.45E-09	5.59E-04	
Marine (Total)	NA	T_2STUG	Standby Tug for Cargo Ship 2	4.06E-10	1.14E-02	7.00E-06	1.80E-07	2.34E-09	8.33E-03	3.85E-05	2.34E-08	4.04E-04	2.45E-09	5.59E-04	
Marine (Total)	NA	T_PILOT	Pilot Vessel	2.18E-10	8.86E-04	3.76E-06	9.68E-08	1.26E-09	6.50E-04	2.07E-05	1.26E-08	3.15E-05	1.32E-09	5.17E-05	

- Notes:
1. Polycyclic Organic Materials (POM), includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100 °C.
  2. All emission rates are pounds per hour (tpy)

**Table 4-4**  
**Point Source Parameters**  
**Corpus Christi Liquefaction LLC**

Project	EPN	Model ID	Source Description	Easting (X)	Northing (Y)	Base Elevation	Stack Height		Temperature		Exit Velocity		Stack Diameter	
				(m)	(m)	(m)	(ft)	(m)	(°F)	(K)	(fps)	(m/s)	(ft)	(m)
Stage 1/2	MRNFLR	MRNFLR	Marine Flare	670,231	3,085,427	7.62	82	24.99	1831.7	1273.0	65.62	20.00	31.4	9.58
Stage 1/2	WTDYFLR1	WTDYFLR1	Wet/Dry Gas Flare (Continuous)	670,201	3,085,712	7.62	500	152.40	1831.7	1273.0	65.62	20.00	14.5	4.42
Stage 1/2	WTDYFLR2	WTDYFLR2	Wet/Dry Gas Flare (Continuous)	670,207	3,085,718	7.62	500	152.40	1831.7	1273.0	65.62	20.00	14.5	4.42
Stage 1/2	WTDYFLR1/2	WTDYFLRM	Wet/Dry Gas Flare (MSS)	670,207	3,085,718	7.62	500	152.40	1831.7	1273.0	65.62	20.00	55.1	16.80
Stage 1/2	TRKVCU	TRKVCU	Condensate Truck Loading VCU	670,242	3,086,497	7.62	40	12.19	1200.0	922.0	6.29	1.92	7.5	2.29
Stage 1/2	TRB1	TRB1	Propane Refrigeration Turbine	670,056	3,086,174	7.62	209.8	63.95	956.1	786.5	93.28	28.43	10.8	3.29
Stage 1/2	TRB2	TRB2	Propane Refrigeration Turbine	670,060	3,086,160	7.62	209.8	63.95	956.1	786.5	93.28	28.43	10.8	3.29
Stage 1/2	TRB3	TRB3	Ethylene Refrigeration Turbine (Bypass)	670,065	3,086,146	7.62	209.8	63.95	956.1	786.5	32.23	9.82	9.8	3.00
Stage 1/2	TRB3A	WHRU3	Ethylene Refrigeration Turbine (WHRU)	670,065	3,086,146	7.62	209.8	63.95	328.0	437.6	74.75	22.78	7.6	2.31
Stage 1/2	TRB4	TRB4	Ethylene Refrigeration Turbine (Bypass)	670,069	3,086,133	7.62	209.8	63.95	956.1	786.5	32.23	9.82	9.8	3.00
Stage 1/2	TRB4A	WHRU4	Ethylene Refrigeration Turbine (WHRU)	670,069	3,086,133	7.62	209.8	63.95	328.0	437.6	74.75	22.78	7.6	2.31
Stage 1/2	TRB5	TRB5	Methane Refrigeration Turbine	670,074	3,086,120	7.62	209.8	63.95	956.1	786.5	93.28	28.43	10.8	3.29
Stage 1/2	TRB6	TRB6	Methane Refrigeration Turbine	670,078	3,086,106	7.62	209.8	63.95	956.1	786.5	93.28	28.43	10.8	3.29
Stage 1/2	TRB7	TRB7	Propane Refrigeration Turbine	670,244	3,086,236	7.62	209.8	63.95	956.1	786.5	93.28	28.43	10.8	3.29
Stage 1/2	TRB8	TRB8	Propane Refrigeration Turbine	670,249	3,086,222	7.62	209.8	63.95	956.1	786.5	93.28	28.43	10.8	3.29
Stage 1/2	TRB9	TRB9	Ethylene Refrigeration Turbine (Bypass)	670,254	3,086,209	7.62	209.8	63.95	956.1	786.5	32.23	9.82	9.8	3.00
Stage 1/2	TRB9A	WHRU9	Ethylene Refrigeration Turbine (WHRU)	670,254	3,086,209	7.62	209.8	63.95	328.0	437.6	74.75	22.78	7.6	2.31
Stage 1/2	TRB10	TRB10	Ethylene Refrigeration Turbine (Bypass)	670,258	3,086,195	7.62	209.8	63.95	956.1	786.5	32.23	9.82	9.8	3.00
Stage 1/2	TRB10A	WHRU10	Ethylene Refrigeration Turbine (WHRU)	670,258	3,086,195	7.62	209.8	63.95	328.0	437.6	74.75	22.78	7.6	2.31
Stage 1/2	TRB11	TRB11	Methane Refrigeration Turbine	670,262	3,086,182	7.62	209.8	63.95	956.1	786.5	93.28	28.43	10.8	3.29
Stage 1/2	TRB12	TRB12	Methane Refrigeration Turbine	670,267	3,086,169	7.62	209.8	63.95	956.1	786.5	93.28	28.43	10.8	3.29
Stage 1/2	TRB13	TRB13	Propane Refrigeration Turbine	670,433	3,086,298	7.62	209.8	63.95	956.1	786.5	93.28	28.43	10.8	3.29
Stage 1/2	TRB14	TRB14	Propane Refrigeration Turbine	670,438	3,086,284	7.62	209.8	63.95	956.1	786.5	93.28	28.43	10.8	3.29
Stage 1/2	TRB15	TRB15	Ethylene Refrigeration Turbine (Bypass)	670,442	3,086,271	7.62	209.8	63.95	956.1	786.5	32.23	9.82	9.8	3.00
Stage 1/2	TRB15A	WHRU15	Ethylene Refrigeration Turbine (WHRU)	670,442	3,086,271	7.62	209.8	63.95	328.0	437.6	74.75	22.78	7.6	2.31
Stage 1/2	TRB16	TRB16	Ethylene Refrigeration Turbine (Bypass)	670,447	3,086,257	7.62	209.8	63.95	956.1	786.5	32.23	9.82	9.8	3.00
Stage 1/2	TRB16A	WHRU16	Ethylene Refrigeration Turbine (WHRU)	670,447	3,086,257	7.62	209.8	63.95	328.0	437.6	74.75	22.78	7.6	2.31
Stage 1/2	TRB17	TRB17	Methane Refrigeration Turbine	670,451	3,086,244	7.62	209.8	63.95	956.1	786.5	93.28	28.43	10.8	3.29
Stage 1/2	TRB18	TRB18	Methane Refrigeration Turbine	670,455	3,086,231	7.62	209.8	63.95	956.1	786.5	93.28	28.43	10.8	3.29
Stage 1/2	TO-1	TO1	Thermal Oxidizer	669,996	3,086,313	7.62	75	22.86	1178.0	909.8	80.71	24.60	5.5	1.68
Stage 1/2	TO-2	TO2	Thermal Oxidizer	670,185	3,086,375	7.62	75	22.86	1178.0	909.8	80.71	24.60	5.5	1.68
Stage 1/2	TO-3	TO3	Thermal Oxidizer	670,374	3,086,437	7.62	75	22.86	1178.0	909.8	80.71	24.60	5.5	1.68
Stage 1/2	TRKVCU	TRKVCU	Condensate Truck Loading VCU	670,242	3,086,497	7.62	40	12.19	1200.0	922.0	6.29	1.92	7.5	2.29
Stage 1/2	GEN1	SGEN1	Emergency Generator	669,978	3,085,825	7.62	26.3	8.02	745.0	669.3	262.58	80.03	0.8	0.25
Stage 1/2	GEN2	SGEN2	Emergency Generator	669,980	3,085,819	7.62	26.3	8.02	745.0	669.3	262.58	80.03	0.8	0.25
Stage 1/2	GEN3	SGEN3	Emergency Generator	669,982	3,085,813	7.62	26.3	8.02	745.0	669.3	262.58	80.03	0.8	0.25
Stage 1/2	GEN4	SGEN4	Emergency Generator	669,984	3,085,807	7.62	26.3	8.02	745.0	669.3	262.58	80.03	0.8	0.25
Stage 1/2	FWPUMP1	FWP1	Firewater Pump	670,611	3,086,366	7.62	7.3	2.23	891.0	750.4	173	52.73	0.5	0.15
Stage 1/2	FWPUMP2	FWP2	Firewater Pump	670,622	3,086,368	7.62	7.3	2.23	891.0	750.4	173	52.73	0.5	0.15

**Table 4-4**  
**Point Source Parameters**  
**Corpus Christi Liquefaction LLC**

Project	EPN	Model ID	Source Description	Easting (X)	Northing (Y)	Base Elevation	Stack Height		Temperature		Exit Velocity		Stack Diameter	
				(m)	(m)	(m)	(ft)	(m)	(°F)	(K)	(fps)	(m/s)	(ft)	(m)
Stage 3	MSFURN1	MSFURN1	Train 1 Hot Oil Furnace	670,442	3,087,208	13.72	158.8	48.40	443.0	501.5	18.31	5.58	6.0	1.83
Stage 3	MSFURN2	MSFURN2	Train 2 Hot Oil Furnace	670,396	3,087,354	13.72	158.8	48.40	443.0	501.5	18.31	5.58	6.0	1.83
Stage 3	MSFURN3	MSFURN3	Train 3 Hot Oil Furnace	670,349	3,087,499	13.72	158.8	48.40	443.0	501.5	18.31	5.58	6.0	1.83
Stage 3	MSFURN4	MSFURN4	Train 4 Hot Oil Furnace	670,301	3,087,644	13.72	158.8	48.40	443.0	501.5	18.31	5.58	6.0	1.83
Stage 3	MSFURN5	MSFURN5	Train 5 Hot Oil Furnace	670,254	3,087,789	13.72	158.8	48.40	443.0	501.5	18.31	5.58	6.0	1.83
Stage 3	MSFURN6	MSFURN6	Train 6 Hot Oil Furnace	670,208	3,087,934	13.72	158.8	48.40	443.0	501.5	18.31	5.58	6.0	1.83
Stage 3	MSFURN7	MSFURN7	Train 7 Hot Oil Furnace	670,161	3,088,079	13.72	158.8	48.40	443.0	501.5	18.31	5.58	6.0	1.83
Stage 3	MSFURN8	MSFURN8	Train 8 Hot Oil Furnace	669,901	3,088,000	13.72	158.8	48.40	443.0	501.5	18.31	5.58	6.0	1.83
Stage 3	MSFURN9	MSFURN9	Train 9 Hot Oil Furnace	669,948	3,087,855	13.72	158.8	48.40	443.0	501.5	18.31	5.58	6.0	1.83
Stage 3	MSTO1	MSTO1	Train 1 Thermal Oxidizer	670,459	3,087,214	13.72	100	30.48	1600.0	1144.3	79.8	24.32	4.0	1.22
Stage 3	MSTO2	MSTO2	Train 2 Thermal Oxidizer	670,412	3,087,359	13.72	100	30.48	1600.0	1144.3	79.8	24.32	4.0	1.22
Stage 3	MSTO3	MSTO3	Train 3 Thermal Oxidizer	670,365	3,087,504	13.72	100	30.48	1600.0	1144.3	79.8	24.32	4.0	1.22
Stage 3	MSTO4	MSTO4	Train 4 Thermal Oxidizer	670,318	3,087,649	13.72	100	30.48	1600.0	1144.3	79.8	24.32	4.0	1.22
Stage 3	MSTO5	MSTO5	Train 5 Thermal Oxidizer	670,270	3,087,794	13.72	100	30.48	1600.0	1144.3	79.8	24.32	4.0	1.22
Stage 3	MSTO6	MSTO6	Train 6 Thermal Oxidizer	670,224	3,087,940	13.72	100	30.48	1600.0	1144.3	79.8	24.32	4.0	1.22
Stage 3	MSTO7	MSTO7	Train 7 Thermal Oxidizer	670,177	3,088,084	13.72	100	30.48	1600.0	1144.3	79.8	24.32	4.0	1.22
Stage 3	MSTO8	MSTO8	Train 8 Thermal Oxidizer	669,917	3,088,003	13.72	100	30.48	1600.0	1144.3	79.8	24.32	4.0	1.22
Stage 3	MSTO9	MSTO9	Train 9 Thermal Oxidizer	669,965	3,087,859	13.72	100	30.48	1600.0	1144.3	79.8	24.32	4.0	1.22
Stage 3	MSGFLR1	MSGFLR1	Stage 1 Ground Flare (Continuous)	670,476	3,087,447	13.72	45	13.72	1832.0	1273.2	65.62	20.00	3.7	1.14
Stage 3	MSGFLR2	MSGFLR2	Stage 2 Ground Flare (Continuous)	670,445	3,087,532	13.72	45	13.72	1832.0	1273.2	65.62	20.00	3.7	1.14
Stage 3	MSGFLR3	MSGFLR3	Stage 3 Ground Flare (Continuous)	670,418	3,087,620	13.72	45	13.72	1832.0	1273.2	65.62	20.00	3.7	1.14
Stage 3	MSGFLR3	MSGFLR_M	Multi-Point Ground Flare (MSS)	670,418	3,087,620	13.72	45	13.72	1832.0	1273.2	65.62	20.00	70.0	21.34
Stage 3	MSFWP1	MSFWP1	Fire Water Pump	670,531	3,087,232	13.72	12	3.66	750.0	672.0	173	52.73	0.5	0.15
Stage 3	MSFWP2	MSFWP2	Fire Water Pump	670,529	3,087,237	13.72	12	3.66	750.0	672.0	173	52.73	0.5	0.15
Stage 3	MSGEN1	MSGEN1	Train 1 Diesel Generator	670,398	3,087,232	13.72	12	3.66	669.0	627.0	262	79.86	0.8	0.25
Stage 3	MSGEN2	MSGEN2	Train 2 Diesel Generator	670,351	3,087,378	13.72	12	3.66	669.0	627.0	262	79.86	0.8	0.25
Stage 3	MSGEN3	MSGEN3	Train 3 Diesel Generator	670,303	3,087,523	13.72	12	3.66	669.0	627.0	262	79.86	0.8	0.25
Stage 3	MSGEN4	MSGEN4	Train 4 Diesel Generator	670,256	3,087,668	13.72	12	3.66	669.0	627.0	262	79.86	0.8	0.25
Stage 3	MSGEN5	MSGEN5	Train 5 Diesel Generator	670,209	3,087,814	13.72	12	3.66	669.0	627.0	262	79.86	0.8	0.25
Stage 3	MSGEN6	MSGEN6	Train 6 Diesel Generator	670,162	3,087,960	13.72	12	3.66	669.0	627.0	262	79.86	0.8	0.25
Stage 3	MSGEN7	MSGEN7	Train 7 Diesel Generator	670,116	3,088,104	13.72	12	3.66	669.0	627.0	262	79.86	0.8	0.25
Stage 3	MSGEN8	MSGEN8	Train 8 Diesel Generator	669,879	3,088,025	13.72	12	3.66	669.0	627.0	262	79.86	0.8	0.25
Stage 3	MSGEN9	MSGEN9	Train 9 Diesel Generator	669,929	3,087,883	13.72	12	3.66	669.0	627.0	262	79.86	0.8	0.25
Marine (Exp.)	NA	E_HOTEL1	Cargo Ship 1 Hoteling	670,565	3,085,151	0	131	39.93	350.0	449.8	7.5	2.29	2.0	0.61
Marine (Exp.)	NA	E_HOTEL2	Cargo Ship 2 Hoteling	670,151	3,085,214	0	148	45.11	350.0	449.8	7.5	2.29	2.0	0.61
Marine (Exp.)	NA	E_1MTUG1	Tug 1 Manuevering Cargo Ship 1	670,850	3,084,969	0	35	10.67	900.0	755.4	49	14.94	1.5	0.46
Marine (Exp.)	NA	E_1MTUG2	Tug 2 Manuevering Cargo Ship 1	670,510	3,085,200	0	35	10.67	900.0	755.4	49	14.94	1.5	0.46
Marine (Exp.)	NA	E_1MTUG3	Tug 3 Manuevering Cargo Ship 1	670,578	3,085,072	0	35	10.67	900.0	755.4	49	14.94	1.5	0.46
Marine (Exp.)	NA	E_1MTUG4	Tug 4 Manuevering Cargo Ship 1	670,700	3,085,008	0	35	10.67	900.0	755.4	49	14.94	1.5	0.46

**Table 4-4**  
**Point Source Parameters**  
**Corpus Christi Liquefaction LLC**

Project	EPN	Model ID	Source Description	Easting (X)	Northing (Y)	Base Elevation	Stack Height		Temperature		Exit Velocity		Stack Diameter	
				(m)	(m)	(m)	(ft)	(m)	(°F)	(K)	(fps)	(m/s)	(ft)	(m)
Marine (Exp.)	NA	E_1STUG	Standby Tug for Cargo Ship 1	670,485	3,085,163	0	35	10.67	440.3	500.0	4.5	1.37	1.5	0.46
Marine (Exp.)	NA	E_2STUG	Standby Tug for Cargo Ship 2	670,072	3,085,234	0	35	10.67	440.3	500.0	4.5	1.37	1.5	0.46
Marine (Exp.)	NA	E_PILOT	Pilot Vessel	670,865	3,084,895	0	10	3.05	440.3	500.0	4.5	1.37	1.5	0.46
Marine (Total)	NA	T_HOTEL1	Cargo Ship 1 Hoteling	670,565	3,085,151	0	131	39.93	350.0	449.8	7.5	2.29	2.0	0.61
Marine (Total)	NA	T_HOTEL2	Cargo Ship 2 Hoteling	670,151	3,085,214	0	148	45.11	350.0	449.8	7.5	2.29	2.0	0.61
Marine (Total)	NA	T_1MTUG1	Tug 1 Manuevering Cargo Ship 1	670,850	3,084,969	0	35	10.67	900.0	755.4	49	14.94	1.5	0.46
Marine (Total)	NA	T_1MTUG2	Tug 2 Manuevering Cargo Ship 1	670,510	3,085,200	0	35	10.67	900.0	755.4	49	14.94	1.5	0.46
Marine (Total)	NA	T_1MTUG3	Tug 3 Manuevering Cargo Ship 1	670,578	3,085,072	0	35	10.67	900.0	755.4	49	14.94	1.5	0.46
Marine (Total)	NA	T_1MTUG4	Tug 4 Manuevering Cargo Ship 1	670,700	3,085,008	0	35	10.67	900.0	755.4	49	14.94	1.5	0.46
Marine (Total)	NA	T_1STUG	Standby Tug for Cargo Ship 1	670,485	3,085,163	0	35	10.67	440.3	500.0	4.5	1.37	1.5	0.46
Marine (Total)	NA	T_2STUG	Standby Tug for Cargo Ship 2	670,072	3,085,234	0	35	10.67	440.3	500.0	4.5	1.37	1.5	0.46
Marine (Total)	NA	T_PILOT	Pilot Vessel	670,865	3,084,895	0	10	3.05	440.3	500.0	4.5	1.37	1.5	0.46

**Table 4-5**  
**Volume Source Parameters**  
**Corpus Christi Liquefaction LLC**

Project	EPN	Model ID	Source Description	Easting (X)	Northing (Y)	Base Elevation	Structure or Source Height	Release Height	Width	Sigma-y	Sigma-z	Sigma-y Divisor	Sigma-z Divisor
				(m)	(m)	(m)	(ft)	(ft)	(ft)	(ft)			
Stage 1/2	FUG	FUG	Stage 1/2 Fugitives	670,268	3,086,254	7.62	90	45.0	1000.0	232.56	41.86	4.3	2.15
Stage 1/2	IFRTK1	IFRTK1	Condensate Storage	670,182	3,086,475	7.62	49	48.8	3.28	0.763	22.70	4.3	2.15
Stage 1/2	WWTK1	WWTK1	Wastewater Tank	670,090	3,086,446	7.62	25	24.5	3.28	0.763	11.40	4.3	2.15
Stage 1/2	TRKLD	TRKLD	Condensate Truck Loading	670,160	3,086,494	7.62	1	10	1	0.233	0.23	4.3	4.3
Stage 1/2	WWLD	WWLD	Wastewater Truck Loading	670,100	3,086,461	7.62	1	10	1	0.233	0.23	4.3	4.3
Stage 1/2	TRKMSS	TRKMSS	Truck Loading (MSS)	670,265	3,086,030	7.62	1	10	1	0.233	0.23	4.3	4.3
Stage 3	MSFUG1	MSFUG1	Train 1 Fugitives	670,366	3,087,236	13.716	40	20.00	350	81.40	18.60	4.30	2.15
Stage 3	MSFUG2	MSFUG2	Train 2 Fugitives	670,321	3,087,377	13.716	40	20.00	350	81.40	18.60	4.30	2.15
Stage 3	MSFUG3	MSFUG3	Train 3 Fugitives	670,272	3,087,523	13.716	40	20.00	350	81.40	18.60	4.30	2.15
Stage 3	MSFUG4	MSFUG4	Train 4 Fugitives	670,228	3,087,669	13.716	40	20.00	350	81.40	18.60	4.30	2.15
Stage 3	MSFUG5	MSFUG5	Train 5 Fugitives	670,181	3,087,816	13.716	40	20.00	350	81.40	18.60	4.30	2.15
Stage 3	MSFUG6	MSFUG6	Train 6 Fugitives	670,131	3,087,959	13.716	40	20.00	350	81.40	18.60	4.30	2.15
Stage 3	MSFUG7	MSFUG7	Train 7 Fugitives	670,085	3,088,106	13.716	40	20.00	350	81.40	18.60	4.30	2.15
Stage 3	MSFUG8	MSFUG8	Train 8 Fugitives	669,829	3,088,022	13.716	40	20.00	350	81.40	18.60	4.30	2.15
Stage 3	MSFUG9	MSFUG9	Train 9 Fugitives	669,880	3,087,877	13.716	40	20.00	350	81.40	18.60	4.30	2.15
Stage 3	MSFUG	MSFUG	Common Equipment Fugitives	670,337	3,087,686	13.716	40	20.00	1000	232.56	18.60	4.30	2.15

**Table 4-6**  
**Effective Flare Diameters**  
**Corpus Christi Liquefaction LLC**

Model ID	Flare Description	Avg. Molecular Weight	Heat Release	Gross Heat Release (q)	Net Heat Release (qn)	Effective Stack Diameter (D)	
		(lb/lb-mole)	(MMBtu/hr)	(cal/sec)	(cal/sec)	(m)	(ft)

**Stage 3 Sources**

MSGFLR1	Stage 1 Ground Flare (Continuous)	23.83	24.06	1,683,963	1,289,389	1.14	3.73
MSGFLR2	Stage 2 Ground Flare (Continuous)	23.83	24.06	1,683,963	1,289,389	1.14	3.73
MSGFLR3	Stage 3 Ground Flare (Continuous)	23.83	24.06	1,683,963	1,289,389	1.14	3.73
MSGFLR_M	Multi-Point Ground Flare (MSS)	16.56	8,084.77	565,934,244	455,395,108	21.34	70.01

**Stage 1 and 2 Sources**

MRNFLR	Marine Loading Flare	18.68	1,655.84	115,908,952	91,864,269	9.58	31.45
WTDYFLR1	Stage 1&2 Wet/Dry Flare 1	33.74	386.45	27,051,642	19,509,030	4.42	14.49
WTDYFLR2	Stage 1&2 Wet/Dry Flare 2	33.74	386.45	27,051,243	19,508,743	4.42	14.49
WTDYFLRM	Stage 1&2 Wet/Dry Flare MSS	44.19	5,917.99	414,258,953	282,083,237	16.80	55.10

## 5. MODELING RESULTS

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The modeling results are discussed in this section. The modeling demonstrates that the HAP emissions from the Terminal and from the Stage 3 Trains 8 and 9 expansion project are well below the TCEQ ESLs. All electronic modeling files have been submitted along with this modeling report and the files are summarized in Appendix B.

The TCEQ ESLs serve as benchmarks within the TCEQ air permitting process. ESLs play a crucial role in determining the likelihood of adverse effects resulting from exposure to specific air constituents. The ESL concentrations are established based on available data concerning health consequences, the potential for odorous emissions causing nuisances, and their effects on vegetation. Health-based ESLs are established at concentrations lower than those known to cause adverse health effects. Their purpose is to safeguard the overall public health, including vulnerable groups like children, the elderly, and individuals with preexisting respiratory conditions. The Toxicology Division of the TCEQ takes into account the potential for combined and total exposure when determining ESL values for air permitting. This approach adds an extra layer of protection by considering potential cumulative and aggregate impacts. When the concentration of a pollutant in the air remains below its respective ESL, there is no expectation of adverse health or welfare effects.

It is important to note that ESLs are distinct from ambient air standards. When the projected airborne concentrations of a constituent remain below the ESL, there is no expectation of adverse health or welfare effects. However, if the anticipated ambient levels of constituents in the air surpass the ESLs, it does not automatically indicate a problem; instead, it triggers a more comprehensive review.

The maximum concentrations predicted by the model for each HAP are shown on Table 5-1. The concentrations for all sources at the Terminal, including the proposed Trains 8 and 9 sources, and the concentrations from only the Trains 8 and 9 sources are shown. The locations of the maximum concentration for each pollutant are shown in Figures 5-1 and 5-2 for the 1-hour and annual averaging periods, respectively.

The maximum concentrations for these two sets of sources are reported for each census block identified as part of an environmental justice (EJ) community in tables included in Appendix C. A Block Group ID (BGID) was created for each block group within 50 km of the Terminal. The BGID is comprised of a 3-letter county prefix and a numerical value based on the numerical order of the census tract/block group within its respective county. The location of each EJ community shown on the Appendix C tables are found in the figures in Appendix D.

**Table 5-1**  
**Maximum Off-Property Impacts**  
**Corpus Christi Liquefaction LLC**

**All Terminal Sources**

Pollutant	Model Pollutant Name	CAS	1-Hour Averaging Period				Annual Averaging Period					
			Max 1-Hour Concentration (µg/m <sup>3</sup> )	UTM Coordinate East (m)	UTM Coordinate North (m)	Short-term ESL (µg/m <sup>3</sup> )	Percent of Short-term ESL	Max Annual Concentration (µg/m <sup>3</sup> )	UTM Coordinate East (m)	UTM Coordinate North (m)	Annual ESL (µg/m <sup>3</sup> )	Percent of Annual ESL
1,3-Butadiene	13Butad	106-99-0	0.06	669,765	3,085,275	510	0.01%	0.0005	670,531	3,084,937	9.9	0.01%
2,2,4-Trimethylpentane	224Trime	540-84-1	0.4	669,765	3,085,275	5600	0.01%	0.004	670,531	3,084,937	540	0.00%
Acetaldehyde	Acetalde	75-07-0	0.5	669,765	3,085,275	120	0.45%	0.005	670,507	3,084,945	45	0.01%
Acrolein	Acrolein	107-02-8	0.10	669,765	3,085,275	3.2	3.18%	0.001	670,507	3,084,945	0.82	0.12%
Antimony	Antimony	7440-36-0	0.01	669,769	3,085,349	5	0.20%	0.0001	670,531	3,084,937	0.5	0.02%
Arsenic	Arsenic	7440-38-2	0.0004	669,769	3,085,349	3	0.01%	0.00000	670,531	3,084,937	0.067	0.00%
Benzene	Benzene	71-43-2	55.2	669,788	3,085,987	170	32.46%	0.60	669,749	3,086,105	4.5	13.24%
Cadmium	Cadmium	7440-43-9	0.004	669,769	3,085,349	5.4	0.07%	0.00004	670,531	3,084,937	0.0033	1.21%
Chromium (VI)	Chromium	18540-29-9	0.00000	669,769	3,085,349	0.39	0.00%	0.00000	670,531	3,084,937	0.0043	0.00%
Ethylbenzene	Ethylben	100-41-4	11.0	669,788	3,085,987	26000	0.04%	0.11	669,749	3,086,105	570	0.02%
Formaldehyde	Formalde	50-00-0	2.3	669,765	3,085,275	15	15.65%	0.06	669,587	3,086,605	3.3	1.72%
Lead	Lead	7439-92-1	0.002	669,769	3,085,349	0.15	1.33%	0.00002	670,531	3,084,937	0.0375	0.05%
Manganese	Manganes	7439-96-5	0.0001	669,769	3,085,349	2.7	0.00%	0.00000	670,531	3,084,937	0.25	0.00%
Mercury	Mercury	7439-97-6	0.00000	669,769	3,085,349	0.25	0.00%	0.00000	670,531	3,084,937	0.025	0.00%
Naphthalene	Naphthal	91-20-3	1.72	669,765	3,085,275	440	0.39%	0.016	670,531	3,084,937	50	0.03%
Hexane	Hexane	110-54-3	128.4	669,788	3,085,987	5600	2.29%	1.3	669,749	3,086,105	200	0.64%
Nickel	Nickel	7440-02-0	0.01	669,769	3,085,349	0.33	3.32%	0.00011	670,531	3,084,937	0.059	0.19%
Polychlorinated Biphenyl	Polychlo	1336-36-3	0.00001	669,769	3,085,349	0.1	0.01%	0.00000	670,531	3,084,937	0.01	0.00%
Propionaldehyde	Propiona	123-38-6	0.08	669,765	3,085,275	92	0.09%	0.0008	670,531	3,084,937	40	0.00%
Propylene Oxide	PropylOx	75-56-9	0.03	669,600	3,085,900	92	0.03%	0.002	669,587	3,086,605	40	0.01%
Selenium	Selenium	7782-49-2	0.00000	669,769	3,085,349	2	0.00%	0.00000	670,531	3,084,937	0.2	0.00%
Toluene	Toluene	108-88-3	44.5	669,788	3,085,987	4500	0.99%	0.45	669,749	3,086,105	1200	0.04%
Xylenes	Xylenes	1330-20-7	13.9	669,788	3,085,987	2200	0.63%	0.14	669,749	3,086,105	180	0.08%
POM	POM	130498-29-2	0.2	669,938	3,085,127	0.5	47.07%	0.001	670,531	3,084,937	0.05	2.28%

**Trains 8 and 9 Sources**

Pollutant	Model Pollutant Name	CAS	1-Hour Averaging Period				Annual Averaging Period					
			Max 1-Hour Concentration (µg/m <sup>3</sup> )	UTM Coordinate East (m)	UTM Coordinate North (m)	Short-term ESL (µg/m <sup>3</sup> )	Percent of Short-term ESL	Max Annual Concentration (µg/m <sup>3</sup> )	UTM Coordinate East (m)	UTM Coordinate North (m)	Annual ESL (µg/m <sup>3</sup> )	Percent of Annual ESL
1,3-Butadiene	13Butad	106-99-0	0	NA	NA	510	0.00%	0.00009	670,531	670,531	9.9	0.00%
2,2,4-Trimethylpentane	224Trime	540-84-1	0	NA	NA	5600	0.00%	0.0006	670,531	670,531	540	0.00%
Acetaldehyde	Acetalde	75-07-0	0.001	669,947	669,947	120	0.00%	0.0009	670,531	670,531	45	0.00%
Acrolein	Acrolein	107-02-8	0.0004	669,947	669,947	3.2	0.01%	0.00016	670,531	670,531	0.82	0.02%
Antimony	Antimony	7440-36-0	0	NA	NA	5	0.00%	0.00002	670,531	670,531	0.5	0.00%
Arsenic	Arsenic	7440-38-2	0	NA	NA	3	0.00%	0	670,531	670,531	0.067	0.00%
Benzene	Benzene	71-43-2	0.04	669,947	669,947	170	0.02%	0.0004	670,531	670,531	4.5	0.01%
Cadmium	Cadmium	7440-43-9	0	NA	NA	5.4	0.00%	0.00001	670,531	670,531	0.0033	0.30%
Chromium (VI)	Chromium	18540-29-9	0	NA	NA	0.39	0.00%	0	670,531	670,531	0.0043	0.00%
Ethylbenzene	Ethylben	100-41-4	0	NA	NA	26000	0.00%	0.00004	670,531	670,531	570	0.00%
Formaldehyde	Formalde	50-00-0	0.006	671,700	671,700	15	0.04%	0.004	670,531	670,531	3.3	0.11%
Lead	Lead	7439-92-1	0	NA	NA	0.15	0.00%	0	670,531	670,531	0.0375	0.00%
Manganese	Manganes	7439-96-5	0	NA	NA	2.7	0.00%	0	670,531	670,531	0.25	0.00%
Mercury	Mercury	7439-97-6	0	NA	NA	0.25	0.00%	0	670,531	670,531	0.025	0.00%
Naphthalene	Naphthal	91-20-3	0.00004	671,800	671,800	440	0.00%	0.003	670,531	670,531	50	0.01%
Hexane	Hexane	110-54-3	6.6	670,161	670,161	5600	0.12%	0.09	669,582	669,582	200	0.05%
Nickel	Nickel	7440-02-0	0	NA	NA	0.33	0.00%	0.00002	670,531	670,531	0.059	0.03%
Polychlorinated Biphenyl	Polychlo	1336-36-3	0	NA	NA	0.1	0.00%	0	670,531	670,531	0.01	0.00%
Propionaldehyde	Propiona	123-38-6	0	NA	NA	92	0.00%	0.00013	670,531	670,531	40	0.00%
Propylene Oxide	PropylOx	75-56-9	0	NA	NA	92	0.00%	0	NA	NA	40	0.00%
Selenium	Selenium	7782-49-2	0	NA	NA	2	0.00%	0	670,531	670,531	0.2	0.00%
Toluene	Toluene	108-88-3	0.01	669,947	669,947	4500	0.00%	0.0002	670,531	670,531	1200	0.00%
Xylenes	Xylenes	1330-20-7	0.01	669,947	669,947	2200	0.00%	0.0002	670,531	670,531	180	0.00%
POM	POM	130498-29-2	0.01	669,947	669,947	0.5	2.11%	0.0002	670,531	670,531	0.05	0.38%

Notes:

1. Polycyclic Organic Materials (POM), includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100 °C.
2. AERMOD truncates reported concentrations at 0.00000.

Location No.	Pollutant
1	1,3-Butadiene
1	2,2,4-Trimethylpentane
1	Acetaldehyde
1	Acrolein
2	Antimony
2	Arsenic
3	Benzene
2	Cadmium
2	Chromium (VI)
3	Ethylbenzene
1	Formaldehyde
2	Lead
2	Manganese
2	Mercury
1	Naphthalene
3	Hexane
2	Nickel
2	Polychlorinated Biphenyl
1	Propionaldehyde
4	Propylene Oxide
2	Selenium
3	Toluene
3	Xylenes
5	POM



Corpus Christi Liquefaction, LLC  
San Patricio & Nueces Counties



Figure 5-1  
1-hour Maximum  
Concentration Locations

Location No.	Pollutant
1	1,3-Butadiene
1	2,2,4-Trimethylpentane
2	Acetaldehyde
2	Acrolein
1	Antimony
1	Arsenic
3	Benzene
1	Cadmium
1	Chromium (VI)
3	Ethylbenzene
4	Formaldehyde
1	Lead
1	Manganese
1	Mercury
1	Naphthalene
3	Hexane
1	Nickel
1	Polychlorinated Biphenyl
1	Propionaldehyde
4	Propylene Oxide
1	Selenium
3	Toluene
3	Xylenes
1	POM



Corpus Christi Liquefaction, LLC  
San Patricio & Nueces Counties



Figure 5-2  
Annual Maximum  
Concentration Locations

## **APPENDIX A. MARINE HAP EMISSION RATES**

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Table 12

## Marine HAP Emission Rates - Total LNG Terminal

CCL Midscale Trains 8 and 9 Project

								Short-Term Emission Rates				Annual Emission Rates				
								In-Port LNG Carrier	Tugboat	Standby Tugboat	Pilot Vessel	In-Port LNG Carrier	Tugboat	Standby Tugboat	Pilot Vessel	
								VOC:	3.0	0.90	0.12	0.09	8.09	2.08	0.53	0.02
								PM2.5:	0.89	0.19	0.03	0.13	3.02	0.44	0.11	0.03
Pollutant	CAS	Basis	Fraction <sup>1</sup>	HAP?	PAH <sup>2</sup>	Short-term ESL	Annual ESL	lb/hr	lb/hr	lb/hr	lb/hr	tpy	tpy	tpy	tpy	
1,3-Butadiene	106-99-0	VOC	0.001013	Yes		510	9.9	3.0E-03	9.1E-04	1.2E-04	8.8E-05	8.2E-03	2.1E-03	5.4E-04	2.1E-05	
2,2,4-Trimethylpentan	540-84-1	VOC	0.00712	Yes		5600	540	2.1E-02	6.4E-03	8.8E-04	6.2E-04	5.8E-02	1.5E-02	3.8E-03	1.5E-04	
Acenaphthene	83-32-9	VOC	0.0000509	Yes	Yes	100	10	1.5E-04	4.6E-05	6.3E-06	4.4E-06	4.1E-04	1.1E-04	2.7E-05	1.1E-06	
Acenaphthylene	208-96-8	VOC	0.000118	Yes	Yes	100	10	3.5E-04	1.1E-04	1.5E-05	1.0E-05	9.6E-04	2.5E-04	6.3E-05	2.4E-06	
Acetaldehyde	75-07-0	VOC	0.009783	Yes		120	45	2.9E-02	8.8E-03	1.2E-03	8.5E-04	7.9E-02	2.0E-02	5.2E-03	2.0E-04	
Acrolein	107-02-8	VOC	0.001848	Yes		3.2	0.82	5.5E-03	1.7E-03	2.3E-04	1.6E-04	1.5E-02	3.8E-03	9.8E-04	3.8E-05	
Ammonia	7664-41-7	PM2.5	0.019247	No		180	92	1.7E-02	3.6E-03	5.0E-04	2.4E-03	5.8E-02	8.4E-03	2.2E-03	5.8E-04	
Anthracene	120-12-7	VOC	0.000344	Yes	Yes	1	0.1	1.0E-03	3.1E-04	4.2E-05	3.0E-05	2.8E-03	7.2E-04	1.8E-04	7.1E-06	
Antimony	7440-36-0	PM2.5	0.000615	Yes		5	0.5	5.5E-04	1.2E-04	1.6E-05	7.7E-05	1.9E-03	2.7E-04	6.9E-05	1.8E-05	
Arsenic	7440-38-2	PM2.5	0.0000259	Yes		3	0.067	2.3E-05	4.9E-06	6.7E-07	3.2E-06	7.8E-05	1.1E-05	2.9E-06	7.8E-07	
Benz[a]Anthracene	56-55-3	PM2.5	0.00000882	Yes	Yes	0.5	0.05	7.9E-06	1.7E-06	2.3E-07	1.1E-06	2.7E-05	3.9E-06	9.9E-07	2.7E-07	
Benzene	71-43-2	VOC	0.004739	Yes		170	4.5	1.4E-02	4.2E-03	5.8E-04	4.1E-04	3.8E-02	9.9E-03	2.5E-03	9.8E-05	
Benzo[a]Pyrene	50-32-8	PM2.5	0.00000418	Yes	Yes	0	0.017	3.7E-06	7.9E-07	1.1E-07	5.2E-07	1.3E-05	1.8E-06	4.7E-07	1.3E-07	
Benzo[b]Fluoranthene	205-99-2	PM2.5	0.00000835	Yes	Yes	0.5	0.05	7.5E-06	1.6E-06	2.2E-07	1.0E-06	2.5E-05	3.7E-06	9.4E-07	2.5E-07	
Benzo[k]Fluoranthene	207-08-9	PM2.5	0.00000418	Yes	Yes	0.5	0.05	3.7E-06	7.9E-07	1.1E-07	5.2E-07	1.3E-05	1.8E-06	4.7E-07	1.3E-07	
Benzo(g,h,i)Fluoranthene	203-12-3	PM2.5	0.000132	Yes	Yes	0.5	0.05	1.2E-04	2.5E-05	3.4E-06	1.7E-05	4.0E-04	5.8E-05	1.5E-05	4.0E-06	
Cadmium	7440-43-9	PM2.5	0.000236	Yes		5.4	0.0033	2.1E-04	4.5E-05	6.1E-06	3.0E-05	7.1E-04	1.0E-04	2.6E-05	7.1E-06	
Chrysene	218-01-9	PM2.5	0.0000163	Yes	Yes	0.5	0.05	1.5E-05	3.1E-06	4.2E-07	2.0E-06	4.9E-05	7.1E-06	1.8E-06	4.9E-07	
Chromium (VI)	18540-29-9	PM2.5	7.24E-09	Yes		0.39	0.0043	6.5E-09	1.4E-09	1.9E-10	9.1E-10	2.2E-08	3.2E-09	8.1E-10	2.2E-10	
Dibenzo[a,h]anthracene	53-70-3	PM2.5	0.00000865	Yes	Yes	0.5	0.05	7.7E-06	1.6E-06	2.2E-07	1.1E-06	2.6E-05	3.8E-06	9.7E-07	2.6E-07	
Ethyl Benzene	100-41-4	VOC	0.000439	Yes		26000	570	1.3E-03	3.9E-04	5.4E-05	3.8E-05	3.6E-03	9.1E-04	2.3E-04	9.1E-06	
Fluoranthene	206-44-0	PM2.5	0.0000897	Yes	Yes	0.5	0.05	8.0E-05	1.7E-05	2.3E-06	1.1E-05	2.7E-04	3.9E-05	1.0E-05	2.7E-06	
Fluorene	86-73-7	VOC	0.000164	Yes	Yes	10	1	4.9E-04	1.5E-04	2.0E-05	1.4E-05	1.3E-03	3.4E-04	8.7E-05	3.4E-06	
Formaldehyde	50-00-0	VOC	0.042696	Yes		15	3.3	1.3E-01	3.8E-02	5.3E-03	3.7E-03	3.5E-01	8.9E-02	2.3E-02	8.9E-04	
Indeno[1,2,3-c,d]Pyrene	193-39-5	PM2.5	0.00000835	Yes	Yes	0.5	0.05	7.5E-06	1.6E-06	2.2E-07	1.0E-06	2.5E-05	3.7E-06	9.4E-07	2.5E-07	
Lead	7439-92-1	PM2.5	0.000125	Yes		0.15	0.0375	1.1E-04	2.4E-05	3.2E-06	1.6E-05	3.8E-04	5.5E-05	1.4E-05	3.8E-06	
Manganese	7439-96-5	PM2.5	0.00000322	Yes		2.7	0.25	2.9E-06	6.1E-07	8.4E-08	4.0E-07	9.7E-06	1.4E-06	3.6E-07	9.7E-08	
Mercury	7439-97-6	PM2.5	4.18E-08	Yes		0.25	0.025	3.7E-08	7.9E-09	1.1E-09	5.2E-09	1.3E-07	1.8E-08	4.7E-09	1.3E-09	
Naphthalene	91-20-3	VOC	0.031304	Yes		440	50	9.4E-02	2.8E-02	3.9E-03	2.7E-03	2.5E-01	6.5E-02	1.7E-02	6.5E-04	
Hexane	110-54-3	VOC	0.00279	Yes		5600	200	8.4E-03	2.5E-03	3.4E-04	2.4E-04	2.3E-02	5.8E-03	1.5E-03	5.8E-05	
Nickel	7440-02-0	PM2.5	0.000687	Yes		0.33	0.059	6.1E-04	1.3E-04	1.8E-05	8.6E-05	2.1E-03	3.0E-04	7.7E-05	2.1E-05	
Polychlorinated Biphenyl	1336-36-3	PM2.5	0.000000418	Yes		0.1	0.01	3.7E-07	7.9E-08	1.1E-08	5.2E-08	1.3E-06	1.8E-07	4.7E-08	1.3E-08	
Phenanthrene	85-01-8	VOC	0.001356	Yes	Yes	8	0.8	4.1E-03	1.2E-03	1.7E-04	1.2E-04	1.1E-02	2.8E-03	7.2E-04	2.8E-05	
Propionaldehyde	123-38-6	VOC	0.001517	Yes		92	40	4.6E-03	1.4E-03	1.9E-04	1.3E-04	1.2E-02	3.2E-03	8.1E-04	3.1E-05	
Pyrene	129-00-0	PM2.5	0.0000337	Yes	Yes	0.5	0.05	3.0E-05	6.4E-06	8.7E-07	4.2E-06	1.0E-04	1.5E-05	3.8E-06	1.0E-06	
Selenium	7782-49-2	PM2.5	4.38E-08	yes		2	0.2	3.9E-08	8.3E-09	1.1E-09	5.5E-09	1.3E-07	1.9E-08	4.9E-09	1.3E-09	
Toluene	108-88-3	VOC	0.002035	Yes		4500	1200	6.1E-03	1.8E-03	2.5E-04	1.8E-04	1.6E-02	4.2E-03	1.1E-03	4.2E-05	
Xylenes (Mixed Isomers)	1330-20-7	VOC	0.001422	Yes		2200	180	4.3E-03	1.3E-03	1.8E-04	1.2E-04	1.2E-02	3.0E-03	7.6E-04	3.0E-05	
o-Xylene	95-47-6	VOC	0.000513	Yes		2200	180	1.5E-03	4.6E-04	6.3E-05	4.4E-05	4.2E-03	1.1E-03	2.7E-04	1.1E-05	
<b>TOTAL HAPs:</b>								<b>3.29E-01</b>	<b>9.83E-02</b>	<b>1.35E-02</b>	<b>9.70E-03</b>	<b>8.90E-01</b>	<b>2.28E-01</b>	<b>5.84E-02</b>	<b>2.33E-03</b>	

1. Table D.1 HAP Speciation Profiles for Commercial Marine Engines, Appendix D, USEPA "Port Emissions Inventory Guidance: Methodologies for Estimating Port-Related and Goods Movement Mobile Source Emissions", EPA-420-B-22-011, April 2022.

2. Polycyclic aromatic hydrocarbons

Table 13

## Marine HAP Emission Rates - Train 8 &amp; 9 Project Increase

CCL Midscale Trains 8 and 9 Project

Annual Emission Rates			
In-Port LNG Carrier	Tugboat	Standby Tugboat	Pilot Vessel

VOC: 1.35 0.35 0.09 0.003  
 PM2.5: 0.50 0.07 0.02 0.005

Pollutant	CAS	Basis	Fraction <sup>1</sup>	HAP?	PAH <sup>2</sup>	Short-term ESL	Annual ESL	tpy	tpy	tpy	tpy
1,3-Butadiene	106-99-0	VOC	0.001013	Yes		510	9.9	1.4E-03	3.5E-04	9.0E-05	3.5E-06
2,2,4-Trimethylpentan	540-84-1	VOC	0.00712	Yes		5600	540	9.6E-03	2.5E-03	6.3E-04	2.5E-05
Acenaphthene	83-32-9	VOC	0.0000509	Yes	Yes	100	10	6.9E-05	1.8E-05	4.5E-06	1.8E-07
Acenaphthylene	208-96-8	VOC	0.000118	Yes	Yes	100	10	1.6E-04	4.1E-05	1.0E-05	4.1E-07
Acetaldehyde	75-07-0	VOC	0.009783	Yes		120	45	1.3E-02	3.4E-03	8.7E-04	3.4E-05
Acrolein	107-02-8	VOC	0.001848	Yes		3.2	0.82	2.5E-03	6.4E-04	1.6E-04	6.4E-06
Ammonia	7664-41-7	PM2.5	0.019247	No		180	92	9.7E-03	1.4E-03	3.6E-04	9.6E-05
Anthracene	120-12-7	VOC	0.000344	Yes	Yes	1	0.1	4.6E-04	1.2E-04	3.1E-05	1.2E-06
Antimony	7440-36-0	PM2.5	0.000615	Yes		5	0.5	3.1E-04	4.5E-05	1.1E-05	3.1E-06
Arsenic	7440-38-2	PM2.5	0.0000259	Yes		3	0.067	1.3E-05	1.9E-06	4.8E-07	1.3E-07
Benz[a]Anthracene	56-55-3	PM2.5	0.00000882	Yes	Yes	0.5	0.05	4.4E-06	6.4E-07	1.6E-07	4.4E-08
Benzene	71-43-2	VOC	0.004739	Yes		170	4.5	6.4E-03	1.6E-03	4.2E-04	1.6E-05
Benzo[a]Pyrene	50-32-8	PM2.5	0.00000418	Yes	Yes	0	0.017	2.1E-06	3.0E-07	7.8E-08	2.1E-08
Benzo[b]Fluoranthene	205-99-2	PM2.5	0.00000835	Yes	Yes	0.5	0.05	4.2E-06	6.1E-07	1.6E-07	4.2E-08
Benzo[k]Fluoranthene	207-08-9	PM2.5	0.00000418	Yes	Yes	0.5	0.05	2.1E-06	3.0E-07	7.8E-08	2.1E-08
Benzo(g,h,i)Fluoranthene	203-12-3	PM2.5	0.000132	Yes	Yes	0.5	0.05	6.6E-05	9.6E-06	2.5E-06	6.6E-07
Cadmium	7440-43-9	PM2.5	0.000236	Yes		5.4	0.0033	1.2E-04	1.7E-05	4.4E-06	1.2E-06
Chrysene	218-01-9	PM2.5	0.0000163	Yes	Yes	0.5	0.05	8.2E-06	1.2E-06	3.0E-07	8.2E-08
Chromium (VI)	18540-29-9	PM2.5	7.24E-09	Yes		0.39	0.0043	3.6E-09	5.3E-10	1.4E-10	3.6E-11
Dibenzo[a,h]anthracene	53-70-3	PM2.5	0.00000865	Yes	Yes	0.5	0.05	4.4E-06	6.3E-07	1.6E-07	4.3E-08
Ethyl Benzene	100-41-4	VOC	0.000439	Yes		26000	570	5.9E-04	1.5E-04	3.9E-05	1.5E-06
Fluoranthene	206-44-0	PM2.5	0.0000897	Yes	Yes	0.5	0.05	4.5E-05	6.5E-06	1.7E-06	4.5E-07
Fluorene	86-73-7	VOC	0.000164	Yes	Yes	10	1	2.2E-04	5.7E-05	1.5E-05	5.7E-07
Formaldehyde	50-00-0	VOC	0.042696	Yes		15	3.3	5.8E-02	1.5E-02	3.8E-03	1.5E-04
Indeno[1,2,3-c,d]Pyrene	193-39-5	PM2.5	0.00000835	Yes	Yes	0.5	0.05	4.2E-06	6.1E-07	1.6E-07	4.2E-08
Lead	7439-92-1	PM2.5	0.000125	Yes		0.15	0.0375	6.3E-05	9.1E-06	2.3E-06	6.3E-07
Manganese	7439-96-5	PM2.5	0.00000322	Yes		2.7	0.25	1.6E-06	2.3E-07	6.0E-08	1.6E-08
Mercury	7439-97-6	PM2.5	4.18E-08	Yes		0.25	0.025	2.1E-08	3.0E-09	7.8E-10	2.1E-10
Naphthalene	91-20-3	VOC	0.031304	Yes		440	50	4.2E-02	1.1E-02	2.8E-03	1.1E-04
Hexane	110-54-3	VOC	0.00279	Yes		5600	200	3.8E-03	9.7E-04	2.5E-04	9.7E-06
Nickel	7440-02-0	PM2.5	0.000687	Yes		0.33	0.059	3.5E-04	5.0E-05	1.3E-05	3.4E-06
Polychlorinated Biphenyl	1336-36-3	PM2.5	0.000000418	Yes		0.1	0.01	2.1E-07	3.0E-08	7.8E-09	2.1E-09
Phenanthrene	85-01-8	VOC	0.001356	Yes	Yes	8	0.8	1.8E-03	4.7E-04	1.2E-04	4.7E-06
Propionaldehyde	123-38-6	VOC	0.001517	Yes		92	40	2.0E-03	5.3E-04	1.3E-04	5.2E-06
Pyrene	129-00-0	PM2.5	0.0000337	Yes	Yes	0.5	0.05	1.7E-05	2.5E-06	6.3E-07	1.7E-07
Selenium	7782-49-2	PM2.5	4.38E-08	yes		2	0.2	2.2E-08	3.2E-09	8.2E-10	2.2E-10
Toluene	108-88-3	VOC	0.002035	Yes		4500	1200	2.7E-03	7.1E-04	1.8E-04	7.0E-06
Xylenes (Mixed Isomers)	1330-20-7	VOC	0.001422	Yes		2200	180	1.9E-03	4.9E-04	1.3E-04	4.9E-06
o-Xylene	95-47-6	VOC	0.000513	Yes		2200	180	6.9E-04	1.8E-04	4.6E-05	1.8E-06

**TOTAL HAPs: 1.48E-01 3.80E-02 9.73E-03 3.88E-04**

1. Table D.1 HAP Speciation Profiles for Commercial Marine Engines, Appendix D, USEPA "Port Emissions Inventory Guidance: Methodologies for Estimating Port-Related and Goods Movement Mobile Source Emissions", EPA-420-B-22-011, April 2022.

2. Polycyclic aromatic hydrocarbons

## **APPENDIX B. LIST OF ELECTRONIC MODELING FILES**

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## List of Electronic Modeling Files

Subdirectory	File Name	Description
AERMAP	HAPS_REC.Map	AERMAP input file
	HAPS_REC_MAPDETAIL.OUT	AERMAP map detail file
	HAPS_REC_MAPPARAMS.OUT	AERMAP map parameters file
	HAPS_REC.Mot	AERMAP output file
	HAPS_REC.rcf	AERMAP receptor file
	n28w97convert.tif	National Elevation Dataset (NED) data
	n28w98convert.tif	National Elevation Dataset (NED) data
	n29w97convert.tif	National Elevation Dataset (NED) data
BPIP	HAPS.PIP	Bpip input file
	HAPS.SO	Bpip output file
	HAPS.SUM	Bpip summary file
MetData	CRP2020.PFL	2020 upper air meteorological data
	CRP2020.SFC	2020 surface meteorological data
	aersurface.inp	AERSURFACE input file
	AS_AVG.txt	AERSURFACE output file

Subdirectory	Pollutant	Averaging Period	File Name			
			Input File	Output File	Plot File	Summary File
AERMOD	1,3-Butadiene	1-hour	HAPS_2020_13Butad.DTA	HAPS_2020_13Butad.LST	HAPS_2020_13Butad.GRF	HAPS_2020_13Butad.SUM
	2,2,4-Trimethylpentan	1-hour	HAPS_2020_224Trime.DTA	HAPS_2020_224Trime.LST	HAPS_2020_224Trime.GRF	HAPS_2020_224Trime.SUM
	Acetaldehyde	1-hour	HAPS_2020_Acetalde.DTA	HAPS_2020_Acetalde.LST	HAPS_2020_Acetalde.GRF	HAPS_2020_Acetalde.SUM
	Acrolein	1-hour	HAPS_2020_Acrolein.DTA	HAPS_2020_Acrolein.LST	HAPS_2020_Acrolein.GRF	HAPS_2020_Acrolein.SUM
	Antimony	1-hour	HAPS_2020_Antimony.DTA	HAPS_2020_Antimony.LST	HAPS_2020_Antimony.GRF	HAPS_2020_Antimony.SUM
	Arsenic	1-hour	HAPS_2020_Arsenic.DTA	HAPS_2020_Arsenic.LST	HAPS_2020_Arsenic.GRF	HAPS_2020_Arsenic.SUM
	Benzene	1-hour	HAPS_2020_Benzene.DTA	HAPS_2020_Benzene.LST	HAPS_2020_Benzene.GRF	HAPS_2020_Benzene.SUM
	Cadmium	1-hour	HAPS_2020_Cadmium.DTA	HAPS_2020_Cadmium.LST	HAPS_2020_Cadmium.GRF	HAPS_2020_Cadmium.SUM
	Chromium (VI)	1-hour	HAPS_2020_Chromium.DTA	HAPS_2020_Chromium.LST	HAPS_2020_Chromium.GRF	HAPS_2020_Chromium.SUM
	Ethylbenzene	1-hour	HAPS_2020_Ethylben.DTA	HAPS_2020_Ethylben.LST	HAPS_2020_Ethylben.GRF	HAPS_2020_Ethylben.SUM
	Formaldehyde	1-hour	HAPS_2020_Formalde.DTA	HAPS_2020_Formalde.LST	HAPS_2020_Formalde.GRF	HAPS_2020_Formalde.SUM
	Hexane	1-hour	HAPS_2020_Hexane.DTA	HAPS_2020_Hexane.LST	HAPS_2020_Hexane.GRF	HAPS_2020_Hexane.SUM
	Lead	1-hour	HAPS_2020_Lead.DTA	HAPS_2020_Lead.LST	HAPS_2020_Lead.GRF	HAPS_2020_Lead.SUM
	Manganese	1-hour	HAPS_2020_Manganes.DTA	HAPS_2020_Manganes.LST	HAPS_2020_Manganes.GRF	HAPS_2020_Manganes.SUM
	Mercury	1-hour	HAPS_2020_Mercury.DTA	HAPS_2020_Mercury.LST	HAPS_2020_Mercury.GRF	HAPS_2020_Mercury.SUM
	Naphthalene	1-hour	HAPS_2020_Naphthal.DTA	HAPS_2020_Naphthal.LST	HAPS_2020_Naphthal.GRF	HAPS_2020_Naphthal.SUM
	Nickel	1-hour	HAPS_2020_Nickel.DTA	HAPS_2020_Nickel.LST	HAPS_2020_Nickel.GRF	HAPS_2020_Nickel.SUM
	Polychlorinated Biphenyl	1-hour	HAPS_2020_Polychlo.DTA	HAPS_2020_Polychlo.LST	HAPS_2020_Polychlo.GRF	HAPS_2020_Polychlo.SUM
	POM	1-hour	HAPS_2020_POM.DTA	HAPS_2020_POM.LST	HAPS_2020_POM.GRF	HAPS_2020_POM.SUM
	Propionaldehyde	1-hour	HAPS_2020_Propiona.DTA	HAPS_2020_Propiona.LST	HAPS_2020_Propiona.GRF	HAPS_2020_Propiona.SUM
Propylene Oxide	1-hour	HAPS_2020_PropylOx.DTA	HAPS_2020_PropylOx.LST	HAPS_2020_PropylOx.GRF	HAPS_2020_PropylOx.SUM	
Selenium	1-hour	HAPS_2020_Selenium.DTA	HAPS_2020_Selenium.LST	HAPS_2020_Selenium.GRF	HAPS_2020_Selenium.SUM	
Toluene	1-hour	HAPS_2020_Toluene.DTA	HAPS_2021_Toluene.LST	HAPS_2020_Toluene.GRF	HAPS_2020_Toluene.SUM	

## List of Electronic Modeling Files

Subdirectory	Pollutant	Averaging Period	Input File	Output File	Plot File	Summary File
AERMOD	Xylenes	1-hour	HAPS_2020_Xylenes.DTA	HAPS_2021_Xylenes.LST	HAPS_2020_Xylenes.GRF	HAPS_2020_Xylenes.SUM
	1,3-Butadiene	Annual	HAPS_ANN_2020_13Butad.DTA	HAPS_ANN_2020_13Butad.LST	HAPS_ANN_2020_13Butad.GRF	HAPS_ANN_2020_13Butad.SUM
	2,2,4-Trimethylpentan	Annual	HAPS_ANN_2020_224Trime.DTA	HAPS_ANN_2020_224Trime.LST	HAPS_ANN_2020_224Trime.GRF	HAPS_ANN_2020_224Trime.SUM
	Acetaldehyde	Annual	HAPS_ANN_2020_Acetalde.DTA	HAPS_ANN_2020_Acetalde.LST	HAPS_ANN_2020_Acetalde.GRF	HAPS_ANN_2020_Acetalde.SUM
	Acrolein	Annual	HAPS_ANN_2020_Acrolein.DTA	HAPS_ANN_2020_Acrolein.LST	HAPS_ANN_2020_Acrolein.GRF	HAPS_ANN_2020_Acrolein.SUM
	Antimony	Annual	HAPS_ANN_2020_Antimony.DTA	HAPS_ANN_2020_Antimony.LST	HAPS_ANN_2020_Antimony.GRF	HAPS_ANN_2020_Antimony.SUM
	Arsenic	Annual	HAPS_ANN_2020_Arsenic.DTA	HAPS_ANN_2020_Arsenic.LST	HAPS_ANN_2020_Arsenic.GRF	HAPS_ANN_2020_Arsenic.SUM
	Benzene	Annual	HAPS_ANN_2020_Benzene.DTA	HAPS_ANN_2020_Benzene.LST	HAPS_ANN_2020_Benzene.GRF	HAPS_ANN_2020_Benzene.SUM
	Cadmium	Annual	HAPS_ANN_2020_Cadmium.DTA	HAPS_ANN_2020_Cadmium.LST	HAPS_ANN_2020_Cadmium.GRF	HAPS_ANN_2020_Cadmium.SUM
	Chromium (VI)	Annual	HAPS_ANN_2020_Chromium.DTA	HAPS_ANN_2020_Chromium.LST	HAPS_ANN_2020_Chromium.GRF	HAPS_ANN_2020_Chromium.SUM
	Ethylbenzene	Annual	HAPS_ANN_2020_Ethylben.DTA	HAPS_ANN_2020_Ethylben.LST	HAPS_ANN_2020_Ethylben.GRF	HAPS_ANN_2020_Ethylben.SUM
	Formaldehyde	Annual	HAPS_ANN_2020_Formalde.DTA	HAPS_ANN_2020_Formalde.LST	HAPS_ANN_2020_Formalde.GRF	HAPS_ANN_2020_Formalde.SUM
	Hexane	Annual	HAPS_ANN_2020_Hexane.DTA	HAPS_ANN_2020_Hexane.LST	HAPS_ANN_2020_Hexane.GRF	HAPS_ANN_2020_Hexane.SUM
	Lead	Annual	HAPS_ANN_2020_Lead.DTA	HAPS_ANN_2020_Lead.LST	HAPS_ANN_2020_Lead.GRF	HAPS_ANN_2020_Lead.SUM
	Manganese	Annual	HAPS_ANN_2020_Manganes.DTA	HAPS_ANN_2020_Manganes.LST	HAPS_ANN_2020_Manganes.GRF	HAPS_ANN_2020_Manganes.SUM
	Mercury	Annual	HAPS_ANN_2020_Mercury.DTA	HAPS_ANN_2020_Mercury.LST	HAPS_ANN_2020_Mercury.GRF	HAPS_ANN_2020_Mercury.SUM
	Naphthalene	Annual	HAPS_ANN_2020_Naphthal.DTA	HAPS_ANN_2020_Naphthal.LST	HAPS_ANN_2020_Naphthal.GRF	HAPS_ANN_2020_Naphthal.SUM
	Nickel	Annual	HAPS_ANN_2020_Nickel.DTA	HAPS_ANN_2020_Nickel.LST	HAPS_ANN_2020_Nickel.GRF	HAPS_ANN_2020_Nickel.SUM
	Polychlorinated Biphenyl	Annual	HAPS_ANN_2020_Polychlo.DTA	HAPS_ANN_2020_Polychlo.LST	HAPS_ANN_2020_Polychlo.GRF	HAPS_ANN_2020_Polychlo.SUM
	POM	Annual	HAPS_ANN_2020_POM.DTA	HAPS_ANN_2020_POM.LST	HAPS_ANN_2020_POM.GRF	HAPS_ANN_2020_POM.SUM
Propionaldehyde	Annual	HAPS_ANN_2020_Propiona.DTA	HAPS_ANN_2020_Propiona.LST	HAPS_ANN_2020_Propiona.GRF	HAPS_ANN_2020_Propiona.SUM	
Propylene Oxide	Annual	HAPS_ANN_2020_PropylOx.DTA	HAPS_ANN_2020_PropylOx.LST	HAPS_ANN_2020_PropylOx.GRF	HAPS_ANN_2020_PropylOx.SUM	
Selenium	Annual	HAPS_ANN_2020_Selenium.DTA	HAPS_ANN_2020_Selenium.LST	HAPS_ANN_2020_Selenium.GRF	HAPS_ANN_2020_Selenium.SUM	
Toluene	Annual	HAPS_ANN_2020_Toluene.DTA	HAPS_ANN_2021_Toluene.LST	HAPS_ANN_2020_Toluene.GRF	HAPS_ANN_2020_Toluene.SUM	
Xylenes	Annual	HAPS_ANN_2020_Xylenes.DTA	HAPS_ANN_2021_Xylenes.LST	HAPS_ANN_2020_Xylenes.GRF	HAPS_ANN_2020_Xylenes.SUM	

## **APPENDIX C. MAXIMUM HAP CONCENTRATIONS BY CENSUS BLOCK**

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<b>Table Number</b>	<b>Pollutant</b>
C-1	1,3-Butadiene
C-2	2,2,4-Trimethylpentane
C-3	Acetaldehyde
C-4	Acrolein
C-5	Antimony
C-6	Arsenic
C-7	Benzene
C-8	Cadmium
C-9	Chromium (VI)
C-10	Ethylbenzene
C-11	Formaldehyde
C-12	Lead
C-13	Manganese
C-14	Mercury
C-15	Naphthalene
C-16	Hexane
C-17	Nickel
C-18	Polychlorinated Biphenyl
C-19	Propionaldehyde
C-20	Propylene Oxide
C-21	Selenium
C-22	Toluene
C-23	Xylenes
C-24	POM







**Table C-1**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**1,3-Butadiene**

CAS 106-99-0  
 1-Hour ESL 510  $\mu\text{g}/\text{m}^3$   
 Annual ESL 9.9  $\mu\text{g}/\text{m}^3$

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)						Trains 8 and 9	
							Hourly ( $\mu\text{g}/\text{m}^3$ )	UTM East (m)	UTM North (m)	Annual ( $\mu\text{g}/\text{m}^3$ )	UTM East (m)	UTM North (m)	Hourly ( $\mu\text{g}/\text{m}^3$ )	Annual ( $\mu\text{g}/\text{m}^3$ )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	1.6E-03	648,000	3,098,000	0.0E+00	650,000	3,102,000	0.0E+00	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	1.6E-03	651,000	3,102,000	0.0E+00	652,000	3,103,000	0.0E+00	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	1.1E-03	646,112	3,102,410	0.0E+00	646,112	3,102,410	0.0E+00	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	1.5E-03	646,000	3,099,000	0.0E+00	646,000	3,102,000	0.0E+00	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	8.4E-04	640,000	3,093,000	0.0E+00	640,000	3,093,000	0.0E+00	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	7.9E-04	638,000	3,093,000	0.0E+00	639,000	3,093,000	0.0E+00	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	1.2E-03	639,000	3,091,000	0.0E+00	640,000	3,091,743	0.0E+00	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	8.6E-04	627,000	3,115,000	0.0E+00	632,000	3,115,000	0.0E+00	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	1.2E-03	635,000	3,099,000	0.0E+00	635,000	3,104,000	0.0E+00	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	1.0E-03	646,000	3,121,000	0.0E+00	656,000	3,137,000	0.0E+00	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	9.9E-04	643,000	3,126,000	0.0E+00	644,000	3,129,000	0.0E+00	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	4.7E-04	618,322	3,099,450	0.0E+00	618,322	3,099,450	0.0E+00	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	6.2E-04	698,000	3,114,000	0.0E+00	699,000	3,116,000	0.0E+00	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	1.8E-03	692,000	3,125,000	0.0E+00	713,000	3,130,000	0.0E+00	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	1.3E-03	693,000	3,105,000	0.0E+00	694,000	3,111,000	0.0E+00	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	1.6E-03	690,000	3,102,000	0.0E+00	691,000	3,105,000	0.0E+00	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	1.3E-03	690,322	3,101,635	0.0E+00	691,000	3,102,000	0.0E+00	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	1.6E-03	690,000	3,099,000	0.0E+00	690,000	3,101,000	0.0E+00	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	1.3E-03	690,554	3,100,161	0.0E+00	691,000	3,101,000	0.0E+00	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	2.7E-03	681,000	3,092,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	2.4E-03	686,000	3,094,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	2.7E-03	681,000	3,092,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	2.4E-03	686,000	3,094,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	5.9E-04	669,000	3,134,000	0.0E+00	671,000	3,135,000	0.0E+00	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	7.2E-04	668,000	3,133,000	0.0E+00	669,000	3,133,000	0.0E+00	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	6.4E-04	669,000	3,131,000	0.0E+00	670,000	3,132,000	0.0E+00	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	1.1E-03	693,000	3,136,000	0.0E+00	696,000	3,138,000	0.0E+00	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	5.8E-04	664,044	3,124,381	0.0E+00	664,044	3,125,000	0.0E+00	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	5.6E-04	665,000	3,125,000	0.0E+00	665,000	3,125,000	0.0E+00	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.

Table C-2  
Maximum Concentrations By EJ Census Block  
Corpus Christi Liquefaction LLC

2,2,4-Trimethylpentane

CAS 540-84-1  
1-Hour ESL 5600 µg/m<sup>3</sup>  
Annual ESL 540 µg/m<sup>3</sup>

Table with columns: BGID [1], County, Census Tract, Block Group, Census Geocode, Minority EJ, Income EJ, and Maximum Impact [2]. The Maximum Impact section includes columns for Hourly (µg/m³), UTM East (m), UTM North (m), Annual (µg/m³), UTM East (m), UTM North (m), Hourly (µg/m³), and Annual (µg/m³). The table lists data for various census blocks in Nueces County, Calhoun County, and Nueces County.





**Table C-2**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**2,2,4-Trimethylpentane**

CAS 540-84-1  
 1-Hour ESL 5600 µg/m<sup>3</sup>  
 Annual ESL 540 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)						Trains 8 and 9	
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	1.1E-02	648,000	3,098,000	1.0E-05	650,000	3,102,000	0.0E+00	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	1.1E-02	651,000	3,101,000	2.0E-05	652,000	3,103,000	0.0E+00	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	7.5E-03	646,112	3,102,410	1.0E-05	646,112	3,102,410	0.0E+00	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	1.1E-02	646,000	3,099,000	1.0E-05	646,000	3,102,000	0.0E+00	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	5.9E-03	640,000	3,093,000	1.0E-05	640,000	3,093,000	0.0E+00	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	5.6E-03	638,000	3,093,000	1.0E-05	639,000	3,093,000	0.0E+00	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	8.4E-03	639,000	3,091,000	1.0E-05	640,000	3,091,743	0.0E+00	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	6.0E-03	627,000	3,109,000	0.0E+00	632,000	3,115,000	0.0E+00	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	8.1E-03	635,000	3,085,000	1.0E-05	635,000	3,104,000	0.0E+00	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	7.0E-03	649,000	3,132,000	1.0E-05	656,000	3,137,000	0.0E+00	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	7.0E-03	643,000	3,116,000	1.0E-05	644,000	3,129,000	0.0E+00	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	3.3E-03	618,322	3,099,450	0.0E+00	618,322	3,099,450	0.0E+00	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	4.4E-03	698,000	3,114,000	0.0E+00	699,000	3,116,000	0.0E+00	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	1.2E-02	692,000	3,082,000	1.0E-05	713,000	3,130,000	0.0E+00	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	9.1E-03	693,000	3,105,000	0.0E+00	694,000	3,111,000	0.0E+00	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	1.1E-02	690,000	3,102,000	1.0E-05	691,000	3,105,000	0.0E+00	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	9.2E-03	690,322	3,101,635	0.0E+00	691,000	3,102,000	0.0E+00	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	1.1E-02	690,000	3,099,000	0.0E+00	690,000	3,101,000	0.0E+00	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	9.3E-03	690,554	3,100,161	0.0E+00	691,000	3,101,000	0.0E+00	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	1.9E-02	681,000	3,092,000	1.0E-05	684,000	3,096,000	0.0E+00	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	1.7E-02	685,000	3,091,000	1.0E-05	686,000	3,094,000	0.0E+00	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	1.9E-02	681,000	3,092,000	1.0E-05	684,000	3,096,000	0.0E+00	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	1.7E-02	685,000	3,091,000	1.0E-05	686,000	3,094,000	0.0E+00	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	4.2E-03	669,000	3,134,000	0.0E+00	671,000	3,135,000	0.0E+00	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	5.1E-03	668,000	3,133,000	0.0E+00	669,000	3,133,000	0.0E+00	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	4.5E-03	669,000	3,131,000	0.0E+00	670,000	3,132,000	0.0E+00	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	7.9E-03	681,000	3,121,000	1.0E-05	696,000	3,138,000	0.0E+00	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	4.1E-03	664,044	3,124,381	1.0E-05	664,044	3,125,000	0.0E+00	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	3.9E-03	665,000	3,125,000	1.0E-05	665,000	3,125,000	0.0E+00	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.







**Table C-3**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Acetaldehyde**

CAS 75-07-0  
 1-Hour ESL 120 µg/m<sup>3</sup>  
 Annual ESL 45 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)						Trains 8 and 9	
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	1.6E-02	648,000	3,098,000	9.0E-05	649,000	3,102,000	1.6E-04	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	1.6E-02	651,000	3,101,000	1.2E-04	652,000	3,103,000	1.7E-04	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	1.1E-02	646,112	3,102,410	7.0E-05	646,112	3,102,410	1.4E-04	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	1.5E-02	646,000	3,099,000	7.0E-05	646,000	3,102,000	1.2E-04	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	8.5E-03	640,000	3,092,000	6.0E-05	640,000	3,093,000	9.0E-05	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	8.3E-03	639,000	3,092,000	6.0E-05	639,000	3,093,000	8.0E-05	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	1.2E-02	639,000	3,091,000	6.0E-05	640,000	3,091,743	6.0E-05	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	8.6E-03	627,000	3,109,000	5.0E-05	632,000	3,114,000	8.0E-05	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	1.3E-02	633,000	3,087,000	5.0E-05	633,000	3,095,000	8.0E-05	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	1.0E-02	646,000	3,121,000	1.0E-04	652,000	3,131,000	8.0E-05	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	1.0E-02	643,000	3,116,000	9.0E-05	644,000	3,124,000	1.0E-04	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	4.7E-03	618,322	3,099,450	4.0E-05	618,322	3,099,450	4.0E-05	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	9.6E-03	697,000	3,114,000	2.0E-05	699,000	3,116,000	5.0E-05	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	1.8E-02	692,000	3,082,000	2.0E-05	705,000	3,130,000	1.5E-04	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	1.3E-02	693,000	3,105,000	2.0E-05	694,000	3,111,000	9.0E-05	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	1.5E-02	690,000	3,102,000	2.0E-05	691,000	3,105,000	1.1E-04	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	1.3E-02	690,322	3,101,635	2.0E-05	691,000	3,102,000	1.1E-04	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	1.6E-02	690,000	3,099,000	2.0E-05	690,000	3,101,000	1.0E-04	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	1.3E-02	690,554	3,100,161	2.0E-05	691,000	3,101,000	1.0E-04	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	2.6E-02	681,000	3,092,000	3.0E-05	684,000	3,096,000	2.6E-04	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	2.4E-02	685,000	3,091,000	3.0E-05	686,000	3,094,000	2.0E-04	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	2.6E-02	681,000	3,092,000	3.0E-05	684,000	3,096,000	2.6E-04	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	2.4E-02	685,000	3,091,000	3.0E-05	686,000	3,094,000	2.0E-04	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	6.1E-03	669,000	3,134,000	4.0E-05	669,000	3,134,000	4.0E-05	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	7.4E-03	668,000	3,133,000	4.0E-05	669,000	3,133,000	4.0E-05	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	6.6E-03	669,000	3,131,000	4.0E-05	669,000	3,131,000	4.0E-05	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	1.3E-02	688,000	3,130,000	5.0E-05	696,000	3,137,000	1.2E-04	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	6.0E-03	664,044	3,124,381	7.0E-05	664,044	3,125,000	4.0E-05	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	5.8E-03	665,000	3,125,000	7.0E-05	664,564	3,124,440	4.0E-05	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.







**Table C-4**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Acrolein**

CAS 107-02-8  
 1-Hour ESL 3.2 µg/m<sup>3</sup>  
 Annual ESL 0.82 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)					Trains 8 and 9		
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	3.0E-03	648,000	3,098,000	1.0E-05	650,000	3,102,000	5.0E-05	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	3.0E-03	651,000	3,101,000	2.0E-05	652,000	3,103,000	5.0E-05	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	2.1E-03	646,112	3,102,410	1.0E-05	646,112	3,102,410	4.0E-05	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	2.9E-03	646,000	3,099,000	1.0E-05	646,000	3,102,000	4.0E-05	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	1.6E-03	640,000	3,093,000	1.0E-05	640,000	3,093,000	3.0E-05	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	1.5E-03	638,000	3,093,000	1.0E-05	639,000	3,093,000	2.0E-05	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	2.3E-03	639,000	3,091,000	1.0E-05	640,000	3,091,743	2.0E-05	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	1.7E-03	627,000	3,109,000	1.0E-05	632,000	3,115,000	3.0E-05	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	2.3E-03	633,000	3,094,000	1.0E-05	635,000	3,104,000	2.0E-05	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	2.0E-03	651,000	3,135,000	2.0E-05	653,000	3,133,000	2.0E-05	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	2.0E-03	643,000	3,128,000	1.0E-05	644,000	3,129,000	3.0E-05	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	9.0E-04	618,322	3,099,450	1.0E-05	618,322	3,099,450	1.0E-05	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	1.8E-03	697,000	3,114,000	0.0E+00	699,000	3,116,000	2.0E-05	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	3.4E-03	710,000	3,120,000	0.0E+00	713,000	3,130,000	5.0E-05	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	2.5E-03	693,000	3,105,000	0.0E+00	694,000	3,111,000	3.0E-05	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	2.9E-03	690,000	3,102,000	0.0E+00	691,000	3,105,000	4.0E-05	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	2.5E-03	690,322	3,101,635	0.0E+00	691,000	3,102,000	3.0E-05	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	3.1E-03	690,000	3,099,000	0.0E+00	690,000	3,101,000	3.0E-05	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	2.6E-03	690,554	3,100,161	0.0E+00	691,000	3,101,000	3.0E-05	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	5.0E-03	681,000	3,092,000	1.0E-05	684,000	3,096,000	8.0E-05	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	4.6E-03	685,000	3,091,000	0.0E+00	686,000	3,094,000	6.0E-05	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	5.0E-03	681,000	3,092,000	1.0E-05	684,000	3,096,000	8.0E-05	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	4.6E-03	685,000	3,091,000	0.0E+00	686,000	3,094,000	6.0E-05	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	1.2E-03	669,000	3,134,000	1.0E-05	671,000	3,135,000	1.0E-05	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	1.4E-03	668,000	3,133,000	1.0E-05	669,000	3,133,000	1.0E-05	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	1.3E-03	669,000	3,131,000	1.0E-05	670,000	3,132,000	1.0E-05	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	2.3E-03	688,000	3,138,000	1.0E-05	696,000	3,138,000	4.0E-05	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	1.2E-03	664,044	3,124,381	1.0E-05	664,044	3,125,000	1.0E-05	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	1.1E-03	665,000	3,125,000	1.0E-05	665,000	3,125,000	1.0E-05	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.







**Table C-5**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Antimony**

CAS 7440-36-0  
 1-Hour ESL 5 µg/m<sup>3</sup>  
 Annual ESL 0.5 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)					Trains 8 and 9		
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	2.8E-04	648,000	3,098,000	0.0E+00	650,000	3,102,000	0.0E+00	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	2.8E-04	651,000	3,103,000	0.0E+00	652,000	3,103,000	0.0E+00	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	1.9E-04	646,112	3,102,410	0.0E+00	646,112	3,102,410	0.0E+00	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	2.7E-04	646,000	3,099,000	0.0E+00	646,000	3,102,000	0.0E+00	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	1.5E-04	640,000	3,093,000	0.0E+00	640,000	3,093,000	0.0E+00	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	1.4E-04	638,000	3,093,000	0.0E+00	639,000	3,093,000	0.0E+00	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	2.1E-04	640,000	3,091,064	0.0E+00	640,000	3,091,743	0.0E+00	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	1.5E-04	627,000	3,113,000	0.0E+00	632,000	3,115,000	0.0E+00	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	2.1E-04	635,000	3,101,000	0.0E+00	635,000	3,104,000	0.0E+00	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	1.8E-04	648,000	3,129,000	0.0E+00	656,000	3,137,000	0.0E+00	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	1.8E-04	644,000	3,124,000	0.0E+00	644,000	3,129,000	0.0E+00	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	8.0E-05	618,322	3,099,450	0.0E+00	618,322	3,099,450	0.0E+00	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	1.1E-04	699,000	3,116,000	0.0E+00	699,000	3,116,000	0.0E+00	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	3.2E-04	711,000	3,129,000	0.0E+00	713,000	3,130,000	0.0E+00	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	2.3E-04	693,000	3,105,000	0.0E+00	694,000	3,111,000	0.0E+00	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	2.8E-04	690,000	3,102,000	0.0E+00	691,000	3,105,000	0.0E+00	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	2.3E-04	691,000	3,102,000	0.0E+00	691,000	3,102,000	0.0E+00	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	2.9E-04	690,000	3,099,000	0.0E+00	690,000	3,101,000	0.0E+00	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	2.4E-04	690,554	3,100,161	0.0E+00	691,000	3,101,000	0.0E+00	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	4.7E-04	683,000	3,094,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	4.3E-04	685,000	3,091,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	4.7E-04	683,000	3,094,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	4.3E-04	685,000	3,091,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	1.1E-04	669,000	3,134,000	0.0E+00	671,000	3,135,000	0.0E+00	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	1.3E-04	668,000	3,133,000	0.0E+00	669,000	3,133,000	0.0E+00	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	1.1E-04	669,000	3,131,000	0.0E+00	670,000	3,132,000	0.0E+00	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	2.0E-04	690,000	3,138,000	0.0E+00	696,000	3,138,000	0.0E+00	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	1.0E-04	664,044	3,125,000	0.0E+00	664,044	3,125,000	0.0E+00	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	1.0E-04	665,000	3,125,000	0.0E+00	665,000	3,125,000	0.0E+00	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.







**Table C-6**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Arsenic**

CAS 7440-38-2  
 1-Hour ESL 3 µg/m<sup>3</sup>  
 Annual ESL 0.067 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)						Trains 8 and 9	
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	1.0E-05	650,000	3,102,000	0.0E+00	650,000	3,102,000	0.0E+00	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	1.0E-05	652,000	3,103,000	0.0E+00	652,000	3,103,000	0.0E+00	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	1.0E-05	646,112	3,102,410	0.0E+00	646,112	3,102,410	0.0E+00	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	1.0E-05	646,000	3,102,000	0.0E+00	646,000	3,102,000	0.0E+00	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	1.0E-05	640,000	3,093,000	0.0E+00	640,000	3,093,000	0.0E+00	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	1.0E-05	638,000	3,093,000	0.0E+00	639,000	3,093,000	0.0E+00	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	1.0E-05	640,000	3,091,743	0.0E+00	640,000	3,091,743	0.0E+00	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	1.0E-05	632,000	3,114,000	0.0E+00	632,000	3,115,000	0.0E+00	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	1.0E-05	635,000	3,104,000	0.0E+00	635,000	3,104,000	0.0E+00	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	1.0E-05	656,000	3,137,000	0.0E+00	656,000	3,137,000	0.0E+00	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	1.0E-05	644,000	3,129,000	0.0E+00	644,000	3,129,000	0.0E+00	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	0.0E+00	618,322	3,099,450	0.0E+00	618,322	3,099,450	0.0E+00	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	0.0E+00	699,000	3,116,000	0.0E+00	699,000	3,116,000	0.0E+00	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	1.0E-05	713,000	3,130,000	0.0E+00	713,000	3,130,000	0.0E+00	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	1.0E-05	694,000	3,111,000	0.0E+00	694,000	3,111,000	0.0E+00	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	1.0E-05	691,000	3,105,000	0.0E+00	691,000	3,105,000	0.0E+00	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	1.0E-05	691,000	3,102,000	0.0E+00	691,000	3,102,000	0.0E+00	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	1.0E-05	690,000	3,101,000	0.0E+00	690,000	3,101,000	0.0E+00	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	1.0E-05	691,000	3,101,000	0.0E+00	691,000	3,101,000	0.0E+00	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	2.0E-05	684,000	3,096,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	2.0E-05	686,000	3,094,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	2.0E-05	684,000	3,096,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	2.0E-05	686,000	3,094,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	0.0E+00	671,000	3,135,000	0.0E+00	671,000	3,135,000	0.0E+00	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	1.0E-05	669,000	3,133,000	0.0E+00	669,000	3,133,000	0.0E+00	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	0.0E+00	670,000	3,132,000	0.0E+00	670,000	3,132,000	0.0E+00	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	1.0E-05	696,000	3,138,000	0.0E+00	696,000	3,138,000	0.0E+00	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	0.0E+00	664,044	3,125,000	0.0E+00	664,044	3,125,000	0.0E+00	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	0.0E+00	665,000	3,125,000	0.0E+00	665,000	3,125,000	0.0E+00	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.







**Table C-7**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Benzene**

CAS 71-43-2  
 1-Hour ESL 170 µg/m<sup>3</sup>  
 Annual ESL 4.5 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)					Trains 8 and 9		
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	3.4E-01	648,000	3,098,000	1.2E-03	650,000	3,100,000	5.0E-03	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	3.3E-01	651,000	3,102,000	1.7E-03	652,000	3,103,000	5.2E-03	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	2.0E-01	646,112	3,102,410	9.3E-04	646,112	3,102,410	4.2E-03	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	2.8E-01	646,000	3,099,000	9.7E-04	646,000	3,100,000	3.8E-03	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	2.5E-01	640,000	3,092,000	8.2E-04	640,000	3,092,000	2.7E-03	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	2.9E-01	638,000	3,092,000	7.8E-04	639,000	3,092,000	2.3E-03	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	2.8E-01	639,401	3,091,743	7.9E-04	640,000	3,091,743	1.9E-03	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	2.0E-01	627,000	3,110,000	4.7E-04	632,000	3,114,000	2.5E-03	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	4.2E-01	633,000	3,088,000	5.7E-04	633,000	3,104,000	2.4E-03	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	4.7E-01	646,000	3,121,000	9.6E-04	651,000	3,129,000	2.4E-03	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	4.3E-01	644,000	3,123,000	8.4E-04	644,000	3,122,000	3.1E-03	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	1.2E-01	610,712	3,098,034	3.4E-04	618,322	3,099,450	1.2E-03	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	6.1E-01	696,000	3,114,000	4.1E-04	696,000	3,114,000	1.7E-03	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	6.1E-01	697,000	3,115,000	6.7E-04	709,000	3,129,000	4.7E-03	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	6.6E-01	694,000	3,111,000	4.6E-04	693,000	3,109,000	2.7E-03	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	6.5E-01	689,000	3,105,000	6.2E-04	689,000	3,105,000	3.5E-03	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	2.5E-01	690,322	3,101,635	4.8E-04	690,322	3,101,635	3.3E-03	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	2.3E-01	690,000	3,101,000	5.3E-04	690,000	3,099,000	3.0E-03	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	1.7E-01	690,554	3,100,161	4.7E-04	690,554	3,100,161	3.1E-03	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	5.9E-01	681,000	3,092,000	1.5E-03	681,000	3,092,000	8.1E-03	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	5.5E-01	683,000	3,091,000	1.2E-03	683,000	3,091,000	6.1E-03	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	5.9E-01	681,000	3,092,000	1.5E-03	681,000	3,092,000	8.1E-03	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	5.5E-01	683,000	3,091,000	1.2E-03	683,000	3,091,000	6.1E-03	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	1.2E-01	669,000	3,134,000	3.7E-04	669,000	3,134,000	1.1E-03	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	1.2E-01	668,000	3,133,000	4.1E-04	668,000	3,133,000	1.4E-03	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	1.1E-01	669,000	3,131,000	4.1E-04	669,000	3,131,000	1.2E-03	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	5.0E-01	687,000	3,118,000	5.6E-04	673,000	3,131,000	3.6E-03	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	1.1E-01	664,000	3,125,000	6.7E-04	664,044	3,125,000	1.2E-03	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	8.5E-02	665,000	3,125,000	6.4E-04	664,841	3,124,678	1.2E-03	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.







**Table C-8**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Cadmium**

CAS 7440-43-9  
 1-Hour ESL 5.4 µg/m<sup>3</sup>  
 Annual ESL 0.0033 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)						Trains 8 and 9	
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	1.1E-04	648,000	3,100,000	0.0E+00	650,000	3,102,000	0.0E+00	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	1.1E-04	651,000	3,103,000	0.0E+00	652,000	3,103,000	0.0E+00	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	7.0E-05	646,112	3,102,410	0.0E+00	646,112	3,102,410	0.0E+00	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	1.0E-04	646,000	3,099,000	0.0E+00	646,000	3,102,000	0.0E+00	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	6.0E-05	640,000	3,093,000	0.0E+00	640,000	3,093,000	0.0E+00	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	6.0E-05	638,000	3,093,000	0.0E+00	639,000	3,093,000	0.0E+00	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	8.0E-05	640,000	3,091,064	0.0E+00	640,000	3,091,743	0.0E+00	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	6.0E-05	631,000	3,114,000	0.0E+00	632,000	3,115,000	0.0E+00	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	8.0E-05	635,000	3,104,000	0.0E+00	635,000	3,104,000	0.0E+00	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	7.0E-05	655,000	3,137,000	0.0E+00	656,000	3,137,000	0.0E+00	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	7.0E-05	643,000	3,123,000	0.0E+00	644,000	3,129,000	0.0E+00	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	3.0E-05	618,322	3,099,450	0.0E+00	618,322	3,099,450	0.0E+00	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	4.0E-05	699,000	3,116,000	0.0E+00	699,000	3,116,000	0.0E+00	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	1.2E-04	712,000	3,130,000	0.0E+00	713,000	3,130,000	0.0E+00	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	9.0E-05	693,000	3,108,000	0.0E+00	694,000	3,111,000	0.0E+00	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	1.1E-04	690,000	3,104,000	0.0E+00	691,000	3,105,000	0.0E+00	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	9.0E-05	690,322	3,101,635	0.0E+00	691,000	3,102,000	0.0E+00	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	1.1E-04	690,000	3,099,000	0.0E+00	690,000	3,101,000	0.0E+00	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	9.0E-05	691,000	3,101,000	0.0E+00	691,000	3,101,000	0.0E+00	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	1.8E-04	683,000	3,096,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	1.6E-04	685,000	3,094,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	1.8E-04	683,000	3,096,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	1.6E-04	685,000	3,094,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	4.0E-05	669,000	3,134,000	0.0E+00	671,000	3,135,000	0.0E+00	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	5.0E-05	668,000	3,133,000	0.0E+00	669,000	3,133,000	0.0E+00	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	4.0E-05	669,000	3,131,000	0.0E+00	670,000	3,132,000	0.0E+00	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	8.0E-05	694,000	3,138,000	0.0E+00	696,000	3,138,000	0.0E+00	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	4.0E-05	664,044	3,125,000	0.0E+00	664,044	3,125,000	0.0E+00	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	4.0E-05	665,000	3,125,000	0.0E+00	665,000	3,125,000	0.0E+00	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.







**Table C-9**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Chromium (VI)**

CAS 18540-29-9  
 1-Hour ESL 0.39 µg/m<sup>3</sup>  
 Annual ESL 0.0043 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)						Trains 8 and 9	
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	0.0E+00	650,000	3,102,000	0.0E+00	650,000	3,102,000	0.0E+00	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	0.0E+00	652,000	3,103,000	0.0E+00	652,000	3,103,000	0.0E+00	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	0.0E+00	646,112	3,102,410	0.0E+00	646,112	3,102,410	0.0E+00	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	0.0E+00	646,000	3,102,000	0.0E+00	646,000	3,102,000	0.0E+00	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	0.0E+00	640,000	3,093,000	0.0E+00	640,000	3,093,000	0.0E+00	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	0.0E+00	639,000	3,093,000	0.0E+00	639,000	3,093,000	0.0E+00	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	0.0E+00	640,000	3,091,743	0.0E+00	640,000	3,091,743	0.0E+00	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	0.0E+00	632,000	3,115,000	0.0E+00	632,000	3,115,000	0.0E+00	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	0.0E+00	635,000	3,104,000	0.0E+00	635,000	3,104,000	0.0E+00	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	0.0E+00	656,000	3,137,000	0.0E+00	656,000	3,137,000	0.0E+00	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	0.0E+00	644,000	3,129,000	0.0E+00	644,000	3,129,000	0.0E+00	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	0.0E+00	618,322	3,099,450	0.0E+00	618,322	3,099,450	0.0E+00	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	0.0E+00	699,000	3,116,000	0.0E+00	699,000	3,116,000	0.0E+00	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	0.0E+00	713,000	3,130,000	0.0E+00	713,000	3,130,000	0.0E+00	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	0.0E+00	694,000	3,111,000	0.0E+00	694,000	3,111,000	0.0E+00	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	0.0E+00	691,000	3,105,000	0.0E+00	691,000	3,105,000	0.0E+00	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	0.0E+00	691,000	3,102,000	0.0E+00	691,000	3,102,000	0.0E+00	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	0.0E+00	690,000	3,101,000	0.0E+00	690,000	3,101,000	0.0E+00	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	0.0E+00	691,000	3,101,000	0.0E+00	691,000	3,101,000	0.0E+00	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	0.0E+00	684,000	3,096,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	0.0E+00	686,000	3,094,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	0.0E+00	684,000	3,096,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	0.0E+00	686,000	3,094,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	0.0E+00	671,000	3,135,000	0.0E+00	671,000	3,135,000	0.0E+00	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	0.0E+00	669,000	3,133,000	0.0E+00	669,000	3,133,000	0.0E+00	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	0.0E+00	670,000	3,132,000	0.0E+00	670,000	3,132,000	0.0E+00	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	0.0E+00	696,000	3,138,000	0.0E+00	696,000	3,138,000	0.0E+00	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	0.0E+00	664,044	3,125,000	0.0E+00	664,044	3,125,000	0.0E+00	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	0.0E+00	665,000	3,125,000	0.0E+00	665,000	3,125,000	0.0E+00	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.







**Table C-10**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Ethylbenzene**

CAS 100-41-4  
 1-Hour ESL 26000 µg/m<sup>3</sup>  
 Annual ESL 570 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)					Trains 8 and 9		
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	5.6E-02	648,000	3,098,000	2.7E-04	650,000	3,100,000	0.0E+00	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	5.4E-02	651,000	3,102,000	3.6E-04	652,000	3,103,000	0.0E+00	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	3.3E-02	646,112	3,102,410	2.1E-04	646,112	3,102,410	0.0E+00	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	4.5E-02	646,000	3,099,000	2.1E-04	646,000	3,102,000	0.0E+00	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	4.5E-02	639,000	3,093,000	1.8E-04	640,000	3,093,000	0.0E+00	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	4.7E-02	638,000	3,092,000	1.7E-04	639,000	3,092,000	0.0E+00	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	4.6E-02	639,401	3,091,743	1.8E-04	640,000	3,091,743	0.0E+00	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	3.3E-02	625,000	3,111,000	1.1E-04	632,000	3,115,000	0.0E+00	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	7.5E-02	633,000	3,088,000	1.3E-04	633,000	3,103,000	0.0E+00	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	8.1E-02	646,000	3,121,000	2.4E-04	653,000	3,133,000	0.0E+00	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	7.4E-02	644,000	3,123,000	2.1E-04	644,000	3,126,000	0.0E+00	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	2.4E-02	610,712	3,098,034	8.0E-05	618,322	3,099,450	0.0E+00	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	1.1E-01	696,000	3,114,000	8.0E-05	699,000	3,116,000	0.0E+00	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	1.1E-01	697,000	3,115,000	1.3E-04	696,000	3,092,000	0.0E+00	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	1.2E-01	694,000	3,111,000	9.0E-05	694,000	3,111,000	0.0E+00	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	1.2E-01	689,000	3,105,000	1.2E-04	690,000	3,105,000	0.0E+00	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	5.0E-02	690,322	3,101,635	9.0E-05	691,000	3,102,000	0.0E+00	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	4.8E-02	690,000	3,101,000	1.0E-04	690,000	3,099,000	0.0E+00	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	3.1E-02	691,000	3,101,000	9.0E-05	690,554	3,100,161	0.0E+00	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	1.0E-01	681,000	3,092,000	2.7E-04	683,000	3,094,000	0.0E+00	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	9.1E-02	683,000	3,091,000	2.3E-04	686,000	3,094,000	0.0E+00	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	1.0E-01	681,000	3,092,000	2.7E-04	683,000	3,094,000	0.0E+00	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	9.1E-02	683,000	3,091,000	2.3E-04	686,000	3,094,000	0.0E+00	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	1.9E-02	669,000	3,134,000	9.0E-05	669,000	3,134,000	0.0E+00	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	1.9E-02	668,000	3,133,000	1.0E-04	668,000	3,133,000	0.0E+00	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	1.7E-02	669,000	3,131,000	1.0E-04	669,000	3,131,000	0.0E+00	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	8.8E-02	687,000	3,118,000	1.3E-04	684,000	3,132,000	0.0E+00	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	2.3E-02	664,044	3,124,381	1.6E-04	664,044	3,125,000	0.0E+00	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	1.8E-02	664,564	3,124,440	1.6E-04	664,564	3,124,440	0.0E+00	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.







**Table C-11**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Formaldehyde**

CAS 50-00-0  
 1-Hour ESL 15 µg/m<sup>3</sup>  
 Annual ESL 3.3 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)					Trains 8 and 9		
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	8.0E-02	648,000	3,098,000	1.3E-03	649,000	3,102,000	8.2E-04	2.0E-05
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	1.1E-01	652,000	3,103,000	1.9E-03	652,000	3,103,000	9.8E-04	2.0E-05
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	5.9E-02	646,112	3,102,410	1.1E-03	646,112	3,102,410	7.1E-04	1.0E-05
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	7.6E-02	646,000	3,099,000	1.1E-03	646,000	3,102,000	7.9E-04	1.0E-05
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	9.7E-02	640,000	3,092,000	9.5E-04	640,000	3,093,000	7.2E-04	1.0E-05
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	9.4E-02	639,000	3,092,000	9.2E-04	639,000	3,092,000	6.4E-04	1.0E-05
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	9.3E-02	639,401	3,091,743	9.5E-04	640,000	3,091,000	7.2E-04	1.0E-05
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	5.7E-02	627,000	3,106,000	7.5E-04	632,000	3,114,000	5.7E-04	1.0E-05
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	1.3E-01	633,000	3,088,000	7.5E-04	633,000	3,089,000	6.9E-04	1.0E-05
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	9.0E-02	646,000	3,121,000	1.7E-03	650,000	3,127,000	6.3E-04	1.0E-05
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	8.4E-02	644,000	3,123,000	1.4E-03	644,000	3,120,000	6.3E-04	1.0E-05
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	5.2E-02	610,712	3,098,034	5.9E-04	618,322	3,099,450	4.1E-04	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	9.3E-02	696,000	3,114,000	2.8E-04	696,000	3,114,000	6.1E-04	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	1.1E-01	690,000	3,122,000	3.0E-04	704,000	3,127,000	7.6E-04	1.0E-05
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	1.1E-01	693,000	3,109,000	2.9E-04	694,000	3,111,000	6.6E-04	1.0E-05
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	1.4E-01	689,000	3,105,000	3.3E-04	689,000	3,105,000	7.5E-04	1.0E-05
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	1.2E-01	690,322	3,101,635	2.4E-04	690,322	3,101,635	6.7E-04	1.0E-05
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	1.2E-01	690,000	3,101,000	2.4E-04	690,000	3,101,000	7.8E-04	1.0E-05
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	1.1E-01	691,000	3,101,000	2.3E-04	691,000	3,101,000	7.6E-04	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	1.6E-01	683,000	3,096,000	3.5E-04	681,000	3,092,000	9.9E-04	1.0E-05
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	1.0E-01	685,000	3,091,000	3.2E-04	683,000	3,091,000	9.3E-04	1.0E-05
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	1.6E-01	683,000	3,096,000	3.5E-04	681,000	3,092,000	9.9E-04	1.0E-05
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	1.0E-01	685,000	3,091,000	3.2E-04	683,000	3,091,000	9.3E-04	1.0E-05
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	5.2E-02	670,000	3,133,000	5.6E-04	669,000	3,134,000	5.6E-04	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	5.3E-02	668,000	3,133,000	6.2E-04	668,000	3,133,000	5.0E-04	1.0E-05
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	5.4E-02	669,000	3,131,000	6.1E-04	669,000	3,131,000	5.7E-04	1.0E-05
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	1.2E-01	687,000	3,118,000	7.4E-04	695,000	3,137,000	6.9E-04	1.0E-05
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	7.7E-02	664,044	3,124,381	1.1E-03	664,044	3,124,381	6.4E-04	1.0E-05
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	7.3E-02	664,564	3,124,440	1.1E-03	664,564	3,124,440	6.2E-04	1.0E-05

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.







**Table C-12**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Lead**

CAS 7439-92-1  
 1-Hour ESL 0.15  $\mu\text{g}/\text{m}^3$   
 Annual ESL 0.0375  $\mu\text{g}/\text{m}^3$

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)						Trains 8 and 9	
							Hourly ( $\mu\text{g}/\text{m}^3$ )	UTM East (m)	UTM North (m)	Annual ( $\mu\text{g}/\text{m}^3$ )	UTM East (m)	UTM North (m)	Hourly ( $\mu\text{g}/\text{m}^3$ )	Annual ( $\mu\text{g}/\text{m}^3$ )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	6.0E-05	648,000	3,098,000	0.0E+00	650,000	3,102,000	0.0E+00	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	6.0E-05	652,000	3,103,000	0.0E+00	652,000	3,103,000	0.0E+00	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	4.0E-05	646,112	3,102,410	0.0E+00	646,112	3,102,410	0.0E+00	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	5.0E-05	646,000	3,099,000	0.0E+00	646,000	3,102,000	0.0E+00	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	3.0E-05	640,000	3,093,000	0.0E+00	640,000	3,093,000	0.0E+00	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	3.0E-05	638,000	3,093,000	0.0E+00	639,000	3,093,000	0.0E+00	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	4.0E-05	640,000	3,091,064	0.0E+00	640,000	3,091,743	0.0E+00	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	3.0E-05	632,000	3,114,000	0.0E+00	632,000	3,115,000	0.0E+00	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	4.0E-05	635,000	3,104,000	0.0E+00	635,000	3,104,000	0.0E+00	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	4.0E-05	654,000	3,136,000	0.0E+00	656,000	3,137,000	0.0E+00	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	4.0E-05	644,000	3,129,000	0.0E+00	644,000	3,129,000	0.0E+00	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	2.0E-05	618,322	3,099,450	0.0E+00	618,322	3,099,450	0.0E+00	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	2.0E-05	699,000	3,116,000	0.0E+00	699,000	3,116,000	0.0E+00	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	6.0E-05	710,000	3,129,000	0.0E+00	713,000	3,130,000	0.0E+00	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	5.0E-05	694,000	3,111,000	0.0E+00	694,000	3,111,000	0.0E+00	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	6.0E-05	690,000	3,102,000	0.0E+00	691,000	3,105,000	0.0E+00	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	5.0E-05	690,322	3,101,635	0.0E+00	691,000	3,102,000	0.0E+00	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	6.0E-05	690,000	3,099,000	0.0E+00	690,000	3,101,000	0.0E+00	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	5.0E-05	690,554	3,100,161	0.0E+00	691,000	3,101,000	0.0E+00	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	1.0E-04	683,000	3,095,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	9.0E-05	685,000	3,093,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	1.0E-04	683,000	3,095,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	9.0E-05	685,000	3,093,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	2.0E-05	671,000	3,135,000	0.0E+00	671,000	3,135,000	0.0E+00	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	3.0E-05	668,000	3,133,000	0.0E+00	669,000	3,133,000	0.0E+00	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	2.0E-05	670,000	3,132,000	0.0E+00	670,000	3,132,000	0.0E+00	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	4.0E-05	696,000	3,138,000	0.0E+00	696,000	3,138,000	0.0E+00	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	2.0E-05	664,044	3,125,000	0.0E+00	664,044	3,125,000	0.0E+00	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	2.0E-05	665,000	3,125,000	0.0E+00	665,000	3,125,000	0.0E+00	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.







**Table C-13**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Manganese**

CAS 7439-96-5  
 1-Hour ESL 2.7 µg/m<sup>3</sup>  
 Annual ESL 0.25 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)						Trains 8 and 9	
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	0.0E+00	650,000	3,102,000	0.0E+00	650,000	3,102,000	0.0E+00	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	0.0E+00	652,000	3,103,000	0.0E+00	652,000	3,103,000	0.0E+00	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	0.0E+00	646,112	3,102,410	0.0E+00	646,112	3,102,410	0.0E+00	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	0.0E+00	646,000	3,102,000	0.0E+00	646,000	3,102,000	0.0E+00	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	0.0E+00	640,000	3,093,000	0.0E+00	640,000	3,093,000	0.0E+00	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	0.0E+00	639,000	3,093,000	0.0E+00	639,000	3,093,000	0.0E+00	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	0.0E+00	640,000	3,091,743	0.0E+00	640,000	3,091,743	0.0E+00	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	0.0E+00	632,000	3,115,000	0.0E+00	632,000	3,115,000	0.0E+00	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	0.0E+00	635,000	3,104,000	0.0E+00	635,000	3,104,000	0.0E+00	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	0.0E+00	656,000	3,137,000	0.0E+00	656,000	3,137,000	0.0E+00	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	0.0E+00	644,000	3,129,000	0.0E+00	644,000	3,129,000	0.0E+00	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	0.0E+00	618,322	3,099,450	0.0E+00	618,322	3,099,450	0.0E+00	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	0.0E+00	699,000	3,116,000	0.0E+00	699,000	3,116,000	0.0E+00	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	0.0E+00	713,000	3,130,000	0.0E+00	713,000	3,130,000	0.0E+00	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	0.0E+00	694,000	3,111,000	0.0E+00	694,000	3,111,000	0.0E+00	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	0.0E+00	691,000	3,105,000	0.0E+00	691,000	3,105,000	0.0E+00	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	0.0E+00	691,000	3,102,000	0.0E+00	691,000	3,102,000	0.0E+00	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	0.0E+00	690,000	3,101,000	0.0E+00	690,000	3,101,000	0.0E+00	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	0.0E+00	691,000	3,101,000	0.0E+00	691,000	3,101,000	0.0E+00	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	0.0E+00	684,000	3,096,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	0.0E+00	686,000	3,094,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	0.0E+00	684,000	3,096,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	0.0E+00	686,000	3,094,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	0.0E+00	671,000	3,135,000	0.0E+00	671,000	3,135,000	0.0E+00	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	0.0E+00	669,000	3,133,000	0.0E+00	669,000	3,133,000	0.0E+00	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	0.0E+00	670,000	3,132,000	0.0E+00	670,000	3,132,000	0.0E+00	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	0.0E+00	696,000	3,138,000	0.0E+00	696,000	3,138,000	0.0E+00	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	0.0E+00	664,044	3,125,000	0.0E+00	664,044	3,125,000	0.0E+00	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	0.0E+00	665,000	3,125,000	0.0E+00	665,000	3,125,000	0.0E+00	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.







**Table C-14**

**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Mercury**

CAS 7439-97-6  
 1-Hour ESL 0.25 µg/m<sup>3</sup>  
 Annual ESL 0.025 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)						Trains 8 and 9	
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	0.0E+00	650,000	3,102,000	0.0E+00	650,000	3,102,000	0.0E+00	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	0.0E+00	652,000	3,103,000	0.0E+00	652,000	3,103,000	0.0E+00	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	0.0E+00	646,112	3,102,410	0.0E+00	646,112	3,102,410	0.0E+00	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	0.0E+00	646,000	3,102,000	0.0E+00	646,000	3,102,000	0.0E+00	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	0.0E+00	640,000	3,093,000	0.0E+00	640,000	3,093,000	0.0E+00	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	0.0E+00	639,000	3,093,000	0.0E+00	639,000	3,093,000	0.0E+00	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	0.0E+00	640,000	3,091,743	0.0E+00	640,000	3,091,743	0.0E+00	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	0.0E+00	632,000	3,115,000	0.0E+00	632,000	3,115,000	0.0E+00	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	0.0E+00	635,000	3,104,000	0.0E+00	635,000	3,104,000	0.0E+00	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	0.0E+00	656,000	3,137,000	0.0E+00	656,000	3,137,000	0.0E+00	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	0.0E+00	644,000	3,129,000	0.0E+00	644,000	3,129,000	0.0E+00	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	0.0E+00	618,322	3,099,450	0.0E+00	618,322	3,099,450	0.0E+00	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	0.0E+00	699,000	3,116,000	0.0E+00	699,000	3,116,000	0.0E+00	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	0.0E+00	713,000	3,130,000	0.0E+00	713,000	3,130,000	0.0E+00	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	0.0E+00	694,000	3,111,000	0.0E+00	694,000	3,111,000	0.0E+00	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	0.0E+00	691,000	3,105,000	0.0E+00	691,000	3,105,000	0.0E+00	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	0.0E+00	691,000	3,102,000	0.0E+00	691,000	3,102,000	0.0E+00	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	0.0E+00	690,000	3,101,000	0.0E+00	690,000	3,101,000	0.0E+00	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	0.0E+00	691,000	3,101,000	0.0E+00	691,000	3,101,000	0.0E+00	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	0.0E+00	684,000	3,096,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	0.0E+00	686,000	3,094,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	0.0E+00	684,000	3,096,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	0.0E+00	686,000	3,094,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	0.0E+00	671,000	3,135,000	0.0E+00	671,000	3,135,000	0.0E+00	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	0.0E+00	669,000	3,133,000	0.0E+00	669,000	3,133,000	0.0E+00	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	0.0E+00	670,000	3,132,000	0.0E+00	670,000	3,132,000	0.0E+00	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	0.0E+00	696,000	3,138,000	0.0E+00	696,000	3,138,000	0.0E+00	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	0.0E+00	664,044	3,125,000	0.0E+00	664,044	3,125,000	0.0E+00	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	0.0E+00	665,000	3,125,000	0.0E+00	665,000	3,125,000	0.0E+00	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.







**Table C-15**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Naphthalene**

CAS 91-20-3  
 1-Hour ESL 440  $\mu\text{g}/\text{m}^3$   
 Annual ESL 50  $\mu\text{g}/\text{m}^3$

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)					Trains 8 and 9		
							Hourly ( $\mu\text{g}/\text{m}^3$ )	UTM East (m)	UTM North (m)	Annual ( $\mu\text{g}/\text{m}^3$ )	UTM East (m)	UTM North (m)	Hourly ( $\mu\text{g}/\text{m}^3$ )	Annual ( $\mu\text{g}/\text{m}^3$ )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	5.0E-02	648,000	3,098,000	6.0E-05	650,000	3,102,000	1.0E-05	1.0E-05
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	5.1E-02	651,000	3,101,000	7.0E-05	652,000	3,103,000	1.0E-05	1.0E-05
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	3.4E-02	646,112	3,102,410	4.0E-05	646,112	3,102,410	0.0E+00	1.0E-05
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	4.8E-02	646,000	3,099,000	4.0E-05	646,000	3,102,000	1.0E-05	1.0E-05
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	2.7E-02	640,000	3,093,000	3.0E-05	640,000	3,093,000	0.0E+00	1.0E-05
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	2.5E-02	638,000	3,093,000	3.0E-05	639,000	3,093,000	0.0E+00	1.0E-05
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	3.9E-02	639,000	3,091,000	3.0E-05	640,000	3,091,743	0.0E+00	1.0E-05
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	2.8E-02	627,000	3,109,000	2.0E-05	632,000	3,115,000	0.0E+00	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	3.7E-02	635,000	3,085,000	2.0E-05	635,000	3,104,000	0.0E+00	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	3.2E-02	646,000	3,121,000	4.0E-05	653,000	3,135,000	0.0E+00	1.0E-05
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	3.2E-02	643,000	3,116,000	4.0E-05	644,000	3,128,000	0.0E+00	1.0E-05
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	1.5E-02	618,322	3,099,450	2.0E-05	618,322	3,099,450	0.0E+00	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	2.0E-02	698,000	3,114,000	1.0E-05	699,000	3,116,000	0.0E+00	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	5.7E-02	708,000	3,118,000	3.0E-05	694,000	3,087,000	0.0E+00	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	4.2E-02	693,000	3,105,000	2.0E-05	694,000	3,111,000	0.0E+00	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	4.9E-02	690,000	3,102,000	3.0E-05	689,000	3,103,000	0.0E+00	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	4.1E-02	690,322	3,101,635	2.0E-05	691,000	3,102,000	0.0E+00	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	5.2E-02	690,000	3,099,000	2.0E-05	690,000	3,101,000	0.0E+00	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	4.3E-02	690,554	3,100,161	2.0E-05	691,000	3,101,000	0.0E+00	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	8.4E-02	681,000	3,092,000	5.0E-05	682,000	3,092,000	1.0E-05	1.0E-05
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	7.7E-02	685,000	3,091,000	4.0E-05	685,000	3,094,000	1.0E-05	1.0E-05
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	8.4E-02	681,000	3,092,000	5.0E-05	682,000	3,092,000	1.0E-05	1.0E-05
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	7.7E-02	685,000	3,091,000	4.0E-05	685,000	3,094,000	1.0E-05	1.0E-05
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	1.9E-02	669,000	3,134,000	2.0E-05	671,000	3,135,000	0.0E+00	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	2.3E-02	668,000	3,133,000	2.0E-05	669,000	3,133,000	0.0E+00	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	2.1E-02	669,000	3,131,000	2.0E-05	670,000	3,132,000	0.0E+00	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	3.6E-02	681,000	3,118,000	3.0E-05	679,000	3,138,000	0.0E+00	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	1.9E-02	664,044	3,124,381	3.0E-05	664,044	3,125,000	0.0E+00	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	1.8E-02	665,000	3,125,000	3.0E-05	665,000	3,125,000	0.0E+00	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.







**Table C-16**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Hexane**

CAS 110-54-3  
 1-Hour ESL 5600  $\mu\text{g}/\text{m}^3$   
 Annual ESL 200  $\mu\text{g}/\text{m}^3$

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)						Trains 8 and 9	
							Hourly ( $\mu\text{g}/\text{m}^3$ )	UTM East (m)	UTM North (m)	Annual ( $\mu\text{g}/\text{m}^3$ )	UTM East (m)	UTM North (m)	Hourly ( $\mu\text{g}/\text{m}^3$ )	Annual ( $\mu\text{g}/\text{m}^3$ )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	7.2E-01	647,000	3,099,000	3.8E-03	650,000	3,100,000	5.5E-02	3.4E-04
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	7.2E-01	650,000	3,102,000	5.1E-03	652,000	3,103,000	5.6E-02	4.4E-04
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	4.4E-01	645,000	3,102,000	2.9E-03	646,112	3,102,410	3.8E-02	2.6E-04
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	6.0E-01	646,000	3,100,000	3.0E-03	646,000	3,100,000	4.5E-02	2.6E-04
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	5.8E-01	639,000	3,093,000	2.5E-03	640,000	3,092,000	4.8E-02	2.2E-04
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	6.2E-01	638,000	3,092,000	2.4E-03	639,000	3,092,000	4.9E-02	1.9E-04
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	6.1E-01	639,401	3,091,743	2.4E-03	640,000	3,091,000	5.4E-02	2.1E-04
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	4.6E-01	626,000	3,111,000	1.4E-03	632,000	3,114,000	3.8E-02	1.3E-04
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	1.0E+00	633,000	3,088,000	1.7E-03	633,000	3,089,000	8.4E-02	1.4E-04
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	1.3E+00	646,000	3,121,000	3.0E-03	649,000	3,126,000	9.2E-02	2.7E-04
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	1.2E+00	644,000	3,124,000	2.6E-03	643,000	3,116,000	8.1E-02	2.3E-04
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	3.1E-01	610,712	3,098,034	1.1E-03	618,322	3,099,450	3.2E-02	1.0E-04
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	1.6E+00	696,000	3,114,000	1.2E-03	696,000	3,114,000	7.9E-02	1.0E-04
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	1.6E+00	697,000	3,115,000	2.1E-03	691,000	3,083,000	1.2E-01	1.6E-04
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	1.6E+00	694,000	3,111,000	1.4E-03	693,000	3,109,000	5.1E-02	1.1E-04
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	1.5E+00	689,000	3,105,000	1.9E-03	689,000	3,105,000	4.9E-02	1.4E-04
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	6.0E-01	690,322	3,101,635	1.5E-03	690,322	3,101,635	4.1E-02	1.2E-04
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	5.4E-01	690,000	3,101,000	1.7E-03	690,000	3,099,000	4.4E-02	1.4E-04
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	4.1E-01	691,000	3,101,000	1.5E-03	690,554	3,100,161	4.3E-02	1.4E-04
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	1.2E+00	681,000	3,092,000	4.6E-03	681,000	3,092,000	1.3E-01	3.6E-04
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	1.1E+00	683,000	3,091,000	3.7E-03	683,000	3,091,000	8.8E-02	2.8E-04
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	1.2E+00	681,000	3,092,000	4.6E-03	681,000	3,092,000	1.3E-01	3.6E-04
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	1.1E+00	683,000	3,091,000	3.7E-03	683,000	3,091,000	8.8E-02	2.8E-04
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	3.1E-01	669,000	3,134,000	1.2E-03	669,000	3,134,000	2.2E-02	1.0E-04
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	3.1E-01	669,000	3,133,000	1.3E-03	668,000	3,133,000	2.2E-02	1.1E-04
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	2.8E-01	669,000	3,131,000	1.3E-03	669,000	3,131,000	2.3E-02	1.2E-04
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	1.3E+00	687,000	3,118,000	1.8E-03	672,000	3,121,000	1.1E-01	1.6E-04
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	3.3E-01	664,044	3,124,381	2.2E-03	664,044	3,124,381	2.7E-02	2.0E-04
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	2.6E-01	664,564	3,124,440	2.1E-03	664,564	3,124,440	2.8E-02	1.9E-04

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.







**Table C-17**

**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Nickel**

CAS 7440-02-0  
 1-Hour ESL 0.33 µg/m<sup>3</sup>  
 Annual ESL 0.059 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)						Trains 8 and 9	
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	3.1E-04	648,000	3,098,000	0.0E+00	650,000	3,102,000	0.0E+00	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	3.2E-04	651,000	3,101,000	0.0E+00	652,000	3,103,000	0.0E+00	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	2.2E-04	646,112	3,102,410	0.0E+00	646,112	3,102,410	0.0E+00	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	3.0E-04	646,000	3,099,000	0.0E+00	646,000	3,102,000	0.0E+00	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	1.7E-04	640,000	3,093,000	0.0E+00	640,000	3,093,000	0.0E+00	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	1.6E-04	638,000	3,093,000	0.0E+00	639,000	3,093,000	0.0E+00	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	2.4E-04	639,000	3,091,000	0.0E+00	640,000	3,091,743	0.0E+00	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	1.7E-04	627,000	3,110,000	0.0E+00	632,000	3,115,000	0.0E+00	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	2.3E-04	635,000	3,101,000	0.0E+00	635,000	3,104,000	0.0E+00	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	2.0E-04	646,000	3,132,000	0.0E+00	656,000	3,137,000	0.0E+00	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	2.0E-04	643,000	3,124,000	0.0E+00	644,000	3,129,000	0.0E+00	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	9.0E-05	618,322	3,099,450	0.0E+00	618,322	3,099,450	0.0E+00	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	1.3E-04	697,000	3,114,000	0.0E+00	699,000	3,116,000	0.0E+00	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	3.5E-04	711,000	3,130,000	0.0E+00	713,000	3,130,000	0.0E+00	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	2.6E-04	693,000	3,105,000	0.0E+00	694,000	3,111,000	0.0E+00	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	3.1E-04	690,000	3,102,000	0.0E+00	691,000	3,105,000	0.0E+00	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	2.6E-04	690,322	3,101,635	0.0E+00	691,000	3,102,000	0.0E+00	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	3.2E-04	690,000	3,099,000	0.0E+00	690,000	3,101,000	0.0E+00	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	2.6E-04	690,554	3,100,161	0.0E+00	691,000	3,101,000	0.0E+00	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	5.3E-04	681,000	3,092,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	4.8E-04	685,000	3,091,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	5.3E-04	681,000	3,092,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	4.8E-04	685,000	3,091,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	1.2E-04	669,000	3,134,000	0.0E+00	671,000	3,135,000	0.0E+00	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	1.4E-04	668,000	3,133,000	0.0E+00	669,000	3,133,000	0.0E+00	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	1.3E-04	669,000	3,131,000	0.0E+00	670,000	3,132,000	0.0E+00	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	2.2E-04	690,000	3,138,000	0.0E+00	696,000	3,138,000	0.0E+00	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	1.2E-04	664,044	3,124,381	0.0E+00	664,044	3,125,000	0.0E+00	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	1.1E-04	665,000	3,125,000	0.0E+00	665,000	3,125,000	0.0E+00	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.





Table C-18

Maximum Concentrations By EJ Census Block  
Corpus Christi Liquefaction LLC

Polychlorinated Biphenyl

CAS 1336-36-3

1-Hour ESL 0.1 µg/m³

Annual ESL 0.01 µg/m³

Table with columns: BGID [1], County, Census Tract, Block Group, Census Geocode, Minority EJ, Income EJ, and Maximum Impact [2]. The Maximum Impact [2] section includes sub-columns for All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3) and Trains 8 and 9, with further sub-columns for Hourly (µg/m³), UTM East (m), UTM North (m), and Annual (µg/m³) concentrations.

**Table C-18**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Polychlorinated Biphenyl**

CAS 1336-36-3  
 1-Hour ESL 0.1 µg/m<sup>3</sup>  
 Annual ESL 0.01 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)						Trains 8 and 9	
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	0.0E+00	650,000	3,102,000	0.0E+00	650,000	3,102,000	0.0E+00	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	0.0E+00	652,000	3,103,000	0.0E+00	652,000	3,103,000	0.0E+00	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	0.0E+00	646,112	3,102,410	0.0E+00	646,112	3,102,410	0.0E+00	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	0.0E+00	646,000	3,102,000	0.0E+00	646,000	3,102,000	0.0E+00	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	0.0E+00	640,000	3,093,000	0.0E+00	640,000	3,093,000	0.0E+00	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	0.0E+00	639,000	3,093,000	0.0E+00	639,000	3,093,000	0.0E+00	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	0.0E+00	640,000	3,091,743	0.0E+00	640,000	3,091,743	0.0E+00	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	0.0E+00	632,000	3,115,000	0.0E+00	632,000	3,115,000	0.0E+00	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	0.0E+00	635,000	3,104,000	0.0E+00	635,000	3,104,000	0.0E+00	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	0.0E+00	656,000	3,137,000	0.0E+00	656,000	3,137,000	0.0E+00	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	0.0E+00	644,000	3,129,000	0.0E+00	644,000	3,129,000	0.0E+00	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	0.0E+00	618,322	3,099,450	0.0E+00	618,322	3,099,450	0.0E+00	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	0.0E+00	699,000	3,116,000	0.0E+00	699,000	3,116,000	0.0E+00	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	0.0E+00	713,000	3,130,000	0.0E+00	713,000	3,130,000	0.0E+00	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	0.0E+00	694,000	3,111,000	0.0E+00	694,000	3,111,000	0.0E+00	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	0.0E+00	691,000	3,105,000	0.0E+00	691,000	3,105,000	0.0E+00	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	0.0E+00	691,000	3,102,000	0.0E+00	691,000	3,102,000	0.0E+00	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	0.0E+00	690,000	3,101,000	0.0E+00	690,000	3,101,000	0.0E+00	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	0.0E+00	691,000	3,101,000	0.0E+00	691,000	3,101,000	0.0E+00	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	0.0E+00	684,000	3,096,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	0.0E+00	686,000	3,094,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	0.0E+00	684,000	3,096,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	0.0E+00	686,000	3,094,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	0.0E+00	671,000	3,135,000	0.0E+00	671,000	3,135,000	0.0E+00	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	0.0E+00	669,000	3,133,000	0.0E+00	669,000	3,133,000	0.0E+00	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	0.0E+00	670,000	3,132,000	0.0E+00	670,000	3,132,000	0.0E+00	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	0.0E+00	696,000	3,138,000	0.0E+00	696,000	3,138,000	0.0E+00	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	0.0E+00	664,044	3,125,000	0.0E+00	664,044	3,125,000	0.0E+00	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	0.0E+00	665,000	3,125,000	0.0E+00	665,000	3,125,000	0.0E+00	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.





Table C-19
Maximum Concentrations By EJ Census Block
Corpus Christi Liquefaction LLC

Propionaldehyde

CAS 123-38-6
1-Hour ESL 92 ug/m³
Annual ESL 40 ug/m³

Table with 15 columns: BGID [1], County, Census Tract, Block Group, Census Geocode, Minority EJ, Income EJ, and Maximum Impact [2]. The Maximum Impact [2] section includes sub-columns for All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3) and Trains 8 and 9, with further sub-columns for Hourly, UTM East, UTM North, and Annual concentrations in ug/m³.

**Table C-19**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Propionaldehyde**

CAS 123-38-6  
 1-Hour ESL 92  $\mu\text{g}/\text{m}^3$   
 Annual ESL 40  $\mu\text{g}/\text{m}^3$

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)						Trains 8 and 9	
							Hourly ( $\mu\text{g}/\text{m}^3$ )	UTM East (m)	UTM North (m)	Annual ( $\mu\text{g}/\text{m}^3$ )	UTM East (m)	UTM North (m)	Hourly ( $\mu\text{g}/\text{m}^3$ )	Annual ( $\mu\text{g}/\text{m}^3$ )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	2.3E-03	648,000	3,101,000	0.0E+00	650,000	3,102,000	0.0E+00	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	2.4E-03	651,000	3,101,000	0.0E+00	652,000	3,103,000	0.0E+00	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	1.6E-03	646,112	3,102,410	0.0E+00	646,112	3,102,410	0.0E+00	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	2.2E-03	646,000	3,099,000	0.0E+00	646,000	3,102,000	0.0E+00	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	1.3E-03	640,000	3,093,000	0.0E+00	640,000	3,093,000	0.0E+00	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	1.2E-03	638,000	3,093,000	0.0E+00	639,000	3,093,000	0.0E+00	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	1.8E-03	639,000	3,091,000	0.0E+00	640,000	3,091,743	0.0E+00	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	1.3E-03	627,000	3,109,000	0.0E+00	632,000	3,115,000	0.0E+00	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	1.7E-03	635,000	3,102,000	0.0E+00	635,000	3,104,000	0.0E+00	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	1.5E-03	652,000	3,136,000	0.0E+00	656,000	3,137,000	0.0E+00	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	1.5E-03	643,000	3,126,000	0.0E+00	644,000	3,129,000	0.0E+00	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	7.1E-04	618,322	3,099,450	0.0E+00	618,322	3,099,450	0.0E+00	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	9.3E-04	698,000	3,114,000	0.0E+00	699,000	3,116,000	0.0E+00	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	2.7E-03	706,000	3,129,000	0.0E+00	713,000	3,130,000	0.0E+00	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	2.0E-03	693,000	3,105,000	0.0E+00	694,000	3,111,000	0.0E+00	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	2.3E-03	690,000	3,102,000	0.0E+00	691,000	3,105,000	0.0E+00	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	2.0E-03	690,322	3,101,635	0.0E+00	691,000	3,102,000	0.0E+00	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	2.4E-03	690,000	3,099,000	0.0E+00	690,000	3,101,000	0.0E+00	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	2.0E-03	690,554	3,100,161	0.0E+00	691,000	3,101,000	0.0E+00	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	4.0E-03	681,000	3,092,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	3.6E-03	685,000	3,091,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	4.0E-03	681,000	3,092,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	3.6E-03	685,000	3,091,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	8.9E-04	669,000	3,134,000	0.0E+00	671,000	3,135,000	0.0E+00	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	1.1E-03	668,000	3,133,000	0.0E+00	669,000	3,133,000	0.0E+00	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	9.6E-04	669,000	3,131,000	0.0E+00	670,000	3,132,000	0.0E+00	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	1.7E-03	691,000	3,133,000	0.0E+00	696,000	3,138,000	0.0E+00	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	8.7E-04	664,044	3,124,381	0.0E+00	664,044	3,125,000	0.0E+00	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	8.4E-04	665,000	3,125,000	0.0E+00	665,000	3,125,000	0.0E+00	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.







**Table C-20**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Propylene Oxide**

CAS 75-56-9  
 1-Hour ESL 92 µg/m<sup>3</sup>  
 Annual ESL 40 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)						Trains 8 and 9	
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	3.0E-03	648,000	3,098,000	5.0E-05	650,000	3,102,000	0.0E+00	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	3.9E-03	652,000	3,103,000	7.0E-05	652,000	3,103,000	0.0E+00	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	2.1E-03	646,112	3,102,410	4.0E-05	646,112	3,102,410	0.0E+00	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	2.8E-03	646,000	3,099,000	4.0E-05	646,000	3,102,000	0.0E+00	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	3.3E-03	640,000	3,093,000	4.0E-05	640,000	3,093,000	0.0E+00	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	3.1E-03	638,000	3,093,000	4.0E-05	639,000	3,092,000	0.0E+00	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	3.0E-03	639,401	3,091,743	4.0E-05	640,000	3,091,743	0.0E+00	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	1.9E-03	627,000	3,106,000	3.0E-05	632,000	3,114,000	0.0E+00	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	3.9E-03	633,000	3,088,000	3.0E-05	634,000	3,100,000	0.0E+00	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	2.5E-03	646,000	3,121,000	7.0E-05	656,000	3,137,000	0.0E+00	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	2.7E-03	641,000	3,120,000	6.0E-05	644,000	3,126,000	0.0E+00	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	1.7E-03	618,322	3,099,350	2.0E-05	618,322	3,099,450	0.0E+00	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	2.8E-03	696,000	3,114,000	1.0E-05	699,000	3,116,000	0.0E+00	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	3.6E-03	709,000	3,120,000	1.0E-05	713,000	3,130,000	0.0E+00	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	3.5E-03	693,000	3,105,000	1.0E-05	694,000	3,111,000	0.0E+00	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	4.1E-03	690,000	3,102,000	1.0E-05	691,000	3,105,000	0.0E+00	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	4.1E-03	690,322	3,101,635	1.0E-05	691,000	3,102,000	0.0E+00	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	4.1E-03	690,000	3,101,000	1.0E-05	690,000	3,101,000	0.0E+00	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	3.7E-03	691,000	3,101,000	1.0E-05	691,000	3,101,000	0.0E+00	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	5.9E-03	683,000	3,096,000	1.0E-05	684,000	3,096,000	0.0E+00	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	3.8E-03	683,000	3,091,000	1.0E-05	686,000	3,094,000	0.0E+00	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	5.9E-03	683,000	3,096,000	1.0E-05	684,000	3,096,000	0.0E+00	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	3.8E-03	683,000	3,091,000	1.0E-05	686,000	3,094,000	0.0E+00	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	1.9E-03	669,000	3,134,000	2.0E-05	671,000	3,135,000	0.0E+00	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	2.0E-03	669,000	3,132,000	2.0E-05	669,000	3,133,000	0.0E+00	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	2.0E-03	669,000	3,131,000	2.0E-05	670,000	3,132,000	0.0E+00	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	3.9E-03	680,000	3,137,000	3.0E-05	679,000	3,138,000	0.0E+00	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	2.7E-03	664,044	3,124,381	4.0E-05	664,044	3,125,000	0.0E+00	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	2.6E-03	664,564	3,124,440	4.0E-05	665,000	3,125,000	0.0E+00	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.







**Table C-21**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Selenium**

CAS 7782-49-2  
 1-Hour ESL 2 µg/m<sup>3</sup>  
 Annual ESL 0.2 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)						Trains 8 and 9	
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	0.0E+00	650,000	3,102,000	0.0E+00	650,000	3,102,000	0.0E+00	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	0.0E+00	652,000	3,103,000	0.0E+00	652,000	3,103,000	0.0E+00	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	0.0E+00	646,112	3,102,410	0.0E+00	646,112	3,102,410	0.0E+00	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	0.0E+00	646,000	3,102,000	0.0E+00	646,000	3,102,000	0.0E+00	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	0.0E+00	640,000	3,093,000	0.0E+00	640,000	3,093,000	0.0E+00	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	0.0E+00	639,000	3,093,000	0.0E+00	639,000	3,093,000	0.0E+00	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	0.0E+00	640,000	3,091,743	0.0E+00	640,000	3,091,743	0.0E+00	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	0.0E+00	632,000	3,115,000	0.0E+00	632,000	3,115,000	0.0E+00	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	0.0E+00	635,000	3,104,000	0.0E+00	635,000	3,104,000	0.0E+00	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	0.0E+00	656,000	3,137,000	0.0E+00	656,000	3,137,000	0.0E+00	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	0.0E+00	644,000	3,129,000	0.0E+00	644,000	3,129,000	0.0E+00	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	0.0E+00	618,322	3,099,450	0.0E+00	618,322	3,099,450	0.0E+00	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	0.0E+00	699,000	3,116,000	0.0E+00	699,000	3,116,000	0.0E+00	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	0.0E+00	713,000	3,130,000	0.0E+00	713,000	3,130,000	0.0E+00	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	0.0E+00	694,000	3,111,000	0.0E+00	694,000	3,111,000	0.0E+00	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	0.0E+00	691,000	3,105,000	0.0E+00	691,000	3,105,000	0.0E+00	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	0.0E+00	691,000	3,102,000	0.0E+00	691,000	3,102,000	0.0E+00	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	0.0E+00	690,000	3,101,000	0.0E+00	690,000	3,101,000	0.0E+00	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	0.0E+00	691,000	3,101,000	0.0E+00	691,000	3,101,000	0.0E+00	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	0.0E+00	684,000	3,096,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	0.0E+00	686,000	3,094,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	0.0E+00	684,000	3,096,000	0.0E+00	684,000	3,096,000	0.0E+00	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	0.0E+00	686,000	3,094,000	0.0E+00	686,000	3,094,000	0.0E+00	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	0.0E+00	671,000	3,135,000	0.0E+00	671,000	3,135,000	0.0E+00	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	0.0E+00	669,000	3,133,000	0.0E+00	669,000	3,133,000	0.0E+00	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	0.0E+00	670,000	3,132,000	0.0E+00	670,000	3,132,000	0.0E+00	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	0.0E+00	696,000	3,138,000	0.0E+00	696,000	3,138,000	0.0E+00	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	0.0E+00	664,044	3,125,000	0.0E+00	664,044	3,125,000	0.0E+00	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	0.0E+00	665,000	3,125,000	0.0E+00	665,000	3,125,000	0.0E+00	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.



Table C-22  
Maximum Concentrations By EJ Census Block  
Corpus Christi Liquefaction LLC

Toluene

CAS 108-88-3  
1-Hour ESL 4500  $\mu\text{g}/\text{m}^3$   
Annual ESL 1200  $\mu\text{g}/\text{m}^3$

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)					Trains 8 and 9		
							Hourly ( $\mu\text{g}/\text{m}^3$ )	UTM East (m)	UTM North (m)	Annual ( $\mu\text{g}/\text{m}^3$ )	UTM East (m)	UTM North (m)	Hourly ( $\mu\text{g}/\text{m}^3$ )	Annual ( $\mu\text{g}/\text{m}^3$ )
NUE-88	Nueces	Census Tract 22	Block Group 1	483550022001	Yes	Yes	1.8E-01	657,991	3,070,486	9.0E-04	657,991	3,070,486	1.1E-03	0.0E+00
NUE-89	Nueces	Census Tract 22	Block Group 2	483550022002	Yes	Yes	1.9E-01	658,221	3,070,134	8.9E-04	658,221	3,070,134	9.1E-04	0.0E+00
NUE-90	Nueces	Census Tract 22	Block Group 3	483550022003	Yes	Yes	2.1E-01	658,424	3,069,899	8.9E-04	658,424	3,069,899	1.0E-03	0.0E+00
NUE-91	Nueces	Census Tract 22	Block Group 4	483550022004	Yes	Yes	1.8E-01	657,634	3,069,263	8.3E-04	657,634	3,069,313	9.6E-04	0.0E+00
NUE-92	Nueces	Census Tract 22	Block Group 5	483550022005	Yes	Yes	1.9E-01	658,000	3,069,000	8.3E-04	658,000	3,069,000	1.1E-03	0.0E+00
NUE-93	Nueces	Census Tract 23.01	Block Group 1	483550023011	Yes	No	1.6E-01	657,000	3,069,000	8.0E-04	657,000	3,069,000	9.4E-04	0.0E+00
NUE-94	Nueces	Census Tract 23.01	Block Group 2	483550023012	Yes	No	1.8E-01	657,557	3,068,589	8.0E-04	657,557	3,068,589	6.6E-04	0.0E+00
NUE-95	Nueces	Census Tract 23.01	Block Group 3	483550023013	Yes	Yes	1.6E-01	657,631	3,067,837	7.7E-04	658,000	3,068,000	1.2E-03	0.0E+00
NUE-96	Nueces	Census Tract 23.03	Block Group 1	483550023031	Yes	Yes	1.6E-01	656,639	3,067,713	7.4E-04	656,639	3,067,713	7.1E-04	0.0E+00
NUE-97	Nueces	Census Tract 23.03	Block Group 2	483550023032	Yes	Yes	1.6E-01	657,111	3,067,364	7.3E-04	657,571	3,067,364	1.1E-03	0.0E+00
NUE-98	Nueces	Census Tract 23.03	Block Group 3	483550023033	Yes	No	1.5E-01	657,000	3,067,000	7.1E-04	657,000	3,067,000	1.1E-03	0.0E+00
NUE-99	Nueces	Census Tract 23.04	Block Group 1	483550023041	Yes	No	1.4E-01	656,590	3,066,356	6.8E-04	656,590	3,066,356	9.2E-04	0.0E+00
NUE-100	Nueces	Census Tract 23.04	Block Group 2	483550023042	Yes	Yes	1.4E-01	656,936	3,066,500	6.9E-04	656,936	3,066,500	1.2E-03	0.0E+00
NUE-101	Nueces	Census Tract 23.04	Block Group 3	483550023043	Yes	No	1.3E-01	656,766	3,066,059	6.7E-04	657,000	3,066,059	1.2E-03	0.0E+00
NUE-102	Nueces	Census Tract 23.04	Block Group 4	483550023044	Yes	No	1.5E-01	656,000	3,067,000	7.0E-04	656,000	3,067,000	7.3E-04	0.0E+00
NUE-103	Nueces	Census Tract 24	Block Group 1	483550024001	Yes	Yes	1.5E-01	659,000	3,069,000	8.3E-04	659,000	3,069,000	1.8E-03	0.0E+00
NUE-104	Nueces	Census Tract 24	Block Group 2	483550024002	Yes	No	1.5E-01	659,000	3,068,000	8.0E-04	659,000	3,068,000	1.8E-03	0.0E+00
NUE-105	Nueces	Census Tract 24	Block Group 3	483550024003	No	Yes	1.8E-01	659,509	3,067,626	8.3E-04	659,509	3,067,626	1.8E-03	0.0E+00
NUE-106	Nueces	Census Tract 24	Block Group 4	483550024004	Yes	Yes	2.0E-01	660,000	3,067,000	8.5E-04	660,000	3,067,000	1.6E-03	0.0E+00
NUE-107	Nueces	Census Tract 24	Block Group 5	483550024005	Yes	No	1.8E-01	659,000	3,067,000	7.8E-04	659,000	3,067,000	1.8E-03	0.0E+00
NUE-108	Nueces	Census Tract 25	Block Group 1	483550025001	Yes	No	2.0E-01	660,572	3,069,624	9.6E-04	660,572	3,070,000	2.0E-03	0.0E+00
NUE-110	Nueces	Census Tract 25	Block Group 3	483550025003	Yes	No	1.6E-01	659,576	3,068,694	8.6E-04	659,231	3,069,335	1.9E-03	0.0E+00
NUE-111	Nueces	Census Tract 25	Block Group 4	483550025004	Yes	No	1.9E-01	660,199	3,068,571	9.1E-04	660,199	3,068,571	1.9E-03	0.0E+00
NUE-112	Nueces	Census Tract 26.01	Block Group 1	483550026011	No	Yes	2.3E-01	661,173	3,068,818	9.9E-04	661,000	3,069,000	1.8E-03	0.0E+00
NUE-113	Nueces	Census Tract 26.01	Block Group 2	483550026012	Yes	No	2.2E-01	660,903	3,068,338	9.5E-04	660,903	3,068,330	1.8E-03	0.0E+00
NUE-114	Nueces	Census Tract 26.02	Block Group 1	483550026021	Yes	Yes	2.0E-01	660,382	3,067,224	8.7E-04	660,382	3,067,224	1.6E-03	0.0E+00
NUE-115	Nueces	Census Tract 26.02	Block Group 2	483550026022	Yes	Yes	1.7E-01	661,164	3,066,563	8.2E-04	661,164	3,066,563	1.3E-03	0.0E+00
NUE-116	Nueces	Census Tract 26.03	Block Group 1	483550026031	Yes	Yes	2.1E-01	660,340	3,067,667	9.1E-04	660,297	3,068,185	1.8E-03	0.0E+00
NUE-117	Nueces	Census Tract 26.03	Block Group 2	483550026032	Yes	No	2.0E-01	661,000	3,068,000	9.3E-04	661,000	3,068,000	1.7E-03	0.0E+00
NUE-119	Nueces	Census Tract 27.03	Block Group 1	483550027031	Yes	Yes	1.9E-01	661,643	3,066,595	8.1E-04	661,643	3,066,595	9.2E-04	0.0E+00
NUE-120	Nueces	Census Tract 27.03	Block Group 2	483550027032	Yes	Yes	1.6E-01	661,611	3,065,607	7.8E-04	662,242	3,065,270	1.4E-03	0.0E+00
NUE-121	Nueces	Census Tract 27.03	Block Group 3	483550027033	Yes	No	1.5E-01	662,000	3,066,000	8.2E-04	662,359	3,066,201	1.4E-03	0.0E+00
NUE-122	Nueces	Census Tract 27.03	Block Group 4	483550027034	Yes	No	1.3E-01	662,827	3,066,109	8.5E-04	662,827	3,066,109	1.5E-03	0.0E+00
NUE-125	Nueces	Census Tract 27.05	Block Group 2	483550027052	Yes	Yes	1.9E-01	662,631	3,067,980	9.1E-04	662,631	3,067,980	1.4E-03	0.0E+00
NUE-127	Nueces	Census Tract 27.05	Block Group 4	483550027054	Yes	Yes	2.0E-01	661,855	3,067,199	8.6E-04	662,731	3,066,761	1.5E-03	0.0E+00
NUE-128	Nueces	Census Tract 27.06	Block Group 1	483550027061	Yes	No	1.7E-01	665,000	3,066,000	9.7E-04	665,050	3,066,777	1.5E-03	0.0E+00
NUE-129	Nueces	Census Tract 27.07	Block Group 1	483550027071	Yes	Yes	1.7E-01	663,537	3,064,583	8.3E-04	664,126	3,064,583	1.4E-03	0.0E+00
NUE-130	Nueces	Census Tract 27.08	Block Group 1	483550027081	No	Yes	1.9E-01	664,000	3,066,000	9.1E-04	666,000	3,066,000	1.1E-03	0.0E+00
NUE-131	Nueces	Census Tract 27.08	Block Group 2	483550027082	No	Yes	1.9E-01	663,513	3,065,158	8.6E-04	664,000	3,065,158	1.1E-03	0.0E+00
NUE-132	Nueces	Census Tract 27.08	Block Group 3	483550027083	No	Yes	2.0E-01	666,000	3,066,000	9.5E-04	666,000	3,066,000	1.2E-03	0.0E+00
NUE-135	Nueces	Census Tract 30.02	Block Group 2	483550030022	No	Yes	2.3E-01	669,000	3,061,000	8.5E-04	670,000	3,062,000	1.5E-03	0.0E+00
NUE-136	Nueces	Census Tract 30.02	Block Group 3	483550030023	No	Yes	1.7E-01	667,295	3,060,296	7.6E-04	668,000	3,060,000	1.3E-03	0.0E+00
NUE-137	Nueces	Census Tract 30.02	Block Group 4	483550030024	No	Yes	2.1E-01	668,519	3,060,476	8.0E-04	668,519	3,061,000	1.4E-03	0.0E+00
NUE-138	Nueces	Census Tract 30.03	Block Group 1	483550030031	Yes	No	1.6E-01	667,000	3,063,000	8.8E-04	668,000	3,063,000	1.5E-03	0.0E+00
NUE-139	Nueces	Census Tract 30.04	Block Group 1	483550030041	Yes	Yes	2.4E-01	669,000	3,062,000	8.9E-04	669,000	3,062,000	1.5E-03	0.0E+00
NUE-140	Nueces	Census Tract 30.04	Block Group 2	483550030042	Yes	Yes	2.2E-01	670,000	3,062,000	9.3E-04	671,000	3,063,000	1.0E-03	0.0E+00
NUE-141	Nueces	Census Tract 30.04	Block Group 3	483550030043	No	Yes	2.4E-01	669,167	3,062,610	9.2E-04	669,327	3,062,610	1.4E-03	0.0E+00
NUE-150	Nueces	Census Tract 32.02	Block Group 1	483550032021	Yes	Yes	1.7E-01	665,000	3,063,000	8.0E-04	666,000	3,063,000	1.2E-03	0.0E+00
NUE-151	Nueces	Census Tract 32.02	Block Group 2	483550032022	Yes	Yes	1.5E-01	663,379	3,063,412	8.2E-04	664,000	3,064,000	1.2E-03	0.0E+00
NUE-152	Nueces	Census Tract 32.02	Block Group 3	483550032023	Yes	No	1.4E-01	662,420	3,061,815	7.2E-04	663,000	3,062,000	8.5E-04	0.0E+00
NUE-153	Nueces	Census Tract 32.02	Block Group 4	483550032024	Yes	No	1.5E-01	663,000	3,063,000	7.6E-04	663,000	3,063,000	1.1E-03	0.0E+00
NUE-154	Nueces	Census Tract 32.04	Block Group 1	483550032041	Yes	No	1.4E-01	662,000	3,062,000	7.1E-04	662,063	3,062,669	1.2E-03	0.0E+00
NUE-155	Nueces	Census Tract 32.04	Block Group 2	483550032042	Yes	No	1.3E-01	662,188	3,063,464	7.3E-04	662,188	3,063,464	1.3E-03	0.0E+00
NUE-156	Nueces	Census Tract 32.04	Block Group 3	483550032043	Yes	No	1.2E-01	662,000	3,063,000	7.1E-04	662,000	3,063,220	1.3E-03	0.0E+00
NUE-157	Nueces	Census Tract 32.05	Block Group 1	483550032051	Yes	Yes	1.7E-01	663,014	3,064,416	8.0E-04	663,014	3,064,416	1.3E-03	0.0E+00
NUE-158	Nueces	Census Tract 32.06	Block Group 1	483550032061	Yes	Yes	1.7E-01	663,000	3,064,000	7.9E-04	663,000	3,064,000	1.3E-03	0.0E+00
NUE-159	Nueces	Census Tract 32.06	Block Group 2	483550032062	Yes	Yes	1.3E-01	661,634	3,064,640	7.4E-04	662,000	3,064,000	1.3E-03	0.0E+00
NUE-160	Nueces	Census Tract 33.03	Block Group 1	483550033031	Yes	No	1.7E-01	660,000	3,066,000	8.0E-04	660,000	3,066,000	1.5E-03	0.0E+00
NUE-161	Nueces	Census Tract 33.03	Block Group 2	483550033032	Yes	Yes	1.8E-01	659,671	3,066,112	8.1E-04	659,671	3,066,112	1.6E-03	0.0E+00
NUE-162	Nueces	Census Tract 33.04	Block Group 1	483550033041	Yes	No	1.6E-01	659,455	3,065,059	7.5E-04	659,455	3,065,059	1.4E-03	0.0E+00
NUE-163	Nueces	Census Tract 33.04	Block Group 2	483550033042	Yes	No	1.7E-01	659,000	3,065,000	7.5E-04	659,000	3,065,000	1.4E-03	0.0E+00
NUE-164	Nueces	Census Tract 33.04	Block Group 3	483550033043	Yes	No	1.4E-01	659,000	3,064,000	7.1E-04	659,000	3,064,000	1.4E-03	0.0E+00
NUE-165	Nueces	Census Tract 33.05	Block Group 1	483550033051	Yes	Yes	1.6E-01	661,000	3,065,000	7.3E-04	661,000	3,065,000	1.2E-03	0.0E+00
NUE-166	Nueces	Census Tract 33.05	Block Group 2	483550033052	Yes	Yes	1.7E-01	660,984	3,065,526	7.6E-04	660,984	3,065,526	1.0E-03	0.0E+00
NUE-167	Nueces	Census Tract 33.06	Block Group 1	483550033061	Yes	No	1.4E-01	660,000	3,064,000	6.9E-04	661,000	3,064,000	1.2E-03	0.0E+00
NUE-168	Nueces	Census Tract 33.06	Block Group 2	483550033062	Yes	No	1.1E-01	661,104	3,063,221	6.7E-04	661,104	3,063,221	1.0E-03	0.0E+00
NUE-169	Nueces	Census Tract 33.06	Block Group 3	483550033063	Yes	No	1.4E-01	660,179	3,063,386	6.7E-04	659,906	3,063,570	1.1E-03	0.0E+00
NUE-170	Nueces	Census Tract 34.01	Block Group 1	483550034011	Yes	Yes	1.7E-01	658,785	3,066,610	7.6E-04	658,785	3,066,610	1.7E-03	0.0E+00
NUE-171	Nueces	Census Tract 34.01	Block Group 2	483550034012	Yes	Yes	1.5E-01	658,000	3,066,000	7.1E-04	657,814	3,066,699	1.7E-03	0.0E+00
NUE-172	Nueces	Census Tract 34												

**Table C-22**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Toluene**

CAS 108-88-3  
 1-Hour ESL 4500 µg/m<sup>3</sup>  
 Annual ESL 1200 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)					Trains 8 and 9		
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
NUE-190	Nueces	Census Tract 37	Block Group 1	483550037001	Yes	No	1.9E-01	636,000	3,081,000	4.1E-04	637,000	3,082,000	9.7E-04	0.0E+00
NUE-191	Nueces	Census Tract 37	Block Group 2	483550037002	Yes	No	1.3E-01	636,000	3,083,000	5.3E-04	636,000	3,086,000	7.9E-04	0.0E+00
NUE-192	Nueces	Census Tract 37	Block Group 3	483550037003	No	Yes	1.5E-01	635,000	3,083,000	5.1E-04	635,000	3,086,000	7.5E-04	0.0E+00
NUE-194	Nueces	Census Tract 51.04	Block Group 1	483550054041	No	Yes	3.3E-01	690,000	3,080,000	6.1E-04	690,000	3,080,000	1.7E-03	0.0E+00
NUE-195	Nueces	Census Tract 54.04	Block Group 1	483550054041	Yes	No	1.4E-01	662,000	3,061,000	6.9E-04	663,000	3,061,000	9.5E-04	0.0E+00
NUE-196	Nueces	Census Tract 54.04	Block Group 2	483550054042	Yes	No	1.2E-01	661,704	3,061,456	6.7E-04	661,704	3,061,811	1.2E-03	0.0E+00
NUE-197	Nueces	Census Tract 54.06	Block Group 1	483550054061	Yes	No	5.2E-01	646,000	3,068,000	6.5E-04	653,000	3,068,000	1.4E-03	0.0E+00
NUE-198	Nueces	Census Tract 54.06	Block Group 2	483550054062	Yes	No	1.6E-01	668,000	3,053,000	6.2E-04	660,000	3,066,000	1.3E-03	0.0E+00
NUE-199	Nueces	Census Tract 54.06	Block Group 3	483550054063	Yes	No	1.4E-01	656,000	3,061,000	5.6E-04	657,000	3,061,000	1.3E-03	0.0E+00
NUE-200	Nueces	Census Tract 54.07	Block Group 1	483550054071	Yes	No	1.3E-01	656,803	3,064,299	6.2E-04	656,803	3,064,299	1.5E-03	0.0E+00
NUE-201	Nueces	Census Tract 54.07	Block Group 2	483550054072	Yes	No	1.2E-01	656,179	3,063,561	5.9E-04	656,179	3,063,561	1.4E-03	0.0E+00
NUE-202	Nueces	Census Tract 54.08	Block Group 1	483550054081	Yes	Yes	1.6E-01	657,636	3,064,077	6.7E-04	657,636	3,064,077	1.6E-03	0.0E+00
NUE-203	Nueces	Census Tract 54.08	Block Group 2	483550054082	Yes	No	1.5E-01	657,000	3,063,000	6.3E-04	657,000	3,063,000	1.5E-03	0.0E+00
NUE-204	Nueces	Census Tract 54.08	Block Group 3	483550054083	Yes	No	1.6E-01	657,178	3,063,569	6.5E-04	657,337	3,063,487	1.5E-03	0.0E+00
NUE-205	Nueces	Census Tract 54.09	Block Group 1	483550054091	Yes	No	1.4E-01	656,000	3,062,000	5.7E-04	656,000	3,062,412	1.4E-03	0.0E+00
NUE-206	Nueces	Census Tract 54.09	Block Group 2	483550054092	Yes	No	1.5E-01	656,638	3,062,631	6.1E-04	656,692	3,062,466	1.5E-03	0.0E+00
NUE-207	Nueces	Census Tract 54.10	Block Group 1	483550054101	Yes	Yes	1.3E-01	658,411	3,062,806	6.6E-04	658,411	3,062,806	1.3E-03	0.0E+00
NUE-208	Nueces	Census Tract 54.10	Block Group 2	483550054102	Yes	No	1.4E-01	658,000	3,063,000	6.6E-04	658,000	3,063,000	1.4E-03	0.0E+00
NUE-209	Nueces	Census Tract 54.11	Block Group 1	483550054111	Yes	No	1.4E-01	658,736	3,063,505	6.9E-04	658,736	3,063,505	1.3E-03	0.0E+00
NUE-210	Nueces	Census Tract 54.11	Block Group 2	483550054112	Yes	No	1.5E-01	658,000	3,064,000	6.9E-04	658,308	3,064,000	1.5E-03	0.0E+00
NUE-211	Nueces	Census Tract 54.11	Block Group 3	483550054113	Yes	No	1.5E-01	658,282	3,063,460	6.8E-04	658,282	3,063,481	1.4E-03	0.0E+00
NUE-212	Nueces	Census Tract 54.12	Block Group 1	483550054121	Yes	No	1.4E-01	657,218	3,062,424	6.3E-04	657,218	3,062,424	1.3E-03	0.0E+00
NUE-213	Nueces	Census Tract 54.12	Block Group 2	483550054122	Yes	No	1.2E-01	657,000	3,061,000	5.9E-04	658,000	3,061,000	1.2E-03	0.0E+00
NUE-214	Nueces	Census Tract 54.12	Block Group 3	483550054123	Yes	No	1.3E-01	657,449	3,061,928	6.3E-04	658,000	3,062,000	1.2E-03	0.0E+00
NUE-215	Nueces	Census Tract 54.13	Block Group 1	483550054131	Yes	No	1.4E-01	660,000	3,063,000	6.4E-04	660,000	3,063,000	1.2E-03	0.0E+00
NUE-216	Nueces	Census Tract 54.13	Block Group 2	483550054132	Yes	No	1.3E-01	659,581	3,063,038	6.7E-04	659,384	3,063,330	1.3E-03	0.0E+00
NUE-217	Nueces	Census Tract 54.14	Block Group 1	483550054141	Yes	No	1.0E-01	661,000	3,060,000	6.3E-04	661,000	3,061,000	1.1E-03	0.0E+00
NUE-218	Nueces	Census Tract 54.14	Block Group 2	483550054142	Yes	No	1.1E-01	660,843	3,062,399	6.5E-04	660,843	3,062,399	1.1E-03	0.0E+00
NUE-219	Nueces	Census Tract 54.15	Block Group 1	483550054151	Yes	No	1.2E-01	660,000	3,062,000	6.1E-04	660,000	3,062,000	1.1E-03	0.0E+00
NUE-220	Nueces	Census Tract 54.15	Block Group 2	483550054152	Yes	No	1.2E-01	659,132	3,061,256	6.0E-04	658,778	3,061,520	1.1E-03	0.0E+00
NUE-222	Nueces	Census Tract 54.16	Block Group 2	483550054162	Yes	No	1.1E-01	659,257	3,060,715	5.7E-04	659,257	3,060,715	7.6E-04	0.0E+00
NUE-223	Nueces	Census Tract 54.17	Block Group 1	483550054171	Yes	No	9.1E-02	659,461	3,059,454	5.5E-04	659,607	3,059,735	7.7E-04	0.0E+00
NUE-224	Nueces	Census Tract 54.17	Block Group 2	483550054172	Yes	No	1.1E-01	661,000	3,059,000	6.2E-04	662,000	3,059,000	9.6E-04	0.0E+00
NUE-225	Nueces	Census Tract 56.03	Block Group 1	483550056031	Yes	Yes	1.3E-01	631,000	3,078,000	3.2E-04	631,000	3,079,000	6.3E-04	0.0E+00
NUE-226	Nueces	Census Tract 56.03	Block Group 2	483550056032	Yes	Yes	9.6E-02	631,045	3,075,543	2.9E-04	631,045	3,075,543	9.0E-04	0.0E+00
NUE-227	Nueces	Census Tract 56.04	Block Group 1	483550056041	Yes	No	1.3E-01	632,000	3,078,000	3.4E-04	634,000	3,078,000	7.7E-04	0.0E+00
NUE-228	Nueces	Census Tract 56.04	Block Group 2	483550056042	Yes	Yes	9.6E-02	631,368	3,075,500	2.9E-04	631,368	3,075,500	9.3E-04	0.0E+00
NUE-229	Nueces	Census Tract 56.04	Block Group 3	483550056043	Yes	Yes	9.2E-02	631,706	3,075,418	3.0E-04	631,706	3,075,418	9.5E-04	0.0E+00
NUE-230	Nueces	Census Tract 56.05	Block Group 1	483550056051	Yes	Yes	2.1E-01	631,000	3,073,000	3.0E-04	631,000	3,073,000	8.9E-04	0.0E+00
NUE-231	Nueces	Census Tract 56.05	Block Group 2	483550056052	Yes	No	8.9E-02	630,000	3,075,000	2.8E-04	630,198	3,075,000	9.0E-04	0.0E+00
NUE-232	Nueces	Census Tract 56.05	Block Group 3	483550056053	Yes	Yes	9.0E-02	629,735	3,075,478	2.8E-04	630,000	3,076,000	6.4E-04	0.0E+00
NUE-233	Nueces	Census Tract 56.05	Block Group 4	483550056054	Yes	Yes	8.2E-02	630,593	3,074,402	2.8E-04	631,000	3,074,402	9.1E-04	0.0E+00
NUE-234	Nueces	Census Tract 56.06	Block Group 1	483550056061	Yes	Yes	4.4E-01	634,000	3,073,000	3.6E-04	634,000	3,074,000	1.0E-03	0.0E+00
NUE-237	Nueces	Census Tract 58.03	Block Group 2	483550058032	Yes	Yes	1.4E-01	622,000	3,079,000	3.3E-04	621,000	3,086,000	6.0E-04	0.0E+00
NUE-238	Nueces	Census Tract 58.03	Block Group 3	483550058033	Yes	No	2.9E-01	629,000	3,088,000	4.7E-04	629,000	3,088,000	7.4E-04	0.0E+00
NUE-239	Nueces	Census Tract 58.03	Block Group 4	483550058034	Yes	No	1.3E-01	620,000	3,079,000	2.3E-04	620,181	3,079,975	5.3E-04	0.0E+00
NUE-240	Nueces	Census Tract 58.04	Block Group 1	483550058041	Yes	No	5.3E-01	640,000	3,075,000	4.6E-04	640,000	3,080,000	1.2E-03	0.0E+00
NUE-241	Nueces	Census Tract 58.04	Block Group 2	483550058042	Yes	No	1.8E-01	634,000	3,081,000	3.6E-04	634,000	3,082,000	9.3E-04	0.0E+00
NUE-242	Nueces	Census Tract 59	Block Group 1	483550059001	Yes	Yes	3.3E-01	623,000	3,069,000	2.6E-04	623,000	3,070,000	7.0E-04	0.0E+00
NUE-243	Nueces	Census Tract 59	Block Group 2	483550059002	Yes	Yes	3.9E-01	629,000	3,071,000	3.1E-04	630,000	3,072,000	8.7E-04	0.0E+00
NUE-244	Nueces	Census Tract 59	Block Group 3	483550059003	Yes	Yes	3.4E-01	624,000	3,069,000	2.7E-04	625,000	3,069,000	5.6E-04	0.0E+00
NUE-245	Nueces	Census Tract 60	Block Group 1	483550060001	Yes	Yes	6.8E-02	626,000	3,062,000	2.0E-04	627,000	3,061,000	4.8E-04	0.0E+00
NUE-246	Nueces	Census Tract 60	Block Group 2	483550060002	Yes	No	4.4E-01	635,000	3,073,000	4.3E-04	642,000	3,073,000	1.0E-03	0.0E+00
NUE-247	Nueces	Census Tract 60	Block Group 3	483550060003	Yes	No	3.4E-01	636,000	3,060,000	3.8E-04	642,000	3,060,000	8.6E-04	0.0E+00
NUE-252	Nueces	Census Tract 62.02	Block Group 2	483550062022	Yes	No	1.7E-01	674,434	3,053,459	5.4E-04	674,402	3,053,864	4.9E-04	0.0E+00
NUE-254	Nueces	Census Tract 62.02	Block Group 2	483550062022	Yes	No	1.7E-01	674,434	3,053,459	5.4E-04	674,402	3,053,864	4.9E-04	0.0E+00
NUE-261	Nueces	Census Tract 62.04	Block Group 2	483550062043	Yes	No	2.2E-01	673,000	3,056,000	6.2E-04	674,000	3,057,000	9.1E-04	0.0E+00
NUE-263	Nueces	Census Tract 63	Block Group 2	483550063002	Yes	Yes	2.2E-01	641,000	3,082,000	5.0E-04	641,000	3,082,000	1.1E-03	0.0E+00
NUE-264	Nueces	Census Tract 64	Block Group 1	483550064001	Yes	No	8.2E-01	656,379	3,076,003	1.1E-03	656,434	3,076,114	2.3E-03	0.0E+00
NUE-265	Nueces	Census Tract 64	Block Group 2	483550064002	Yes	Yes	9.1E-01	657,000	3,076,000	1.2E-03	657,000	3,076,000	2.2E-03	0.0E+00
NUE-266	Nueces	Census Tract 64	Block Group 3	483550064003	Yes	No	7.2E-01	657,614	3,075,856	1.3E-03	657,614	3,075,856	2.3E-03	0.0E+00
<b>San Patricio County</b>														
SAN-1	San Patricio	Census Tract 102.01	Block Group 1	484090102011	No	Yes	6.0E-01	680,000	3,087,000	1.8E-03	680,000	3,086,000	3.6E-03	0.0E+00
SAN-3	San Patricio	Census Tract 102.01	Block Group 3	484090102013	Yes	Yes	4.6E-01	681,838	3,087,420	1.3E-03	681,838	3,087,420	3.0E-03	0.0E+00
SAN-4	San Patricio	Census Tract 102.02	Block Group 1	484090102021	Yes	Yes	3.4E-01	682,000	3,089,000	1.1E-03	682,000	3,090,000	3.2E-03	0.0E+00
SAN-5	San Patricio	Census Tract 102.02	Block Group 2	484090102022	Yes	No	4.8E-01	681,000	3,088,000	1.3E-03	681,000	3,088,000	3.0E-03	0.0E+00
SAN-6	San Patricio	Census Tract 102.02	Block Group 3	484090102023	Yes	No	6.5E-01	679,000	3,087,000	2.0E-03	679,000	3,087,000	3.6E-03	0.0E+00
SAN-7	San Patricio	Census Tract 102.02	Block Group 4	484090102024	Yes	Yes	5.7E-01	680,000	3,090,000	1.4E-03	680,000	3,090,000	3.2E-03	0.0E+00
SAN-10	San Patricio	Census Tract 103.01	Block Group 2	484090103013	Yes	No	2.5E+00	674,000	3,086,500	7.5E-03	674,000	3,086,500	6.1E-03	0.0E+00
SAN-12	San Patricio	Census Tract 103.02	Block Group 2	484090103022	Yes	Yes								

**Table C-22**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Toluene**

CAS 108-88-3  
 1-Hour ESL 4500 µg/m<sup>3</sup>  
 Annual ESL 1200 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)					Trains 8 and 9		
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	2.4E-01	648,000	3,098,000	1.1E-03	650,000	3,100,000	1.8E-03	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	2.4E-01	651,000	3,102,000	1.5E-03	652,000	3,103,000	1.9E-03	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	1.4E-01	646,112	3,102,410	8.7E-04	646,112	3,102,410	1.5E-03	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	2.0E-01	646,000	3,099,000	8.9E-04	646,000	3,100,000	1.4E-03	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	1.9E-01	639,000	3,093,000	7.6E-04	640,000	3,093,000	9.9E-04	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	2.1E-01	638,000	3,092,000	7.3E-04	639,000	3,093,000	8.4E-04	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	2.0E-01	639,401	3,091,743	7.4E-04	640,000	3,091,743	6.9E-04	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	1.4E-01	627,000	3,110,000	4.7E-04	632,000	3,114,000	9.2E-04	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	3.3E-01	633,000	3,088,000	5.4E-04	633,000	3,089,000	8.5E-04	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	3.5E-01	646,000	3,121,000	9.9E-04	649,000	3,126,000	8.5E-04	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	3.2E-01	644,000	3,123,000	8.6E-04	644,000	3,120,000	1.1E-03	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	1.0E-01	610,712	3,098,034	3.5E-04	618,322	3,099,450	4.4E-04	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	4.6E-01	696,000	3,114,000	3.5E-04	696,000	3,114,000	6.0E-04	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	4.6E-01	697,000	3,115,000	5.4E-04	695,000	3,088,000	1.7E-03	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	5.0E-01	694,000	3,111,000	3.9E-04	693,000	3,109,000	9.6E-04	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	5.1E-01	689,000	3,105,000	5.1E-04	690,000	3,105,000	1.3E-03	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	2.1E-01	690,322	3,101,635	3.9E-04	690,322	3,101,635	1.2E-03	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	2.0E-01	690,000	3,101,000	4.3E-04	690,000	3,099,000	1.1E-03	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	1.3E-01	691,000	3,101,000	3.8E-04	690,554	3,100,161	1.1E-03	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	4.4E-01	681,000	3,092,000	1.1E-03	681,000	3,092,000	2.9E-03	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	4.0E-01	683,000	3,091,000	9.6E-04	683,000	3,091,000	2.2E-03	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	4.4E-01	681,000	3,092,000	1.1E-03	681,000	3,092,000	2.9E-03	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	4.0E-01	683,000	3,091,000	9.6E-04	683,000	3,091,000	2.2E-03	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	8.2E-02	669,000	3,134,000	3.7E-04	669,000	3,134,000	4.1E-04	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	8.5E-02	668,000	3,133,000	4.1E-04	668,000	3,133,000	5.0E-04	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	7.6E-02	669,000	3,131,000	4.0E-04	669,000	3,131,000	4.4E-04	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	3.8E-01	687,000	3,118,000	5.3E-04	674,000	3,131,000	1.3E-03	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	9.4E-02	664,044	3,124,381	6.9E-04	664,044	3,124,381	4.6E-04	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	7.4E-02	664,564	3,124,440	6.6E-04	664,564	3,124,440	4.6E-04	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.

Table C-23

Maximum Concentrations By EJ Census Block
Corpus Christi Liquefaction LLC

Xylenes

CAS 1330-20-7
1-Hour ESL 2200 µg/m³
Annual ESL 180 µg/m³

Table with columns: BGID [1], County, Census Tract, Block Group, Census Geocode, Minority EJ, Income EJ, and Maximum Impact [2] (All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3), Trains 8 and 9). Rows list census blocks NUE-1 to NUE-84 with various impact metrics.

**Table C-23**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Xylenes**

CAS 1330-20-7  
 1-Hour ESL 2200 µg/m<sup>3</sup>  
 Annual ESL 180 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)						Trains 8 and 9	
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
NUE-88	Nueces	Census Tract 22	Block Group 1	483550022001	Yes	Yes	6.2E-02	657,991	3,070,486	3.1E-04	657,991	3,070,486	7.2E-04	0.0E+00
NUE-89	Nueces	Census Tract 22	Block Group 2	483550022002	Yes	Yes	6.3E-02	658,221	3,070,134	3.1E-04	658,221	3,070,134	6.2E-04	0.0E+00
NUE-90	Nueces	Census Tract 22	Block Group 3	483550022003	Yes	Yes	6.8E-02	658,424	3,069,899	3.1E-04	658,424	3,069,899	6.9E-04	0.0E+00
NUE-91	Nueces	Census Tract 22	Block Group 4	483550022004	Yes	Yes	5.9E-02	657,634	3,069,263	2.9E-04	657,634	3,069,401	6.5E-04	0.0E+00
NUE-92	Nueces	Census Tract 22	Block Group 5	483550022005	Yes	Yes	6.3E-02	658,000	3,069,000	2.9E-04	658,000	3,069,000	7.9E-04	0.0E+00
NUE-93	Nueces	Census Tract 23.01	Block Group 1	483550023011	Yes	No	5.4E-02	657,000	3,069,000	2.8E-04	657,000	3,069,000	6.4E-04	0.0E+00
NUE-94	Nueces	Census Tract 23.01	Block Group 2	483550023012	Yes	No	6.1E-02	657,557	3,068,589	2.8E-04	657,557	3,068,589	4.5E-04	0.0E+00
NUE-95	Nueces	Census Tract 23.01	Block Group 3	483550023013	Yes	Yes	5.4E-02	657,631	3,067,837	2.7E-04	658,000	3,068,000	8.2E-04	0.0E+00
NUE-96	Nueces	Census Tract 23.03	Block Group 1	483550023031	Yes	Yes	5.4E-02	656,639	3,067,713	2.6E-04	656,639	3,067,713	4.9E-04	0.0E+00
NUE-97	Nueces	Census Tract 23.03	Block Group 2	483550023032	Yes	Yes	5.2E-02	657,111	3,067,364	2.6E-04	657,111	3,067,364	7.9E-04	0.0E+00
NUE-98	Nueces	Census Tract 23.03	Block Group 3	483550023033	Yes	No	5.1E-02	657,000	3,067,000	2.5E-04	657,000	3,067,000	7.6E-04	0.0E+00
NUE-99	Nueces	Census Tract 23.04	Block Group 1	483550023041	Yes	No	4.8E-02	656,590	3,066,356	2.4E-04	656,590	3,066,356	6.3E-04	0.0E+00
NUE-100	Nueces	Census Tract 23.04	Block Group 2	483550023042	Yes	Yes	4.7E-02	656,936	3,066,500	2.4E-04	657,093	3,066,500	8.3E-04	0.0E+00
NUE-101	Nueces	Census Tract 23.04	Block Group 3	483550023043	Yes	No	4.4E-02	656,766	3,066,059	2.3E-04	657,000	3,066,059	8.2E-04	0.0E+00
NUE-102	Nueces	Census Tract 23.04	Block Group 4	483550023044	Yes	No	4.9E-02	656,000	3,067,000	2.5E-04	656,000	3,067,000	5.0E-04	0.0E+00
NUE-103	Nueces	Census Tract 24	Block Group 1	483550024001	Yes	Yes	5.0E-02	659,000	3,069,000	2.9E-04	659,000	3,069,000	1.2E-03	0.0E+00
NUE-104	Nueces	Census Tract 24	Block Group 2	483550024002	Yes	No	5.3E-02	659,000	3,068,000	2.8E-04	659,000	3,068,000	1.3E-03	0.0E+00
NUE-105	Nueces	Census Tract 24	Block Group 3	483550024003	No	Yes	6.5E-02	659,509	3,067,626	2.9E-04	659,509	3,067,626	1.3E-03	0.0E+00
NUE-106	Nueces	Census Tract 24	Block Group 4	483550024004	Yes	Yes	6.5E-02	660,000	3,067,000	2.9E-04	660,000	3,067,000	1.1E-03	0.0E+00
NUE-107	Nueces	Census Tract 24	Block Group 5	483550024005	Yes	No	6.2E-02	659,000	3,067,000	2.7E-04	659,000	3,067,000	1.2E-03	0.0E+00
NUE-108	Nueces	Census Tract 25	Block Group 1	483550025001	Yes	No	7.0E-02	660,572	3,069,624	3.3E-04	660,572	3,069,624	1.4E-03	0.0E+00
NUE-110	Nueces	Census Tract 25	Block Group 3	483550025003	Yes	No	5.9E-02	659,576	3,068,694	3.0E-04	659,231	3,069,335	1.3E-03	0.0E+00
NUE-111	Nueces	Census Tract 25	Block Group 4	483550025004	Yes	No	6.8E-02	660,199	3,068,571	3.1E-04	660,199	3,068,571	1.3E-03	0.0E+00
NUE-112	Nueces	Census Tract 26.01	Block Group 1	483550026011	No	Yes	7.8E-02	661,173	3,068,818	3.4E-04	661,173	3,069,000	1.3E-03	0.0E+00
NUE-113	Nueces	Census Tract 26.01	Block Group 2	483550026012	Yes	No	7.4E-02	660,903	3,068,338	3.3E-04	660,903	3,068,338	1.2E-03	0.0E+00
NUE-114	Nueces	Census Tract 26.02	Block Group 1	483550026021	Yes	Yes	6.7E-02	660,382	3,067,224	3.0E-04	661,000	3,067,224	1.1E-03	0.0E+00
NUE-115	Nueces	Census Tract 26.02	Block Group 2	483550026022	Yes	Yes	5.9E-02	661,164	3,066,563	2.8E-04	661,164	3,066,563	8.9E-04	0.0E+00
NUE-116	Nueces	Census Tract 26.03	Block Group 1	483550026031	Yes	Yes	6.9E-02	660,340	3,067,667	3.1E-04	660,340	3,068,185	1.2E-03	0.0E+00
NUE-117	Nueces	Census Tract 26.03	Block Group 2	483550026032	Yes	No	6.9E-02	661,000	3,068,000	3.2E-04	661,000	3,068,000	1.2E-03	0.0E+00
NUE-119	Nueces	Census Tract 27.03	Block Group 1	483550027031	Yes	Yes	6.4E-02	661,643	3,066,595	2.8E-04	661,689	3,066,595	6.3E-04	0.0E+00
NUE-120	Nueces	Census Tract 27.03	Block Group 2	483550027032	Yes	Yes	5.4E-02	661,611	3,065,607	2.7E-04	662,242	3,065,607	9.4E-04	0.0E+00
NUE-121	Nueces	Census Tract 27.03	Block Group 3	483550027033	Yes	No	5.0E-02	662,000	3,066,000	2.9E-04	662,359	3,066,201	9.3E-04	0.0E+00
NUE-122	Nueces	Census Tract 27.03	Block Group 4	483550027034	Yes	No	4.4E-02	662,827	3,066,109	3.0E-04	662,827	3,066,109	1.0E-03	0.0E+00
NUE-125	Nueces	Census Tract 27.05	Block Group 2	483550027052	Yes	Yes	6.6E-02	662,631	3,067,980	3.2E-04	662,631	3,067,980	9.8E-04	0.0E+00
NUE-127	Nueces	Census Tract 27.05	Block Group 4	483550027054	Yes	Yes	6.7E-02	661,855	3,067,199	3.0E-04	662,731	3,067,199	1.0E-03	0.0E+00
NUE-128	Nueces	Census Tract 27.06	Block Group 1	483550027061	Yes	No	5.8E-02	665,000	3,066,000	3.4E-04	665,050	3,066,777	1.0E-03	0.0E+00
NUE-129	Nueces	Census Tract 27.07	Block Group 1	483550027071	Yes	Yes	6.0E-02	663,537	3,064,583	2.9E-04	664,126	3,065,000	9.3E-04	0.0E+00
NUE-130	Nueces	Census Tract 27.08	Block Group 1	483550027081	No	Yes	6.6E-02	664,000	3,066,000	3.2E-04	664,000	3,066,000	7.8E-04	0.0E+00
NUE-131	Nueces	Census Tract 27.08	Block Group 2	483550027082	No	Yes	6.4E-02	663,513	3,065,158	3.0E-04	664,000	3,065,158	7.7E-04	0.0E+00
NUE-132	Nueces	Census Tract 27.08	Block Group 3	483550027083	No	Yes	6.7E-02	666,000	3,066,000	3.3E-04	666,000	3,066,000	8.5E-04	0.0E+00
NUE-135	Nueces	Census Tract 30.02	Block Group 2	483550030023	No	Yes	7.8E-02	669,000	3,061,000	3.0E-04	670,000	3,062,000	1.0E-03	0.0E+00
NUE-136	Nueces	Census Tract 30.02	Block Group 3	483550030023	No	Yes	5.9E-02	667,295	3,060,296	2.7E-04	668,000	3,060,097	9.2E-04	0.0E+00
NUE-137	Nueces	Census Tract 30.02	Block Group 4	483550030024	No	Yes	7.2E-02	668,519	3,060,476	2.8E-04	668,519	3,061,000	9.7E-04	0.0E+00
NUE-138	Nueces	Census Tract 30.03	Block Group 1	483550030031	Yes	No	5.7E-02	667,000	3,063,000	3.1E-04	668,000	3,064,000	1.1E-03	0.0E+00
NUE-139	Nueces	Census Tract 30.04	Block Group 1	483550030041	Yes	Yes	8.1E-02	669,000	3,062,000	3.1E-04	669,000	3,062,500	1.0E-03	0.0E+00
NUE-140	Nueces	Census Tract 30.04	Block Group 2	483550030042	Yes	Yes	7.7E-02	670,000	3,062,000	3.2E-04	671,000	3,063,000	7.1E-04	0.0E+00
NUE-141	Nueces	Census Tract 30.04	Block Group 3	483550030043	No	Yes	8.2E-02	669,167	3,062,610	3.2E-04	669,327	3,062,708	9.7E-04	0.0E+00
NUE-150	Nueces	Census Tract 32.02	Block Group 1	483550032021	Yes	Yes	5.8E-02	665,000	3,063,000	2.8E-04	666,000	3,063,000	8.2E-04	0.0E+00
NUE-151	Nueces	Census Tract 32.02	Block Group 2	483550032022	Yes	Yes	5.1E-02	663,379	3,063,412	2.9E-04	664,000	3,064,000	8.2E-04	0.0E+00
NUE-152	Nueces	Census Tract 32.02	Block Group 3	483550032023	Yes	No	5.0E-02	662,420	3,061,815	2.5E-04	663,000	3,062,000	5.8E-04	0.0E+00
NUE-153	Nueces	Census Tract 32.02	Block Group 4	483550032024	Yes	No	5.3E-02	663,000	3,063,000	2.7E-04	663,000	3,063,000	7.8E-04	0.0E+00
NUE-154	Nueces	Census Tract 32.04	Block Group 1	483550032041	Yes	No	4.7E-02	662,000	3,062,000	2.5E-04	662,063	3,062,669	8.4E-04	0.0E+00
NUE-155	Nueces	Census Tract 32.04	Block Group 2	483550032042	Yes	No	4.5E-02	662,188	3,063,464	2.6E-04	662,188	3,063,464	8.9E-04	0.0E+00
NUE-156	Nueces	Census Tract 32.04	Block Group 3	483550032043	Yes	No	4.2E-02	662,000	3,063,000	2.5E-04	662,000	3,063,377	8.7E-04	0.0E+00
NUE-157	Nueces	Census Tract 32.05	Block Group 1	483550032051	Yes	Yes	5.9E-02	663,014	3,064,416	2.8E-04	663,014	3,064,416	8.8E-04	0.0E+00
NUE-158	Nueces	Census Tract 32.06	Block Group 1	483550032061	Yes	Yes	5.8E-02	663,000	3,064,000	2.8E-04	663,000	3,064,000	8.7E-04	0.0E+00
NUE-159	Nueces	Census Tract 32.06	Block Group 2	483550032062	Yes	Yes	4.2E-02	661,634	3,064,640	2.6E-04	662,000	3,064,640	9.1E-04	0.0E+00
NUE-160	Nueces	Census Tract 33.03	Block Group 1	483550033031	Yes	No	5.7E-02	660,000	3,066,000	2.8E-04	660,000	3,066,000	1.1E-03	0.0E+00
NUE-161	Nueces	Census Tract 33.03	Block Group 2	483550033032	Yes	Yes	6.1E-02	659,671	3,066,112	2.8E-04	659,671	3,066,112	1.1E-03	0.0E+00
NUE-162	Nueces	Census Tract 33.04	Block Group 1	483550033041	Yes	No	5.4E-02	659,455	3,065,059	2.6E-04	659,551	3,065,059	9.9E-04	0.0E+00
NUE-163	Nueces	Census Tract 33.04	Block Group 2	483550033042	Yes	No	5.6E-02	659,000	3,065,000	2.6E-04	659,000	3,065,000	9.8E-04	0.0E+00
NUE-164	Nueces	Census Tract 33.04	Block Group 3	483550033043	Yes	No	4.8E-02	659,000	3,064,000	2.5E-04	659,146	3,064,000	9.5E-04	0.0E+00
NUE-165	Nueces	Census Tract 33.05	Block Group 1	483550033051	Yes	Yes	5.6E-02	661,000	3,065,000	2.6E-04	661,000	3,065,000	8.3E-04	0.0E+00
NUE-166	Nueces	Census Tract 33.05	Block Group 2	483550033052	Yes	Yes	5.8E-02	660,984	3,065,526	2.6E-04	660,984	3,065,526	7.2E-04	0.0E+00
NUE-167	Nueces	Census Tract 33.06	Block Group 1	483550033061	Yes	No	4.8E-02	660,000	3,064,000	2.4E-04	661,000	3,064,000	8.1E-04	0.0E+00
NUE-168	Nueces	Census Tract 33.06	Block Group 2	483550033062	Yes	No	3.9E-02	661,104	3,063,221	2.4E-04	661,104	3,063,221	7.0E-04	0.0E+00
NUE-169	Nueces	Census Tract 33.06	Block Group 3	483550033063	Yes	No	4.9E-02	660,179	3,063,386	2.4E-04	659,906	3,063,570	7.5E-04	0.0E+00
NUE-170	Nueces	Census Tract 34.01	Block Group 1	483550034011	Yes	Yes	6.2E-02	658,785	3,066,610	2.7E-04	658,785	3,066,610	1.2E-03	0.0E+00
NUE-171	Nueces	Census Tract 34.01	Block Group 2	483550034012	Yes	Yes	5.4E-02	658,000	3,066,000					

Table C-23

Maximum Concentrations By EJ Census Block  
Corpus Christi Liquefaction LLC

Xylenes

CAS 1330-20-7  
1-Hour ESL 2200 µg/m<sup>3</sup>  
Annual ESL 180 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)						Trains 8 and 9	
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
NUE-190	Nueces	Census Tract 37	Block Group 1	483550037001	Yes	No	6.2E-02	636,000	3,081,000	1.4E-04	637,000	3,082,000	6.7E-04	0.0E+00
NUE-191	Nueces	Census Tract 37	Block Group 2	483550037002	Yes	No	4.3E-02	636,000	3,083,000	1.9E-04	636,000	3,086,000	5.4E-04	0.0E+00
NUE-192	Nueces	Census Tract 37	Block Group 3	483550037003	No	Yes	5.0E-02	635,000	3,083,000	1.8E-04	635,000	3,086,000	5.1E-04	0.0E+00
NUE-194	Nueces	Census Tract 51.04	Block Group 1	483550054041	No	Yes	1.1E-01	690,000	3,080,000	2.0E-04	690,000	3,080,000	1.2E-03	0.0E+00
NUE-195	Nueces	Census Tract 54.04	Block Group 1	483550054044	Yes	No	4.7E-02	662,000	3,061,000	2.4E-04	663,000	3,061,000	6.5E-04	0.0E+00
NUE-196	Nueces	Census Tract 54.04	Block Group 2	483550054042	Yes	No	4.3E-02	661,704	3,061,456	2.4E-04	661,675	3,061,811	8.0E-04	0.0E+00
NUE-197	Nueces	Census Tract 54.06	Block Group 1	483550054061	Yes	No	1.6E-01	646,000	3,068,000	2.3E-04	652,000	3,067,000	9.8E-04	0.0E+00
NUE-198	Nueces	Census Tract 54.06	Block Group 2	483550054062	Yes	No	5.6E-02	668,000	3,055,000	2.2E-04	656,000	3,066,000	8.9E-04	0.0E+00
NUE-199	Nueces	Census Tract 54.06	Block Group 3	483550054063	Yes	No	5.0E-02	656,000	3,061,000	2.0E-04	657,000	3,061,000	8.9E-04	0.0E+00
NUE-200	Nueces	Census Tract 54.07	Block Group 1	483550054071	Yes	No	4.7E-02	656,803	3,064,299	2.2E-04	656,803	3,064,299	1.0E-03	0.0E+00
NUE-201	Nueces	Census Tract 54.07	Block Group 2	483550054072	Yes	No	4.2E-02	656,179	3,063,561	2.1E-04	656,179	3,063,561	9.3E-04	0.0E+00
NUE-202	Nueces	Census Tract 54.08	Block Group 1	483550054081	Yes	Yes	5.7E-02	657,636	3,064,077	2.3E-04	657,636	3,064,077	1.1E-03	0.0E+00
NUE-203	Nueces	Census Tract 54.08	Block Group 2	483550054082	Yes	No	5.5E-02	657,000	3,063,000	2.2E-04	657,000	3,063,209	1.0E-03	0.0E+00
NUE-204	Nueces	Census Tract 54.08	Block Group 3	483550054083	Yes	No	5.6E-02	657,178	3,063,569	2.3E-04	657,337	3,063,487	1.1E-03	0.0E+00
NUE-205	Nueces	Census Tract 54.09	Block Group 1	483550054091	Yes	No	5.0E-02	656,000	3,062,000	2.0E-04	656,000	3,062,512	9.6E-04	0.0E+00
NUE-206	Nueces	Census Tract 54.09	Block Group 2	483550054092	Yes	No	5.4E-02	656,638	3,062,631	2.1E-04	656,692	3,062,927	1.0E-03	0.0E+00
NUE-207	Nueces	Census Tract 54.10	Block Group 1	483550054101	Yes	Yes	4.4E-02	658,411	3,062,806	2.3E-04	658,494	3,062,806	8.8E-04	0.0E+00
NUE-208	Nueces	Census Tract 54.10	Block Group 2	483550054102	Yes	No	4.9E-02	657,533	3,062,863	2.3E-04	658,000	3,063,000	9.3E-04	0.0E+00
NUE-209	Nueces	Census Tract 54.11	Block Group 1	483550054111	Yes	No	4.7E-02	658,736	3,063,505	2.4E-04	658,809	3,063,505	9.1E-04	0.0E+00
NUE-210	Nueces	Census Tract 54.11	Block Group 2	483550054112	Yes	No	5.4E-02	658,000	3,064,000	2.4E-04	658,308	3,064,000	1.0E-03	0.0E+00
NUE-211	Nueces	Census Tract 54.11	Block Group 3	483550054113	Yes	No	5.2E-02	657,850	3,063,562	2.4E-04	658,282	3,063,481	9.7E-04	0.0E+00
NUE-212	Nueces	Census Tract 54.12	Block Group 1	483550054121	Yes	No	4.9E-02	657,218	3,062,424	2.2E-04	657,218	3,062,424	9.2E-04	0.0E+00
NUE-213	Nueces	Census Tract 54.12	Block Group 2	483550054122	Yes	No	4.2E-02	657,000	3,061,000	2.1E-04	658,000	3,061,000	8.1E-04	0.0E+00
NUE-214	Nueces	Census Tract 54.12	Block Group 3	483550054123	Yes	No	4.5E-02	657,449	3,061,928	2.2E-04	658,000	3,062,000	8.2E-04	0.0E+00
NUE-215	Nueces	Census Tract 54.13	Block Group 1	483550054131	Yes	No	4.8E-02	660,000	3,063,000	2.3E-04	660,000	3,063,000	7.9E-04	0.0E+00
NUE-216	Nueces	Census Tract 54.13	Block Group 2	483550054132	Yes	No	4.5E-02	659,581	3,063,038	2.3E-04	659,581	3,063,330	8.7E-04	0.0E+00
NUE-217	Nueces	Census Tract 54.14	Block Group 1	483550054141	Yes	No	3.5E-02	661,000	3,060,000	2.2E-04	661,000	3,061,000	7.7E-04	0.0E+00
NUE-218	Nueces	Census Tract 54.14	Block Group 2	483550054142	Yes	No	3.7E-02	660,843	3,062,399	2.3E-04	661,000	3,062,399	7.6E-04	0.0E+00
NUE-219	Nueces	Census Tract 54.15	Block Group 1	483550054151	Yes	No	4.2E-02	660,000	3,062,000	2.2E-04	660,000	3,062,000	7.7E-04	0.0E+00
NUE-220	Nueces	Census Tract 54.15	Block Group 2	483550054152	Yes	No	4.2E-02	659,132	3,061,256	2.1E-04	659,132	3,061,520	7.5E-04	0.0E+00
NUE-222	Nueces	Census Tract 54.16	Block Group 2	483550054162	Yes	No	4.0E-02	659,257	3,060,715	2.0E-04	659,295	3,060,715	4.6E-04	0.0E+00
NUE-223	Nueces	Census Tract 54.17	Block Group 1	483550054171	Yes	No	3.2E-02	659,355	3,059,735	1.9E-04	659,607	3,059,735	5.3E-04	0.0E+00
NUE-224	Nueces	Census Tract 54.17	Block Group 2	483550054172	Yes	No	3.8E-02	661,000	3,059,000	2.2E-04	662,000	3,059,000	6.6E-04	0.0E+00
NUE-225	Nueces	Census Tract 56.03	Block Group 1	483550056031	Yes	Yes	4.4E-02	631,000	3,078,000	1.1E-04	631,000	3,079,000	4.3E-04	0.0E+00
NUE-226	Nueces	Census Tract 56.03	Block Group 2	483550056032	Yes	Yes	3.2E-02	631,045	3,075,543	1.0E-04	631,045	3,075,543	6.2E-04	0.0E+00
NUE-227	Nueces	Census Tract 56.04	Block Group 1	483550056041	Yes	No	4.2E-02	632,000	3,078,000	1.2E-04	634,000	3,078,000	5.3E-04	0.0E+00
NUE-228	Nueces	Census Tract 56.04	Block Group 2	483550056042	Yes	Yes	3.2E-02	631,368	3,075,500	1.0E-04	631,368	3,075,500	6.4E-04	0.0E+00
NUE-229	Nueces	Census Tract 56.04	Block Group 3	483550056043	Yes	Yes	3.1E-02	631,706	3,075,418	1.1E-04	632,000	3,075,418	6.5E-04	0.0E+00
NUE-230	Nueces	Census Tract 56.05	Block Group 1	483550056051	Yes	Yes	6.9E-02	631,000	3,073,000	1.0E-04	631,000	3,074,000	6.1E-04	0.0E+00
NUE-231	Nueces	Census Tract 56.05	Block Group 2	483550056052	Yes	No	3.0E-02	630,000	3,075,000	1.0E-04	630,198	3,075,000	6.2E-04	0.0E+00
NUE-232	Nueces	Census Tract 56.05	Block Group 3	483550056053	Yes	Yes	3.0E-02	629,735	3,075,478	1.0E-04	630,000	3,076,000	4.4E-04	0.0E+00
NUE-233	Nueces	Census Tract 56.05	Block Group 4	483550056054	Yes	Yes	2.8E-02	630,593	3,074,402	1.0E-04	631,000	3,074,402	6.3E-04	0.0E+00
NUE-234	Nueces	Census Tract 56.06	Block Group 1	483550056061	Yes	Yes	1.4E-01	634,000	3,073,000	1.3E-04	634,000	3,073,000	6.8E-04	0.0E+00
NUE-237	Nueces	Census Tract 58.03	Block Group 2	483550058032	Yes	Yes	4.5E-02	622,000	3,079,000	1.2E-04	623,000	3,086,000	4.1E-04	0.0E+00
NUE-238	Nueces	Census Tract 58.03	Block Group 3	483550058033	Yes	No	9.4E-02	629,000	3,088,000	1.7E-04	629,000	3,088,000	5.1E-04	0.0E+00
NUE-239	Nueces	Census Tract 58.03	Block Group 4	483550058034	Yes	No	4.4E-02	620,000	3,079,000	8.0E-05	620,181	3,079,975	3.7E-04	0.0E+00
NUE-240	Nueces	Census Tract 58.04	Block Group 1	483550058041	Yes	No	1.7E-01	640,000	3,075,000	1.6E-04	640,000	3,075,000	8.3E-04	0.0E+00
NUE-241	Nueces	Census Tract 58.04	Block Group 2	483550058042	Yes	No	6.0E-02	634,000	3,081,000	1.3E-04	634,000	3,079,000	6.4E-04	0.0E+00
NUE-242	Nueces	Census Tract 59	Block Group 1	483550059001	Yes	Yes	1.1E-01	623,000	3,069,000	9.0E-05	623,000	3,076,000	4.8E-04	0.0E+00
NUE-243	Nueces	Census Tract 59	Block Group 2	483550059002	Yes	Yes	1.3E-01	629,000	3,071,000	1.1E-04	630,000	3,072,000	6.0E-04	0.0E+00
NUE-244	Nueces	Census Tract 59	Block Group 3	483550059003	Yes	Yes	1.1E-01	624,000	3,069,000	9.0E-05	628,000	3,069,000	3.9E-04	0.0E+00
NUE-245	Nueces	Census Tract 60	Block Group 1	483550060001	Yes	Yes	2.4E-02	626,000	3,062,000	7.0E-05	627,000	3,062,000	3.3E-04	0.0E+00
NUE-246	Nueces	Census Tract 60	Block Group 2	483550060002	Yes	No	1.4E-01	635,000	3,073,000	1.5E-04	642,000	3,063,000	7.0E-04	0.0E+00
NUE-247	Nueces	Census Tract 60	Block Group 3	483550060003	Yes	No	1.1E-01	636,000	3,060,000	1.4E-04	642,000	3,060,000	5.9E-04	0.0E+00
NUE-252	Nueces	Census Tract 62.02	Block Group 2	483550062022	Yes	No	5.6E-02	674,434	3,053,459	1.9E-04	674,580	3,053,910	3.4E-04	0.0E+00
NUE-254	Nueces	Census Tract 62.02	Block Group 2	483550062022	Yes	No	5.6E-02	674,434	3,053,459	1.9E-04	674,580	3,053,910	3.4E-04	0.0E+00
NUE-261	Nueces	Census Tract 62.04	Block Group 2	483550062043	Yes	No	7.2E-02	673,000	3,056,000	2.2E-04	674,000	3,057,000	6.2E-04	0.0E+00
NUE-263	Nueces	Census Tract 63	Block Group 2	483550063002	Yes	Yes	7.3E-02	641,000	3,082,000	1.7E-04	641,000	3,082,000	7.6E-04	0.0E+00
NUE-264	Nueces	Census Tract 64	Block Group 1	483550064001	Yes	No	2.6E-01	656,379	3,076,003	3.8E-04	656,434	3,076,114	1.6E-03	0.0E+00
NUE-265	Nueces	Census Tract 64	Block Group 2	483550064002	Yes	Yes	2.9E-01	657,000	3,076,000	4.1E-04	657,000	3,076,000	1.5E-03	0.0E+00
NUE-266	Nueces	Census Tract 64	Block Group 3	483550064003	Yes	No	2.3E-01	657,614	3,075,856	4.3E-04	657,614	3,075,856	1.6E-03	0.0E+00
San Patricio County														
SAN-1	San Patricio	Census Tract 102.01	Block Group 1	484090102011	No	Yes	1.9E-01	680,000	3,087,000	5.8E-04	680,000	3,086,000	2.4E-03	0.0E+00
SAN-3	San Patricio	Census Tract 102.01	Block Group 3	484090102013	Yes	Yes	1.5E-01	681,838	3,087,420	4.1E-04	682,000	3,088,000	2.1E-03	0.0E+00
SAN-4	San Patricio	Census Tract 102.02	Block Group 1	484090102021	Yes	Yes	1.1E-01	682,000	3,089,000	3.4E-04	682,000	3,090,000	2.2E-03	0.0E+00
SAN-5	San Patricio	Census Tract 102.02	Block Group 2	484090102022	Yes	No	1.5E-01	681,000	3,088,000	4.2E-04	681,000	3,088,000	2.1E-03	0.0E+00
SAN-6	San Patricio	Census Tract 102.02	Block Group 3	484090102023	Yes	No	2.1E-01	679,000	3,087,000	6.3E-04	679,000	3,087,000	2.5E-03	0.0E+00
SAN-7	San Patricio	Census Tract 102.02	Block Group 4	484090102024	Yes	Yes	1.8E-01	680,000	3,090,000	4.4E-04	680,000	3,090,000	2.2E-03	0.0E+00
SAN-10	San Patricio	Census Tract 103.01	Block Group 3	484090103013	Yes	No	7.9E-01	674,000	3,086,500	2.3E-03	674,000	3,086,500	4.2E-03	0.0E+00
SAN-12	San Patricio	Census Tract 103.02	Block Group 2	484090103022	Yes	Yes								

**Table C-23**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**Xylenes**

CAS 1330-20-7  
 1-Hour ESL 2200 µg/m<sup>3</sup>  
 Annual ESL 180 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)					Trains 8 and 9		
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	8.0E-02	648,000	3,098,000	3.9E-04	650,000	3,102,000	1.2E-03	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	7.8E-02	651,000	3,102,000	5.4E-04	652,000	3,103,000	1.3E-03	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	4.7E-02	646,112	3,102,410	3.1E-04	646,112	3,102,410	1.1E-03	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	6.4E-02	646,000	3,099,000	3.1E-04	646,000	3,102,000	9.5E-04	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	6.6E-02	639,000	3,093,000	2.7E-04	640,000	3,092,000	6.8E-04	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	6.7E-02	638,000	3,093,000	2.6E-04	639,000	3,092,000	5.8E-04	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	6.5E-02	639,401	3,091,743	2.6E-04	640,000	3,091,743	4.8E-04	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	4.7E-02	627,000	3,110,000	1.7E-04	632,000	3,114,000	6.3E-04	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	1.1E-01	633,000	3,088,000	1.9E-04	633,000	3,089,000	5.9E-04	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	1.1E-01	646,000	3,121,000	3.6E-04	650,000	3,127,000	5.9E-04	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	1.0E-01	644,000	3,123,000	3.2E-04	644,000	3,120,000	7.8E-04	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	3.5E-02	610,712	3,098,034	1.3E-04	618,322	3,099,450	2.9E-04	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	1.5E-01	696,000	3,114,000	1.2E-04	696,000	3,114,000	4.1E-04	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	1.4E-01	697,000	3,115,000	1.8E-04	712,000	3,122,000	1.2E-03	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	1.6E-01	694,000	3,111,000	1.3E-04	694,000	3,111,000	6.6E-04	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	1.6E-01	689,000	3,105,000	1.7E-04	689,000	3,105,000	8.8E-04	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	7.4E-02	690,322	3,101,635	1.3E-04	690,322	3,101,635	8.1E-04	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	7.0E-02	690,000	3,101,000	1.4E-04	690,000	3,100,000	7.6E-04	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	4.8E-02	691,000	3,101,000	1.3E-04	691,000	3,101,000	7.6E-04	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	1.4E-01	681,000	3,092,000	3.6E-04	681,000	3,092,000	2.0E-03	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	1.3E-01	683,000	3,091,000	3.1E-04	684,000	3,094,000	1.5E-03	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	1.4E-01	681,000	3,092,000	3.6E-04	681,000	3,092,000	2.0E-03	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	1.3E-01	683,000	3,091,000	3.1E-04	684,000	3,094,000	1.5E-03	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	2.8E-02	669,000	3,134,000	1.3E-04	670,000	3,134,000	2.7E-04	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	2.9E-02	668,000	3,133,000	1.5E-04	668,000	3,133,000	3.4E-04	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	2.6E-02	669,000	3,131,000	1.5E-04	669,000	3,131,000	3.0E-04	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	1.2E-01	687,000	3,118,000	1.9E-04	693,000	3,135,000	8.8E-04	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	3.5E-02	664,044	3,124,381	2.5E-04	664,044	3,125,000	3.1E-04	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	2.9E-02	664,564	3,124,440	2.4E-04	664,564	3,124,440	3.0E-04	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.

Table C-24

Maximum Concentrations By EJ Census Block  
Corpus Christi Liquefaction LLC

POM

CAS 130498-29-2  
1-Hour ESL 0.5 µg/m³  
Annual ESL 0.05 µg/m³

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)					Trains 8 and 9		
							Hourly (µg/m³)	UTM East (m)	UTM North (m)	Annual (µg/m³)	UTM East (m)	UTM North (m)	Hourly (µg/m³)	Annual (µg/m³)
<b>Calhoun County</b>														
<b>Nueces County</b>														
NUE-1	Nueces	Census Tract 5	Block Group 1	483550005001	Yes	No	9.4E-03	656,000	3,076,000	1.0E-05	656,000	3,076,000	1.7E-03	0.0E+00
NUE-2	Nueces	Census Tract 5	Block Group 2	483550005002	Yes	Yes	9.7E-03	655,652	3,076,504	1.0E-05	656,107	3,076,681	1.7E-03	0.0E+00
NUE-3	Nueces	Census Tract 6.01	Block Group 1	483550006011	Yes	Yes	9.6E-03	655,000	3,075,000	1.0E-05	655,210	3,075,526	1.7E-03	0.0E+00
NUE-4	Nueces	Census Tract 6.01	Block Group 2	483550006012	Yes	Yes	9.9E-03	653,325	3,075,648	0.0E+00	653,325	3,075,648	1.1E-03	0.0E+00
NUE-5	Nueces	Census Tract 6.01	Block Group 3	483550006013	Yes	No	9.1E-03	653,902	3,075,442	0.0E+00	654,286	3,075,442	1.5E-03	0.0E+00
NUE-6	Nueces	Census Tract 6.01	Block Group 4	483550006014	Yes	No	8.3E-03	654,000	3,075,000	0.0E+00	654,000	3,075,000	1.6E-03	0.0E+00
NUE-7	Nueces	Census Tract 6.01	Block Group 5	483550006015	Yes	No	8.8E-03	654,372	3,074,853	0.0E+00	654,697	3,075,402	1.7E-03	0.0E+00
NUE-8	Nueces	Census Tract 6.02	Block Group 1	483550006021	Yes	No	1.0E-02	655,000	3,077,000	0.0E+00	655,000	3,077,000	1.5E-03	0.0E+00
NUE-9	Nueces	Census Tract 6.02	Block Group 2	483550006022	Yes	Yes	1.0E-02	654,000	3,076,000	0.0E+00	654,000	3,076,000	1.0E-03	0.0E+00
NUE-10	Nueces	Census Tract 7	Block Group 1	483550007001	Yes	No	9.1E-03	652,000	3,077,000	0.0E+00	653,000	3,077,000	1.3E-03	0.0E+00
NUE-11	Nueces	Census Tract 7	Block Group 2	483550007002	Yes	Yes	9.6E-03	653,000	3,076,000	0.0E+00	653,000	3,076,000	1.1E-03	0.0E+00
NUE-12	Nueces	Census Tract 7	Block Group 3	483550007003	Yes	Yes	8.7E-03	649,494	3,076,213	0.0E+00	650,389	3,076,213	1.2E-03	0.0E+00
NUE-13	Nueces	Census Tract 8	Block Group 1	483550008001	Yes	No	9.3E-03	651,000	3,071,000	0.0E+00	651,000	3,074,000	1.2E-03	0.0E+00
NUE-14	Nueces	Census Tract 8	Block Group 2	483550008002	Yes	No	9.6E-03	652,000	3,075,000	0.0E+00	653,000	3,075,000	1.1E-03	0.0E+00
NUE-15	Nueces	Census Tract 8	Block Group 3	483550008003	Yes	Yes	1.0E-02	654,000	3,073,000	1.0E-05	654,000	3,074,000	1.5E-03	0.0E+00
NUE-16	Nueces	Census Tract 9	Block Group 1	483550009001	Yes	Yes	1.1E-02	655,457	3,073,710	1.0E-05	655,457	3,073,710	1.4E-03	0.0E+00
NUE-17	Nueces	Census Tract 9	Block Group 2	483550009002	Yes	Yes	1.0E-02	654,470	3,074,117	1.0E-05	654,470	3,074,347	1.6E-03	0.0E+00
NUE-18	Nueces	Census Tract 9	Block Group 3	483550009003	Yes	Yes	1.1E-02	655,000	3,074,000	1.0E-05	655,000	3,074,325	1.5E-03	0.0E+00
NUE-19	Nueces	Census Tract 9	Block Group 4	483550009004	Yes	Yes	1.1E-02	655,382	3,074,162	1.0E-05	655,382	3,074,498	1.4E-03	0.0E+00
NUE-20	Nueces	Census Tract 10	Block Group 1	483550010001	Yes	Yes	1.1E-02	656,015	3,074,299	1.0E-05	656,015	3,074,525	1.4E-03	0.0E+00
NUE-21	Nueces	Census Tract 10	Block Group 2	483550010002	Yes	Yes	1.1E-02	656,366	3,074,547	1.0E-05	656,429	3,074,547	1.6E-03	0.0E+00
NUE-22	Nueces	Census Tract 10	Block Group 3	483550010003	Yes	Yes	1.1E-02	655,792	3,073,910	1.0E-05	656,130	3,074,000	1.6E-03	0.0E+00
NUE-23	Nueces	Census Tract 10	Block Group 4	483550010004	Yes	Yes	1.1E-02	656,768	3,074,477	1.0E-05	656,790	3,074,477	1.7E-03	0.0E+00
NUE-24	Nueces	Census Tract 11	Block Group 1	483550011001	Yes	Yes	1.1E-02	656,000	3,075,000	1.0E-05	656,432	3,075,483	1.4E-03	0.0E+00
NUE-25	Nueces	Census Tract 11	Block Group 2	483550011002	Yes	Yes	1.2E-02	657,019	3,075,413	1.0E-05	657,019	3,075,413	1.6E-03	0.0E+00
NUE-26	Nueces	Census Tract 12.01	Block Group 1	483550012011	Yes	Yes	1.2E-02	658,000	3,074,000	1.0E-05	658,000	3,074,004	1.3E-03	0.0E+00
NUE-27	Nueces	Census Tract 12.01	Block Group 2	483550012012	Yes	Yes	1.1E-02	657,795	3,074,558	1.0E-05	657,840	3,074,838	1.6E-03	0.0E+00
NUE-28	Nueces	Census Tract 12.02	Block Group 1	483550012021	Yes	Yes	1.0E-02	657,203	3,074,503	1.0E-05	657,203	3,074,503	1.6E-03	0.0E+00
NUE-29	Nueces	Census Tract 12.02	Block Group 2	483550012022	Yes	No	1.2E-02	658,026	3,073,559	1.0E-05	658,026	3,073,559	1.5E-03	0.0E+00
NUE-30	Nueces	Census Tract 13	Block Group 1	483550013001	Yes	Yes	9.8E-03	656,156	3,073,405	1.0E-05	656,156	3,073,405	1.5E-03	0.0E+00
NUE-31	Nueces	Census Tract 13	Block Group 2	483550013002	Yes	No	1.2E-02	657,090	3,073,114	1.0E-05	657,090	3,073,499	1.3E-03	0.0E+00
NUE-32	Nueces	Census Tract 13	Block Group 3	483550013003	Yes	Yes	1.1E-02	656,577	3,073,991	1.0E-05	656,583	3,073,325	1.3E-03	0.0E+00
NUE-33	Nueces	Census Tract 13	Block Group 4	483550013004	Yes	No	1.2E-02	656,936	3,072,596	1.0E-05	657,256	3,072,647	1.4E-03	0.0E+00
NUE-34	Nueces	Census Tract 14	Block Group 1	483550014001	Yes	No	1.2E-02	657,681	3,072,959	1.0E-05	657,720	3,072,959	1.6E-03	0.0E+00
NUE-35	Nueces	Census Tract 14	Block Group 2	483550014002	Yes	No	1.2E-02	658,000	3,073,000	1.0E-05	658,491	3,073,080	1.7E-03	0.0E+00
NUE-36	Nueces	Census Tract 14	Block Group 3	483550014003	Yes	No	1.1E-02	658,000	3,072,000	1.0E-05	658,000	3,072,000	1.5E-03	0.0E+00
NUE-37	Nueces	Census Tract 14	Block Group 4	483550014004	Yes	Yes	1.2E-02	658,473	3,072,069	1.0E-05	658,706	3,072,668	1.4E-03	0.0E+00
NUE-38	Nueces	Census Tract 15	Block Group 1	483550015001	Yes	Yes	1.2E-02	655,931	3,071,518	1.0E-05	656,000	3,071,518	1.3E-03	0.0E+00
NUE-39	Nueces	Census Tract 15	Block Group 2	483550015002	Yes	Yes	1.2E-02	656,406	3,072,442	1.0E-05	656,406	3,072,664	1.3E-03	0.0E+00
NUE-40	Nueces	Census Tract 15	Block Group 3	483550015003	Yes	Yes	1.2E-02	656,324	3,071,866	1.0E-05	656,324	3,072,000	1.1E-03	0.0E+00
NUE-41	Nueces	Census Tract 16.01	Block Group 1	483550016011	Yes	Yes	1.0E-02	654,312	3,073,573	1.0E-05	654,312	3,074,000	1.6E-03	0.0E+00
NUE-42	Nueces	Census Tract 16.01	Block Group 2	483550016012	Yes	Yes	1.1E-02	654,533	3,072,987	1.0E-05	654,533	3,073,237	1.2E-03	0.0E+00
NUE-43	Nueces	Census Tract 16.01	Block Group 3	483550016013	Yes	Yes	1.1E-02	654,855	3,073,380	1.0E-05	655,000	3,073,380	1.4E-03	0.0E+00
NUE-44	Nueces	Census Tract 16.01	Block Group 4	483550016014	Yes	Yes	1.0E-02	654,528	3,072,295	1.0E-05	654,875	3,072,340	1.4E-03	0.0E+00
NUE-45	Nueces	Census Tract 16.02	Block Group 1	483550016021	Yes	Yes	1.0E-02	655,522	3,072,985	1.0E-05	655,522	3,072,985	1.5E-03	0.0E+00
NUE-46	Nueces	Census Tract 16.02	Block Group 2	483550016022	Yes	No	1.0E-02	655,433	3,072,017	1.0E-05	655,433	3,072,374	1.4E-03	0.0E+00
NUE-47	Nueces	Census Tract 16.02	Block Group 3	483550016023	Yes	Yes	1.1E-02	655,259	3,071,371	1.0E-05	655,259	3,072,000	1.3E-03	0.0E+00
NUE-48	Nueces	Census Tract 17.02	Block Group 1	483550017021	Yes	No	9.6E-03	651,000	3,070,000	0.0E+00	652,000	3,070,000	1.1E-03	0.0E+00
NUE-49	Nueces	Census Tract 17.02	Block Group 2	483550017022	Yes	No	1.0E-02	653,000	3,069,000	0.0E+00	653,000	3,070,000	1.2E-03	0.0E+00
NUE-50	Nueces	Census Tract 17.03	Block Group 1	483550017031	Yes	Yes	1.0E-02	652,536	3,071,156	0.0E+00	652,536	3,071,156	9.3E-04	0.0E+00
NUE-51	Nueces	Census Tract 17.03	Block Group 2	483550017032	Yes	Yes	9.0E-03	653,446	3,070,164	1.0E-05	653,446	3,070,255	1.2E-03	0.0E+00
NUE-52	Nueces	Census Tract 17.03	Block Group 3	483550017033	Yes	Yes	9.2E-03	652,968	3,070,638	1.0E-05	653,467	3,070,664	1.2E-03	0.0E+00
NUE-53	Nueces	Census Tract 17.04	Block Group 1	483550017041	Yes	No	1.0E-02	653,011	3,071,440	1.0E-05	653,594	3,071,465	1.3E-03	0.0E+00
NUE-54	Nueces	Census Tract 17.04	Block Group 2	483550017042	Yes	No	9.9E-03	653,000	3,071,000	1.0E-05	653,345	3,071,066	1.2E-03	0.0E+00
NUE-55	Nueces	Census Tract 17.04	Block Group 3	483550017043	Yes	Yes	8.6E-03	654,000	3,071,000	1.0E-05	654,253	3,071,427	1.3E-03	0.0E+00
NUE-56	Nueces	Census Tract 18.01	Block Group 1	483550018011	Yes	Yes	1.0E-02	654,404	3,070,805	1.0E-05	654,606	3,071,230	1.1E-03	0.0E+00
NUE-57	Nueces	Census Tract 18.01	Block Group 2	483550018012	Yes	No	1.1E-02	655,000	3,071,000	1.0E-05	655,000	3,071,000	9.0E-04	0.0E+00
NUE-58	Nueces	Census Tract 18.01	Block Group 3	483550018013	Yes	Yes	1.1E-02	655,333	3,070,759	1.0E-05	655,480	3,070,759	1.3E-03	0.0E+00
NUE-59	Nueces	Census Tract 18.01	Block Group 4	483550018014	Yes	Yes	1.1E-02	654,591	3,070,210	1.0E-05	654,591	3,070,210	8.5E-04	0.0E+00
NUE-60	Nueces	Census Tract 18.01	Block Group 5	483550018015	Yes	Yes	1.1E-02	655,000	3,070,000	1.0E-05	655,000	3,070,000	1.3E-03	0.0E+00
NUE-61	Nueces	Census Tract 18.02	Block Group 1	483550018021	Yes	No	1.0E-02	654,000	3,069,000	0.0E+00	654,000	3,069,000	9.6E-04	0.0E+00
NUE-62	Nueces	Census Tract 18.02	Block Group 2	483550018022	Yes	No	7.9E-03	654,000	3,068,000	0.0E+00	654,000	3,068,000	1.2E-03	0.0E+00
NUE-63	Nueces	Census Tract 19.03	Block Group 1	483550019031	Yes	No	9.2E-03	655,631	3,069,251	1.0E-05	655,631	3,069,626	1.4E-03	0.0E+00
NUE-64	Nueces	Census Tract 19.03	Block Group 2	483550019032	Yes	Yes	1.1E-02	656,237	3,068,492	0.0E+00	656,237	3,068,930	1.3E-03	0.0E+00
NUE-65	Nueces	Census Tract 19.03	Block Group 3	483550019033	Yes	No	1.1E-02	656,471	3,068,829	0.0E+00	656,471	3,069,000	1.1E-03	0.0E+00
NUE-66	Nueces	Census Tract 19.04	Block Group 1	483550019041	Yes	No	9.4E-03	656,015	3,070,407	1.0E-05	656,058	3,070,407	1.4E-03	0.0E+00
NUE-67	Nueces	Census Tract 19.04	Block Group 2	483550019042	Yes	Yes	1.2E-02	656,861	3,069,564	1.0E-05	656,861	3,069,943	1.3E-03	0.0E+00
NUE-68	Nueces	Census Tract 19.04	Block Group 3	483550019043	Yes	Yes	1.2E-02	656,599	3,069,198	1.0E-05	656,599	3,069,570	1.3E-03	0.0E+00

Table C-24

Maximum Concentrations By EJ Census Block  
Corpus Christi Liquefaction LLC

POM

CAS 130498-29-2  
 1-Hour ESL 0.5 µg/m<sup>3</sup>  
 Annual ESL 0.05 µg/m<sup>3</sup>

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)						Trains 8 and 9	
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
NUE-88	Nueces	Census Tract 22	Block Group 1	483550022001	Yes	Yes	1.2E-02	657,991	3,070,486	1.0E-05	657,991	3,070,486	7.9E-04	0.0E+00
NUE-89	Nueces	Census Tract 22	Block Group 2	483550022002	Yes	Yes	1.1E-02	658,000	3,070,000	1.0E-05	658,221	3,070,134	6.8E-04	0.0E+00
NUE-90	Nueces	Census Tract 22	Block Group 3	483550022003	Yes	Yes	9.2E-03	658,424	3,069,899	1.0E-05	658,457	3,069,899	7.6E-04	0.0E+00
NUE-91	Nueces	Census Tract 22	Block Group 4	483550022004	Yes	Yes	1.1E-02	657,318	3,069,401	1.0E-05	657,634	3,069,401	7.1E-04	0.0E+00
NUE-92	Nueces	Census Tract 22	Block Group 5	483550022005	Yes	Yes	8.3E-03	658,000	3,069,000	1.0E-05	658,336	3,069,000	8.6E-04	0.0E+00
NUE-93	Nueces	Census Tract 23.01	Block Group 1	483550023011	Yes	No	1.1E-02	657,000	3,069,000	1.0E-05	657,000	3,069,000	7.0E-04	0.0E+00
NUE-94	Nueces	Census Tract 23.01	Block Group 2	483550023012	Yes	No	8.7E-03	657,000	3,068,000	1.0E-05	657,557	3,068,589	5.0E-04	0.0E+00
NUE-95	Nueces	Census Tract 23.01	Block Group 3	483550023013	Yes	Yes	7.2E-03	657,631	3,067,837	0.0E+00	658,000	3,068,000	9.0E-04	0.0E+00
NUE-96	Nueces	Census Tract 23.03	Block Group 1	483550023031	Yes	Yes	9.2E-03	656,639	3,067,713	0.0E+00	656,639	3,067,713	5.3E-04	0.0E+00
NUE-97	Nueces	Census Tract 23.03	Block Group 2	483550023032	Yes	Yes	7.3E-03	657,111	3,067,364	0.0E+00	657,571	3,067,364	8.6E-04	0.0E+00
NUE-98	Nueces	Census Tract 23.03	Block Group 3	483550023033	Yes	No	6.9E-03	657,000	3,067,000	0.0E+00	657,170	3,067,000	8.3E-04	0.0E+00
NUE-99	Nueces	Census Tract 23.04	Block Group 1	483550023041	Yes	No	6.7E-03	656,590	3,066,356	0.0E+00	656,594	3,066,356	6.9E-04	0.0E+00
NUE-100	Nueces	Census Tract 23.04	Block Group 2	483550023042	Yes	Yes	6.5E-03	656,936	3,066,500	0.0E+00	657,093	3,066,500	9.1E-04	0.0E+00
NUE-101	Nueces	Census Tract 23.04	Block Group 3	483550023043	Yes	No	6.2E-03	656,766	3,066,059	0.0E+00	657,000	3,066,059	9.0E-04	0.0E+00
NUE-102	Nueces	Census Tract 23.04	Block Group 4	483550023044	Yes	No	9.3E-03	656,000	3,067,000	0.0E+00	656,000	3,067,000	5.5E-04	0.0E+00
NUE-103	Nueces	Census Tract 24	Block Group 1	483550024001	Yes	Yes	6.9E-03	659,000	3,069,000	1.0E-05	659,083	3,069,000	1.4E-03	0.0E+00
NUE-104	Nueces	Census Tract 24	Block Group 2	483550024002	Yes	No	7.4E-03	659,000	3,068,000	1.0E-05	659,000	3,068,000	1.4E-03	0.0E+00
NUE-105	Nueces	Census Tract 24	Block Group 3	483550024003	No	Yes	1.0E-02	659,509	3,067,626	1.0E-05	659,509	3,067,626	1.4E-03	0.0E+00
NUE-106	Nueces	Census Tract 24	Block Group 4	483550024004	Yes	Yes	1.2E-02	660,000	3,067,000	1.0E-05	660,345	3,067,000	1.2E-03	0.0E+00
NUE-107	Nueces	Census Tract 24	Block Group 5	483550024005	Yes	No	9.0E-03	659,000	3,067,000	0.0E+00	659,000	3,067,403	1.3E-03	0.0E+00
NUE-108	Nueces	Census Tract 25	Block Group 1	483550025001	Yes	No	1.1E-02	660,572	3,069,624	1.0E-05	660,572	3,070,000	1.5E-03	0.0E+00
NUE-110	Nueces	Census Tract 25	Block Group 3	483550025003	Yes	No	8.2E-03	659,576	3,068,694	1.0E-05	659,576	3,069,335	1.4E-03	0.0E+00
NUE-111	Nueces	Census Tract 25	Block Group 4	483550025004	Yes	No	1.1E-02	660,000	3,068,000	1.0E-05	660,199	3,068,571	1.4E-03	0.0E+00
NUE-112	Nueces	Census Tract 26.01	Block Group 1	483550026011	No	Yes	1.3E-02	661,173	3,068,818	1.0E-05	661,308	3,069,000	1.4E-03	0.0E+00
NUE-113	Nueces	Census Tract 26.01	Block Group 2	483550026012	Yes	No	1.3E-02	660,903	3,068,338	1.0E-05	661,137	3,068,330	1.3E-03	0.0E+00
NUE-114	Nueces	Census Tract 26.02	Block Group 1	483550026021	Yes	Yes	1.2E-02	660,382	3,067,224	1.0E-05	661,000	3,067,224	1.2E-03	0.0E+00
NUE-115	Nueces	Census Tract 26.02	Block Group 2	483550026022	Yes	Yes	1.3E-02	661,164	3,066,563	1.0E-05	661,164	3,066,563	9.8E-04	0.0E+00
NUE-116	Nueces	Census Tract 26.03	Block Group 1	483550026031	Yes	Yes	1.2E-02	660,340	3,067,667	1.0E-05	660,340	3,068,185	1.3E-03	0.0E+00
NUE-117	Nueces	Census Tract 26.03	Block Group 2	483550026032	Yes	No	1.3E-02	661,000	3,068,000	1.0E-05	661,000	3,068,000	1.3E-03	0.0E+00
NUE-119	Nueces	Census Tract 27.03	Block Group 1	483550027031	Yes	Yes	1.3E-02	661,643	3,066,595	1.0E-05	661,689	3,066,595	6.9E-04	0.0E+00
NUE-120	Nueces	Census Tract 27.03	Block Group 2	483550027032	Yes	Yes	1.1E-02	661,611	3,065,607	1.0E-05	662,242	3,065,607	1.0E-03	0.0E+00
NUE-121	Nueces	Census Tract 27.03	Block Group 3	483550027033	Yes	No	1.0E-02	662,000	3,066,000	1.0E-05	662,359	3,066,201	1.0E-03	0.0E+00
NUE-122	Nueces	Census Tract 27.03	Block Group 4	483550027034	Yes	No	9.8E-03	662,827	3,066,109	1.0E-05	662,827	3,066,109	1.1E-03	0.0E+00
NUE-125	Nueces	Census Tract 27.05	Block Group 2	483550027052	Yes	Yes	1.2E-02	662,631	3,067,980	1.0E-05	662,716	3,067,980	1.1E-03	0.0E+00
NUE-127	Nueces	Census Tract 27.05	Block Group 4	483550027054	Yes	Yes	1.3E-02	661,855	3,067,199	1.0E-05	662,731	3,067,199	1.1E-03	0.0E+00
NUE-128	Nueces	Census Tract 27.06	Block Group 1	483550027061	Yes	No	1.1E-02	665,000	3,066,000	1.0E-05	665,050	3,066,777	1.1E-03	0.0E+00
NUE-129	Nueces	Census Tract 27.07	Block Group 1	483550027071	Yes	Yes	1.2E-02	663,000	3,065,000	1.0E-05	664,126	3,065,000	1.0E-03	0.0E+00
NUE-130	Nueces	Census Tract 27.08	Block Group 1	483550027081	No	Yes	1.2E-02	664,000	3,066,000	1.0E-05	664,819	3,066,000	8.6E-04	0.0E+00
NUE-131	Nueces	Census Tract 27.08	Block Group 2	483550027082	No	Yes	1.2E-02	663,513	3,065,158	1.0E-05	664,000	3,065,158	8.4E-04	0.0E+00
NUE-132	Nueces	Census Tract 27.08	Block Group 3	483550027083	No	Yes	1.2E-02	665,000	3,065,000	1.0E-05	666,000	3,066,000	9.3E-04	0.0E+00
NUE-135	Nueces	Census Tract 30.02	Block Group 2	483550030022	No	Yes	1.1E-02	668,000	3,062,000	1.0E-05	670,000	3,062,000	1.1E-03	0.0E+00
NUE-136	Nueces	Census Tract 30.02	Block Group 3	483550030023	No	Yes	1.0E-02	668,000	3,060,000	1.0E-05	668,000	3,060,296	1.0E-03	0.0E+00
NUE-137	Nueces	Census Tract 30.02	Block Group 4	483550030024	No	Yes	1.1E-02	668,519	3,060,476	1.0E-05	668,519	3,061,000	1.1E-03	0.0E+00
NUE-138	Nueces	Census Tract 30.03	Block Group 1	483550030031	Yes	No	1.1E-02	668,000	3,063,000	1.0E-05	668,000	3,064,000	1.2E-03	0.0E+00
NUE-139	Nueces	Census Tract 30.04	Block Group 1	483550030041	Yes	Yes	1.2E-02	668,400	3,062,500	1.0E-05	669,000	3,062,500	1.1E-03	0.0E+00
NUE-140	Nueces	Census Tract 30.04	Block Group 2	483550030042	Yes	Yes	9.5E-03	671,000	3,063,000	1.0E-05	671,000	3,063,000	7.8E-04	0.0E+00
NUE-141	Nueces	Census Tract 30.04	Block Group 3	483550030043	No	Yes	1.2E-02	668,659	3,062,708	1.0E-05	669,327	3,062,708	1.1E-03	0.0E+00
NUE-150	Nueces	Census Tract 32.02	Block Group 1	483550032021	Yes	Yes	1.1E-02	665,000	3,063,000	1.0E-05	666,000	3,063,000	8.9E-04	0.0E+00
NUE-151	Nueces	Census Tract 32.02	Block Group 2	483550032022	Yes	Yes	1.0E-02	663,379	3,063,412	1.0E-05	664,000	3,064,000	9.0E-04	0.0E+00
NUE-152	Nueces	Census Tract 32.02	Block Group 3	483550032023	Yes	No	1.1E-02	662,420	3,061,815	0.0E+00	663,000	3,062,000	6.4E-04	0.0E+00
NUE-153	Nueces	Census Tract 32.02	Block Group 4	483550032024	Yes	No	1.1E-02	663,000	3,063,000	1.0E-05	665,000	3,063,000	8.6E-04	0.0E+00
NUE-154	Nueces	Census Tract 32.04	Block Group 1	483550032041	Yes	No	1.0E-02	662,000	3,062,000	0.0E+00	662,063	3,062,669	9.3E-04	0.0E+00
NUE-155	Nueces	Census Tract 32.04	Block Group 2	483550032042	Yes	No	1.0E-02	662,188	3,063,464	0.0E+00	662,188	3,063,791	9.8E-04	0.0E+00
NUE-156	Nueces	Census Tract 32.04	Block Group 3	483550032043	Yes	No	9.6E-03	662,000	3,063,000	0.0E+00	662,000	3,063,377	9.6E-04	0.0E+00
NUE-157	Nueces	Census Tract 32.05	Block Group 1	483550032051	Yes	Yes	1.2E-02	663,014	3,064,416	1.0E-05	663,014	3,065,000	9.7E-04	0.0E+00
NUE-158	Nueces	Census Tract 32.06	Block Group 1	483550032061	Yes	Yes	1.2E-02	663,000	3,064,000	1.0E-05	663,000	3,064,000	9.6E-04	0.0E+00
NUE-159	Nueces	Census Tract 32.06	Block Group 2	483550032062	Yes	Yes	8.6E-03	661,634	3,064,640	0.0E+00	662,000	3,064,640	9.9E-04	0.0E+00
NUE-160	Nueces	Census Tract 33.03	Block Group 1	483550033031	Yes	No	1.2E-02	660,000	3,066,000	1.0E-05	660,000	3,066,000	1.2E-03	0.0E+00
NUE-161	Nueces	Census Tract 33.03	Block Group 2	483550033032	Yes	Yes	1.2E-02	659,671	3,066,112	1.0E-05	659,671	3,066,112	1.2E-03	0.0E+00
NUE-162	Nueces	Census Tract 33.04	Block Group 1	483550033041	Yes	No	1.2E-02	659,455	3,065,059	0.0E+00	659,581	3,065,059	1.1E-03	0.0E+00
NUE-163	Nueces	Census Tract 33.04	Block Group 2	483550033042	Yes	No	1.1E-02	659,000	3,065,000	0.0E+00	659,000	3,065,000	1.1E-03	0.0E+00
NUE-164	Nueces	Census Tract 33.04	Block Group 3	483550033043	Yes	No	1.1E-02	659,000	3,064,000	0.0E+00	659,469	3,064,017	1.0E-03	0.0E+00
NUE-165	Nueces	Census Tract 33.05	Block Group 1	483550033051	Yes	Yes	1.2E-02	661,000	3,065,000	0.0E+00	661,000	3,065,000	9.1E-04	0.0E+00
NUE-166	Nueces	Census Tract 33.05	Block Group 2	483550033052	Yes	Yes	1.2E-02	660,984	3,065,526	1.0E-05	661,226	3,065,526	7.8E-04	0.0E+00
NUE-167	Nueces	Census Tract 33.06	Block Group 1	483550033061	Yes	No	1.1E-02	660,000	3,064,000	0.0E+00	661,000	3,064,000	8.8E-04	0.0E+00
NUE-168	Nueces	Census Tract 33.06	Block Group 2	483550033062	Yes	No	7.8E-03	661,104	3,063,221	0.0E+00	661,104	3,063,221	7.7E-04	0.0E+00
NUE-169	Nueces	Census Tract 33.06	Block Group 3	483550033063	Yes	No	1.1E-02	660,179	3,063,570	0.0E+00	660,529	3,063,570	8.3E-04	0.0E+00
NUE-170	Nueces	Census Tract 34.01	Block Group 1	483550034011	Yes	Yes	8.9E-03	658,785	3,066,610	0.0E+00	658,785	3,067,000	1.3E-03	0.0E+00
NUE-171	Nueces	Census Tract 34.01	Block Group 2	483550034012	Yes	Yes	7.4E-03	658,000	3					

Table C-24

Maximum Concentrations By EJ Census Block  
 Corpus Christi Liquefaction LLC

POM

CAS 130498-29-2  
 1-Hour ESL 0.5  $\mu\text{g}/\text{m}^3$   
 Annual ESL 0.05  $\mu\text{g}/\text{m}^3$

BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)					Trains 8 and 9		
							Hourly ( $\mu\text{g}/\text{m}^3$ )	UTM East (m)	UTM North (m)	Annual ( $\mu\text{g}/\text{m}^3$ )	UTM East (m)	UTM North (m)	Hourly ( $\mu\text{g}/\text{m}^3$ )	Annual ( $\mu\text{g}/\text{m}^3$ )
NUE-190	Nueces	Census Tract 37	Block Group 1	483550037001	Yes	No	5.1E-03	636,000	3,081,000	0.0E+00	637,000	3,082,000	7.3E-04	0.0E+00
NUE-191	Nueces	Census Tract 37	Block Group 2	483550037002	Yes	No	6.4E-03	636,000	3,086,000	0.0E+00	638,000	3,086,000	5.9E-04	0.0E+00
NUE-192	Nueces	Census Tract 37	Block Group 3	483550037003	No	Yes	6.3E-03	635,000	3,086,000	0.0E+00	635,000	3,086,000	5.6E-04	0.0E+00
NUE-194	Nueces	Census Tract 51.04	Block Group 1	483550051041	No	Yes	9.0E-03	690,000	3,080,000	0.0E+00	692,000	3,081,000	1.3E-03	0.0E+00
NUE-195	Nueces	Census Tract 54.04	Block Group 1	483550054041	Yes	No	1.0E-02	662,000	3,061,000	0.0E+00	664,000	3,061,000	7.2E-04	0.0E+00
NUE-196	Nueces	Census Tract 54.04	Block Group 2	483550054042	Yes	No	9.8E-03	661,704	3,061,456	0.0E+00	661,704	3,061,811	8.7E-04	0.0E+00
NUE-197	Nueces	Census Tract 54.06	Block Group 1	483550054061	Yes	No	9.5E-03	652,000	3,067,000	0.0E+00	653,000	3,074,000	1.1E-03	0.0E+00
NUE-198	Nueces	Census Tract 54.06	Block Group 2	483550054062	Yes	No	1.0E-02	654,000	3,066,000	0.0E+00	668,000	3,066,000	9.8E-04	0.0E+00
NUE-199	Nueces	Census Tract 54.06	Block Group 3	483550054063	Yes	No	9.4E-03	657,000	3,060,000	0.0E+00	657,000	3,061,000	9.8E-04	0.0E+00
NUE-200	Nueces	Census Tract 54.07	Block Group 1	483550054071	Yes	No	6.3E-03	656,803	3,064,299	0.0E+00	656,803	3,064,299	1.1E-03	0.0E+00
NUE-201	Nueces	Census Tract 54.07	Block Group 2	483550054072	Yes	No	5.5E-03	656,179	3,063,561	0.0E+00	656,179	3,063,606	1.0E-03	0.0E+00
NUE-202	Nueces	Census Tract 54.08	Block Group 1	483550054081	Yes	Yes	8.9E-03	657,636	3,064,077	0.0E+00	657,636	3,064,077	1.2E-03	0.0E+00
NUE-203	Nueces	Census Tract 54.08	Block Group 2	483550054082	Yes	No	8.5E-03	657,000	3,063,000	0.0E+00	657,000	3,063,336	1.1E-03	0.0E+00
NUE-204	Nueces	Census Tract 54.08	Block Group 3	483550054083	Yes	No	8.8E-03	657,337	3,063,487	0.0E+00	657,337	3,063,726	1.2E-03	0.0E+00
NUE-205	Nueces	Census Tract 54.09	Block Group 1	483550054091	Yes	No	6.9E-03	656,000	3,062,000	0.0E+00	656,000	3,062,512	1.1E-03	0.0E+00
NUE-206	Nueces	Census Tract 54.09	Block Group 2	483550054092	Yes	No	8.4E-03	656,692	3,062,466	0.0E+00	656,692	3,062,927	1.1E-03	0.0E+00
NUE-207	Nueces	Census Tract 54.10	Block Group 1	483550054101	Yes	Yes	1.1E-02	658,411	3,062,806	0.0E+00	658,502	3,062,806	9.6E-04	0.0E+00
NUE-208	Nueces	Census Tract 54.10	Block Group 2	483550054102	Yes	No	1.1E-02	658,000	3,063,000	0.0E+00	658,000	3,063,000	1.0E-03	0.0E+00
NUE-209	Nueces	Census Tract 54.11	Block Group 1	483550054111	Yes	No	1.1E-02	658,736	3,063,505	0.0E+00	659,000	3,063,505	9.9E-04	0.0E+00
NUE-210	Nueces	Census Tract 54.11	Block Group 2	483550054112	Yes	No	1.1E-02	658,308	3,063,803	0.0E+00	658,308	3,064,000	1.1E-03	0.0E+00
NUE-211	Nueces	Census Tract 54.11	Block Group 3	483550054113	Yes	No	1.1E-02	658,282	3,063,460	0.0E+00	658,282	3,063,562	1.1E-03	0.0E+00
NUE-212	Nueces	Census Tract 54.12	Block Group 1	483550054121	Yes	No	9.3E-03	657,218	3,062,424	0.0E+00	657,218	3,062,424	1.0E-03	0.0E+00
NUE-213	Nueces	Census Tract 54.12	Block Group 2	483550054122	Yes	No	9.6E-03	657,000	3,061,000	0.0E+00	658,000	3,061,000	8.9E-04	0.0E+00
NUE-214	Nueces	Census Tract 54.12	Block Group 3	483550054123	Yes	No	1.0E-02	657,880	3,061,927	0.0E+00	658,000	3,062,000	9.0E-04	0.0E+00
NUE-215	Nueces	Census Tract 54.13	Block Group 1	483550054131	Yes	No	1.1E-02	660,000	3,063,000	0.0E+00	660,000	3,063,000	8.7E-04	0.0E+00
NUE-216	Nueces	Census Tract 54.13	Block Group 2	483550054132	Yes	No	1.1E-02	659,581	3,063,038	0.0E+00	659,581	3,063,330	9.6E-04	0.0E+00
NUE-217	Nueces	Census Tract 54.14	Block Group 1	483550054141	Yes	No	8.5E-03	661,000	3,060,000	0.0E+00	661,000	3,061,000	8.5E-04	0.0E+00
NUE-218	Nueces	Census Tract 54.14	Block Group 2	483550054142	Yes	No	7.1E-03	660,843	3,062,399	0.0E+00	661,000	3,062,399	8.3E-04	0.0E+00
NUE-219	Nueces	Census Tract 54.15	Block Group 1	483550054151	Yes	No	1.0E-02	659,000	3,062,000	0.0E+00	660,000	3,062,000	8.4E-04	0.0E+00
NUE-220	Nueces	Census Tract 54.15	Block Group 2	483550054152	Yes	No	1.0E-02	659,132	3,061,256	0.0E+00	659,132	3,061,520	8.3E-04	0.0E+00
NUE-222	Nueces	Census Tract 54.16	Block Group 2	483550054162	Yes	No	9.7E-03	659,257	3,060,715	0.0E+00	659,295	3,060,715	5.0E-04	0.0E+00
NUE-223	Nueces	Census Tract 54.17	Block Group 1	483550054171	Yes	No	7.9E-03	659,355	3,059,735	0.0E+00	659,607	3,059,735	5.8E-04	0.0E+00
NUE-224	Nueces	Census Tract 54.17	Block Group 2	483550054172	Yes	No	9.0E-03	661,000	3,059,000	0.0E+00	663,000	3,060,000	7.2E-04	0.0E+00
NUE-225	Nueces	Census Tract 56.03	Block Group 1	483550056031	Yes	Yes	5.7E-03	631,000	3,079,000	0.0E+00	631,000	3,079,000	4.7E-04	0.0E+00
NUE-226	Nueces	Census Tract 56.03	Block Group 2	483550056032	Yes	Yes	3.6E-03	631,000	3,075,000	0.0E+00	631,045	3,075,543	6.8E-04	0.0E+00
NUE-227	Nueces	Census Tract 56.04	Block Group 1	483550056041	Yes	No	5.7E-03	632,000	3,078,000	0.0E+00	634,000	3,078,000	5.8E-04	0.0E+00
NUE-228	Nueces	Census Tract 56.04	Block Group 2	483550056042	Yes	Yes	4.3E-03	631,261	3,074,716	0.0E+00	631,368	3,075,500	7.0E-04	0.0E+00
NUE-229	Nueces	Census Tract 56.04	Block Group 3	483550056043	Yes	Yes	4.3E-03	632,000	3,075,000	0.0E+00	632,000	3,075,418	7.2E-04	0.0E+00
NUE-230	Nueces	Census Tract 56.05	Block Group 1	483550056051	Yes	Yes	6.2E-03	631,000	3,073,000	0.0E+00	631,000	3,074,000	6.7E-04	0.0E+00
NUE-231	Nueces	Census Tract 56.05	Block Group 2	483550056052	Yes	No	4.5E-03	630,198	3,074,143	0.0E+00	630,198	3,075,000	6.8E-04	0.0E+00
NUE-232	Nueces	Census Tract 56.05	Block Group 3	483550056053	Yes	Yes	2.6E-03	630,000	3,076,000	0.0E+00	630,000	3,076,000	4.8E-04	0.0E+00
NUE-233	Nueces	Census Tract 56.05	Block Group 4	483550056054	Yes	Yes	5.2E-03	631,000	3,074,000	0.0E+00	631,000	3,074,402	6.9E-04	0.0E+00
NUE-234	Nueces	Census Tract 56.06	Block Group 1	483550056061	Yes	Yes	6.6E-03	634,000	3,074,000	0.0E+00	634,000	3,077,000	7.5E-04	0.0E+00
NUE-237	Nueces	Census Tract 58.03	Block Group 2	483550058032	Yes	Yes	5.0E-03	623,000	3,085,000	0.0E+00	623,000	3,086,000	4.5E-04	0.0E+00
NUE-238	Nueces	Census Tract 58.03	Block Group 3	483550058033	Yes	No	5.6E-03	627,000	3,085,000	0.0E+00	629,000	3,091,000	5.6E-04	0.0E+00
NUE-239	Nueces	Census Tract 58.03	Block Group 4	483550058034	Yes	No	2.5E-03	620,181	3,079,975	0.0E+00	620,181	3,079,975	4.0E-04	0.0E+00
NUE-240	Nueces	Census Tract 58.04	Block Group 1	483550058041	Yes	No	7.6E-03	640,000	3,080,000	0.0E+00	640,000	3,081,000	9.1E-04	0.0E+00
NUE-241	Nueces	Census Tract 58.04	Block Group 2	483550058042	Yes	No	6.3E-03	634,000	3,079,000	0.0E+00	634,000	3,084,000	7.0E-04	0.0E+00
NUE-242	Nueces	Census Tract 59	Block Group 1	483550059001	Yes	Yes	5.2E-03	623,000	3,070,000	0.0E+00	623,000	3,076,000	5.3E-04	0.0E+00
NUE-243	Nueces	Census Tract 59	Block Group 2	483550059002	Yes	Yes	6.0E-03	630,000	3,072,000	0.0E+00	630,000	3,076,000	6.6E-04	0.0E+00
NUE-244	Nueces	Census Tract 59	Block Group 3	483550059003	Yes	Yes	5.0E-03	624,000	3,069,000	0.0E+00	628,000	3,069,000	4.2E-04	0.0E+00
NUE-245	Nueces	Census Tract 60	Block Group 1	483550060001	Yes	Yes	3.9E-03	627,000	3,061,000	0.0E+00	627,000	3,062,000	3.6E-04	0.0E+00
NUE-246	Nueces	Census Tract 60	Block Group 2	483550060002	Yes	No	7.4E-03	642,000	3,063,000	0.0E+00	642,000	3,073,000	7.7E-04	0.0E+00
NUE-247	Nueces	Census Tract 60	Block Group 3	483550060003	Yes	No	6.8E-03	640,000	3,060,000	0.0E+00	642,000	3,060,000	6.5E-04	0.0E+00
NUE-252	Nueces	Census Tract 62.02	Block Group 2	483550062022	Yes	No	5.1E-03	674,402	3,053,864	0.0E+00	674,580	3,053,910	3.7E-04	0.0E+00
NUE-254	Nueces	Census Tract 62.02	Block Group 2	483550062022	Yes	No	5.1E-03	674,402	3,053,864	0.0E+00	674,580	3,053,910	3.7E-04	0.0E+00
NUE-261	Nueces	Census Tract 62.04	Block Group 2	483550062043	Yes	No	8.9E-03	673,000	3,056,000	0.0E+00	674,000	3,057,000	6.8E-04	0.0E+00
NUE-263	Nueces	Census Tract 63	Block Group 2	483550063002	Yes	Yes	7.2E-03	641,000	3,081,000	0.0E+00	641,000	3,082,000	8.3E-04	0.0E+00
NUE-264	Nueces	Census Tract 64	Block Group 1	483550064001	Yes	No	9.8E-03	656,379	3,076,003	1.0E-05	656,494	3,076,523	1.8E-03	0.0E+00
NUE-265	Nueces	Census Tract 64	Block Group 2	483550064002	Yes	Yes	1.1E-02	657,000	3,076,000	1.0E-05	657,074	3,076,407	1.7E-03	0.0E+00
NUE-266	Nueces	Census Tract 64	Block Group 3	483550064003	Yes	No	1.2E-02	657,614	3,075,856	1.0E-05	657,647	3,075,856	1.7E-03	0.0E+00

San Patricio County														
SAN-1	San Patricio	Census Tract 102.01	Block Group 1	484090102011	No	Yes	1.3E-02	680,000	3,087,000	1.0E-05	681,000	3,088,000	2.7E-03	0.0E+00
SAN-3	San Patricio	Census Tract 102.01	Block Group 3	484090102013	Yes	Yes	1.2E-02	681,838	3,087,420	0.0E+00	682,392	3,088,313	2.3E-03	0.0E+00
SAN-4	San Patricio	Census Tract 102.02	Block Group 1	484090102021	Yes	Yes	1.2E-02	682,000	3,090,000	0.0E+00	682,000	3,090,000	2.4E-03	0.0E+00
SAN-5	San Patricio	Census Tract 102.02	Block Group 2	484090102022	Yes	No	1.1E-02	681,000	3,089,000	0.0E+00	681,000	3,089,000	2.3E-03	0.0E+00
SAN-6	San Patricio	Census Tract 102.02	Block Group 3	484090102023	Yes	No	1.3E-02	679,000	3,087,000	1.0E-05	680,000	3,089,000	2.7E-03	0.0E+00
SAN-7	San Patricio	Census Tract 102.02	Block Group 4	484090102024	Yes	Yes	1.2E-02	681,000	3,090,000	1.0E-05	681,000	3,091,000	2.4E-03	0.0E+00
SAN-10	San Patricio	Census Tract 103.01	Block Group 3	484090103013	Yes	No	1.6E-02	674,000	3,086,500	2.0E-05	679,000			

**Table C-24**  
**Maximum Concentrations By EJ Census Block**  
**Corpus Christi Liquefaction LLC**

**POM**

CAS 130498-29-2  
 1-Hour ESL 0.5 µg/m<sup>3</sup>  
 Annual ESL 0.05 µg/m<sup>3</sup>

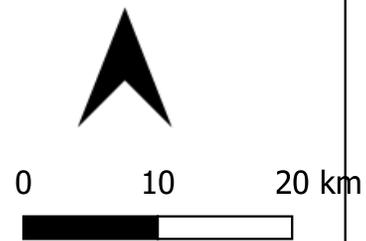
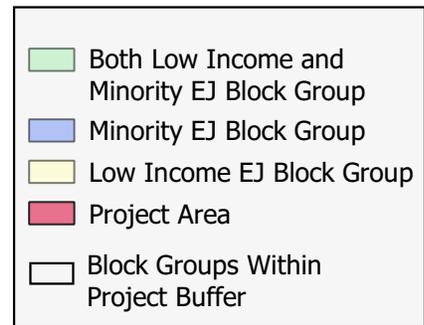
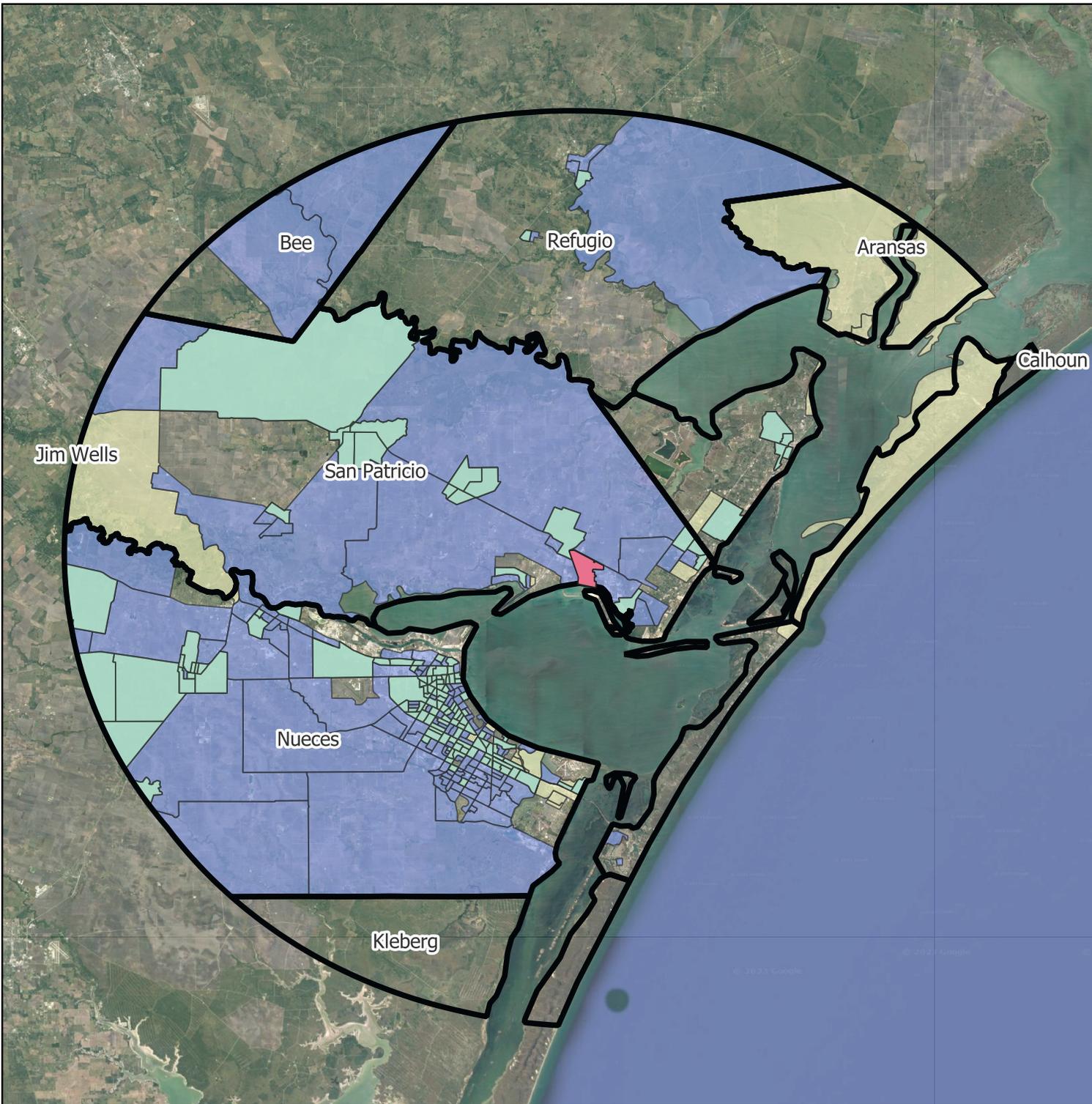
BGID [1]	County	Census Tract	Block Group	Census Geocode	Minority EJ	Income EJ	Maximum Impact [2]							
							All LNG Terminal (Stage 1/2 and 9 Trains for Stage 3)					Trains 8 and 9		
							Hourly (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Annual (µg/m <sup>3</sup> )	UTM East (m)	UTM North (m)	Hourly (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )
SAN-36	San Patricio	Census Tract 110	Block Group 1	484090110001	Yes	Yes	8.6E-03	648,000	3,098,000	1.0E-05	650,000	3,102,000	1.4E-03	0.0E+00
SAN-37	San Patricio	Census Tract 110	Block Group 2	484090110002	Yes	Yes	9.2E-03	652,000	3,102,000	1.0E-05	652,000	3,103,000	1.4E-03	0.0E+00
SAN-38	San Patricio	Census Tract 110	Block Group 3	484090110003	Yes	Yes	7.7E-03	646,112	3,102,410	1.0E-05	646,112	3,102,410	1.2E-03	0.0E+00
SAN-39	San Patricio	Census Tract 110	Block Group 4	484090110004	Yes	Yes	8.1E-03	646,000	3,102,000	1.0E-05	646,000	3,102,000	1.0E-03	0.0E+00
SAN-40	San Patricio	Census Tract 111	Block Group 1	484090111001	Yes	Yes	5.4E-03	640,000	3,092,000	1.0E-05	640,000	3,093,000	7.4E-04	0.0E+00
SAN-41	San Patricio	Census Tract 111	Block Group 2	484090111002	Yes	No	5.5E-03	638,000	3,092,000	0.0E+00	639,000	3,093,000	6.3E-04	0.0E+00
SAN-42	San Patricio	Census Tract 111	Block Group 3	484090111003	Yes	No	6.1E-03	640,000	3,091,000	1.0E-05	640,000	3,091,743	5.2E-04	0.0E+00
SAN-43	San Patricio	Census Tract 112	Block Group 1	484090112001	Yes	No	5.9E-03	628,000	3,113,000	0.0E+00	632,000	3,115,000	6.9E-04	0.0E+00
SAN-44	San Patricio	Census Tract 112	Block Group 3	484090112003	No	Yes	6.3E-03	635,000	3,091,000	0.0E+00	635,000	3,104,000	6.4E-04	0.0E+00
<b>Bee County</b>														
BEE-1	Bee	Census Tract 9502.01	Block Group 3	480259502013	Yes	No	6.6E-03	649,000	3,126,000	1.0E-05	656,000	3,137,000	6.4E-04	0.0E+00
BEE-2	Bee	Census Tract 9506	Block Group 1	480259506001	Yes	No	6.4E-03	640,000	3,113,000	1.0E-05	644,000	3,129,000	8.5E-04	0.0E+00
<b>Kleberg County</b>														
<b>Jim Wells County</b>														
JIM-1	Jim Wells	Census Tract 9501.02	Block Group 2	482499501022	Yes	No	2.5E-03	610,712	3,098,034	0.0E+00	618,322	3,099,450	3.2E-04	0.0E+00
<b>Aransas County</b>														
ARA-1	Aransas	Census Tract 9501.01	Block Group 1	480079501011	No	Yes	4.3E-03	698,000	3,114,000	0.0E+00	699,000	3,116,000	4.5E-04	0.0E+00
ARA-2	Aransas	Census Tract 9501.01	Block Group 2	480079501012	No	Yes	8.2E-03	700,000	3,097,000	0.0E+00	713,000	3,130,000	1.3E-03	0.0E+00
ARA-5	Aransas	Census Tract 9501.02	Block Group 3	480079501023	No	Yes	7.0E-03	693,000	3,106,000	0.0E+00	694,000	3,111,000	7.2E-04	0.0E+00
ARA-10	Aransas	Census Tract 9503.01	Block Group 2	480079503012	Yes	Yes	8.2E-03	689,000	3,102,000	0.0E+00	691,000	3,105,000	9.6E-04	0.0E+00
ARA-11	Aransas	Census Tract 9503.01	Block Group 3	480079503013	Yes	Yes	7.3E-03	690,322	3,101,635	0.0E+00	691,000	3,102,000	8.9E-04	0.0E+00
ARA-14	Aransas	Census Tract 9504	Block Group 1	480079504001	Yes	Yes	8.9E-03	690,000	3,100,000	0.0E+00	690,000	3,101,000	8.3E-04	0.0E+00
ARA-17	Aransas	Census Tract 9504	Block Group 4	480079504004	Yes	Yes	8.6E-03	690,554	3,100,161	0.0E+00	691,000	3,101,000	8.4E-04	0.0E+00
ARA-18	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	1.2E-02	682,000	3,094,000	0.0E+00	684,000	3,096,000	2.2E-03	0.0E+00
ARA-20	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	1.1E-02	686,000	3,093,000	0.0E+00	686,000	3,094,000	1.7E-03	0.0E+00
ARA-25	Aransas	Census Tract 9505.01	Block Group 1	480079505011	No	Yes	1.2E-02	682,000	3,094,000	0.0E+00	684,000	3,096,000	2.2E-03	0.0E+00
ARA-27	Aransas	Census Tract 9505.02	Block Group 1	480079505021	Yes	Yes	1.1E-02	686,000	3,093,000	0.0E+00	686,000	3,094,000	1.7E-03	0.0E+00
<b>Refugio County</b>														
REF_2	Refugio	Census Tract 9502	Block Group 2	483919502002	Yes	No	3.9E-03	669,000	3,134,000	0.0E+00	671,000	3,135,000	3.0E-04	0.0E+00
REF_3	Refugio	Census Tract 9502	Block Group 3	483919502003	Yes	No	4.7E-03	668,000	3,133,000	0.0E+00	669,000	3,133,000	3.8E-04	0.0E+00
REF_4	Refugio	Census Tract 9502	Block Group 4	483919502004	Yes	Yes	4.2E-03	669,000	3,131,000	0.0E+00	670,000	3,132,000	3.3E-04	0.0E+00
REF_6	Refugio	Census Tract 9504	Block Group 2	483919504002	Yes	No	8.9E-03	694,000	3,131,000	0.0E+00	696,000	3,138,000	9.7E-04	0.0E+00
REF_7	Refugio	Census Tract 9504	Block Group 3	483919504003	Yes	Yes	4.0E-03	664,044	3,124,381	1.0E-05	664,044	3,125,000	3.4E-04	0.0E+00
REF_8	Refugio	Census Tract 9504	Block Group 4	483919504004	Yes	No	3.8E-03	665,000	3,125,000	1.0E-05	665,000	3,125,000	3.3E-04	0.0E+00

1. BGID based on 3-letter county prefix and numerical order of the block group within its respective county.  
 2. AERMOD truncates reported concentrations at 0.00000.

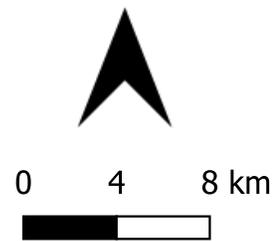
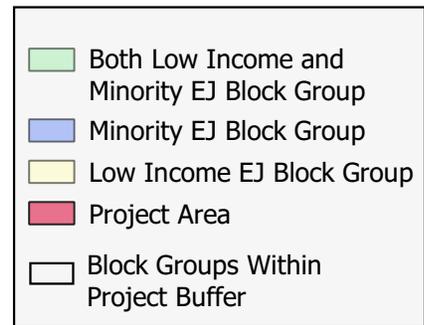
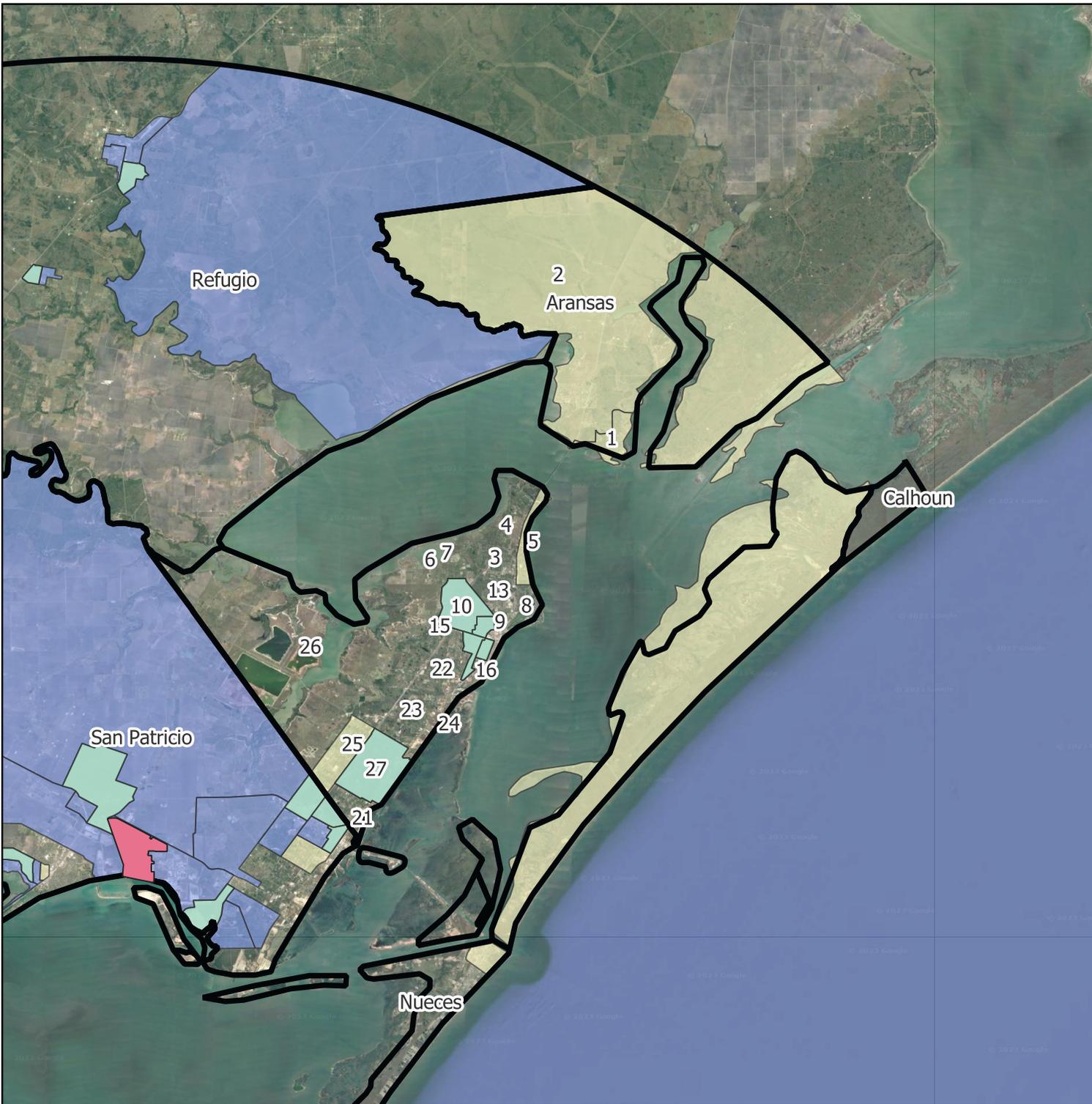
## APPENDIX D. EJ CENSUS BLOCK LOCATIONS

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<b>Figure Number</b>	<b>Area</b>
D-1	50-kilometer Area
D-2	Aransas County
D-3	Bee County
D-4	Calhoun County
D-5	Jim Wells County
D-6	Kleberg County
D-7	Nueces County - West
D-8	Nueces County - Northwest
D-9	Nueces County - Southeast
D-10	Refugio County
D-11	San Patricio County

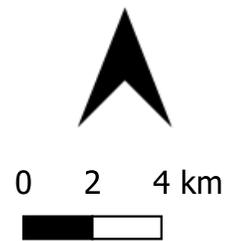
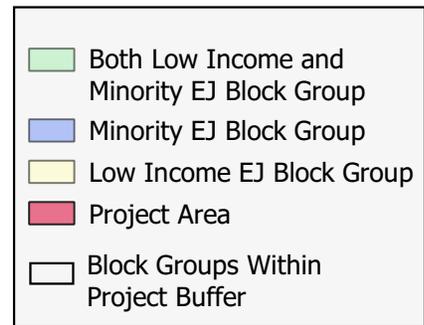
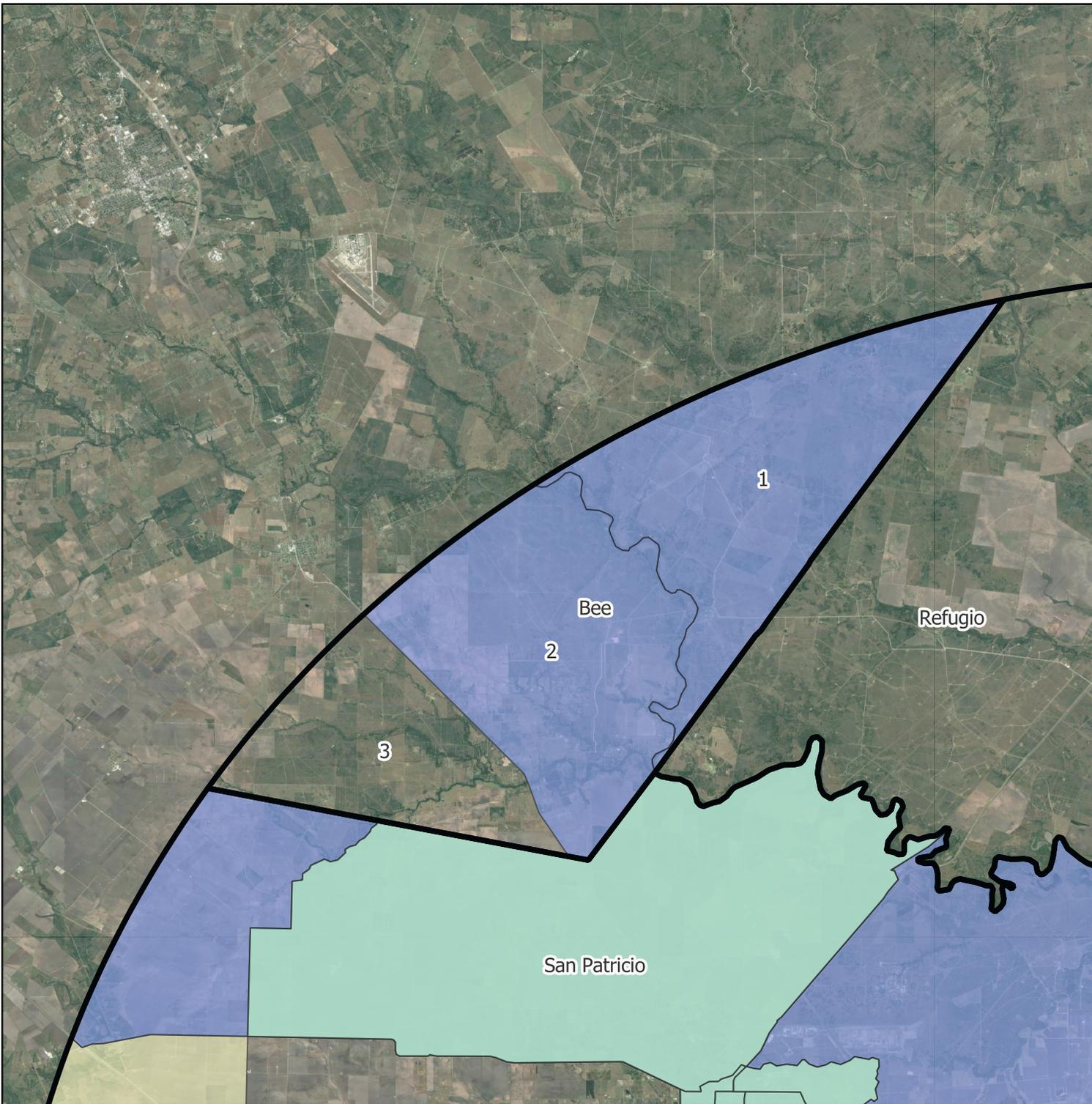


**FIGURE D-1**  
**EJ COMMUNITIES**  
**BY CENSUS BLOCK GROUP**  
 CORPUS CHRISTI  
 LIQUEFACTION, LLC  
 TRAINS 8&9 PROJECT



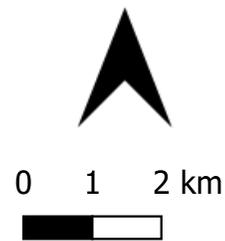
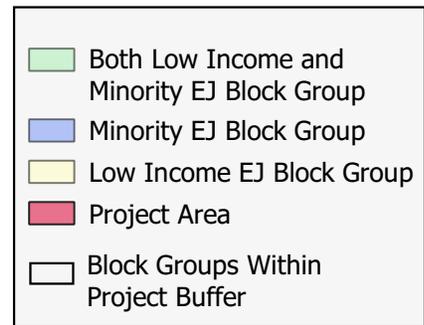
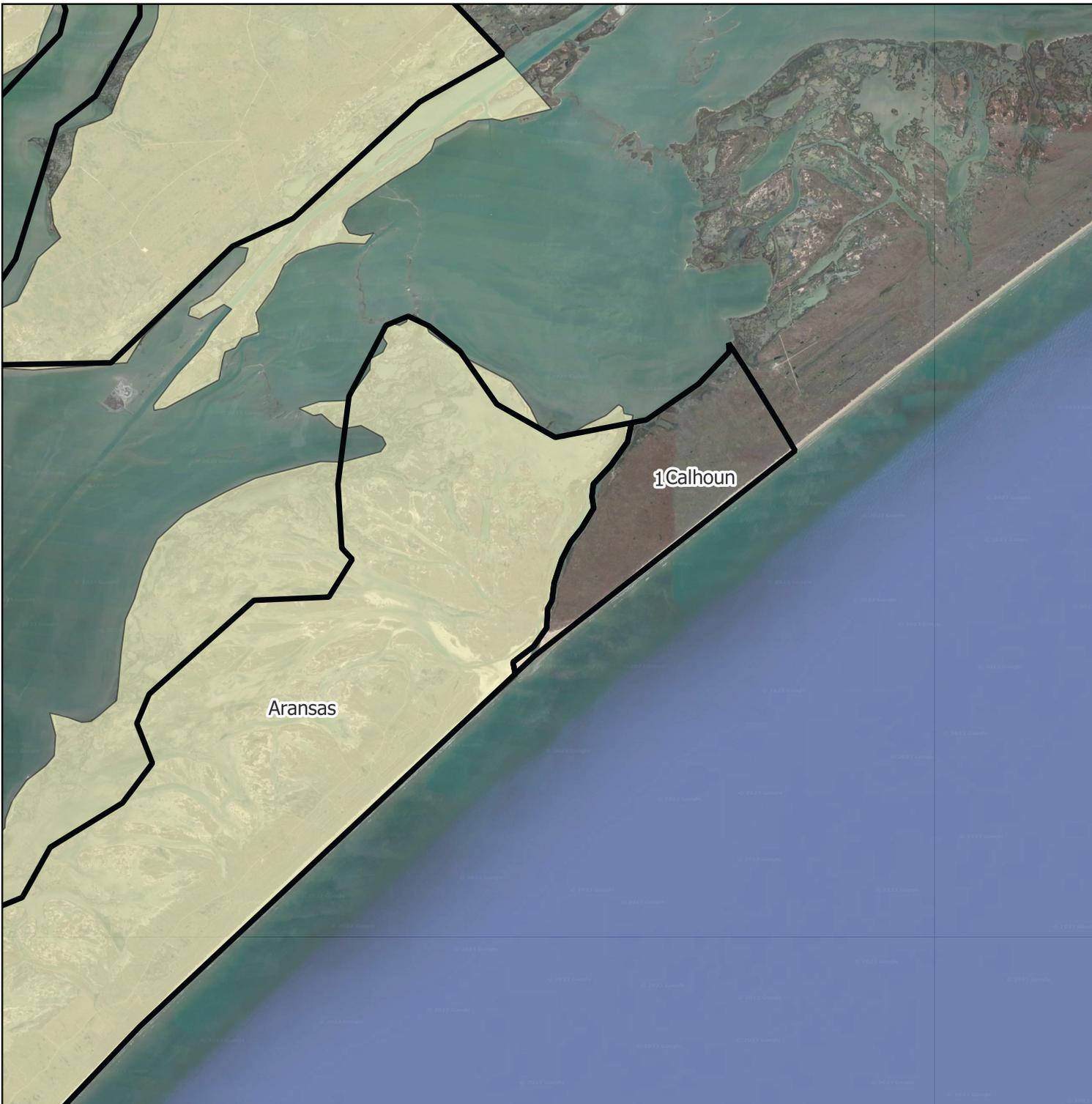
**FIGURE D-2**  
**ARANSAS COUNTY**  
**EJ COMMUNITIES**  
**BY CENSUS BLOCK GROUP**

CORPUS CHRISTI  
 LIQUEFACTION, LLC  
 TRAINS 8&9 PROJECT



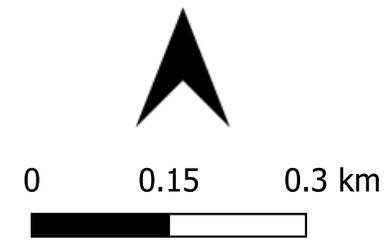
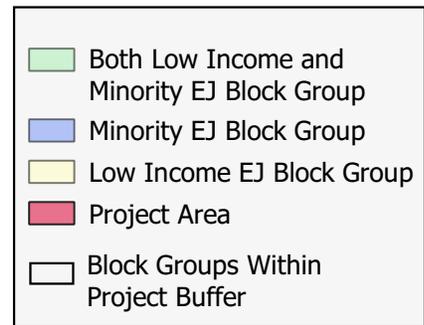
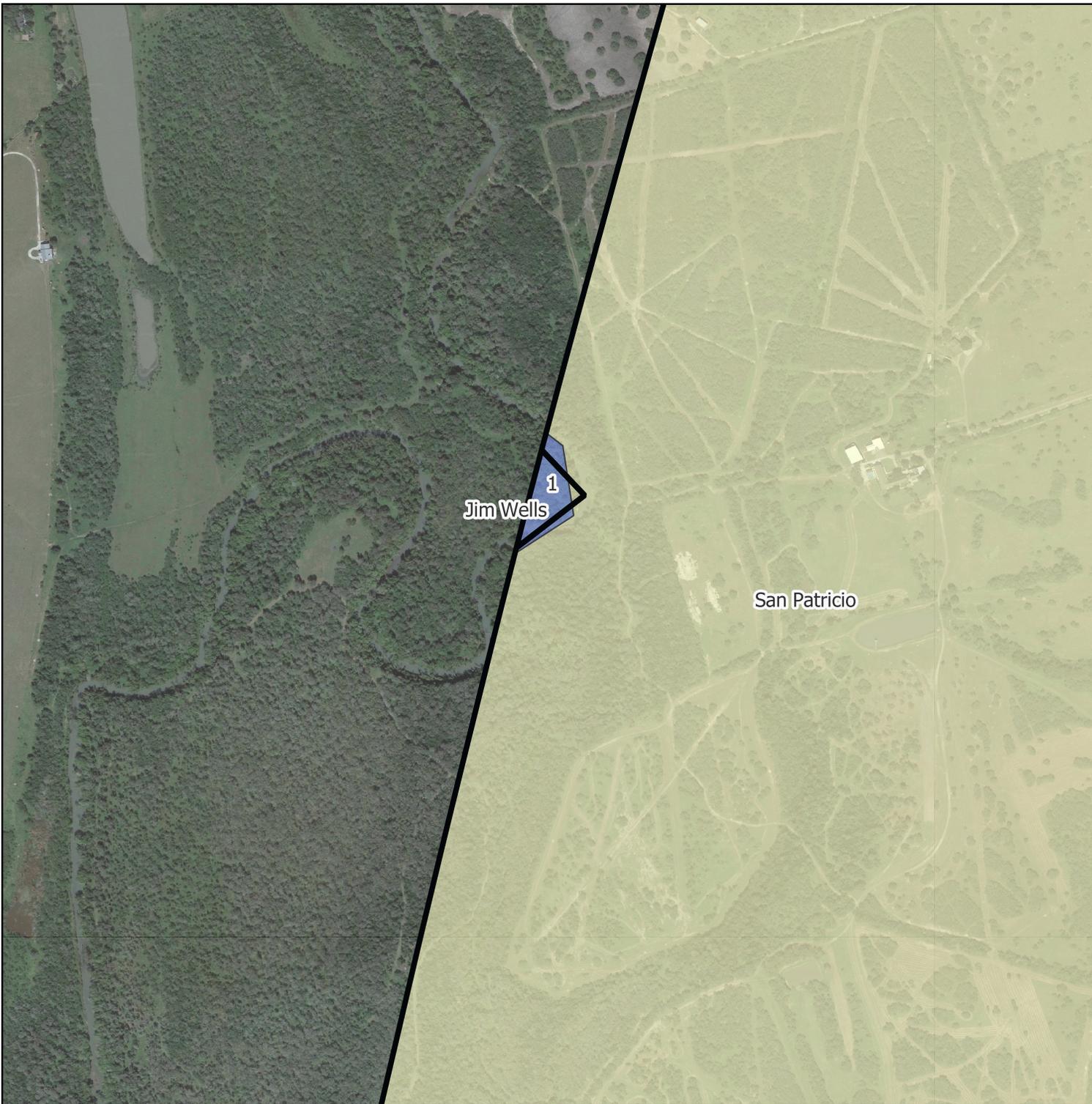
**FIGURE D-3  
BEE COUNTY  
EJ COMMUNITIES  
BY CENSUS BLOCK GROUP**

CORPUS CHRISTI  
LIQUEFACTION, LLC  
TRAINS 8&9 PROJECT



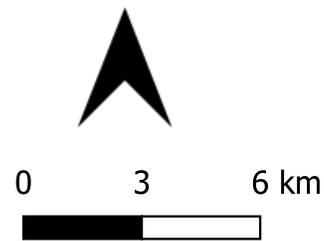
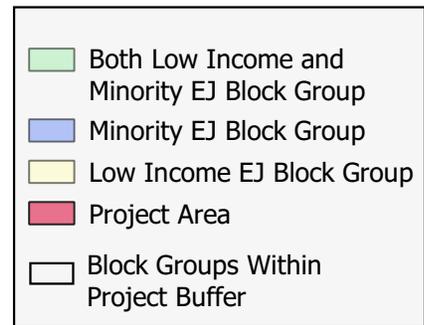
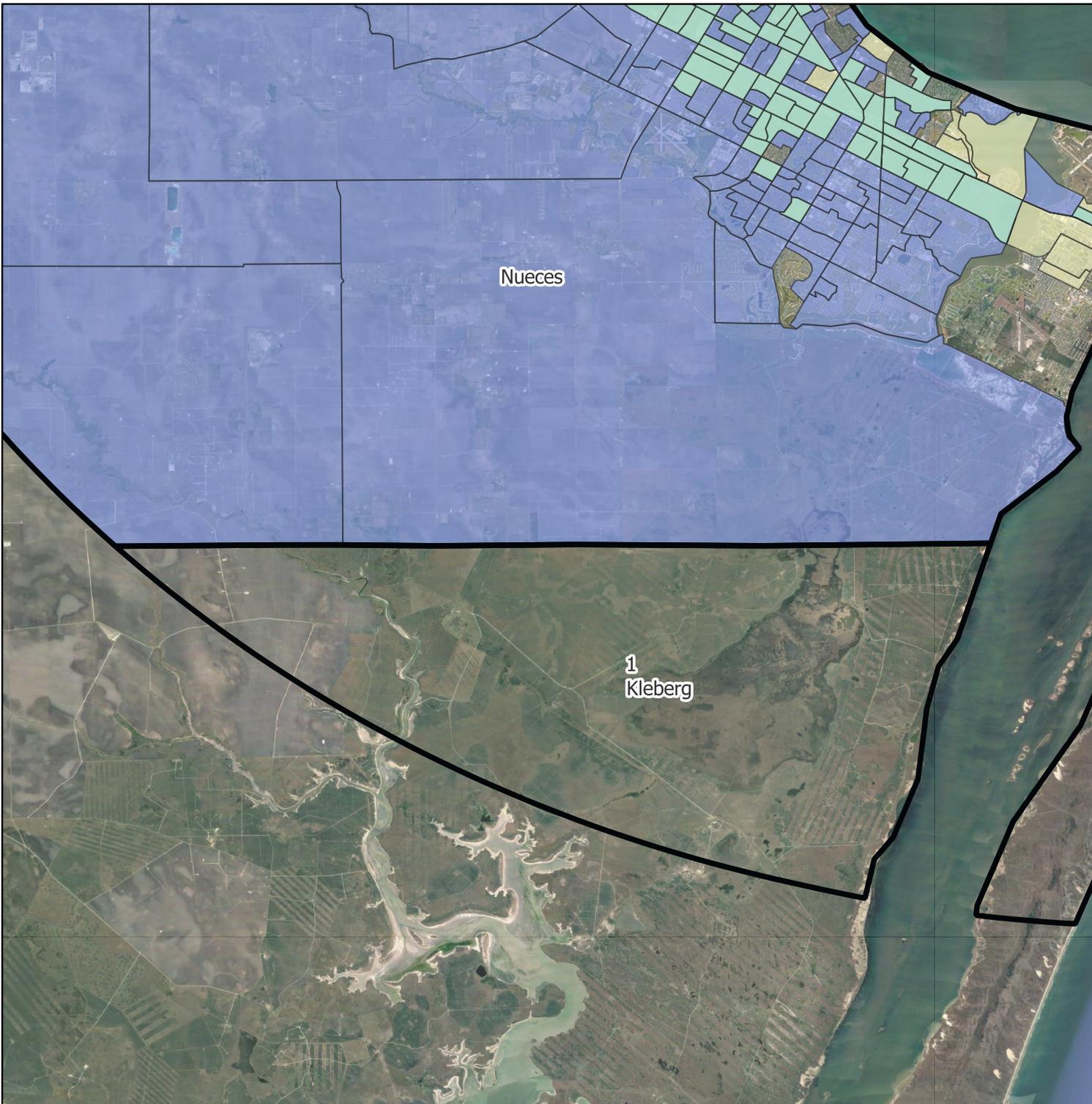
**FIGURE D-4  
CALHOUN COUNTY  
EJ COMMUNITIES  
BY CENSUS BLOCK GROUP**

CORPUS CHRISTI  
LIQUEFACTION, LLC  
TRAINS 8&9 PROJECT



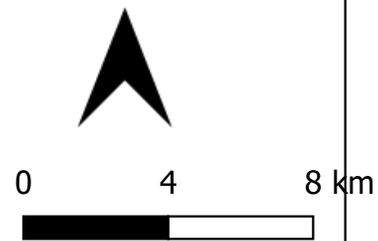
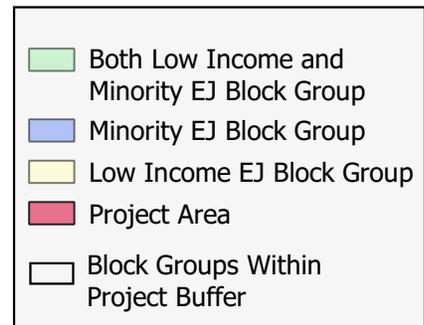
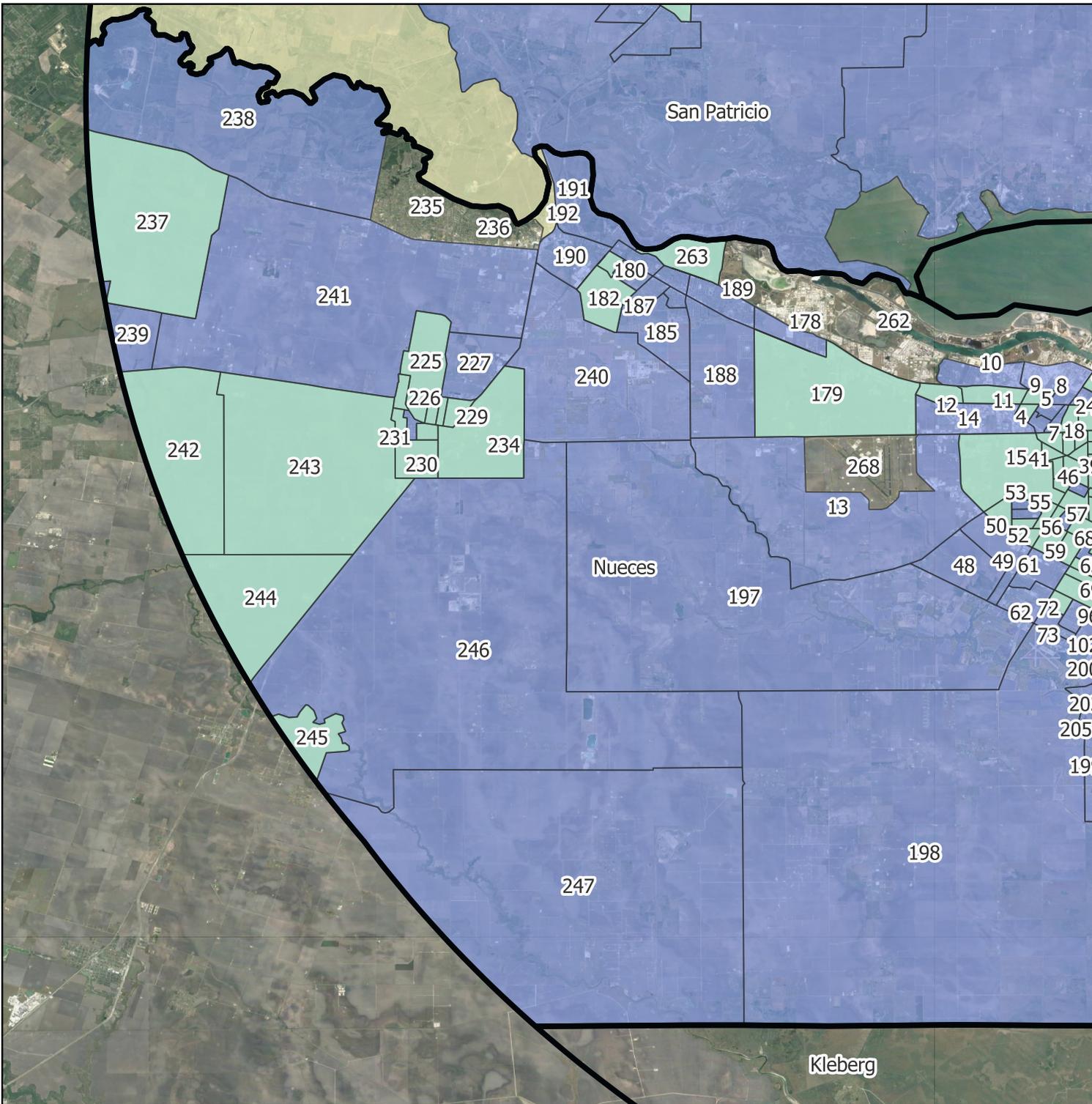
**FIGURE D-5**  
**JIM WELLS COUNTY**  
**EJ COMMUNITIES**  
**BY CENSUS BLOCK GROUP**

CORPUS CHRISTI  
 LIQUEFACTION, LLC  
 TRAINS 8&9 PROJECT



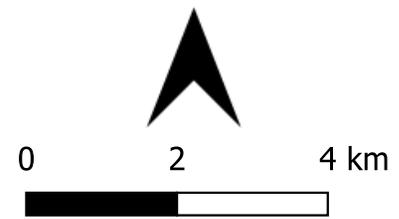
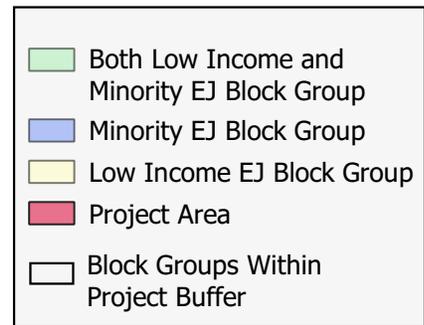
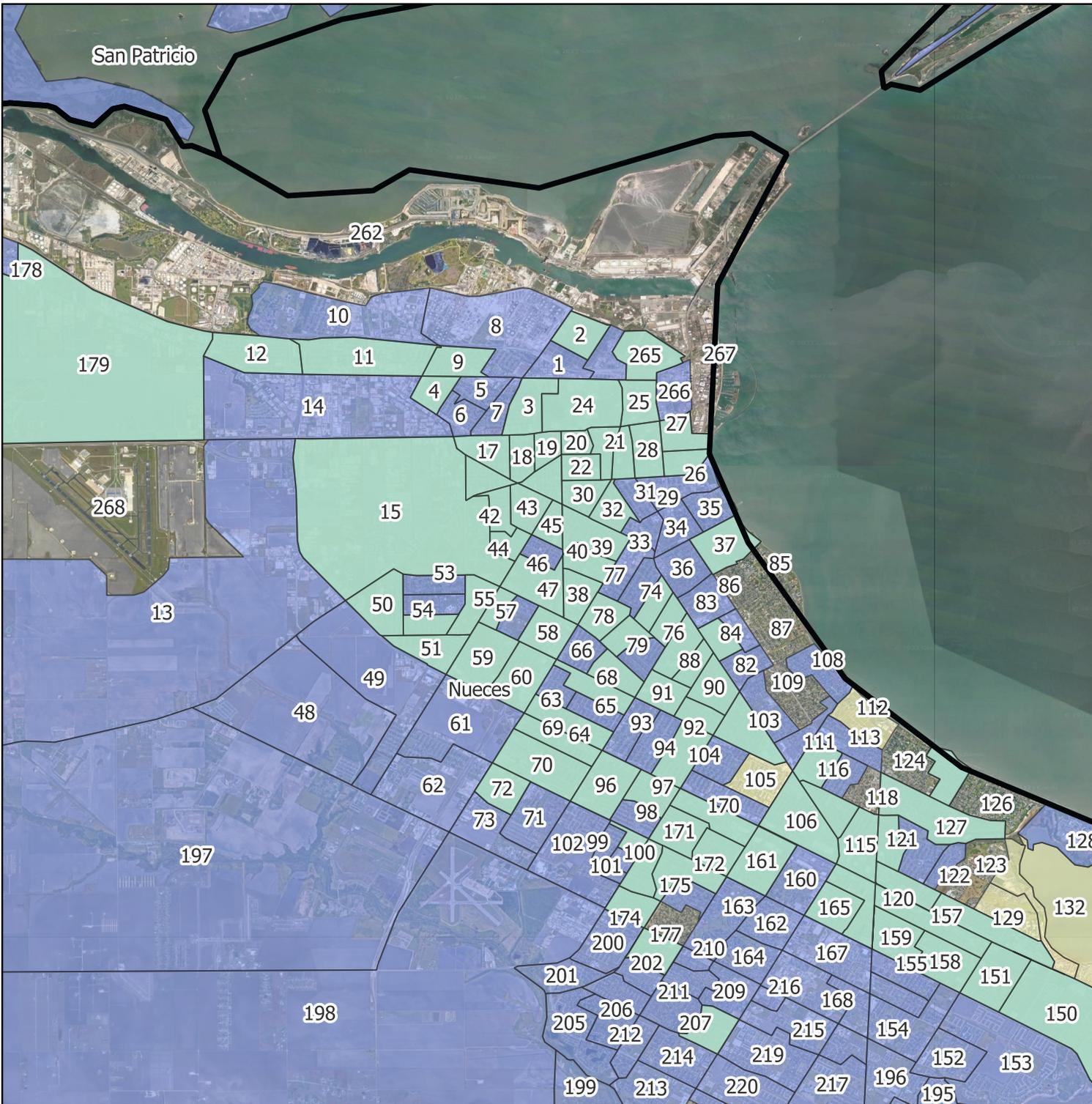
**FIGURE D-6  
KLEBERG COUNTY  
EJ COMMUNITIES  
BY CENSUS BLOCK GROUP**

CORPUS CHRISTI  
LIQUEFACTION, LLC  
TRAINS 8&9 PROJECT

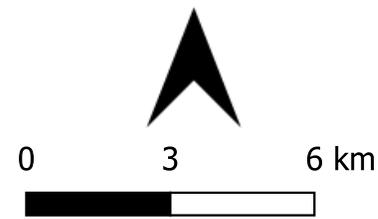
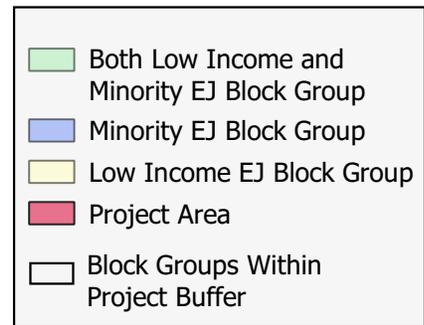
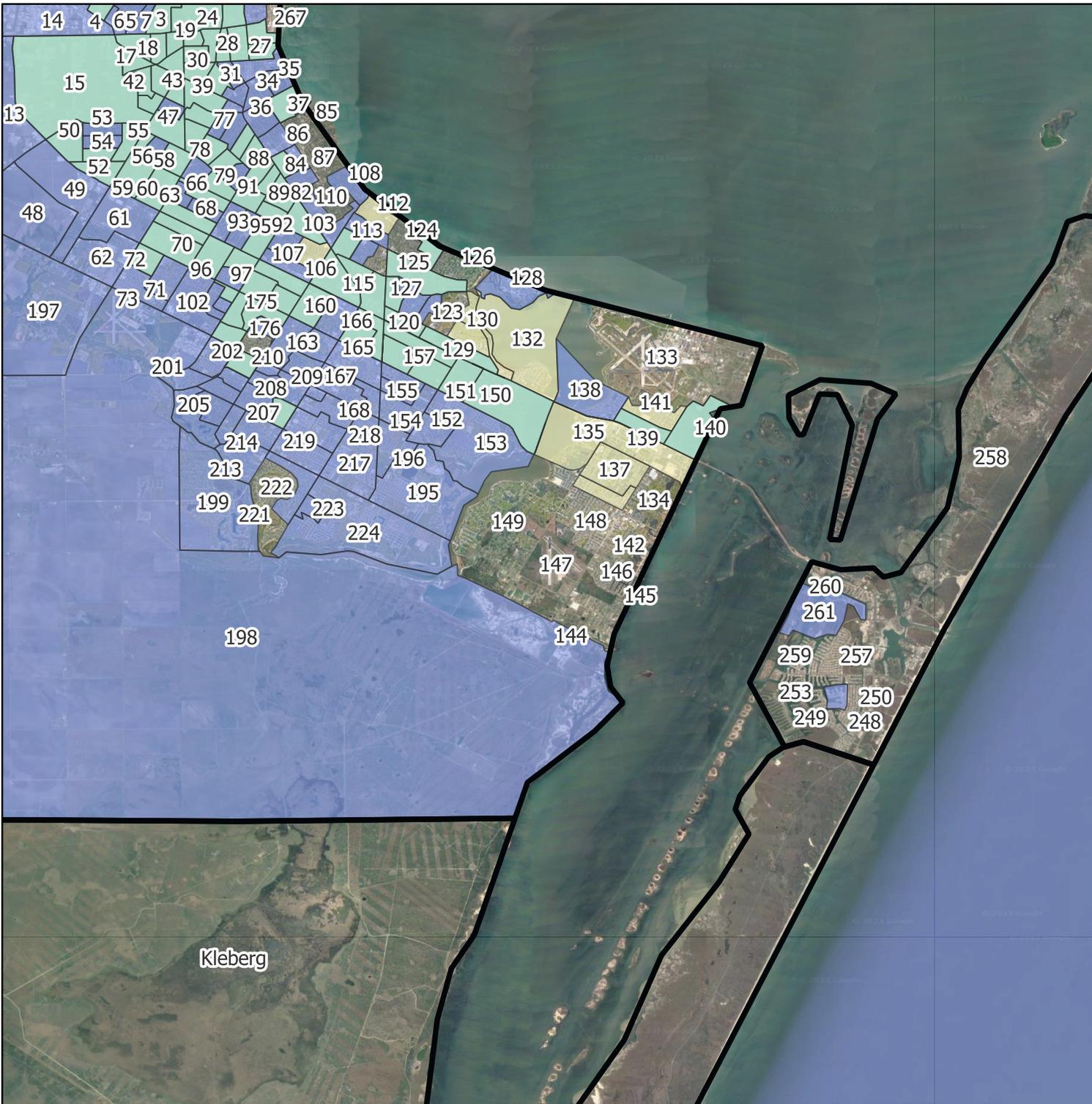


**FIGURE D-7  
 NUECES COUNTY - WEST  
 EJ COMMUNITIES  
 BY CENSUS BLOCK GROUP**

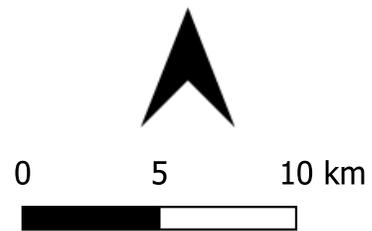
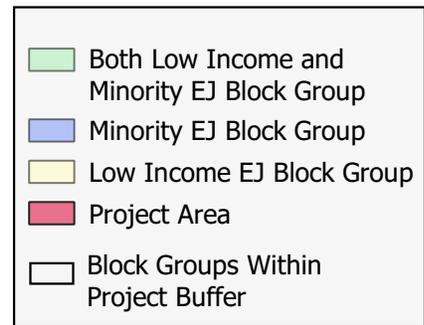
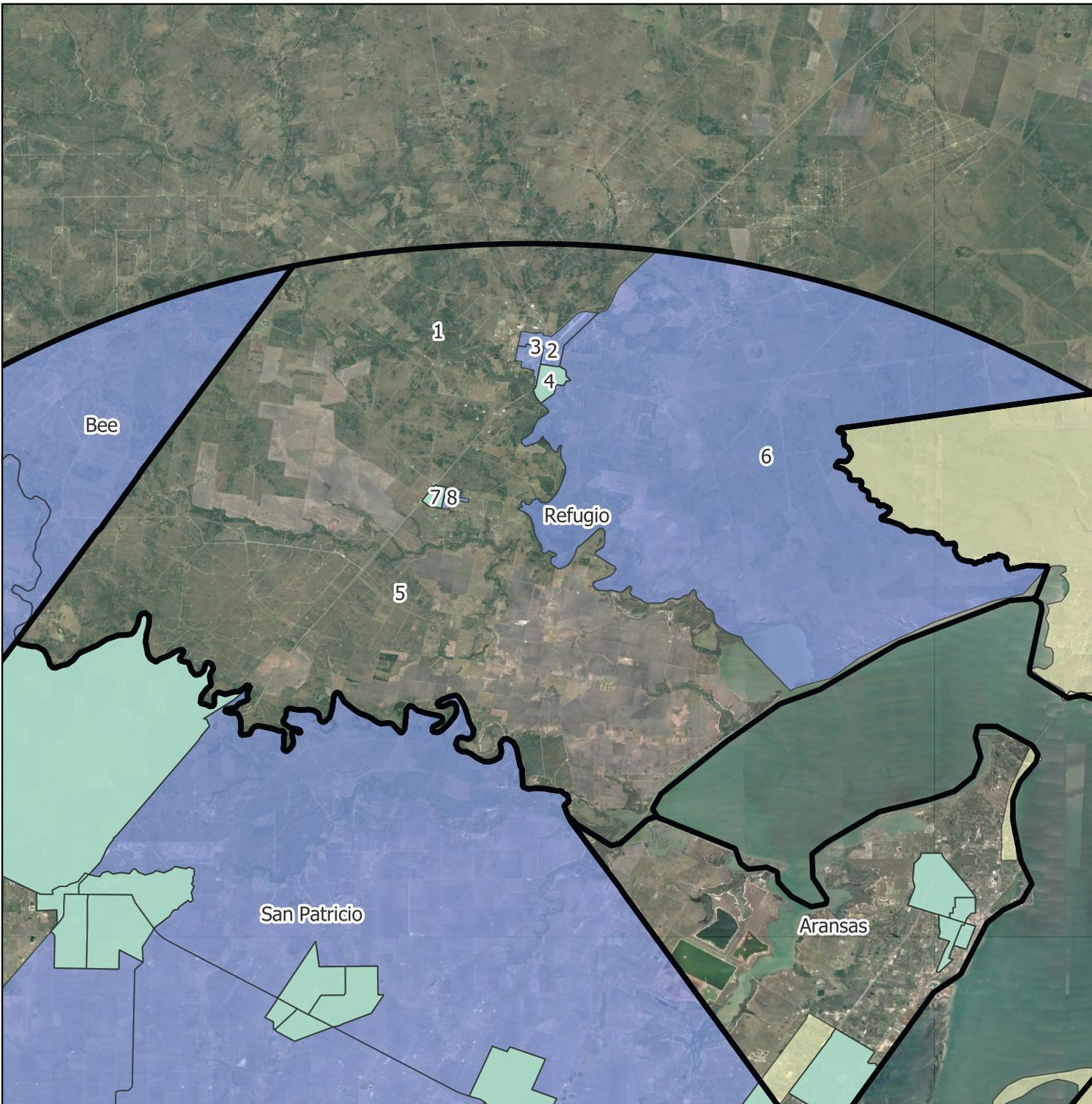
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 LIQUEFACTION, LLC  
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**FIGURE D-8**  
**NUECES COUNTY -**  
**NORTHEAST**  
**EJ COMMUNITIES**  
**BY CENSUS BLOCK GROUP**  
 CORPUS CHRISTI  
 LIQUEFACTION, LLC  
 TRAINS 8&9 PROJECT

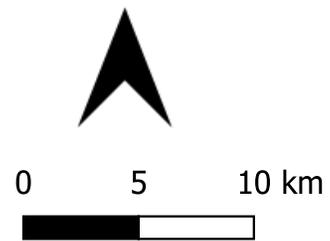
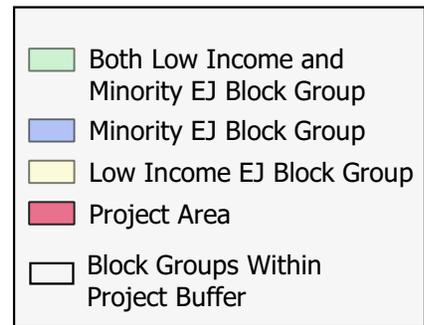
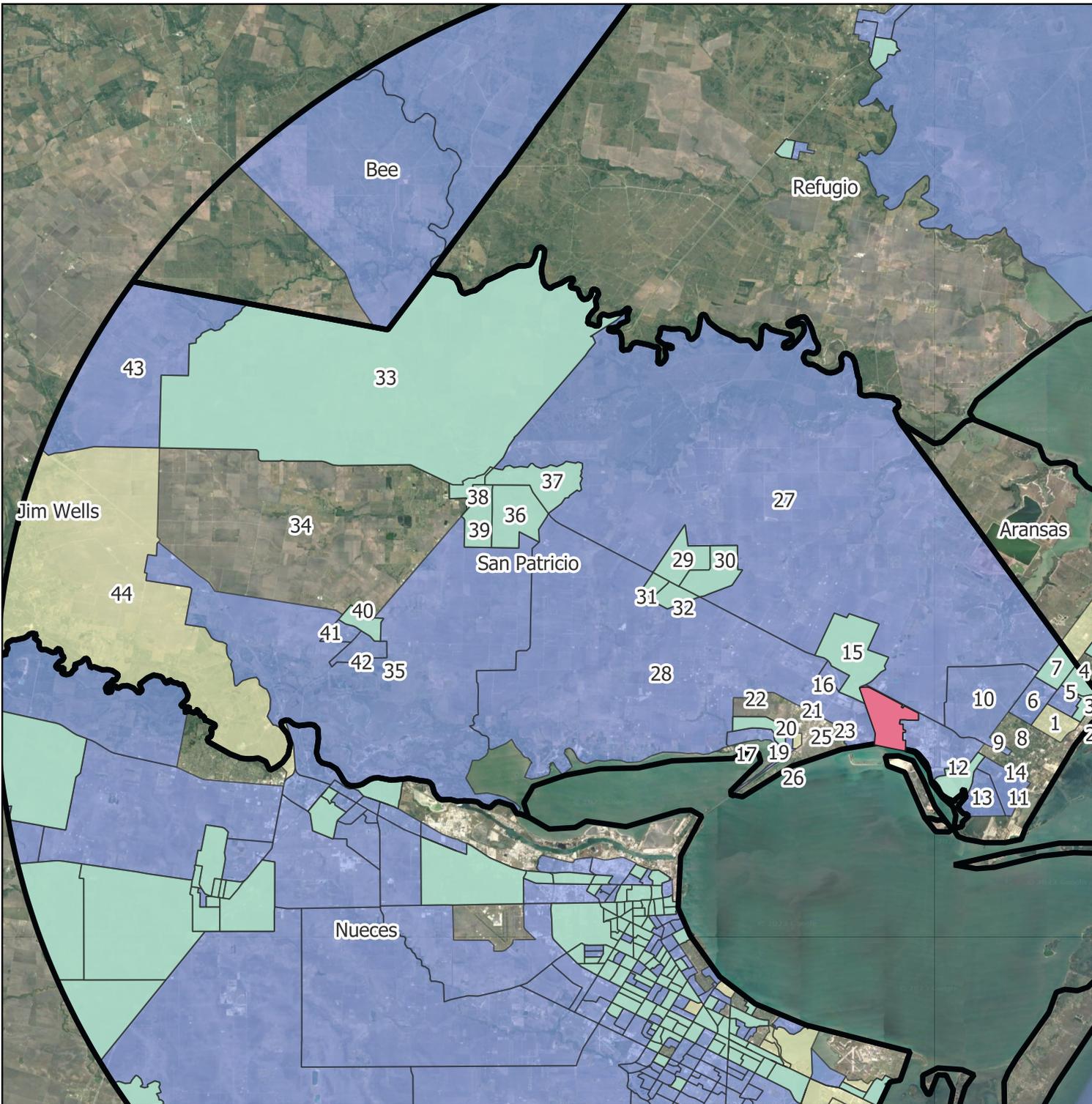


**FIGURE D-9**  
**NUECES COUNTY -**  
**SOUTHEAST**  
**EJ COMMUNITIES**  
**BY CENSUS BLOCK GROUP**  
 CORPUS CHRISTI  
 LIQUEFACTION, LLC  
 TRAINS 8&9 PROJECT



**FIGURE D-10  
REFUGIO COUNTY  
EJ COMMUNITIES  
BY CENSUS BLOCK GROUP**

CORPUS CHRISTI  
LIQUEFACTION, LLC  
TRAINS 8&9 PROJECT



**FIGURE D-11  
SAN PATRICIO COUNTY  
EJ COMMUNITIES  
BY CENSUS BLOCK GROUP**

CORPUS CHRISTI  
LIQUEFACTION, LLC  
TRAINS 8&9 PROJECT

## APPENDIX E. HAP EMISSION CALCULATION INFORMATION

Page Number	Project	Description	Permitting Action/Submittal Date
E-1	Stage 1 and 2	Routine Process Flaring	Pending Amendment to Permit 105710, TCEQ Project No. 327940, October 2022 update
E-2		Marine Flare	Pending Amendment to Permit 105710, TCEQ Project No. 355661, submitted March 30, 2023
E-4		Turbines	Issued Amendment to Permit 105710, TCEQ Project No. 274624, issued July 20, 2018
E-6		Thermal Oxidizers	
E-9		Emergency Generator Engines	
E-10		Fire Water Pump Engines	
E-11		Piping Fugitives	
E-15		Short-term Tanks, Truck Loading	
E-20		Annual Tanks	
E-24		MSS Flaring	
E-28		Annual Truck Loading	Issued Amendment to Permit 105710, TCEQ Project No. 310514, issued November 4, 2020
E-32		Stage 3	Hot Oil Furnaces
E-34	Thermal Oxidizers		
E-36	Routine Process Flaring		
E-42	Emergency Generator Engines		
E-43	Fire Water Pump Engines		
E-44	Piping Fugitives		
E-48	MSS Flaring		Update to Pending Amendment to Permit 139749, TCEQ Project No. 355660, submitted October 18, 2023

**Table A-1**  
**Process Flare Emissions**  
**Corpus Christi Liquefaction Stage 1&2**

Revised October 2022

EPNs: WTDYFLR1, WTDYFLR2

Basis											
Stream	Max Flow (per Train) (lb/hr)	Average Flow (per Train) (lb/hr)	hr/yr	No. Flares Hourly	No. Trains Hourly	Short-term Safety Factor	lb/hr	No. Flares Annual	No. Trains Annual	ton/yr	
Wet/Dry Elevated Flare Pilot Gas	13.8	13.8	8,760	4			55.1	4		242	Combined Hourly LHV 378 btu/scf
Purge Gas	700	700	8,760		3	10%	2,310.0		3	9,198	H <sub>2</sub> S Control Efficiency 98%
Vent Gas		625	8,760						3	8,213	Hourly NO <sub>x</sub> Emission Factor (E.F.) 0.1380 lb/MMBtu
Light-Ends	1,286	779	3,100		3		3,858.0		3	3,622	CO Emission Factor 0.5496 lb/MMBtu
Propane Gas	79	79	8,760		3	10%	260.7		3	1,038	Ann. NO <sub>x</sub> E.F. (>1000 btu/scf) 0.1380 lb/MMBtu
Ethylene Gas	66.3	66.3	8,760		3	10%	218.8		3	871	Ann. NO <sub>x</sub> E.F. (<1000 btu/scf) 0.0641 lb/MMBtu
Methane Gas	41.3	41.3	8,760		3	10%	136.4		3	543	Amount of annual flow greater than 1000 btu/scf 40.00 %
Pipeline Gas	15	15	8,760		2	10%	33.0		2	131	Amount of annual flow less than 1000 btu/scf 60.00 %
AGRU Vent Gas	3.5	3.5	8,760		2	10%	7.7		2	31	
Acid Gas	92,568	48,583	1,000		1		92,568.0		3	72,875	
Assist Gas (for acid gas)	18,500	4,000	1,000		1		18,500.0		3	6,000	

Pollutant	Emission Rates	
	Max Hourly	Annual
	lb/hr	tpy
Annual NO <sub>x</sub> >1000 btu/scf		34.07
Annual NO <sub>x</sub> <1000 btu/scf		23.74

NO <sub>x</sub>	71.02	57.81
CO	282.86	339.19
VOC	61.25	75.38
H <sub>2</sub> S	0.05	0.04
SO <sub>2</sub>	4.42	3.48

Component	LHV	MW	Pilot Gas	Purge Gas	Vent Gas	Light-Ends	Propane Gas	Ethylene Gas	Methane Gas	Pipeline Gas	AGRU Vent Gas	Acid Gas D2	Assist Gas	Total Flow				DRE	Emission Rates	
														scfh	lb/hr	scfy	ton/yr		lb/hr	tpy
Nitrogen	-	28.01	8.84%	0.11%	8.84%	1.31%	-	-	5.12%	3.61%	0.87%	0.00%	8.84%	23,402.82	1,700.75	37,624,472	1,367.14	-	-	-
Water	-	18.02	0.07%	-	0.07%	-	-	-	-	-	0.30%	2.77%	0.07%	55,162.12	2,579.02	86,851,658	2,030.31	-	-	-
Carbon Dioxide	-	44.01	0.70%	0.00%	0.70%	0.01%	-	-	-	-	0.00%	96.89%	0.70%	786,577.65	89,815.78	1,238,455,096	70,706.82	-	-	-
Methane	911	16.04	89.13%	80.45%	89.13%	5.76%	-	0.57%	94.88%	96.39%	92.37%	0.09%	89.13%	453,462	18,871.45	1,020,367,819	21,231.99	99%	188.71	212.32
Ethane	1,631	30.07	0.85%	14.76%	0.85%	9.64%	0.68%	-	-	-	4.02%	0.01%	0.85%	11,303.33	881.83	47,312,042	1,845.53	99%	8.82	18.46
Ethylene	1,499	28.05	-	-	-	-	-	99.43%	-	-	-	-	-	2,989	217.53	23,803,731	866.18	99%	2.18	8.66
Propane	2,353	44.10	0.18%	3.52%	0.18%	38.30%	98.00%	-	-	-	1.03%	0.00%	0.18%	16,173	1,850.38	48,196,001	2,757.02	99%	18.50	27.57
Isobutane	3,094	58.12	0.06%	0.48%	0.06%	10.54%	1.32%	-	-	-	0.32%	0.00%	0.06%	2,877.54	433.93	5,960,197	449.40	98%	8.68	8.99
n-Butane	3,101	58.12	0.05%	0.54%	0.05%	17.63%	-	-	-	-	0.32%	0.00%	0.05%	4,664.72	703.44	9,245,447	697.10	98%	14.068762	13.94
Isopentane	3,698	72.15	0.03%	0.07%	0.03%	6.42%	-	-	-	-	0.11%	-	0.03%	1,361.96	254.95	2,603,025	243.63	98%	5.098983	4.87
n-Pentane	3,709	72.15	0.01%	0.04%	0.01%	5.59%	-	-	-	-	0.32%	0.00%	0.01%	1,180.59	221.00	2,237,706	209.44	98%	4.419976	4.19
n-Hexane	4,404	86.18	0.04%	0.03%	0.04%	3.45%	-	-	-	-	0.07%	0.00%	0.04%	634.41	141.84	1,198,096	133.94	98%	2.836897	2.68
Benzene	3,591	78.11	0.01%	-	0.01%	-	-	-	-	-	-	0.08%	0.01%	388.01	78.63	610,792	61.89	98%	1.572695	1.24
n-Heptane	5,100	100.20	0.03%	-	0.03%	1.04%	-	-	-	-	0.11%	0.00%	0.03%	180.16	46.84	330,195	42.92	98%	0.936714	0.86
n-Decane	7,190	142.29	-	-	-	-	-	-	-	-	-	0.001%	-	2.53	0.93	3,984	0.74	98%	0.018682	0.01
Ethylbenzene	4,971	106.17	-	-	-	-	-	-	-	-	-	0.02%	-	75.91	20.91	119,517	16.46	98%	0.418172	0.33
n-Nonane	6,493	128.20	-	-	-	-	-	-	-	-	0.05%	0.002%	-	5.07	1.69	8,067	1.34	98%	0.033747	0.03
n-Octane	5,796	114.23	-	-	-	0.32%	-	-	-	-	0.09%	0.002%	-	46.96	13.92	86,529	12.82	98%	0.278339	0.26
Toluene	4,274	92.14	-	-	-	-	-	-	-	-	-	0.08%	-	320.50	76.62	504,626	60.32	98%	1.532339	1.21
Xylene (-o)	4,958	106.17	-	-	-	-	-	-	-	-	-	0.01%	-	45.54	12.55	71,710	9.88	98%	0.250903	0.20
Xylene (-p)	4,957	106.17	-	-	-	-	-	-	-	-	-	0.02%	-	77.59	21.37	122,173	16.83	98%	0.427464	0.34
Hydrogen Sulfide	587	34.08	0.0006%	-	0.00%	-	-	-	-	-	-	0.0024%	0.00%	26.57	2.35	41,820	1.85	98%	0.046995	0.04
<b>Hourly Heat Content (btu/scf):</b>														<b>378.16</b>		<b>488.69</b>				
<b>Hourly Heat Input (MMBtu/hr):</b>			<b>1.09</b>	<b>50.03</b>	<b>0.00</b>	<b>78.17</b>	<b>5.36</b>	<b>4.51</b>	<b>2.83</b>	<b>0.70</b>	<b>0.17</b>	<b>6.04</b>	<b>365.77</b>	<b>514.66</b>						
<b>Yearly Heat Input (MMBtu/yr):</b>			<b>9,560</b>	<b>398,432</b>	<b>324,741</b>	<b>146,790</b>	<b>42,702</b>	<b>35,903</b>	<b>22,560</b>	<b>5,545</b>	<b>1,322</b>	<b>9,511</b>	<b>237,253</b>			<b>1,234,319</b>				

- Notes:  
1. NO<sub>x</sub> and CO emissions are based on emission factors TNRC Technical Guidance for Flares and Vapor Oxidizers, October 2000.  
2. A control efficiency of 98% was assumed for H<sub>2</sub>S. SO<sub>2</sub> emissions assume that 100% of H<sub>2</sub>S present in the fuel is converted to SO<sub>2</sub>.  
3. Flow rates and composition are for calculation purposes only and are not considered enforceable limits.

Example Calculations:

NO <sub>x</sub> Emissions	514.66	MMBtu	0.1380	lb	=	71.02	lbs/hr
		hr		MMBtu			
CO Emissions	514.66	MMBtu	0.5496	lb	=	282.86	lbs/hr
		hr		MMBtu			
VOC Emissions	2,067.91	lb C <sub>1</sub> -C <sub>3</sub> to Flr	100% - 99%	Control Eff	+	2,028.62	lb C <sub>3</sub> + to Flr
		hr					100% - 98%
							Control Eff
					=	61.25	lb/hr

**Table A-1  
Marine Flare Emissions  
Corpus Christi Liquefaction Stage 1&2**

EPN: MRNFLR

Constants		
LNG Density	431.84	kg/m3
LNG to Natural Gas (NG) Expansion Factor	600	

Basis		
<b>Pilot Operation</b>		
Number of Pilots	20.0	
Annual Hours	8,760	hrs/yr
Pilot Heat Input	50	scfh
<b>Purge Gas</b>		
Purge Gas Rate	20	scfm
Annual Hours	8,760	hrs/yr
<b>Inert Ship Gas-Up</b>		
	132,116	lb/hr
	12,683	ton/yr
<b>Warm Ship Cool-down</b>		
	69,570	lb/hr
	37,011	ton/yr

Pollutant	Emission Rates	
	Max Hourly	Annual
	lb/hr	tpy
NO <sub>x</sub>	389.73	77.97
CO	1552.05	510.27
VOC	394.37	19.63
H <sub>2</sub> S	<0.01	<0.01
SO <sub>2</sub>	<0.01	<0.01

Calculated Flow Rates	Pilots	Purge	Inert Ship Gas-Up	Inert Ship Gas-Up	Warm Ship Cool-down	Warm Ship Cool-down	BOG During ESD Test
Flow Rate (scfh):	1,000	1,200	2,432,492		1,280,912		2,500,000
Annual Flow Rate (MMscf/yr):	8.76	10.512		559		1,631	25

Component	LHV	MW	Pilot Gas	Purge Gas	Ship Vent ST	Ship Vent ANN	Ship Vent ST	Ship Vent ANN	LNG	Total Flow				DRE	Emission Rates	
	btu/scf	lb/lbmol	mol%	mol%	mol%	mol%	mol%	mol%	mol%	scfh (3)	lb/hr	scf/yr	lb/yr		lb/hr	tpy
Nitrogen	-	28.01	5.32%	0.07%	0.10%	5.00%	0.10%	5.00%	0.07%	2,487	181	110,018,128	7,995,342	-	-	-
Water	-	18.02	0.07%	-	0.06%	0.06%	0.06%	0.06%	-	1,460	68	1,320,198	61,724	-	-	-
Carbon Dioxide	-	44.01	0.27%	0.00%	0.01%	0.01%	0.01%	0.01%	-	246	28	242,728	27,716	-	-	-
Methane	911.0	16.04	93.74%	89.41%	78.27%	90.41%	78.27%	90.41%	96.25%	1,905,922	79,318	2,022,088,517	84,151,953	99%	793.18	420.76
Ethane	1,631.0	30.07	0.48%	8.75%	10.00%	3.35%	10.00%	3.35%	3.39%	243,359	18,986	75,250,934	5,870,709	99%	189.86	29.35
Propane	2,353.0	44.10	0.07%	1.42%	10.00%	1.00%	10.00%	1.00%	0.23%	243,267	27,832	22,118,700	2,530,571	99%	278.32	12.65
Isobutane	3,094.0	58.12	0.02%	0.15%	0.80%	0.02%	0.80%	0.02%	0.03%	19,462	2,935	462,531	69,749	98%	58.70	0.70
n-Butane	3,101.0	58.12	0.02%	0.17%	0.70%	0.02%	0.70%	0.02%	0.03%	17,030	2,568	464,475	70,043	98%	51.36	0.70

**Table A-1  
Marine Flare Emissions  
Corpus Christi Liquefaction Stage 1&2**

EPN: MRNFLR

Component	LHV	MW	Pilot Gas	Purge Gas	Ship Vent ST	Ship Vent ANN	Ship Vent ST	Ship Vent ANN	LNG	Total Flow				DRE	Emission Rates	
	btu/scf	lb/lbmol	mol%	mol%	mol%	mol%	mol%	mol%	mol%	scfh	lb/hr	scf/yr	lb/yr		lb/hr	tpy
Isopentane	3,698.0	72.15	0.01%	0.02%	0.01%	0.10%	0.01%	0.10%	-	244	46	2,193,053	410,524	98%	0.912	4.1052
n-Pentane	3,709.0	72.15	0.00%	0.01%	0.03%	0.01%	0.03%	0.01%	-	730	137	220,263	41,232	98%	2.733	0.4123
n-Hexane	4,403.8	86.18	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	-	243	54	220,386	49,275	98%	1.088	0.4927
Benzene	3,590.9	78.11	0.00%	-	-	-	-	-	-	0	0	175	36	98%	0.0001	0.00036
n-Heptane	5,100.0	100.20	0.01%	-	0.01%	0.01%	0.01%	0.01%	-	243	63.251	219,493	57,062	98%	1.27	0.57
Hydrogen Sulfide	586.8	34.08	0.0003%	-	-	-	-	-	-	0.003	0.0003	26.3	2.3	98%	0.000005	0.000023
<b>LHV (Btu/scf):</b>					865.39	1,001.76	1,160.33	908.08	1,160.33	908.08	939.40					
<b>Total MW (lb/lbmol):</b>					16.87	17.83	20.93	17.49	20.93	17.49	16.61					
<b>Hourly Heat Input (MMBtu/hr):</b>					0.87	1.20	2,822.50	0.00	1,486.28	0.00	2,348.50	<b>2,824.56</b>	<<Maximum			
<b>Yearly Heat Input (MMBtu/yr):</b>					7,581	10,531	0	507,687	0	1,481,508	23,485	<b>2,030,791</b>	<<Annual			
1-Hr NO <sub>x</sub> Emission Factor					0.0641	0.1380	0.1380	0.1380	0.1380	0.1380	0.1380					
Ann. NO <sub>x</sub> >1000 btu/scf Factor					NA	NA	NA	0.1380	NA	0.1380	NA					
Ann. NO <sub>x</sub> <1000 btu/scf Factor					0.0641	0.1380	0.0641	0.0641	0.0641	0.0641	0.0641					
1-Hour CO Emission Factor					0.5496	0.2755	0.5496	0.5496	0.5496	0.5496	0.5496					
Ann. CO >1000 btu/scf Factor					NA	NA	NA	0.2755	NA	0.2755	NA					
Ann. CO <1000btu/scf Factor					0.5496	0.2755	0.5496	0.5496	0.5496	0.5496	0.5496					
Annual flow >1000 btu/scf								17%		17%						
Annual flow <1000 btu/scf								83%		83%						
NO <sub>x</sub>	<b>lb/hr</b>	0.06	0.17	389.50		205.11		324.09	<b>389.73</b>	<<Maximum						
	<b>tpy</b>	0.24	0.73	19.46		56.79		0.75	<b>78</b>	<<Annual						
CO	<b>lb/hr</b>	0.48	0.33	1,551.24		816.86		1,290.73	<b>1,552.05</b>	<<Maximum						
	<b>tpy</b>	2.08	1.45	127.68		372.60		6.45	<b>510</b>	<<Annual						

**Notes:**

1. NO<sub>x</sub> and CO emissions are based on emission factors TCEQ Technical Guidance for Flares and Vapor Oxidizers, October 2000.
2. A control efficiency of 98% was assumed for H<sub>2</sub>S. SO<sub>2</sub> emissions assume that 100% of H<sub>2</sub>S present in the fuel is converted to SO<sub>2</sub>.
3. Includes flows from pilots, purge and inert ship gas-up.

**Example Calculations:**

*NO<sub>x</sub> Emissions (LNG)*

$$\frac{2822.50}{\text{hr}} \text{ MMBtu} \times 0.1380 \frac{\text{lb}}{\text{MMBtu}} = 389.50 \text{ lbs/hr}$$

*CO Emissions (LNG)*

$$\frac{2822.50}{\text{hr}} \text{ MMBtu} \times 0.5496 \frac{\text{lb}}{\text{MMBtu}} = 1551.24 \text{ lbs/hr}$$

*VOC Emissions (Total)*

$$\frac{27,831.85}{\text{hr}} \text{ lb C}_1\text{-C}_3 \text{ to Flr} \times 100\% - 99\% \text{ Control Eff} + \frac{5,802.79}{\text{hr}} \text{ lb C}_3\text{+ to Flr} \times 100\% - 98\% \text{ Control Eff} = 394.37 \text{ lb/hr}$$

**Table A-2**  
**Turbine Detailed Emission Data**  
**Corpus Christi Liquefaction Stage 1&2**

EPNs: TRB1 through TRB18

Parameter	Unit	Propane Refrigeration	Ethylene Refrigeration	Methane Refrigeration
<b>Operating Parameters (1)</b>				
Site Ambient Air Temperature	°F	76	76	76
GT inlet temperature	°F	45	45	45
Relative Humidity at GT Inlet	%	95	95	95
Maximum Fuel Input	MMBtu/hr (HHV)	430.0	430.0	430.0
Annual Avg. Fuel Input	MMBtu/hr (HHV)	430.0	430.0	430.0
Fuel Factor	scf/MMBtu	8710	8710	8710
NO <sub>x</sub> Emissions	ppmv (dry, 15% O <sub>2</sub> )	25	25	25
NO <sub>x</sub> , Cd	lbs NO <sub>x</sub> /dscf	2.98E-06	2.98E-06	2.98E-06
CO Emissions	ppmv (dry, 15% O <sub>2</sub> )	25	25	25
CO, Cd	lbs CO/dscf	1.82E-06	1.82E-06	1.82E-06
SO <sub>2</sub> Emissions	ppmv (dry, 15% O <sub>2</sub> )	0.2	0.2	0.2
SO <sub>2</sub> , Cd	lbs SO <sub>2</sub> /dscf	3.32E-08	3.32E-08	3.32E-08
H <sub>2</sub> S Emissions	ppmv (dry, 15% O <sub>2</sub> )	0.002	0.002	0.002
H <sub>2</sub> S, Cd	lbs H <sub>2</sub> S/dscf	1.76E-10	1.76E-10	1.76E-10
Expected Exhaust Molecular Weight	lb/lbmole	28.4	28.4	28.4
Moisture at Exhaust	% mole	7.454	7.454	7.454
Oxygen at Exhaust	% mole	13.389	13.389	13.389
NO <sub>x</sub> Emission	lb/MMBtu	0.092	0.092	0.092
CO Emission	lb/MMBtu	0.056	0.056	0.056
SO <sub>2</sub> Emissions	lb/MMBtu	0.001	0.001	0.001
H <sub>2</sub> S Emissions	lb/MMBtu	0.00001	0.00001	0.00001
VOC Emissions (2)	lb/MMBtu	0.0021	0.0021	0.0021
PM Emissions (3)	lb/MMBtu	0.00229	0.00229	0.00229
1,3-Butadiene Emissions (4)	lb/MMBtu	4.30E-07	4.30E-07	4.30E-07
Acetaldehyde Emissions (4)	lb/MMBtu	0.00004	0.00004	0.00004
Acrolein Emissions (4)	lb/MMBtu	0.00001	0.00001	0.00001
Benzene Emissions (4)	lb/MMBtu	0.00001	0.00001	0.00001
Ethylbenzene Emissions (4)	lb/MMBtu	0.00003	0.00003	0.00003
Formaldehyde Emissions (4)	lb/MMBtu	0.001	0.001	0.001
Naphthalene Emissions (4)	lb/MMBtu	1.30E-06	1.30E-06	1.30E-06
PAH Emissions (4)	lb/MMBtu	2.20E-06	2.20E-06	2.20E-06
Propylene Oxide Emissions (4)	lb/MMBtu	0.00003	0.00003	0.00003
Toluene Emissions (4)	lb/MMBtu	0.0001	0.0001	0.0001
Xylenes Emissions (4)	lb/MMBtu	0.0001	0.0001	0.0001
Turbine Stack Temp.	°F	956.1	956.1	956.1
WHRU Stack Temp.	°F		328	
Portion of Exhaust to WHRU	%		71.2	
<b>Calculated Parameters</b>				
Turbine Flow Rate	dscfm	173,694	173,694	173,694
	scfm, wet	187,684	187,684	187,684
	acfm	511,113	511,113	511,113
WHRU Flow Rate	lb/hr		591,100	
	scfm, wet		133,657	
	acfm		202,541	
Bypass Flow Rate	scfm, wet		54,027	
	acfm		147,130	

**Table A-2**  
**Turbine Detailed Emission Data**  
**Corpus Christi Liquefaction Stage 1&2**

EPNs: TRB1 through TRB18

Parameter	Unit	Propane Refrigeration	Ethylene Refrigeration	Methane Refrigeration
<b>Calculated Emission Rates</b>				
NO <sub>x</sub> Emissions	lb/hr	39.60	39.60	39.60
	tpy	173.44	173.44	173.44
CO Emissions	lb/hr	24.10	24.10	24.10
	tpy	105.57	105.57	105.57
VOC Emissions	lb/hr	0.90	0.90	0.90
	tpy	3.96	3.96	3.96
PM/PM <sub>10</sub> /PM <sub>2.5</sub> Emissions	lb/hr	0.98	0.98	0.98
	tpy	4.31	4.31	4.31
SO <sub>2</sub> Emissions	lb/hr	0.44	0.44	0.44
	tpy	1.93	1.93	1.93
H <sub>2</sub> S Emissions	lb/hr	0.002	0.002	0.002
	tpy	0.010	0.010	0.010
1,3-Butadiene Emissions	lb/hr	0.0002	0.0002	0.0002
	tpy	0.0008	0.0008	0.0008
Acetaldehyde Emissions	lb/hr	0.0172	0.0172	0.0172
	tpy	0.0753	0.0753	0.0753
Acrolein Emissions	lb/hr	0.0028	0.0028	0.0028
	tpy	0.0121	0.0121	0.0121
Benzene Emissions	lb/hr	0.0052	0.0052	0.0052
	tpy	0.0226	0.0226	0.0226
Ethylbenzene Emissions	lb/hr	0.0138	0.0138	0.0138
	tpy	0.0603	0.0603	0.0603
Formaldehyde Emissions	lb/hr	0.3053	0.3053	0.3053
	tpy	1.3372	1.3372	1.3372
Naphthalene Emissions	lb/hr	0.0006	0.0006	0.0006
	tpy	0.0024	0.0024	0.0024
PAH Emissions	lb/hr	0.0009	0.0009	0.0009
	tpy	0.0041	0.0041	0.0041
Propylene Oxide Emissions	lb/hr	0.0125	0.0125	0.0125
	tpy	0.0546	0.0546	0.0546
Toluene Emissions	lb/hr	0.0559	0.0559	0.0559
	tpy	0.2448	0.2448	0.2448
Xylenes Emissions	lb/hr	0.0275	0.0275	0.0275
	tpy	0.1205	0.1205	0.1205

Notes:

1. Operating parameters provided by GE.
2. U.S. EPA AP-42, Volume I, Chapter 3, Section 3.1, Stationary Gas Turbines, Table 3.1-2a, Emission Factors for Criteria Pollutants and Greenhouse Gases From Stationary Gas Turbines,
3. PM emission factors based on test results from similar compressor turbines.
4. U.S. EPA AP-42, Volume I, Chapter 3, Section 3.1, Stationary Gas Turbines, Table 3.1-3 Emission Factors for Hazardous Air Pollutants From Natural Gas-Fired Stationary Gas Turbines, p.3.1-13, April 2000.

**Table A-3**

**Thermal Oxidizer Emissions**

Corpus Christi Liquefaction Stage 1&2

EPNs: TO-1, TO-2, and TO-3

Basis			
Thermal Oxidizers	3		
	Maximum	Typical	
Firing Rate	78.2	65.9	MMBtu/hr
Assist Fuel Rate	3,268	2,846	lb/hr
Acid Vent Gas Rate	92,568	48,583	lb/hr
Annual Operation	8,760		hrs/yr
VOC Control Efficiency	99.9%		
H <sub>2</sub> S Control Efficiency	99%		
NO <sub>x</sub> Emission Factor	0.06		lb/MMBtu
CO Emission Factor	100		ppmvd
PM Emission Factor	0.0075		lb/MMBtu

Pollutant	Emission Rates	
	Max Hourly	Annual
	lb/hr	tpy
NO <sub>x</sub>	4.69	17.31
CO	13.84	46.86
PM <sub>10</sub>	0.58	2.15
PM <sub>2.5</sub>	0.58	2.15
VOC	0.24	0.56
H <sub>2</sub> S	0.008	0.018
SO <sub>2</sub>	1.44	3.36

**Maximum**

Component	HHV	MW	Assist Gas		Acid Gas D2		Total Flow			DRE	Emission Rates
	btu/scf	lb/lbmol	wt%	mol%	wt%	mol%	scfh	lb/hr	mol%		lb/hr
Nitrogen	-	28.01	8.84%	5.32%	0.0001%	0.00%	3,974	289	0.43%	-	-
Water	-	18.02	0.07%	0.07%	2.77%	6.51%	54,928	2,568	5.98%	-	-
Carbon Dioxide	-	44.01	0.70%	0.27%	96.89%	93.12%	785,644	89,709	85.57%	-	-
Methane	1,012	16.04	89.13%	93.74%	0.09%	0.24%	71,995	2,996	7.84%	99.9%	3.00
Ethane	1,783	30.07	0.85%	0.48%	0.01%	0.01%	479	37	0.05%	99.9%	0.04
Propane	2,557	44.10	0.18%	0.07%	0.003%	0.00%	76	8.70	0.01%	99.9%	0.009
Isobutane	3,354	58.12	0.06%	0.02%	0.001%	0.00%	21	3.17	0.002%	99.9%	0.003
n-Butane	3,369	58.12	0.05%	0.02%	0.001%	0.00%	19	2.83	0.002%	99.9%	0.003
Isopentane	4,001	72.15	0.03%	0.01%	-	-	5	0.98	0.001%	99.9%	0.001
n-Pentane	4,009	72.15	0.01%	0.00%	0.002%	0.00%	13	2.47	0.001%	99.9%	0.002
n-Hexane	4,756	86.18	0.04%	0.01%	0.001%	0.00%	9	1.90	0.001%	99.9%	0.002
Benzene	3,742	78.11	0.01%	0.00%	0.08%	0.04%	381	77.22	0.04%	99.9%	0.08
n-Heptane	5,503	100.20	0.03%	0.01%	0.001%	0.00%	9	2.29	0.001%	99.9%	0.002
n-Decane	7,743	142.29	-	-	0.001%	0.00%	3	0.93	0.0003%	99.9%	0.001
Ethylbenzene	5,222	106.17	-	-	0.02%	0.01%	76	20.91	0.01%	99.9%	0.02
n-Nonane	6,997	128.20	-	-	0.002%	0.00%	5	1.68	0.001%	99.9%	0.002
n-Octane	6,249	114.23	-	-	0.002%	0.00%	6	1.75	0.001%	99.9%	0.002
Toluene	4,475	92.14	-	-	0.08%	0.04%	321	76.62	0.03%	99.9%	0.08
Xylene (-o)	5,210	106.17	-	-	0.01%	0.01%	46	12.55	0.005%	99.9%	0.01
Xylene (-p)	5,209	106.17	-	-	0.02%	0.01%	78	21.37	0.01%	99.9%	0.02
Hydrogen Sulfide	637	34.08	0.0006%	0.0003%	0.0008%	0.001%	9	0.77	0.001%	99.0%	0.008

<b>Total HHV (Btu/scf):</b>	<b>961.10</b>	<b>7.64</b>	<b>85.18</b>
<b>Total MW (lb/lbmol):</b>	<b>16.87</b>	<b>42.30</b>	<b>40.23</b>
<b>Hourly Heat Input (MMBtu/hr):</b>	<b>71.75</b>	<b>6.45</b>	<b>78.2</b>

Table A-3

## Thermal Oxidizer Emissions

Corpus Christi Liquefaction Stage 1&amp;2

EPNs: TO-1, TO-2, and TO-3

## Annual Average

Component	HHV	MW	Assist Gas		Acid Gas D2		Total Flow			DRE	Emission Rates
	btu/scf	lb/lbmol	wt%	mol%	wt%	mol%	scfh	lb/hr	mol%		tpy
Nitrogen	-	28.01	8.84%	5.32%	0.0001%	0.00%	3,461	252	0.38%	-	-
Water	-	18.02	0.07%	0.07%	2.77%	6.51%	28,846	1,349	3.14%	-	-
Carbon Dioxide	-	44.01	0.70%	0.27%	96.89%	93.12%	412,404	47,091	44.92%	-	-
Methane	1,012	16.04	89.13%	93.74%	0.09%	0.24%	62,006	2,580	6.75%	99.9%	11.30
Ethane	1,783	30.07	0.85%	0.48%	0.01%	0.01%	374	29	0.04%	99.9%	0.13
Propane	2,557	44.10	0.18%	0.07%	0.003%	0.00%	57	6.58	0.01%	99.9%	0.029
Isobutane	3,354	58.12	0.06%	0.02%	0.001%	0.00%	16	2.37	0.002%	99.9%	0.010
n-Butane	3,369	58.12	0.05%	0.02%	0.001%	0.00%	14	2.07	0.001%	99.9%	0.009
Isopentane	4,001	72.15	0.03%	0.01%	-	-	5	0.85	0.000%	99.9%	0.004
n-Pentane	4,009	72.15	0.01%	0.00%	0.002%	0.00%	8	1.44	0.001%	99.9%	0.006
n-Hexane	4,756	86.18	0.04%	0.01%	0.001%	0.00%	7	1.46	0.001%	99.9%	0.006
Benzene	3,742	78.11	0.01%	0.00%	0.08%	0.04%	200	40.63	0.02%	99.9%	0.178
n-Heptane	5,503	100.20	0.03%	0.01%	0.001%	0.00%	6	1.54	0.001%	99.9%	0.007
n-Decane	7,743	142.29	-	-	0.001%	0.00%	1	0.49	0.0001%	99.9%	0.002
Ethylbenzene	5,222	106.17	-	-	0.02%	0.01%	40	10.97	0.00%	99.9%	0.048
n-Nonane	6,997	128.20	-	-	0.002%	0.00%	3	0.88	0.000%	99.9%	0.004
n-Octane	6,249	114.23	-	-	0.002%	0.00%	3	0.92	0.000%	99.9%	0.004
Toluene	4,475	92.14	-	-	0.08%	0.04%	168	40.21	0.02%	99.9%	0.176
Xylene (-o)	5,210	106.17	-	-	0.01%	0.01%	24	6.58	0.003%	99.9%	0.029
Xylene (-p)	5,209	106.17	-	-	0.02%	0.01%	41	11.22	0.00%	99.9%	0.049
Hydrogen Sulfide	637	34.08	0.0006%	0.0003%	0.0008%	0.001%	5	0.41	0.0005%	99.0%	0.018

**Total HHV (Btu/scf): 961.10**

**7.64**

**71.75**

**Total MW (lb/lbmol): 16.87**

**42.30**

**21.59**

**Hourly Heat Input (MMBtu/hr): 62.49**

**3.38**

**65.9**

**Yearly Heat Input (MMBtu/yr): 547,426**

**29,642**

**577,068**

**Table A-3  
Thermal Oxidizer Emissions  
Corpus Christi Liquefaction Stage 1&2**

EPNs: TO-1, TO-2, and TO-3

**Stack Flow Rate  
Maximum**

Stack Flow (lb/hr): 191,965

	MW	Exhaust at Stack Conditions					Exhaust at 3% O2, dry
	lb/lbmol	wt%	lb/hr	lbmol/hr	mol%	scfh	dscfh
Carbon Dioxide	44.01	56.57	108,595	2,468	43.40	951,038	951,038
Water	18.02	6.98	13,399	744	13.08	286,592	
Nitrogen	28.01	33.61	64,520	2,303	40.51	887,807	887,454
Oxygen	32.00	2.85	5,471	171	3.01	65,896	65,870
		100		5,685		2,191,332	1,904,362

**Annual Average**

Stack Flow (lb/hr): 160,284

	MW	Exhaust at Stack Conditions					Exhaust at 3% O2, dry
	lb/lbmol	wt%	lb/hr	lbmol/hr	mol%	scfh	dscfh
Carbon Dioxide	44.01	37.65	60,347	1,371	26.77	528,499	528,499
Water	18.02	7.33	11,749	652	12.73	251,293	
Nitrogen	28.01	48.1	77,097	2,752	53.74	1,060,871	838,166
Oxygen	32.00	6.91	11,076	346	6.76	133,401	105,397
		100		5,122		1,974,063	1,472,062

- Notes:**
1. NO<sub>x</sub> and CO emissions are based on emission factors from TCEQ BACT guidance for Vapor Oxidizers, 8/1/2011.
  2. PM emissions are based on based on emission factors from U.S. EPA AP-42, Volume I, Chapter 1, Section 1.4, Natural Gas Combustion, Table 1.4-2, Emission Factors for Criteria Pollutants and GHG from Natural gas combustion, p.1.4-6, July 1998.
  3. A control efficiency of 99% was assumed for H2S. SO2 emissions assume that 100% of H2S present in the fuel is converted to SO2.

**Example Calculations:**

NO <sub>x</sub> Emissions	71.75 + 6.45	MMBtu	0.06		lb	=	4.69	lb/hr
		hr			MMBtu			
CO Emissions	1,904,361.69	dscf @ 3% O2	100		mols CO			
		hr	1000000		mols Vent Gas			
		lbmol	28.01		lb	=	13.84	lb/hr
	385.43	scf			lbmol			
VOC Emissions	235.38	lb VOC to TO	100% - 99.9%		Control Eff	=	0.24	lb/hr
		hr						

**Table A-9**  
**Emergency Generator Emissions**  
 Corpus Christi Liquefaction Stage 1&2

EPNs: GEN1 through GEN4

<b>Basis</b>		
Fuel Type:	Diesel	
Total Engines:	4	
Engine Horsepower:	2220	hp
Annual Operation:	100	hr/yr
Engine Load:	100%	
Brake Specific Fuel Consumption:	7000	Btu/hp-hr

**Emergency Generator Emission Rates (per generator)**

Pollutant	Emission Factor		Emission Rates		
			Annual Avg.	Max Hourly	Annual
			lb/hr	lb/hr	tpy
NO <sub>x</sub>	5.33	g/hp-hr	26.09	28.70	1.30
CO	0.98	g/hp-hr	4.80	5.28	0.24
PM <sub>10</sub>	0.03	g/hp-hr	0.15	0.16	0.008
PM <sub>2.5</sub>	0.03	g/hp-hr	0.15	0.16	0.008
VOC	0.06	g/hp-hr	0.29	0.32	0.01
SO <sub>2</sub>	0.0055	g/hp-hr	0.027	0.030	0.0014
<b>HAP Emissions</b>					
Acetaldehyde	2.52E-05	lb/MMBtu	3.9E-04	4.3E-04	2.0E-05
Acrolein	7.88E-06	lb/MMBtu	1.2E-04	1.3E-04	6.1E-06
Benzene	7.76E-04	lb/MMBtu	1.2E-02	1.3E-02	6.0E-04
Formaldehyde	7.89E-05	lb/MMBtu	1.2E-03	1.3E-03	6.1E-05
PAH	2.12E-04	lb/MMBtu	3.3E-03	3.6E-03	1.6E-04
Propylene	2.79E-03	lb/MMBtu	4.3E-02	4.8E-02	2.2E-03
Toluene	2.81E-04	lb/MMBtu	4.4E-03	4.8E-03	2.2E-04
Xylenes	1.93E-04	lb/MMBtu	3.0E-03	3.3E-03	1.5E-04

Notes:

1. Emissions are based on emission factors provided by the manufacturer.
2. Maximum hourly emission rates are based on maximum expected variability during routine operations.
3. HAP emissions are based on emission factors from AP-42, Section 3.4 - Large Stationary Diesel and All Stationary Dual-fuel Engines.
4. SO<sub>2</sub> emissions were calculated based on emission factor from AP-42, Section 3.4, Table 3.4-1, and maximum 15 ppm of Sulfur content as per 40 CFR 60.4207(b) and 40 CFR 80.510(b)(1)(i).

Example Calculation:

NO<sub>x</sub> Emissions

2220 hp	100% Load	5.33 g	lb	26.09 lb/hr
		hp-hr	453.59 g	

**Table A-10**  
**Firewater Pump Emissions**  
 Corpus Christi Liquefaction Stage 1&2

EPNs: FWPUMP1 and FWPUMP2

Basis		
Fuel Type:	Diesel	
Total Engines:	2	
Engine Horsepower:	422	hp
Engine Rating:	315	kw
Annual Operation:	100	hr/yr
Brake Specific Fuel Consumption:	7000	Btu/hp-hr

**Firewater Pump Emission Rates (per pump)**

Pollutant	Emission Factor		Emission Rates		
			Annual Avg.	Max Hourly	Annual
			lb/hr	lb/hr	tpy
NO <sub>x</sub>	3.8	g/kw-hr	2.64	2.90	0.13
CO	0.9	g/kw-hr	0.62	0.69	0.03
PM <sub>10</sub>	0.13	g/kw-hr	0.09	0.10	0.005
PM <sub>2.5</sub>	0.13	g/kw-hr	0.09	0.10	0.005
VOC	0.1	g/kw-hr	0.07	0.08	0.004
SO <sub>2</sub>	0.0055	g/hp-hr	0.005	0.006	0.0003
<b>HAP Emissions</b>					
Acetaldehyde	2.52E-05	lb/MMBtu	7.4E-05	8.2E-05	3.7E-06
Acrolein	7.88E-06	lb/MMBtu	2.3E-05	2.6E-05	1.2E-06
Benzene	7.76E-04	lb/MMBtu	2.3E-03	2.5E-03	1.1E-04
Formaldehyde	7.89E-05	lb/MMBtu	2.3E-04	2.6E-04	1.2E-05
PAH	2.12E-04	lb/MMBtu	6.3E-04	6.9E-04	3.1E-05
Propylene	2.79E-03	lb/MMBtu	8.2E-03	9.1E-03	4.1E-04
Toluene	2.81E-04	lb/MMBtu	8.3E-04	9.1E-04	4.2E-05
Xylenes	1.93E-04	lb/MMBtu	5.7E-04	6.3E-04	2.9E-05

Notes:

1. Emissions of NO<sub>x</sub>, CO, PM<sub>10</sub>, and VOC are based on emission factors provided by the manufacturer.
2. SO<sub>2</sub> emissions were calculated based on emission factor from AP-42, Section 3.4, Table 3.4-1, and maximum 15 ppm of Sulfur content as per 40 CFR 60.4207(b) and 40 CFR 80.510(b)(1)(i).
3. Maximum hourly emission rates are based on maximum expected variability during routine operations.
4. HAP emissions are based on emission factors from AP-42, Section 3.4 - Large Stationary Diesel and All Stationary Dual-fuel Engines.

Example Calculation:

NO<sub>x</sub> Emissions

3.8 g	315 kw	lb	2.64 lb/hr
kw-hr		453.59 g	

Table A-13

Fugitive Speciation

Corpus Christi Liquefaction Stage 1&2

Compound	Propane		Ethylene		Methane		Amine		Refrigerants	
	wt%	lb/hr	wt%	lb/hr	wt%	lb/hr	wt%	lb/hr	wt%	lb/hr
Nitrogen	-	-	-	-	0.05%	0.00	-	-	-	-
Water	-	-	-	-	-	-	-	-	-	-
Carbon Dioxide	-	-	-	-	0.03%	0.00	-	-	-	-
Methane	-	-	1.00%	0.15	93.61%	3.59	-	-	-	-
Ethane	-	-	-	-	4.40%	0.17	-	-	-	-
Ethylene	1.00%	0.02	99.00%	15.33	-	-	-	-	50.00%	0.04
Propane	98.00%	2.02	-	-	1.12%	0.04	-	-	50.00%	0.04
Isobutane	-	-	-	-	0.35%	0.01	-	-	-	-
n-Butane	-	-	-	-	0.32%	0.01	-	-	-	-
Isopentane	-	-	-	-	0.04%	0.00	-	-	-	-
n-Pentane	-	-	-	-	0.09%	0.00	-	-	-	-
n-Hexane	0.17%	0.00	-	-	-	-	-	-	-	-
Benzene	-	-	-	-	-	-	-	-	-	-
n-Heptane	0.33%	0.01	-	-	-	-	-	-	-	-
Hydrogen Sulfide	-	-	-	-	-	-	-	-	-	-
Cyclohexane	-	-	-	-	-	-	-	-	-	-
Cyclopentane	0.16%	0.00	-	-	-	-	-	-	-	-
n-Decane	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	-	-	-	-	-	-	-	-	-	-
Methylcyclopentane	-	-	-	-	-	-	-	-	-	-
n-Nonane	0.17%	0.00	-	-	-	-	-	-	-	-
n-Octane	0.17%	0.00	-	-	-	-	-	-	-	-
Toluene	-	-	-	-	-	-	-	-	-	-
Xylene (-o)	-	-	-	-	-	-	-	-	-	-
Xylene (-p)	-	-	-	-	-	-	-	-	-	-
Lube Oil	-	-	-	-	-	-	-	-	-	-
THERMINOL® 55	-	-	-	-	-	-	-	-	-	-
aMDEA Solution	-	-	-	-	-	-	100.00%	1.17	-	-
<b>Total VOC</b>	<b>100.00%</b>	<b>2.06</b>	<b>99.00%</b>	<b>15.33</b>	<b>1.91%</b>	<b>0.07</b>	<b>100.00%</b>	<b>1.17</b>	<b>100.00%</b>	<b>0.09</b>

Table A-13

Fugitive Speciation

Corpus Christi Liquefaction Stage 1&2

Compound	BOG		Condensate		Feed Gas		Acid Gas		Fuel Gas	
	wt%	lb/hr	wt%	lb/hr	wt%	lb/hr	wt%	lb/hr	wt%	lb/hr
Nitrogen	-	-	-	-	0.81%	0.02	-	-	9.01%	0.71
Water	-	-	-	-	0.02%	0.00	2.78%	0.15	0.08%	0.01
Carbon Dioxide	-	-	-	-	3.39%	0.08	96.97%	5.15	0.65%	0.05
Methane	100.00%	1.34	-	-	91.09%	2.22	0.17%	0.01	89.07%	7.01
Ethane	-	-	-	-	3.37%	0.08	0.02%	0.00	0.80%	0.06
Ethylene	-	-	-	-	-	-	-	-	-	-
Propane	-	-	-	-	0.65%	0.02	0.00%	0.00	0.17%	0.01
Isobutane	-	-	0.01%	0.00	0.21%	0.01	0.00%	0.00	0.06%	0.00
n-Butane	-	-	0.08%	0.00	0.17%	0.00	0.00%	0.00	0.05%	0.00
Isopentane	-	-	3.69%	0.05	0.09%	0.00	0.00%	0.00	0.03%	0.00
n-Pentane	-	-	24.16%	0.35	0.04%	0.00	0.00%	0.00	0.01%	0.00
n-Hexane	-	-	7.35%	0.11	0.10%	0.00	0.00%	0.00	0.04%	0.00
Benzene	-	-	2.87%	0.04	0.01%	0.00	0.05%	0.00	0.01%	0.00
n-Heptane	-	-	18.53%	0.27	0.06%	0.00	0.00%	0.00	0.03%	0.00
Hydrogen Sulfide	-	-	-	-	0.00%	0.00	0.00%	0.00	0.00%	0.00
Cyclohexane	-	-	2.34%	0.03	-	-	-	-	-	-
Cyclopentane	-	-	0.89%	0.01	-	-	-	-	-	-
n-Decane	-	-	3.53%	0.05	-	-	-	-	-	-
Ethylbenzene	-	-	0.78%	0.01	-	-	-	-	-	-
Methylcyclopentane	-	-	5.09%	0.07	-	-	-	-	-	-
n-Nonane	-	-	10.71%	0.15	-	-	-	-	-	-
n-Octane	-	-	16.26%	0.23	-	-	-	-	-	-
Toluene	-	-	2.73%	0.04	-	-	-	-	-	-
Xylene (-o)	-	-	0.32%	0.00	-	-	-	-	-	-
Xylene (-p)	-	-	0.66%	0.01	-	-	-	-	-	-
Lube Oil	-	-	-	-	-	-	-	-	-	-
THERMINOL® 55	-	-	-	-	-	-	-	-	-	-
aMDEA Solution	-	-	-	-	-	-	-	-	0.00%	0.00
<b>Total VOC</b>	-	-	<b>100.00%</b>	<b>1.44</b>	<b>1.33%</b>	<b>0.03</b>	<b>0.07%</b>	<b>0.00</b>	<b>0.40%</b>	<b>0.03</b>

Table A-13

Fugitive Speciation

Corpus Christi Liquefaction Stage 1&2

Compound	Regen Gas		Wet Flare		Dry Flare		Defrost Gas		Hot Oil	
	wt%	lb/hr	wt%	lb/hr	wt%	lb/hr	wt%	lb/hr	wt%	lb/hr
Nitrogen	0.87%	0.01	9.01%	0.16	9.01%	0.08	0.87%	0.00	-	-
Water	0.04%	0.00	0.08%	0.00	0.08%	0.00	0.04%	0.00	-	-
Carbon Dioxide	0.03%	0.00	0.65%	0.01	0.65%	0.01	0.03%	0.00	-	-
Methane	92.62%	1.24	89.07%	1.55	89.07%	0.75	92.62%	0.21	-	-
Ethane	4.03%	0.05	0.80%	0.01	0.80%	0.01	4.03%	0.01	-	-
Ethylene	-	-	-	-	-	-	-	-	-	-
Propane	1.03%	0.01	0.17%	0.00	0.17%	0.00	1.03%	0.00	-	-
Isobutane	0.31%	0.00	0.06%	0.00	0.06%	0.00	0.31%	0.00	-	-
n-Butane	0.31%	0.00	0.05%	0.00	0.05%	0.00	0.31%	0.00	-	-
Isopentane	0.09%	0.00	0.03%	0.00	0.03%	0.00	0.09%	0.00	-	-
n-Pentane	0.30%	0.00	0.01%	0.00	0.01%	0.00	0.30%	0.00	-	-
n-Hexane	0.05%	0.00	0.04%	0.00	0.04%	0.00	0.05%	0.00	-	-
Benzene	-	-	0.01%	0.00	0.01%	0.00	-	-	-	-
n-Heptane	0.12%	0.00	0.03%	0.00	0.03%	0.00	0.12%	0.00	-	-
Hydrogen Sulfide	-	-	0.00%	0.00	0.00%	0.00	-	-	-	-
Cyclohexane	-	-	-	-	-	-	-	-	-	-
Cyclopentane	0.04%	0.00	-	-	-	-	0.04%	0.00	-	-
n-Decane	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	-	-	-	-	-	-	-	-	-	-
Methylcyclopentane	-	-	-	-	-	-	-	-	-	-
n-Nonane	0.08%	0.00	-	-	-	-	0.08%	0.00	-	-
n-Octane	0.07%	0.00	-	-	-	-	0.07%	0.00	-	-
Toluene	-	-	-	-	-	-	-	-	-	-
Xylene (-o)	-	-	-	-	-	-	-	-	-	-
Xylene (-p)	-	-	-	-	-	-	-	-	-	-
Lube Oil	-	-	-	-	-	-	-	-	-	-
THERMINOL® 55	-	-	-	-	-	-	-	-	100.00%	1.20
aMDEA Solution	-	-	0.00%	0.00	0.00%	0.00	-	-	-	-
<b>Total VOC</b>	<b>2.40%</b>	<b>0.03</b>	<b>0.40%</b>	<b>0.01</b>	<b>0.40%</b>	<b>0.00</b>	<b>2.40%</b>	<b>0.01</b>	<b>100.00%</b>	<b>1.20</b>

**Table A-13**

**Fugitive Speciation**

Corpus Christi Liquefaction Stage 1&2

Compound	Hydrocarbons		LNG		Lube Oil		Total Emissions	
	wt%	lb/hr	wt%	lb/hr	wt%	lb/hr	lb/hr	tpy
Nitrogen	-	-	0.12%	0.00	-	-	0.98	4.28
Water	-	-	-	-	-	-	0.16	0.68
Carbon Dioxide	-	-	-	-	-	-	5.30	23.22
Methane	49.50%	2.74	92.93%	0.29	-	-	21.11	92.45
Ethane	49.50%	2.74	6.14%	0.02	-	-	3.16	13.84
Ethylene	-	-	-	-	-	-	15.40	67.45
Propane	1.00%	0.06	0.61%	0.00	-	-	2.21	9.70
Isobutane	-	-	0.10%	0.00	-	-	0.03	0.13
n-Butane	-	-	0.10%	0.00	-	-	0.03	0.12
Isopentane	-	-	-	-	-	-	0.06	0.27
n-Pentane	-	-	-	-	-	-	0.36	1.57
n-Hexane	-	-	-	-	-	-	0.12	0.51
Benzene	-	-	-	-	-	-	0.05	0.20
n-Heptane	-	-	-	-	-	-	0.28	1.23
Hydrogen Sulfide	-	-	-	-	-	-	0.0001	0.001
Cyclohexane	-	-	-	-	-	-	0.03	0.15
Cyclopentane	-	-	-	-	-	-	0.02	0.07
n-Decane	-	-	-	-	-	-	0.05	0.22
Ethylbenzene	-	-	-	-	-	-	0.01	0.05
Methylcyclopentane	-	-	-	-	-	-	0.07	0.32
n-Nonane	-	-	-	-	-	-	0.16	0.70
n-Octane	-	-	-	-	-	-	0.24	1.05
Toluene	-	-	-	-	-	-	0.04	0.17
Xylene (-o)	-	-	-	-	-	-	0.005	0.02
Xylene (-p)	-	-	-	-	-	-	0.01	0.04
Lube Oil	-	-	-	-	100.00%	0.12	0.12	0.52
THERMINOL® 55	-	-	-	-	-	-	1.20	5.24
aMDEA Solution	-	-	-	-	-	-	1.17	5.11
<b>Total VOC</b>	<b>1.00%</b>	<b>0.06</b>	<b>0.82%</b>	<b>0.00</b>	<b>100.00%</b>	<b>0.12</b>	<b>21.65</b>	<b>94.85</b>

**Table A-14**  
**Speciated Short-term Emission Summary**  
**Corpus Christi Liquefaction Stage 1&2**

Compound	HAP	TO-1	TO-2	TO-3	WTDYFLR1 (Routine)	WTDYFLR2 (Routine)	WTDYFLR1 (MSS)	WTDYFLR2 (MSS)
		lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Ethylene		-	-	-	2.175	2.175	1078.6	1078.6
Propane		0.009	0.009	0.009	2.914	2.914	2819.7	2819.7
Isobutane		0.003	0.003	0.003	0.322	0.322	75.8	75.8
n-Butane		0.003	0.003	0.003	0.215	0.215	126.3	126.3
Isopentane		0.001	0.001	0.001	0.111	0.111	75.6	75.6
n-Pentane		0.002	0.002	0.002	0.089	0.089	126.3	126.3
n-Hexane	Yes	0.002	0.002	0.002	0.163	0.163	3.0	3.0
Benzene	Yes	0.077	0.077	0.077	1.573	1.573	0.9	0.9
n-Heptane		0.002	0.002	0.002	0.137	0.137	7.0	7.0
Hydrogen Sulfide		0.008	0.008	0.008	0.017	0.017	0.02	0.02
Cyclohexane		-	-	-	-	-	-	-
Cyclopentane		-	-	-	-	-	-	-
n-Decane		0.001	0.001	0.001	0.019	0.019	-	-
Ethylbenzene	Yes	0.021	0.021	0.021	0.418	0.418	-	-
Methylcyclopentane		-	-	-	-	-	-	-
n-Nonane		0.002	0.002	0.002	0.034	0.034	-	-
n-Octane		0.002	0.002	0.002	0.035	0.035	-	-
Toluene	Yes	0.077	0.077	0.077	1.532	1.532	-	-
Xylenes	Yes	-	-	-	-	-	-	-
Xylene (-o)	Yes	0.013	0.013	0.013	0.251	0.251	-	-
Xylene (-p)	Yes	0.021	0.021	0.021	0.427	0.427	-	-
1,3-Butadiene	Yes	-	-	-	-	-	-	-
Acetaldehyde	Yes	-	-	-	-	-	-	-
Acrolein	Yes	-	-	-	-	-	-	-
Formaldehyde	Yes	-	-	-	-	-	-	-
Naphthalene	Yes	-	-	-	-	-	-	-
PAH	Yes	-	-	-	-	-	-	-
Propylene	Yes	-	-	-	-	-	-	-
Lube Oil		-	-	-	-	-	-	-
THERMINOL® 55		-	-	-	-	-	-	-
aMDEA Solution		-	-	-	-	-	-	-
Gasoline		-	-	-	-	-	-	-
Diesel		-	-	-	-	-	-	-
<b>Total HAP Emission Rates:</b>		<b>0.21</b>	<b>0.21</b>	<b>0.21</b>	<b>4.36</b>	<b>4.36</b>	<b>3.86</b>	<b>3.86</b>

**Table A-14**  
**Speciated Short-term Emission Summary**  
**Corpus Christi Liquefaction Stage 1&2**

Compound	FUG	GEN1	GEN2	GEN3	GEN4	FWPUMP1	FWPUMP2	DSLTK1
	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Ethylene	15.40	-	-	-	-	-	-	-
Propane	2.21	-	-	-	-	-	-	-
Isobutane	0.03	-	-	-	-	-	-	-
n-Butane	0.03	-	-	-	-	-	-	-
Isopentane	0.06	-	-	-	-	-	-	-
n-Pentane	0.36	-	-	-	-	-	-	-
n-Hexane	0.12	-	-	-	-	-	-	-
Benzene	0.045	0.0133	0.0133	0.0133	0.0133	0.0025	0.0025	-
n-Heptane	0.28	-	-	-	-	-	-	-
Hydrogen Sulfide	0.0001	-	-	-	-	-	-	-
Cyclohexane	0.03	-	-	-	-	-	-	-
Cyclopentane	0.017	-	-	-	-	-	-	-
n-Decane	0.051	-	-	-	-	-	-	-
Ethylbenzene	0.011	-	-	-	-	-	-	-
Methylcyclopentane	0.073	-	-	-	-	-	-	-
n-Nonane	0.159	-	-	-	-	-	-	-
n-Octane	0.239	-	-	-	-	-	-	-
Toluene	0.039	0.0048	0.0048	0.0048	0.0048	0.0009	0.0009	-
Xylenes	-	0.0033	0.0033	0.0033	0.0033	0.0006	0.0006	-
Xylene (-o)	0.005	-	-	-	-	-	-	-
Xylene (-p)	0.010	-	-	-	-	-	-	-
1,3-Butadiene	-	-	-	-	-	-	-	-
Acetaldehyde	-	0.0004	0.0004	0.0004	0.0004	0.0001	0.0001	-
Acrolein	-	0.00013	0.00013	0.00013	0.00013	0.00003	0.00003	-
Formaldehyde	-	0.0013	0.0013	0.0013	0.0013	0.0003	0.0003	-
Naphthalene	-	-	-	-	-	-	-	-
PAH	-	0.0036	0.0036	0.0036	0.0036	0.0007	0.0007	-
Propylene	-	0.04769	0.04769	0.04769	0.0477	0.009066	0.009066	-
Lube Oil	0.119	-	-	-	-	-	-	-
THERMINOL® 55	1.197	-	-	-	-	-	-	-
aMDEA Solution	1.17E+00	-	-	-	-	-	-	-
Gasoline	-	-	-	-	-	-	-	-
Diesel	-	-	-	-	-	-	-	0.08
<b>Total HAP Emission</b>	<b>0.23</b>	<b>0.07</b>	<b>0.07</b>	<b>0.07</b>	<b>0.07</b>	<b>0.01</b>	<b>0.01</b>	<b>0.00</b>

**Table A-14**  
**Speciated Short-term Emission Summary**  
**Corpus Christi Liquefaction Stage 1&2**

Compound	DSLTK2	DSLTK3	DSLTK4	FWPTK1	FWPTK2	GDFTK1	GDFTK2	WWTK1
	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Ethylene	-	-	-	-	-	-	-	-
Propane	-	-	-	-	-	-	-	-
Isobutane	-	-	-	-	-	-	-	-
n-Butane	-	-	-	-	-	-	-	-
Isopentane	-	-	-	-	-	-	-	-
n-Pentane	-	-	-	-	-	-	-	-
n-Hexane	-	-	-	-	-	-	-	-
Benzene	-	-	-	-	-	-	-	0.0114
n-Heptane	-	-	-	-	-	-	-	-
Hydrogen Sulfide	-	-	-	-	-	-	-	-
Cyclohexane	-	-	-	-	-	-	-	-
Cyclopentane	-	-	-	-	-	-	-	-
n-Decane	-	-	-	-	-	-	-	-
Ethylbenzene	-	-	-	-	-	-	-	0.0001
Methylcyclopentane	-	-	-	-	-	-	-	-
n-Nonane	-	-	-	-	-	-	-	-
n-Octane	-	-	-	-	-	-	-	-
Toluene	-	-	-	-	-	-	-	0.0037
Xylenes	-	-	-	-	-	-	-	0.0006
Xylene (-o)	-	-	-	-	-	-	-	-
Xylene (-p)	-	-	-	-	-	-	-	-
1,3-Butadiene	-	-	-	-	-	-	-	-
Acetaldehyde	-	-	-	-	-	-	-	-
Acrolein	-	-	-	-	-	-	-	-
Formaldehyde	-	-	-	-	-	-	-	-
Naphthalene	-	-	-	-	-	-	-	-
PAH	-	-	-	-	-	-	-	-
Propylene	-	-	-	-	-	-	-	-
Lube Oil	-	-	-	-	-	-	-	-
THERMINOL® 55	-	-	-	-	-	-	-	-
aMDEA Solution	-	-	-	-	-	-	-	-
Gasoline	-	-	-	-	-	-	17.93	-
Diesel	0.08	0.08	0.08	0.05	0.05	0.08	-	-
<b>Total HAP Emission</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.02</b>

**Table A-14**  
**Speciated Short-term Emission Summary**  
**Corpus Christi Liquefaction Stage 1&2**

Compound	WWLD	IFRTK1	TRKLD	TRKVCU	AMNSRG1	AMNSRG2	AMNSRG3	TRKMSS
	lb/hr	lb/hr	lb/hr	lb/hr	(MSS) lb/hr	(MSS) lb/hr	(MSS) lb/hr	lb/hr
Ethylene	-	-	-	-	-	-	-	-
Propane	-	-	-	-	-	-	-	-
Isobutane	-	0.00005	0.0001	0.0001	-	-	-	0.01
n-Butane	-	0.0003	0.001	0.001	-	-	-	0.05
Isopentane	-	0.011	0.026	0.020	-	-	-	2.01
n-Pentane	-	0.073	0.172	0.132	-	-	-	13.20
n-Hexane	-	0.019	0.044	0.034	-	-	-	3.36
Benzene	0.25	0.008	0.019	0.014	-	-	-	1.45
n-Heptane	-	0.040	0.095	0.073	-	-	-	7.29
Hydrogen Sulfide	-	-	-	-	-	-	-	-
Cyclohexane	-	0.006	0.014	0.011	-	-	-	1.09
Cyclopentane	-	0.003	0.006	0.005	-	-	-	0.50
n-Decane	-	0.005	0.013	0.010	-	-	-	0.98
Ethylbenzene	0.00	0.002	0.004	0.003	-	-	-	0.29
Methylcyclopentane	-	0.013	0.031	0.024	-	-	-	2.38
n-Nonane	-	0.018	0.043	0.033	-	-	-	3.29
n-Octane	-	0.031	0.073	0.056	-	-	-	5.61
Toluene	0.08	0.006	0.015	0.012	-	-	-	1.17
Xylenes	0.01	-	-	-	-	-	-	-
Xylene (-o)	-	0.001	0.002	0.001	-	-	-	0.12
Xylene (-p)	-	0.001	0.003	0.002	-	-	-	0.25
1,3-Butadiene	-	-	-	-	-	-	-	-
Acetaldehyde	-	-	-	-	-	-	-	-
Acrolein	-	-	-	-	-	-	-	-
Formaldehyde	-	-	-	-	-	-	-	-
Naphthalene	-	-	-	-	-	-	-	-
PAH	-	-	-	-	-	-	-	-
Propylene	-	-	-	-	-	-	-	-
Lube Oil	-	-	-	-	-	-	-	-
THERMINOL® 55	-	-	-	-	-	-	-	-
aMDEA Solution	-	-	-	-	0.008	0.008	0.008	-
Gasoline	-	-	-	-	-	-	-	-
Diesel	-	-	-	-	-	-	-	-
<b>Total HAP Emission</b>	<b>0.34</b>	<b>0.04</b>	<b>0.09</b>	<b>0.07</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>6.63</b>

Compound	MRNFLR	Total
	lb/hr	lb/hr
Ethylene	-	2176.91
Propane	4.65	5652.11
Isobutane	1.60	153.99
n-Butane	1.60	254.79
Isopentane	0.001	153.59
n-Pentane	0.001	266.79
n-Hexane	0.001	9.84
Benzene	0.0001	7.03
n-Heptane	0.0003	22.02
Hydrogen Sulfide	0.00001	0.10
Cyclohexane	-	1.16
Cyclopentane	-	0.53
n-Decane	-	1.10
Ethylbenzene	-	1.21
Methylcyclopentane	-	2.53
n-Nonane	-	3.62
n-Octane	-	6.08
Toluene	-	4.64
Xylenes	-	0.03
Xylene (-o)	-	0.67
Xylene (-p)	-	1.18
1,3-Butadiene	-	0.00
Acetaldehyde	-	0.00
Acrolein	-	0.00
Formaldehyde	-	0.01
Naphthalene	-	0.00
PAH	-	0.02
Propylene	-	0.21
Lube Oil	-	0.12
THERMINOL® 55	-	1.20
aMDEA Solution	-	1.19
Gasoline	-	17.93
Diesel	-	0.52
<b>Total HAP Emission</b>	<b>0.00</b>	<b>24.84</b>

**Table A-15**  
**Speciated Annual Emission Summary**  
**Corpus Christi Liquefaction Stage 1&2**

Compound	HAP	TRB1- TRB18	TO-1	TO-2	TO-3	WTDYFLR1- 2 (Routine)	WTDYFLR1- 2 (MSS)	FUG
		tpy	tpy	tpy	tpy	tpy	tpy	tpy
Ethylene		-	-	-	-	8.66	27.48	67.45
Propane		-	0.029	0.029	0.029	10.41	76.25	9.70
Isobutane		-	0.010	0.010	0.010	0.44	5.02	0.133
n-Butane		-	0.009	0.009	0.009	0.140	2.91	0.123
Isopentane		-	0.004	0.004	0.004	0.0700	1.49	0.268
n-Pentane		-	0.006	0.006	0.006	0.0600	1.17	1.571
n-Hexane	Yes	-	0.006	0.006	0.006	0.1100	1.38	0.512
Benzene	Yes	0.41	0.178	0.178	0.178	1.2300	0.10	0.198
n-Heptane		-	0.007	0.007	0.007	0.0900	0.82	1.226
Hydrogen Sulfide		-	0.018	0.018	0.018	0.01000	0.01	0.0006
Cyclohexane		-	-	-	-	-	-	0.1473
Cyclopentane		-	-	-	-	-	-	0.073
n-Decane		-	0.002	0.002	0.002	0.01	-	0.22256
Ethylbenzene	Yes	1.08	0.048	0.048	0.048	0.33	-	0.04901
Methylcyclopentane		-	-	-	-	-	-	0.32127
n-Nonane		-	0.004	0.004	0.004	0.03	-	0.696
n-Octane		-	0.004	0.004	0.004	0.03	-	1.046
Toluene	Yes	4.35	0.176	0.176	0.176	1.21	-	0.17205
Xylenes	Yes	2.18	-	-	-	-	-	-
Xylene (-o)	Yes	-	0.029	0.029	0.029	0.2	-	0.02048
Xylene (-p)	Yes	-	0.049	0.049	0.049	0.34	-	0.0417
1,3-Butadiene	Yes	0.01	-	-	-	-	-	-
Acetaldehyde	Yes	1.41	-	-	-	-	-	-
Acrolein	Yes	0.22	-	-	-	-	-	-
Formaldehyde	Yes	24.10	-	-	-	-	-	-
Naphthalene	Yes	0.04	-	-	-	-	-	-
PAH	Yes	0.07	-	-	-	-	-	-
Propylene Oxide	Yes	0.93	-	-	-	-	-	-
Lube Oil		-	-	-	-	-	-	0.52
THERMINOL® 55		-	-	-	-	-	-	5.24
aMDEA Solution		-	-	-	-	-	-	5.1E+00
Gasoline		-	-	-	-	-	-	-
Diesel		-	-	-	-	-	-	-
<b>Total HAP Emission Rates:</b>		<b>34.81</b>	<b>0.49</b>	<b>0.49</b>	<b>0.49</b>	<b>3.420</b>	<b>1.48</b>	<b>0.99</b>

**Table A-15**  
**Speciated Annual Emission Summary**  
**Corpus Christi Liquefaction Stage 1&2**

Compound	GEN1	GEN2	GEN3	GEN4	FWPUMP1	FWPUMP2	DSLTK1	DSLTK2	DSLTK3
	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy
Ethylene	-	-	-	-	-	-	-	-	-
Propane	-	-	-	-	-	-	-	-	-
Isobutane	-	-	-	-	-	-	-	-	-
n-Butane	-	-	-	-	-	-	-	-	-
Isopentane	-	-	-	-	-	-	-	-	-
n-Pentane	-	-	-	-	-	-	-	-	-
n-Hexane	-	-	-	-	-	-	-	-	-
Benzene	6.0E-04	6.0E-04	6.0E-04	6.0E-04	1.1E-04	1.1E-04	-	-	-
n-Heptane	-	-	-	-	-	-	-	-	-
Hydrogen Sulfide	-	-	-	-	-	-	-	-	-
Cyclohexane	-	-	-	-	-	-	-	-	-
Cyclopentane	-	-	-	-	-	-	-	-	-
n-Decane	-	-	-	-	-	-	-	-	-
Ethylbenzene	-	-	-	-	-	-	-	-	-
Methylcyclopentane	-	-	-	-	-	-	-	-	-
n-Nonane	-	-	-	-	-	-	-	-	-
n-Octane	-	-	-	-	-	-	-	-	-
Toluene	2.2E-04	2.2E-04	2.2E-04	2.2E-04	4.2E-05	4.2E-05	-	-	-
Xylenes	1.5E-04	1.5E-04	1.5E-04	1.5E-04	2.9E-05	2.9E-05	-	-	-
Xylene (-o)	-	-	-	-	-	-	-	-	-
Xylene (-p)	-	-	-	-	-	-	-	-	-
1,3-Butadiene	-	-	-	-	-	-	-	-	-
Acetaldehyde	2.0E-05	2.0E-05	2.0E-05	2.0E-05	3.7E-06	3.7E-06	-	-	-
Acrolein	6.1E-06	6.1E-06	6.1E-06	6.1E-06	1.2E-06	1.2E-06	-	-	-
Formaldehyde	6.1E-05	6.1E-05	6.1E-05	6.1E-05	1.2E-05	1.2E-05	-	-	-
Naphthalene	-	-	-	-	-	-	-	-	-
PAH	1.6E-04	1.6E-04	1.6E-04	1.6E-04	3.1E-05	3.1E-05	-	-	-
Propylene Oxide	-	-	-	-	-	-	-	-	-
Lube Oil	-	-	-	-	-	-	-	-	-
THERMINOL® 55	-	-	-	-	-	-	-	-	-
aMDEA Solution	-	-	-	-	-	-	-	-	-
Gasoline	-	-	-	-	-	-	-	-	-
Diesel	-	-	-	-	-	-	0.0004	0.0004	0.0004
<b>Total HAP Emission</b>	<b>0.0012</b>	<b>0.0012</b>	<b>0.0012</b>	<b>0.0012</b>	<b>0.0002</b>	<b>0.0002</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**Table A-15**  
**Speciated Annual Emission Summary**  
**Corpus Christi Liquefaction Stage 1&2**

Compound	DSLTK4	FWPTK1	FWPTK2	GDFTK1	GDFTK2	WWTk1	WWLD	IFRTK1	TRKLD
	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy
Ethylene	-	-	-	-	-	-	-	-	-
Propane	-	-	-	-	-	-	-	-	-
Isobutane	-	-	-	-	-	-	-	0.00	0.00
n-Butane	-	-	-	-	-	-	-	0.00	0.00
Isopentane	-	-	-	-	-	-	-	0.02	0.03
n-Pentane	-	-	-	-	-	-	-	0.13	0.19
n-Hexane	-	-	-	-	-	-	-	0.03	0.05
Benzene	-	-	-	-	-	4.0E-04	2.2E-03	0.01	0.02
n-Heptane	-	-	-	-	-	-	-	0.07	0.10
Hydrogen Sulfide	-	-	-	-	-	-	-	-	-
Cyclohexane	-	-	-	-	-	-	-	0.01	0.02
Cyclopentane	-	-	-	-	-	-	-	0.00	0.01
n-Decane	-	-	-	-	-	-	-	0.01	0.01
Ethylbenzene	-	-	-	-	-	2.8E-06	1.6E-05	0.00	0.00
Methylcyclopentane	-	-	-	-	-	-	-	0.02	0.03
n-Nonane	-	-	-	-	-	-	-	0.03	0.05
n-Octane	-	-	-	-	-	-	-	0.06	0.08
Toluene	-	-	-	-	-	1.3E-04	7.1E-04	0.01	0.02
Xylenes	-	-	-	-	-	1.9E-05	1.1E-04	-	-
Xylene (-o)	-	-	-	-	-	-	-	0.00	0.00
Xylene (-p)	-	-	-	-	-	-	-	0.00	0.00
1,3-Butadiene	-	-	-	-	-	-	-	-	-
Acetaldehyde	-	-	-	-	-	-	-	-	-
Acrolein	-	-	-	-	-	-	-	-	-
Formaldehyde	-	-	-	-	-	-	-	-	-
Naphthalene	-	-	-	-	-	-	-	-	-
PAH	-	-	-	-	-	-	-	-	-
Propylene Oxide	-	-	-	-	-	-	-	-	-
Lube Oil	-	-	-	-	-	-	-	-	-
THERMINOL® 55	-	-	-	-	-	-	-	-	-
aMDEA Solution	-	-	-	-	-	-	-	-	-
Gasoline	-	-	-	-	0.5341	-	-	-	-
Diesel	0.0004	0.0002	0.0002	0.0009	-	-	-	-	-
<b>Total HAP Emission</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.07</b>	<b>0.09</b>

**Table A-15**  
**Speciated Annual Emission Summary**  
**Corpus Christi Liquefaction Stage 1&2**

Compound	TRKVCU	AMNSRG1 (MSS)	AMNSRG2 (MSS)	AMNSRG3 (MSS)	TRKMSS	MRNFLR	Total HAPS
	tpy	tpy	tpy	tpy	tpy	tpy	tpy
Ethylene	-	-	-	-	-	-	
Propane	-	-	-	-	-	2.13	
Isobutane	0.00	-	-	-	0.00	0.73	
n-Butane	0.00	-	-	-	0.00	0.73	
Isopentane	0.02	-	-	-	0.02	0.00	
n-Pentane	0.15	-	-	-	0.15	0.00	
n-Hexane	0.04	-	-	-	0.04	0.00	2.18
Benzene	0.02	-	-	-	0.02	0.0004	2.54
n-Heptane	0.08	-	-	-	0.08	0.001	
Hydrogen Sulfide	-	-	-	-	-	0.0000	
Cyclohexane	0.01	-	-	-	0.01	-	
Cyclopentane	0.01	-	-	-	0.01	-	
n-Decane	0.01	-	-	-	0.01	-	
Ethylbenzene	0.00	-	-	-	0.00	-	1.62
Methylcyclopentane	0.03	-	-	-	0.03	-	
n-Nonane	0.04	-	-	-	0.04	-	
n-Octane	0.06	-	-	-	0.06	-	
Toluene	0.01	-	-	-	0.01	-	6.32
Xylenes	-	-	-	-	-	-	2.18
Xylene (-o)	0.00	-	-	-	0.00	-	0.31
Xylene (-p)	0.00	-	-	-	0.00	-	0.54
1,3-Butadiene	-	-	-	-	-	-	0.01
Acetaldehyde	-	-	-	-	-	-	1.41
Acrolein	-	-	-	-	-	-	0.22
Formaldehyde	-	-	-	-	-	-	24.10
Naphthalene	-	-	-	-	-	-	0.04
PAH	-	-	-	-	-	-	0.07
Propylene Oxide	-	-	-	-	-	-	0.93
Lube Oil	-	-	-	-	-	-	
THERMINOL® 55	-	-	-	-	-	-	
aMDEA Solution	-	0.0083	0.0083	0.0083	-	-	
Gasoline	-	-	-	-	-	-	
Diesel	-	-	-	-	-	-	
<b>Total HAP Emission</b>	<b>0.07</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.08</b>	<b>0.00</b>	<b>42.48</b>

**Table B-1**

**Wet/Dry Flare 1 and 2 Emissions**

Corpus Christi Liquefaction Stage 1&2

EPNs: WTDYFLR1 and WTDYFLR2

Basis		
H <sub>2</sub> S Control Efficiency	98%	
NO <sub>x</sub> Emission Factor	0.1380	lb/MMBtu
CO Emission Factor	0.5496	lb/MMBtu
C <sub>1</sub> -C <sub>3</sub> VOC DRE	99%	
C <sub>4</sub> + VOC DRE	98%	
H <sub>2</sub> S Control Efficiency	98%	

Pollutant	Emission Rates	
	Max Hourly	Annual
	lb/hr	tpy
NO <sub>x</sub>	816.68	228.09
CO	3,252.52	908.39
VOC	2,895.54	116.62
H <sub>2</sub> S	0.02	0.011
SO <sub>2</sub>	2.20	1.02

Maintenance Activity	Stream	Mass Per Activity	Mass Per Activity w/ Safety Factor	Duration	Frequency	Mass Flow Rate		Heat Release	
		lbs	lbs	hrs	events/yr	lb/hr	ton/yr	MMBtu/hr	MMBtu/yr
<b>Defrost</b>									
Propane Depressuring	Propane Gas	1,046,268	1,150,895	4	12	287,724	6,278	5,918	258,239
Ethylene Depressuring	Ethylene Gas	394,477	433,925	4	12	108,481	2,367	2,235	97,543
Methane Depressuring	Methane Gas	20,006	22,007	4	12	5,502	120	114	4,986
Warming/drying Cryogenic Circuits	Feed Gas	8,506,160	9,356,776	96	12	97,466	51,037	2,038	2,134,758
Propane System Cool Down	Feed Gas	264,000	290,400	2	12	145,200	1,584	3,037	66,255
Ethylene System Cool Down	Feed Gas	264,000	290,400	2	12	145,200	1,584	3,037	66,255
HRU System Cool Down	Feed Gas	396,000	435,600	3	12	145,200	2,376	3,037	99,383
<b>Major Equipment Deinventory/Startup</b>									
Front-end depressuring	Feed Gas	193,346	212,681	2	2	106,340	193	2,224	8,087
Propane Depressuring	Propane Gas	1,046,268	1,150,895	4	2	287,724	1,046	5,918	43,040
Ethylene Depressuring	Ethylene Gas	394,477	433,925	4	2	108,481	394	2,235	16,257
Methane Depressuring	Methane Gas	20,006	22,007	4	2	5,502	20	114	831
HRU Depressuring	Heavies Gas	204,720	225,192	4	2	56,298	205	1,210	8,800
1800 System Depressuring	Condensate Gas	76,211	83,832	4	2	20,958	76	423	3,076
Warming/drying Cryogenic Circuits	Feed Gas	8,506,160	9,356,776	96	2	97,466	8,506	2,038	355,793
Propane System Cool Down	Feed Gas	264,000	290,400	2	2	145,200	264	3,037	11,043
Ethylene System Cool Down	Feed Gas	264,000	290,400	2	2	145,200	264	3,037	11,043
HRU System Cool Down	Feed Gas	396,000	435,600	3	2	145,200	396	3,037	16,564
<b>Misc. Maintenance</b>									
Compressor Fuel Gas Warmup	Feed Gas	43,564	47,920	1	36	47,920	784	1,002	32,799
Regen Comp. Maintenance	Regen Gas FL	1,091,280	1,200,408	12	3	100,034	1,637	2,166	70,882

**Maximum>> 5,918**  
**Annual Total>> 3,305,634**

Table B-1

Wet/Dry Flare 1 and 2 Emissions

Corpus Christi Liquefaction Stage 1&2

EPNs: WTDYFLR1 and WTDYFLR2

Stream Compositions

Component	LHV	MW	Feed Gas	Propane Gas	Ethylene Gas	Methane Gas	Regen Gas FL	Heavies Gas	Condensate Gas
	btu/scf	lb/lbmol	wt%	wt%	wt%	wt%	wt%	wt%	wt%
Nitrogen	-	28.01	0.81%	-	-	5.12%	0.85%	0.42%	-
Water	-	18.02	0.02%	-	-	-	-	-	-
Carbon Dioxide	-	44.01	3.39%	-	-	-	-	-	-
Methane	911	16.04	91.09%	-	0.57%	94.88%	93.69%	78.94%	-
Ethane	1,631	30.07	3.37%	0.68%	-	-	5.46%	4.92%	0.15%
Ethylene	1,499	28.05	-	-	99.43%	-	-	1.17%	-
Propane	2,353	44.10	0.65%	98.00%	-	-	-	2.89%	5.65%
Isobutane	3,094	58.12	0.21%	1.32%	-	-	-	2.24%	15.38%
n-Butane	3,101	58.12	0.17%	-	-	-	-	3.58%	30.14%
Isopentane	3,698	72.15	0.09%	-	-	-	-	1.64%	18.04%
n-Pentane	3,709	72.15	0.04%	-	-	-	-	3.33%	30.14%
n-Hexane	4,404	86.18	0.10%	-	-	-	-	0.17%	0.21%
Benzene	3,591	78.11	0.01%	-	-	-	-	0.08%	0.09%
n-Heptane	5,100	100.20	0.06%	-	-	-	-	0.62%	0.21%
Hydrogen Sulfide	587	34.08	0.00%	-	-	-	-	-	-
<b>Total</b>			<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
		<b>LHV (Btu/lb)</b>	<b>20,914</b>	<b>20,568</b>	<b>20,606</b>	<b>20,769</b>	<b>21,651</b>	<b>21,493</b>	<b>20,179</b>
		<b>MW (lb/lbmole)</b>	<b>16.89</b>	<b>44.10</b>	<b>27.93</b>	<b>16.40</b>	<b>16.52</b>	<b>18.57</b>	<b>62.91</b>

Table B-1

Wet/Dry Flare 1 and 2 Emissions

Corpus Christi Liquefaction Stage 1&2

EPNs: WTDYFLR1 and WTDYFLR2

Maximum Short-term Emission Rates

Component	DRE	Feed Gas	Propane Gas	Ethylene Gas	Methane Gas	Regen Gas FL	Heavies Gas	Condensate Gas	Maximum
		Maximum Flow Rate (lb/hr)							lb/hr
		145,200	287,724	108,481	5,502	100,034	56,298	20,958	
		lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	
Nitrogen	0%	1,180.11	-	-	281.91	848.01	236.45	-	1,180.11
Water	0%	22.78	-	-	-	-	-	-	22.78
Carbon Dioxide	0%	4,919.34	-	-	-	-	-	-	4,919.34
Methane	99%	1,322.62	-	6.23	52.20	937.24	444.42	-	1,322.62
Ethane	99%	48.86	19.62	-	-	54.62	27.70	0.31	54.62
Ethylene	99%	-	-	1,078.58	-	-	6.59	-	1,078.58
Propane	99%	9.48	2,819.69	-	-	-	16.27	11.84	2,819.69
Isobutane	98%	6.00	75.85	-	-	-	25.22	64.47	75.85
n-Butane	98%	5.00	-	-	-	-	40.31	126.33	126.33
Isopentane	98%	2.48	-	-	-	-	18.47	75.62	75.62
n-Pentane	98%	1.24	-	-	-	-	37.49	126.33	126.33
n-Hexane	98%	2.96	-	-	-	-	1.91	0.88	2.96
Benzene	98%	0.20	-	-	-	-	0.90	0.38	0.90
n-Heptane	98%	1.72	-	-	-	-	6.98	0.88	6.98
Hydrogen Sulfide	98%	0.02	-	-	-	-	-	-	0.02
<b>Maximum VOC (lb/hr)</b>		<b>29.1</b>	<b>2,895.5</b>	<b>1,078.6</b>	<b>-</b>	<b>-</b>	<b>154.1</b>	<b>406.7</b>	

**Table B-1**  
**Wet/Dry Flare 1 and 2 Emissions**

Corpus Christi Liquefaction Stage 1&2

EPNs: WTDYFLR1 and WTDYFLR2

**Annual Emission Rates**

Component	DRE	Feed Gas	Propane Gas	Ethylene Gas	Methane Gas	Regen Gas FL	Heavies Gas	Condensate Gas	Annual Total
		Annual Flow Rate (tpy)							
		66,989 tpy	7,324 tpy	2,761 tpy	140 tpy	1,637 tpy	205 tpy	76 tpy	
Nitrogen	0%	544.45	-	-	7.18	13.88	0.86	-	566.36
Water	0%	10.51	-	-	-	-	-	-	10.51
Carbon Dioxide	0%	2,269.56	-	-	-	-	-	-	2,269.56
Methane	99%	610.20	-	0.16	1.33	15.34	1.62	-	628.64
Ethane	99%	22.54	0.50	-	-	0.89	0.10	0.00	24.04
Ethylene	99%	-	-	27.45	-	-	0.02	-	27.48
Propane	99%	4.37	71.77	-	-	-	0.06	0.04	76.25
Isobutane	98%	2.77	1.93	-	-	-	0.09	0.23	5.02
n-Butane	98%	2.31	-	-	-	-	0.15	0.46	2.91
Isopentane	98%	1.14	-	-	-	-	0.07	0.27	1.49
n-Pentane	98%	0.57	-	-	-	-	0.14	0.46	1.17
n-Hexane	98%	1.37	-	-	-	-	0.01	0.00	1.38
Benzene	98%	0.09	-	-	-	-	0.00	0.00	0.10
n-Heptane	98%	0.79	-	-	-	-	0.03	0.00	0.82
Hydrogen Sulfide	98%	0.01	-	-	-	-	-	-	0.01
<b>Total VOC (tpy)</b>		<b>13.42</b>	<b>73.70</b>	<b>27.45</b>	<b>-</b>	<b>-</b>	<b>0.56</b>	<b>1.48</b>	

Notes:

1. NO<sub>x</sub> and CO emissions are based on emission factors TNRCC Technical Guidance for Flares and Vapor Oxidizers, October 2000.
2. A control efficiency of 98% was assumed for H2S. SO2 emissions assume that 100% of H2S present in the fuel is converted to SO2.
3. Maximum hourly rates are based on maximum expected variability during routine operations using a safety factor of: 10%
4. Flow rates and composition are for calculation purposes only and are not considered enforceable limits.

Example Calculations:

<i>NO<sub>x</sub> Emissions</i>	5917.99	MMBtu	0.1380	lb	=	816.68	lbs/hr		
		hr		MMBtu					
<i>CO Emissions</i>	5917.99	MMBtu	0.5496	lb	=	3252.52	lbs/hr		
		hr		MMBtu					
<i>VOC Emissions (propane)</i>	281,969	lb C <sub>1</sub> -C <sub>3</sub> to Flr	100% - 99%	Control Eff	+	3,792.43	lb C <sub>3</sub> + to Flr	100% - 98%	Control Eff
		hr					hr		
	=	2895.54	lb/hr						

**Table A-15**  
**Speciated Annual Emission Summary**  
**Corpus Christi Liquefaction Stage 1&2**

Compound	HAP	TRB1- TRB18	TO-1	TO-2	TO-3	WTDYFLR1- 2 (Routine)	WTDYFLR1- 2 (MSS)	FUG
		tpy	tpy	tpy	tpy	tpy	tpy	tpy
Ethylene		-	-	-	-	8.66	27.48	-
Propane		-	-	-	-	27.43	76.25	-
Isobutane		-	-	-	-	8.89	5.02	-
n-Butane		-	-	-	-	13.860	2.91	-
Isopentane		-	-	-	-	4.8300	1.49	-
n-Pentane		-	-	-	-	4.1700	1.17	-
n-Hexane	Yes	-	-	-	-	2.6200	1.38	-
Benzene	Yes	-	-	-	-	1.2200	0.10	-
n-Heptane		-	-	-	-	0.8100	0.82	-
Hydrogen Sulfide		-	-	-	-	0.04000	0.01	-
Cyclohexane		-	-	-	-	-	-	-
Cyclopentane		-	-	-	-	-	-	-
n-Decane		-	-	-	-	0.01	-	-
Ethylbenzene	Yes	-	-	-	-	0.33	-	-
Methylcyclopentane		-	-	-	-	-	-	-
n-Nonane		-	-	-	-	0.03	-	-
n-Octane		-	-	-	-	0.26	-	-
Toluene	Yes	-	-	-	-	1.21	-	-
Xylenes	Yes	-	-	-	-	-	-	-
Xylene (-o)	Yes	-	-	-	-	0.2	-	-
Xylene (-p)	Yes	-	-	-	-	0.34	-	-
1,3-Butadiene	Yes	-	-	-	-	-	-	-
Acetaldehyde	Yes	-	-	-	-	-	-	-
Acrolein	Yes	-	-	-	-	-	-	-
Formaldehyde	Yes	-	-	-	-	-	-	-
Naphthalene	Yes	-	-	-	-	-	-	-
PAH	Yes	-	-	-	-	-	-	-
Propylene Oxide	Yes	-	-	-	-	-	-	-
Lube Oil		-	-	-	-	-	-	-
THERMINOL® 55		-	-	-	-	-	-	-
aMDEA Solution		-	-	-	-	-	-	-
Gasoline		-	-	-	-	-	-	-
Diesel		-	-	-	-	-	-	-
<b>Total HAP Emission Rates:</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>5.920</b>	<b>1.48</b>	<b>0.00</b>

**Table A-15**  
**Speciated Annual Emission Summary**  
**Corpus Christi Liquefaction Stage 1&2**

Compound	GEN1	GEN2	GEN3	GEN4	FWPUMP1	FWPUMP2	DSLTK1	DSLTK2	DSLTK3
	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy
Ethylene	-	-	-	-	-	-	-	-	-
Propane	-	-	-	-	-	-	-	-	-
Isobutane	-	-	-	-	-	-	-	-	-
n-Butane	-	-	-	-	-	-	-	-	-
Isopentane	-	-	-	-	-	-	-	-	-
n-Pentane	-	-	-	-	-	-	-	-	-
n-Hexane	-	-	-	-	-	-	-	-	-
Benzene	-	-	-	-	-	-	-	-	-
n-Heptane	-	-	-	-	-	-	-	-	-
Hydrogen Sulfide	-	-	-	-	-	-	-	-	-
Cyclohexane	-	-	-	-	-	-	-	-	-
Cyclopentane	-	-	-	-	-	-	-	-	-
n-Decane	-	-	-	-	-	-	-	-	-
Ethylbenzene	-	-	-	-	-	-	-	-	-
Methylcyclopentane	-	-	-	-	-	-	-	-	-
n-Nonane	-	-	-	-	-	-	-	-	-
n-Octane	-	-	-	-	-	-	-	-	-
Toluene	-	-	-	-	-	-	-	-	-
Xylenes	-	-	-	-	-	-	-	-	-
Xylene (-o)	-	-	-	-	-	-	-	-	-
Xylene (-p)	-	-	-	-	-	-	-	-	-
1,3-Butadiene	-	-	-	-	-	-	-	-	-
Acetaldehyde	-	-	-	-	-	-	-	-	-
Acrolein	-	-	-	-	-	-	-	-	-
Formaldehyde	-	-	-	-	-	-	-	-	-
Naphthalene	-	-	-	-	-	-	-	-	-
PAH	-	-	-	-	-	-	-	-	-
Propylene Oxide	-	-	-	-	-	-	-	-	-
Lube Oil	-	-	-	-	-	-	-	-	-
THERMINOL® 55	-	-	-	-	-	-	-	-	-
aMDEA Solution	-	-	-	-	-	-	-	-	-
Gasoline	-	-	-	-	-	-	-	-	-
Diesel	-	-	-	-	-	-	#N/A	#N/A	#N/A
<b>Total HAP Emission</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**Table A-15**  
**Speciated Annual Emission Summary**  
**Corpus Christi Liquefaction Stage 1&2**

Compound	DSLTK4	FWPTK1	FWPTK2	GDFTK1	GDFTK2	WWTk1	WWLD	IFRTK1	TRKLD
	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy
Ethylene	-	-	-	-	-	-	-	-	-
Propane	-	-	-	-	-	-	-	-	-
Isobutane	-	-	-	-	-	-	-	-	0.00
n-Butane	-	-	-	-	-	-	-	-	0.00
Isopentane	-	-	-	-	-	-	-	-	0.06
n-Pentane	-	-	-	-	-	-	-	-	0.41
n-Hexane	-	-	-	-	-	-	-	-	0.10
Benzene	-	-	-	-	-	-	2.5E-01	-	0.04
n-Heptane	-	-	-	-	-	-	-	-	0.22
Hydrogen Sulfide	-	-	-	-	-	-	-	-	-
Cyclohexane	-	-	-	-	-	-	-	-	0.03
Cyclopentane	-	-	-	-	-	-	-	-	0.02
n-Decane	-	-	-	-	-	-	-	-	0.03
Ethylbenzene	-	-	-	-	-	-	1.8E-03	-	0.01
Methylcyclopentane	-	-	-	-	-	-	-	-	0.07
n-Nonane	-	-	-	-	-	-	-	-	0.10
n-Octane	-	-	-	-	-	-	-	-	0.17
Toluene	-	-	-	-	-	-	8.1E-02	-	0.04
Xylenes	-	-	-	-	-	-	1.2E-02	-	-
Xylene (-o)	-	-	-	-	-	-	-	-	0.00
Xylene (-p)	-	-	-	-	-	-	-	-	0.01
1,3-Butadiene	-	-	-	-	-	-	-	-	-
Acetaldehyde	-	-	-	-	-	-	-	-	-
Acrolein	-	-	-	-	-	-	-	-	-
Formaldehyde	-	-	-	-	-	-	-	-	-
Naphthalene	-	-	-	-	-	-	-	-	-
PAH	-	-	-	-	-	-	-	-	-
Propylene Oxide	-	-	-	-	-	-	-	-	-
Lube Oil	-	-	-	-	-	-	-	-	-
THERMINOL® 55	-	-	-	-	-	-	-	-	-
aMDEA Solution	-	-	-	-	-	-	-	-	-
Gasoline	-	-	-	-	#N/A	-	-	-	-
Diesel	#N/A	#N/A	#N/A	#N/A	-	-	-	-	-
<b>Total HAP Emission</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.34</b>	<b>0.00</b>	<b>0.20</b>

**Table A-15**  
**Speciated Annual Emission Summary**  
**Corpus Christi Liquefaction Stage 1&2**

Compound	TRKVCU	AMNSRG1 (MSS)	AMNSRG2 (MSS)	AMNSRG3 (MSS)	TRKMSS	MRNFLR	Total HAPS
	tpy	tpy	tpy	tpy	tpy	tpy	tpy
Ethylene	-	-	-	-	-	-	
Propane	-	-	-	-	-	2.13	
Isobutane	0.00	-	-	-	-	0.73	
n-Butane	0.00	-	-	-	-	0.73	
Isopentane	0.05	-	-	-	-	0.00	
n-Pentane	0.31	-	-	-	-	0.00	
n-Hexane	0.08	-	-	-	-	0.00	4.18
Benzene	0.03	-	-	-	-	0.0004	1.65
n-Heptane	0.17	-	-	-	-	0.001	
Hydrogen Sulfide	-	-	-	-	-	0.0000	
Cyclohexane	0.03	-	-	-	-	-	
Cyclopentane	0.01	-	-	-	-	-	
n-Decane	0.02	-	-	-	-	-	
Ethylbenzene	0.01	-	-	-	-	-	0.35
Methylcyclopentane	0.06	-	-	-	-	-	
n-Nonane	0.08	-	-	-	-	-	
n-Octane	0.13	-	-	-	-	-	
Toluene	0.03	-	-	-	-	-	1.35
Xylenes	-	-	-	-	-	-	0.01
Xylene (-o)	0.00	-	-	-	-	-	0.21
Xylene (-p)	0.01	-	-	-	-	-	0.35
1,3-Butadiene	-	-	-	-	-	-	0.00
Acetaldehyde	-	-	-	-	-	-	0.00
Acrolein	-	-	-	-	-	-	0.00
Formaldehyde	-	-	-	-	-	-	0.00
Naphthalene	-	-	-	-	-	-	0.00
PAH	-	-	-	-	-	-	0.00
Propylene Oxide	-	-	-	-	-	-	0.00
Lube Oil	-	-	-	-	-	-	
THERMINOL® 55	-	-	-	-	-	-	
aMDEA Solution	-	0.0083	0.0083	0.0083	-	-	
Gasoline	-	-	-	-	-	-	
Diesel	-	-	-	-	-	-	
<b>Total HAP Emission</b>	<b>0.16</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>8.10</b>

**Table A-1**  
**Hot Oil Furnace Emission Calculations**  
**Stage 3 Expansion Project**  
**Corpus Christi Liquefaction LLC**

EPNs: MSFURN1 thru MSFURN9

**Fuel Input**

Averaging Period	Duty (HHV)	Fuel Gas Molar Flowrate	Fuel Gas Vol. Flowrate
	MMBtu/hr	scf/hr	lbmol/hr
Annual	39.0	28,366	74
Hourly	75.3	54,769	142

Standard Temperature: 68 °F  
Standard Pressure: 1 atm  
Standard Volume: 385.43 ft<sup>3</sup>/lbmol

**Fuel Gas Composition**

Component	Fuel Gas	Fuel Gas	MW	LHV	HHV
	(wt%)	(mol)%	(lb/lbmol)	(Btu/scf)	(Btu/scf)
Nitrogen	1.24%	1.04%	28.01	0.00	0.00
Water	0.01%	0.01%	18.02	0.00	0.00
Carbon Dioxide	2.32%	1.24%	44.01	0.00	0.00
Methane	52.37%	76.87%	16.04	911.00	1012.00
Ethane	6.79%	5.31%	30.07	1631.00	1783.00
Propane	9.93%	5.30%	44.10	2353.00	2557.00
i-Butane	7.46%	3.02%	58.12	3094.00	3354.00
n-Butane	9.31%	3.77%	58.12	3101.00	3369.00
i-Pentane	5.38%	1.76%	72.15	3698.00	4001.00
n-Pentane	4.76%	1.55%	72.15	3709.00	4009.00
Hexane	0.33%	0.09%	86.18	4403.80	4755.90
Heptane	0.11%	0.03%	100.20	5100.00	5502.50
Benzene	0.00%	0.00%	78.11	3590.90	3741.80
Toluene	0.00%	0.00%	92.14	4273.60	4475.00
Other Aromatics	0.00%	0.00%	78.11	3590.90	3741.80
Cyclic Compounds	0.00%	0.00%	84.16	4179.70	4481.70
C8+	0.00%	0.00%	106.17	4958.20	5209.90
Hydrogen Sulfide	0.00009%	0.0006%	34.08	586.80	637.10
	100.0%	100.0%			

Average Molecular Weight= 23.55 lb/lbmol  
Fuel gas HHV= 1,375 Btu/scf  
Fuel gas LHV= 1,250 Btu/scf  
Operating Hours= 8,760 hrs/yr

**Combustion Calculations**

Component	Fuel Molar Flowrate (lbmol/hr)	O <sub>2</sub> Stoic. Coeff.	Oxygen Requirement (lbmol/hr)	CO <sub>2</sub> Stoic. Coeff.	CO <sub>2</sub> Production (lbmol/hr)	H <sub>2</sub> O Stoic. Coeff.	H <sub>2</sub> O Production (lbmol/hr)
Nitrogen	0.8	0	0.0	0	0.00	0	0.0
Water	0.0	0	0	0	0.00	1	0.0
Carbon Dioxide	0.9	2	1.8	1	0.9	0	0.0
Methane	56.6	2	113.2	1	56.6	2	113.2
Ethane	3.9	3.5	13.7	2	7.8	3	11.7
Propane	3.9	5	19.5	3	11.7	4	15.6
i-Butane	2.22E+00	6.5	14.5	4	8.9	5	11.1
n-Butane	2.78E+00	6.5	18.0	4	11.1	5	13.9
i-Pentane	1.29E+00	8	10.3	5	6.47E+00	6	7.8
n-Pentane	1.14E+00	8	9.1	5	5.71E+00	6	6.85E+00
Hexane	6.70E-02	9.5	0.6	6	0.4	7	0.5
Heptane	1.84E-02	11	0	7	1.29E-01	8	1.47E-01
<b>TOTALS</b>	<b>74</b>		<b>201</b>		<b>110</b>		<b>181</b>
<b>MAX HOURLY</b>	<b>142</b>		<b>388</b>		<b>212</b>		<b>349</b>

**Table A-1**  
**Hot Oil Furnace Emission Calculations**  
**Stage 3 Expansion Project**  
**Corpus Christi Liquefaction LLC**

**EPNs: MSFURN1 thru MSFURN9**

**Air Requirements:**

Excess Air 20.0%

Composition of Air			Annual	Max Hourly	
O2	21.00%	O <sub>2</sub> Flowrate=	(201 lbmol O <sub>2</sub> /hr)(1 + 0.2)=	241	466 lbmol/hr
N2	79.00%	N <sub>2</sub> Flowrate=	(0,241 lbmol/hr)(0.79 lbmol N <sub>2</sub> /0.21 lbmol O <sub>2</sub> ) =	907	1,752 lbmol/hr
		Air Flowrate=		1,149	2,218 lbmol/hr

**Annual Exhaust Emissions**

Component	Emission Basis		Emission Rate (lb/hr)	Emission Rate (tpy)	Emission Rate (lbmol/hr)	Emission Rate, dry @ 3% O <sub>2</sub> (lbmol/hr)	Conc. (% vol)	Conc. (% vol, dry @ 3%O <sub>2</sub> )
	Factor	Units						
N <sub>2</sub>					1,203	1,205	78.4%	88.9%
O <sub>2</sub>					40	41	2.6%	3.0%
H <sub>2</sub> O					181	NA	11.8%	
CO <sub>2</sub>					110	110	7.2%	8.1%
PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.00745	lb/MMbtu	0.29	1.27	NA	NA	NA	NA
VOC	0.00539	lb/MMbtu	0.21	0.92	0.013	0.013	0.0009%	0.00097%
NOx	0.03	lb/MMbtu	1.17	5.12	0.025	0.025	0.0017%	0.0019%
CO	0.04	lb/MMbtu	1.56	6.83	0.06	0.06	0.0036%	0.0041%
SO <sub>2</sub>	0.0009	lbmol H <sub>2</sub> S/hr	0.12	0.52	0.002	0.002	0.0001%	0.0001%
Totals					1,534	1,355	100%	100%

**Emission Rate, dry @ 3% O<sub>2</sub> (lbmol/hr): 1161**

**Maximum Hourly Emissions**

Component	Emission Basis		Emission Rate (lb/hr)	Emission Rate (tpy)	Emission Rate (lbmol/hr)	Emission Rate, dry @ 3% O <sub>2</sub> (lbmol/hr)	Conc. (% vol)	Conc. (% vol, dry @ 3%O <sub>2</sub> )
	Factor	Units						
N <sub>2</sub>					2,047	2,015	76.2%	87.8%
O <sub>2</sub>					78	69	2.9%	3.0%
H <sub>2</sub> O					349	NA	13.0%	
CO <sub>2</sub>					212	212	7.9%	9.2%
PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.00745	lb/MMbtu	0.56		NA	NA	NA	NA
VOC	0.00539	lb/MMbtu	0.41		0.025	0.025	0.0009%	0.00110%
NOx	0.0306	lb/MMbtu	2.30		0.050	0.050	0.0019%	0.0022%
CO	0.039	lb/MMbtu	2.94		0.10	0.10	0.0039%	0.0046%
SO <sub>2</sub>	0.0009	lbmol H <sub>2</sub> S/hr	0.23		0.004	0.004	0.0001%	0.0002%
Totals					2,686	2,296	100%	100%

**Emission Rate, dry @ 3% O<sub>2</sub> (lbmol/hr): 1966**

**Exhaust Gas Exit Velocity-Gas Fired**

Flowrate = 2,686 lbmol/hr  
 = (2,686 lbmol/hr) (385.43 scf/lbmol) = 1,035,268 scfh  
 17,254 scfm 29,398 acfm

Stack Temperature = 443 °F  
 Stack Diameter = 6.04 feet  
 Stack Cross Section = 28.65 ft<sup>2</sup>  
 Exit Velocity = (17,254 scfm) (443 °F + 460)/530 °R) / ((60 s/min) (28.65 f) 17.1 ft/s

**Notes:**

- (1) Particulate and VOC emission factors obtained from AP-42 Section 1.4 (7/98 update).
- (2) The CO emission factor is based on vendor guarantee based on firebox temp >1250°F (>55% duty).
- (3) VOC and PM emission factors obtained from AP-42 Section 1.4 (3/98 update).
- (4) Hourly and annual SO<sub>2</sub> emissions based on maximum 6 ppm of Sulfur content.

**Table A-2**  
**Thermal Oxidizer Emissions**  
 Stage 3 Expansion Project  
 Corpus Christi Liquefaction LLC

EPNs: MSTO1 and MSTO9

Basis			
Thermal Oxidizers	9		
	Maximum	Typical	
Firing Rate	23.2	19.1	MMBtu/hr
Assist Fuel Rate	1,300	1,300	lb/hr
Flash Gas	632	398	lb/hr
Acid Vent Gas Rate	21,316	15,588	lb/hr
Annual Operation	8,760		hrs/yr
VOC Control Efficiency	99.9%		
H <sub>2</sub> S Control Efficiency	98%		
NO <sub>x</sub> Emission Factor	0.06		lb/MMBtu
CO Emission Factor	0.084		lb/MMBtu
PM Emission Factor	0.0075		lb/MMBtu

Pollutant	Emission Rates	
	Max Hourly	Annual
	lb/hr	tpy
NO <sub>x</sub>	1.39	5.02
CO	1.95	7.03
PM	0.17	0.62
PM <sub>10</sub>	0.17	0.62
PM <sub>2.5</sub>	0.17	0.62
VOC	0.02	0.10
H <sub>2</sub> S	3E-03	0.01
SO <sub>2</sub>	0.29	0.96

**Maximum**

Component	HHV	MW	Assist Gas		Flash Gas		Acid Gas		Total Flow			DRE	Emission Rates
	btu/scf	lb/lbmol	wt%	mol%	wt%	mol%	wt%	mol%	scfh	lb/hr	mol%		lb/hr
Nitrogen	-	28.01	0.85%	0.50%	0.4354%	0.26%	0.0527%	0.08%	344	25.0	0.14%	-	-
Water	-	18.02	-	-	0.84%	0.78%	2.16%	5.11%	9,984	467	4.19%	-	-
Carbon Dioxide	-	44.01	0.03%	0.01%	1.94%	0.74%	97.55%	94.28%	182,213	20,806	76.50%	-	-
Methane	1,012	16.04	94.30%	97.16%	92.00%	95.82%	0.22%	0.58%	44,548	1,854	18.70%	99.9%	1.85
Ethane	1,783	30.07	3.48%	1.91%	3.69%	2.05%	0.01%	0.02%	917	72	0.38%	99.9%	0.07
Propane	2,557	44.10	0.67%	0.25%	0.568%	0.22%	-	-	107	12	0.04%	99.9%	0.012
i-Butane	3,354	58.12	0.21%	0.06%	0.143%	0.04%	-	-	24	4	0.010%	99.9%	0.004
n-Butane	3,369	58.12	0.18%	0.05%	0.222%	0.06%	-	-	24	4	0.010%	99.9%	0.004
i-Pentane	4,001	72.15	0.09%	0.02%	-	-	-	-	6	1.1	0.003%	99.9%	0.001
n-Pentane	4,009	72.15	0.04%	0.01%	0.076%	0.02%	-	-	6	1.0	0.002%	99.9%	0.001
Hexane	4,756	86.18	0.10%	0.02%	0.060%	0.01%	-	-	8	1.7	0.003%	99.9%	0.002
Benzene	3,742	78.11	-	-	-	-	-	-	-	-	-	99.9%	-
Heptane	5,503	100.20	0.06%	0.01%	0.034%	0.01%	-	-	4	1.0	0.002%	99.9%	0.001
Decane	7,743	142.29	-	-	-	-	-	-	-	-	-	99.9%	-
Ethylbenzene	5,222	106.17	-	-	-	-	-	-	-	-	-	99.9%	-
Nonane	6,997	128.20	-	-	-	-	-	-	-	-	-	99.9%	-
Octane	6,249	114.23	-	-	-	-	-	-	-	-	-	99.9%	-
Toluene	4,475	92.14	-	-	-	-	-	-	-	-	-	99.9%	-
Xylenes	5,210	106.17	-	-	-	-	-	-	-	-	-	99.9%	-
Other Aromatics	3,742	78.11	-	-	-	-	-	-	-	-	-	99.9%	-
Cyclic Compounds	4,482	84.16	-	-	-	-	-	-	-	-	-	99.9%	-
C8+	5,210	106.17	-	-	-	-	-	-	-	-	-	99.9%	-
Hydrogen Sulfide	637	34.08	0.0008%	0.0004%	-	-	0.0007%	0.001%	1.76	0.156	0.00074%	98.0%	0.0031
<b>Total HHV (Btu/scf):</b>			<b>1030.11</b>		<b>1016.85</b>		<b>6.23</b>		<b>198.42</b>				
<b>Total MW (lb/lbmol):</b>			<b>16.53</b>		<b>16.71</b>		<b>42.54</b>		<b>37.62</b>				
<b>Hourly Heat Input (MMBtu/hr):</b>			<b>31.23</b>		<b>14.83</b>		<b>1.20</b>						

**Table A-2**  
**Thermal Oxidizer Emissions**  
 Stage 3 Expansion Project  
 Corpus Christi Liquefaction LLC

EPNs: MSTO1 and MSTO9

**Annual Average**

Component	HHV	MW	Assist Gas		Flash Gas		Acid Gas		Total Flow			DRE	Emission Rates
	btu/scf	lb/lbmol	wt%	mol%	wt%	mol%	wt%	mol%	scfh	lb/hr	mol%		tpy
Nitrogen	-	28.01	0.85%	0.50%	0.4354%	0.26%	0.0527%	0.08%	288	21.0	0.16%	-	-
Water	-	18.02	-	-	0.84%	0.78%	2.16%	5.11%	7,289	341	4.03%	-	-
Carbon Dioxide	-	44.01	0.03%	0.01%	1.94%	0.74%	97.55%	94.28%	133,239	15,214	73.67%	-	-
Methane	1,012	16.04	94.30%	97.16%	92.00%	95.82%	0.22%	0.58%	39,075	1,626	21.61%	99.9%	7.12
Ethane	1,783	30.07	3.48%	1.91%	3.69%	2.05%	0.01%	0.02%	796	62	0.44%	99.9%	0.27
Propane	2,557	44.10	0.67%	0.25%	0.568%	0.22%	-	-	96	11	0.05%	99.9%	0.048
i-Butane	3,354	58.12	0.21%	0.06%	0.143%	0.04%	-	-	22	3	0.012%	99.9%	0.015
n-Butane	3,369	58.12	0.18%	0.05%	0.222%	0.06%	-	-	21	3	0.012%	99.9%	0.014
i-Pentane	4,001	72.15	0.09%	0.02%	-	-	-	-	6	1.1	0.003%	99.9%	0.005
n-Pentane	4,009	72.15	0.04%	0.01%	0.076%	0.02%	-	-	5	0.9	0.003%	99.9%	0.004
Hexane	4,756	86.18	0.10%	0.02%	0.060%	0.01%	-	-	7	1.6	0.004%	99.9%	0.007
Benzene	3,742	78.11	-	-	-	-	-	-	-	-	-	99.9%	-
Heptane	5,503	100.20	0.06%	0.01%	0.034%	0.01%	-	-	4	0.9	0.002%	99.9%	0.004
Decane	7,743	142.29	-	-	-	-	-	-	-	-	-	99.9%	-
Ethylbenzene	5,222	106.17	-	-	-	-	-	-	-	-	-	99.9%	-
Nonane	6,997	128.20	-	-	-	-	-	-	-	-	-	99.9%	-
Octane	6,249	114.23	-	-	-	-	-	-	-	-	-	99.9%	-
Toluene	4,475	92.14	-	-	-	-	-	-	-	-	-	99.9%	-
Xylenes	5,210	106.17	-	-	-	-	-	-	-	-	-	99.9%	-
Hydrogen Sulfide	637	34.08	0.0008%	0.0004%	-	-	0.0007%	0.001%	1.322	0.1169	0.0007%	98.0%	0.010
<b>Total HHV (Btu/scf):</b>			<b>1030.11</b>		<b>1016.85</b>		<b>6.23</b>		<b>229.19</b>				
<b>Total MW (lb/lbmol):</b>			<b>16.53</b>		<b>16.71</b>		<b>42.54</b>		<b>36.84</b>				
<b>Hourly Heat Input (MMBtu/hr):</b>			<b>31.23</b>		<b>9.34</b>		<b>0.07</b>						
<b>Yearly Heat Input (MMBtu/yr):</b>			<b>273,585</b>		<b>81,788</b>		<b>643</b>						

**Table A-4  
Flare Emissions - Dry Flare Header  
Stage 3 Expansion Project  
Corpus Christi Liquefaction LLC**

**EPNs: MSGFLR1, MSGFLR2 MSGFLR3, GFLRCAP**

**Pilot/Purge Gas**

Design Flowrate	66	lb/hr
Short-term Safety Factor	10%	
Permit Basis Short-term Flow Rate	72.6	lb/hr max
Annual Flow Rate	578,160	lb/yr

Standard Pressure: 1 atm  
Standard Temperature: 68 F  
Standard Volume: 385.43 ft<sup>3</sup>/lbmol

Component	VOC	Flow									LHV btu/scf	Net Heat Release				EMISSIONS			
		MW	short-term		annual		lb/hr	lb/yr	scf/hr	mmscf/y r		short-term btu/scf	annual btu/scf	btu/hr	mmbtu/y r	Efficiency %	Emissions		
			wt %	mol%	wt %	mol%											lb/hr	tpy	
Nitrogen	N	28.01	1.24%	1.04%	1.24%	1.04%	0.90	7,167	12	0.10	-	-	-	-	-	-	-	-	
Water	N	18.02	0.01%	0.01%	0.01%	0.01%	0.01	40	0	0.00	-	-	-	-	-	-	-	-	
Carbon Dioxide	N	44.01	2.32%	1.24%	2.32%	1.24%	1.69	13,433	15	0.12	-	-	-	-	-	-	-	-	
Methane	N	16.04	52.37%	76.87%	52.37%	76.87%	38.02	302,780	914	7.28	911.0	700.32	700.32	832,281	6,628	99%	0.38	1.51	
Ethane	N	30.07	6.785%	5.31%	6.785%	5.31%	4.93	39,229	63	0.50	1,631.0	86.65	86.65	102,983	820	99%	0.05	0.20	
Ethylene	Y	28.05	0.00%	0.00%	0.00%	0.00%	-	-	-	-	1,499.1	-	-	-	-	99%	-	-	
Propane	Y	44.10	9.93%	5.30%	9.93%	5.30%	7.21	57,398	63	0.50	2,353.0	124.73	124.73	148,235	1,180	99%	0.07	0.29	
i-Butane	Y	58.12	7.46%	3.02%	7.46%	3.02%	5.42	43,130	36	0.29	3,094.0	93.50	93.50	111,119	885	99%	0.05	0.22	
n-Butane	Y	58.12	9.31%	3.77%	9.31%	3.77%	6.76	53,820	45	0.36	3,101.0	116.94	116.94	138,973	1,107	99%	0.07	0.27	
i-Pentane	Y	72.15	5.38%	1.76%	5.38%	1.76%	3.91	31,128	21	0.17	3,698.0	64.97	64.97	77,217	615	99%	0.04	0.16	
n-Pentane	Y	72.15	4.76%	1.55%	4.76%	1.55%	3.45	27,496	18	0.15	3,709.0	57.56	57.56	68,410	545	99%	0.03	0.14	
Hexane	Y	86.18	0.33%	0.09%	0.33%	0.09%	0.24	1,926	1	0.01	4,403.8	4.01	4.01	4,763	38	99%	0.00	0.01	
Heptane	Y	100.20	0.11%	0.02%	0.11%	0.02%	0.08	615	0	0.00	5,100.0	1.27	1.27	1,515	12	99%	0.00	0.00	
Hydrogen Sulfide	N	34.08	0.0009%	0.0006%	0.0009%	0.0006%	0.0006	1			586.8	0.00	0.00	-	-	99%	0.0000	0.00000	
<b>TOTAL</b>		<b>23.55</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>72.60</b>	<b>578,160</b>	<b>1,188</b>	<b>9.46</b>		<b>1,249.97</b>	<b>1,249.97</b>	<b>1,485,495</b>	<b>11,830</b>			<b>0.70</b>	<b>2.79</b>

Short-Term Emission Factors	
NOX	0.138 lb/mmbtu
CO	0.55 lb/mmbtu

Annual Emission Factors	
NOX	0.138 lb/mmbtu
CO	0.55 lb/mmbtu

EMISSIONS		
VOC	0.27	1.08
NOX	0.20	0.82
CO	0.82	3.25
H2S	6.3E-06	2.5E-06
SO2	1.2E-03	4.7E-04

**Table A-4  
Flare Emissions - Dry Flare Header  
Stage 3 Expansion Project  
Corpus Christi Liquefaction LLC**

**EPNs: MSGFLR1, MSGFLR2 MSGFLR3, GFLRCAP**

**Ethylene Storage Vent**

Design Flowrate	150	lb/hr
Short-term Safety Factor	10%	
Permit Basis Short-term Flow Rate	165	lb/hr max
Annual Flow Rate	219,000	lb/yr

Component	VOC	MW	Flow				lb/hr	lb/yr	scf/hr	mmscf/y r	LHV btu/scf	Net Heat Release				EMISSIONS		
			short-term		annual							short-term btu/scf	annual btu/scf	btu/hr	mmbtu/y r	Efficiency %	Emissions	
			wt %	mol%	wt %	mol%											lb/hr	tpy
Ethylene	Y	28.05	100.00%	100.00%	100.00%	100.00%	165.0	219,000	2,267	3.01	1,499.1	1,499.10	1,499.10	3,398,772	4,511	99%	1.65	1.10
TOTAL		28.05	100.00%	100.00%	100.00%	100.00%	165.0	219,000	2,267	3.01		1,499.10	1,499.10	3,398,772	4,511		1.65	1.10

Short-Term Emission Factors	
NOX	0.138 lb/mmbtu
CO	0.55 lb/mmbtu

Annual Emission Factors	
NOX	0.138 lb/mmbtu
CO	0.55 lb/mmbtu

EMISSIONS		
VOC	1.65	1.10
NOX	0.47	0.31
CO	1.87	1.24

**Notes:**

1. Maximum and annual emission rates based on worst case scenarios. Actual flow rates, emission factors, and gas compositions may vary; however, compliance with the proposed emission limits shall be maintained at all times.

**Sample Emission Calculation:**

VOC = lbs/hr x wt% x (1-DRE%)

NOx and CO = scf/hr x wt% x 1/MW x 385.16 scf/mole = scf/hr

NOx and CO = scf/hr x LHV x 1/1,000,000 x emission factor = lbs/hr

**Table A-5  
Flare Emissions - Wet Flare Header  
Stage 3 Expansion Project  
Corpus Christi Liquefaction LLC**

**EPNs: MSGFLR1, MSGFLR2 MSGFLR3, GFLRCAP**

**Pilot/Purge Gas**

Design Flowrate	47	lb/hr
Short-term Safety Factor	10%	
Permit Basis Short-term Flow Rate	51.7	lb/hr max
Annual Flow Rate	411,720	lb/yr

Standard Pressure: 1 atm  
Standard Temperature: 68 F  
Standard Volume: 385.43 ft3/lbmol

Component	VOC	Flow									LHV btu/scf	Net Heat Release				EMISSIONS		
		MW	short-term		annual		lb/hr	lb/yr	scf/hr	mmscf/y r		short-term btu/scf	annual btu/scf	btu/hr	mmbtu/y r	Efficiency %	Emissions	
			wt %	mol%	wt %	mol%											lb/hr	tpy
Nitrogen	N	28.01	1.24%	1.04%	1.24%	1.04%	0.64	5,104	9	0.07	-	-	-	-	-	-	-	-
Water	N	18.02	0.01%	0.01%	0.01%	0.01%	0.00	28	0	0.00	-	-	-	-	-	-	-	-
Carbon Dioxide	N	44.01	2.32%	1.24%	2.32%	1.24%	1.20	9,566	11	0.08	-	-	-	-	-	-	-	-
Methane	N	16.04	52.37%	76.87%	52.37%	76.87%	27.08	215,616	651	5.18	911.0	700.32	700.32	592,685	4,720	99%	0.27	1.08
Ethane	N	30.07	6.785%	5.31%	6.785%	5.31%	3.51	27,935	45	0.36	1,631.0	86.65	86.65	73,336	584	99%	0.04	0.14
Ethylene	Y	28.05	0.00%	0.00%	0.00%	0.00%	-	-	-	-	1,499.1	-	-	-	-	99%	-	-
Propane	Y	44.10	9.93%	5.30%	9.93%	5.30%	5.13	40,875	45	0.36	2,353.0	124.73	124.73	105,562	841	99%	0.05	0.20
i-Butane	Y	58.12	7.46%	3.02%	7.46%	3.02%	3.86	30,714	26	0.20	3,094.0	93.50	93.50	79,130	630	99%	0.04	0.15
n-Butane	Y	58.12	9.31%	3.77%	9.31%	3.77%	4.81	38,326	32	0.25	3,101.0	116.94	116.94	98,966	788	99%	0.05	0.19
i-Pentane	Y	72.15	5.38%	1.76%	5.38%	1.76%	2.78	22,167	15	0.12	3,698.0	64.97	64.97	54,988	438	99%	0.03	0.11
n-Pentane	Y	72.15	4.76%	1.55%	4.76%	1.55%	2.46	19,580	13	0.10	3,709.0	57.56	57.56	48,716	388	99%	0.02	0.10
Hexane	Y	86.18	0.33%	0.09%	0.33%	0.09%	0.17	1,371	1	0.01	4,403.8	4.01	4.01	3,392	27	99%	0.00	0.01
Heptane	Y	100.20	0.11%	0.02%	0.11%	0.02%	0.06	438	0	0.00	5,100.0	1.27	1.27	1,079	9	99%	0.00	0.00
Hydrogen Sulfide	N	34.08	0.0009%	0.0006%	0.0009%	0.0006%	0.0004	0			586.8	0.00	0.00	-	-	99%	0.00000	0.0000
<b>TOTAL</b>		<b>23.55</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>51.70</b>	<b>411,720</b>	<b>846</b>	<b>6.74</b>		<b>1,249.97</b>	<b>1,249.97</b>	<b>1,057,853</b>	<b>8,424</b>		<b>0.50</b>	<b>1.99</b>

Short-Term Emission Factors	
NOX	0.138 lb/mmbtu
CO	0.55 lb/mmbtu

Annual Emission Factors	
NOX	0.138 lb/mmbtu
CO	0.55 lb/mmbtu

EMISSIONS		
VOC	0.19	0.77
NOX	0.15	0.58
CO	0.58	2.32
H2S	4.5E-06	1.8E-06
SO2	8.4E-04	3.4E-04

**Table A-5  
Flare Emissions - Wet Flare Header  
Stage 3 Expansion Project  
Corpus Christi Liquefaction LLC**

**EPNs: MSGFLR1, MSGFLR2 MSGFLR3, GFLRCAP**

**Regen Compressor Seals**

Design Flowrate	186	lb/hr
Short-term Safety Factor	10%	
Permit Basis Short-term Flow Rate	204.6	lb/hr max
Annual Flow Rate	543,120	lb/yr

Component	VOC	MW	Flow				lb/hr	lb/yr	scf/hr	mmscf/y r	LHV btu/scf	Net Heat Release				EMISSIONS		
			short-term		annual							short-term btu/scf	annual btu/scf	btu/hr	mmbtu/y r	Efficiency %	Emissions	
			wt %	mol%	wt %	mol%											lb/hr	tpy
Nitrogen	N	28.01	0.85%	0.50%	0.85%	0.50%	1.73	4,603	24	0.06	-	-	-	-	-	-	-	-
Water	N	18.02	0.00%	0.00%	0.00%	0.00%	-	-	-	-	-	-	-	-	-	-	-	-
Carbon Dioxide	N	44.01	0.03%	0.01%	0.03%	0.01%	0.05	145	0	0.00	-	-	-	-	-	-	-	-
Methane	N	16.04	94.30%	97.16%	94.30%	97.16%	192.94	512,163	4,636	12.31	911.0	885.12	885.12	4,223,500	11,211	99%	1.93	2.56
Ethane	N	30.07	3.48%	1.91%	3.475%	1.91%	7.11	18,874	91	0.24	1,631.0	31.15	31.15	148,646	395	99%	0.07	0.09
Ethylene	Y	28.05	0.00%	0.00%	0.00%	0.00%	-	-	-	-	1,499.1	-	-	-	-	99%	-	-
Propane	Y	44.10	0.67%	0.25%	0.67%	0.25%	1.36	3,623	12	0.03	2,353.0	5.88	5.88	28,069	75	99%	0.01	0.02
i-Butane	Y	58.12	0.21%	0.06%	0.21%	0.06%	0.43	1,146	3	0.01	3,094.0	1.86	1.86	8,858	24	99%	0.00	0.01
n-Butane	Y	58.12	0.18%	0.05%	0.18%	0.05%	0.36	955	2	0.01	3,101.0	1.55	1.55	7,398	20	99%	0.00	0.00
i-Pentane	Y	72.15	0.09%	0.02%	0.09%	0.02%	0.18	474	1	0.00	3,698.0	0.74	0.74	3,529	9	99%	0.00	0.00
n-Pentane	Y	72.15	0.04%	0.01%	0.04%	0.01%	0.09	237	0	0.00	3,709.0	0.37	0.37	1,770	5	99%	0.00	0.00
Hexane	Y	86.18	0.10%	0.02%	0.10%	0.02%	0.21	566	1	0.00	4,403.8	0.88	0.88	4,203	11	99%	0.00	0.00
Heptane	Y	100.20	0.06%	0.01%	0.06%	0.01%	0.12	329	0	0.00	5,100.0	0.51	0.51	2,434	6	99%	0.00	0.00
hydrogen sulfide	N	34.08	0.00082%	0.00%	0.00082%	0.00040%	0.00	4								99%	0.0000	0.000
<b>TOTAL</b>		16.53	100.00%	100.00%	100.00%	100.00%	205	543,116	4,772	12.67		928.07	928.07	4,428,406	11,755		2.03	2.69

Short-Term Emission Factors	
NOX	0.138 lb/mmbtu
CO	0.55 lb/mmbtu

Annual Emission Factors	
NOX	0.138 lb/mmbtu
CO	0.55 lb/mmbtu

EMISSIONS		
VOC	0.03	0.04
NOX	0.61	0.81
CO	2.44	3.23
H2S	1.7E-05	2.2E-05
SO2	3.2E-03	4.2E-03

**Notes:**

1. Maximum and annual emission rates based on worst case scenarios. Actual flow rates, emission factors, and gas compositions may vary; however, compliance with the proposed emission limits shall be maintained at all times.

**Sample Emission Calculation:**

VOC = lbs/hr x wt% x (1-DRE%)

NOx and CO = scf/hr x wt% x 1/MW x 385.16 scf/mole = scf/hr

NOx and CO = scf/hr x LHV x 1/1,000,000 x emission factor = lbs/hr

**Table A-6  
Flare Emissions - Acid Flare Header  
Stage 3 Expansion Project  
Corpus Christi Liquefaction LLC**

**EPNs: MSGFLR1, MSGFLR2 MSGFLR3, GFLRCAP**

**Pilot/Purge Gas**

Design Flowrate	25	lb/hr
Short-term Safety Factor	10%	
Permit Basis Short-term Flow Rate	27.5	lb/hr max
Annual Flow Rate	219,000	lb/yr

Standard Pressure: 1 atm  
 Standard Temperature: 68 F  
 Standard Volume: 385.43 ft<sup>3</sup>/lbmol

Component	VOC	Flow									LHV btu/scf	Net Heat Release				EMISSIONS		
		MW	short-term		annual		lb/hr	lb/yr	scf/hr	mmscf/y r		short-term btu/scf	annual btu/scf	btu/hr	mmbtu/y r	Efficiency %	Emissions	
			wt %	mol%	wt %	mol%											lb/hr	tpy
Nitrogen	N	28.01	1.24%	1.04%	1.24%	1.04%	0.34	2,715	5	0.04	-	-	-	-	-	-	-	-
Water	N	18.02	0.01%	0.01%	0.01%	0.01%	0.00	15	0	0.00	-	-	-	-	-	-	-	-
Carbon Dioxide	N	44.01	2.32%	1.24%	2.32%	1.24%	0.64	5,088	6	0.04	-	-	-	-	-	-	-	-
Methane	N	16.04	52.37%	76.87%	52.37%	76.87%	14.40	114,689	346	2.76	911.0	700.32	700.32	315,258	2,511	99%	0.14	0.57
Ethane	N	30.07	6.785%	5.31%	6.785%	5.31%	1.87	14,859	24	0.19	1,631.0	86.65	86.65	39,009	311	99%	0.02	0.07
Ethylene	Y	28.05	0.00%	0.00%	0.00%	0.00%	-	-	-	-	1,499.1	-	-	-	-	99%	-	-
Propane	Y	44.10	9.93%	5.30%	9.93%	5.30%	2.73	21,742	24	0.19	2,353.0	124.73	124.73	56,150	447	99%	0.03	0.11
i-Butane	Y	58.12	7.46%	3.02%	7.46%	3.02%	2.05	16,337	14	0.11	3,094.0	93.50	93.50	42,090	335	98%	0.04	0.16
n-Butane	Y	58.12	9.31%	3.77%	9.31%	3.77%	2.56	20,386	17	0.14	3,101.0	116.94	116.94	52,641	419	98%	0.05	0.20
i-Pentane	Y	72.15	5.38%	1.76%	5.38%	1.76%	1.48	11,791	8	0.06	3,698.0	64.97	64.97	29,249	233	98%	0.03	0.12
n-Pentane	Y	72.15	4.76%	1.55%	4.76%	1.55%	1.31	10,415	7	0.06	3,709.0	57.56	57.56	25,913	206	98%	0.03	0.10
Hexane	Y	86.18	0.33%	0.09%	0.33%	0.09%	0.09	729	0	0.00	4,403.8	4.01	4.01	1,804	14	98%	0.00	0.01
Heptane	Y	100.20	0.11%	0.02%	0.11%	0.02%	0.03	233	0	0.00	5,100.0	1.27	1.27	574	5	98%	0.00	0.00
Hydrogen Sulfide	N	34.08	0.0009%	0.0006%	0.0009%	0.0006%	0.0002	0			586.8	0.00	0.00	-	-	98%	0.00000	0.0000
<b>TOTAL</b>		<b>23.55</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>27.50</b>	<b>219,000</b>	<b>450</b>	<b>3.58</b>		<b>1,249.97</b>	<b>1,249.97</b>	<b>562,688</b>	<b>4,481</b>		<b>0.34</b>	<b>1.36</b>

Short-Term Emission Factors		
NOX	0.138	lb/mmbtu
CO	0.55	lb/mmbtu

Annual Emission Factors		
NOX	0.138	lb/mmbtu
CO	0.55	lb/mmbtu

EMISSIONS		
VOC	0.18	0.71
NOX	0.08	0.31
CO	0.31	1.23
H2S	4.8E-06	1.9E-06
SO2	4.5E-04	1.8E-04

**Table A-6  
Flare Emissions - Acid Flare Header  
Stage 3 Expansion Project  
Corpus Christi Liquefaction LLC  
MR Compressor Stage 2**

Design Flowrate	1443	lb/hr
Short-term Safety Factor	10%	
Permit Basis Short-term Flow Rate	1,587.30	lb/hr max
Annual Flow Rate	4,213,560	lb/yr

Component	VOC	Flow									LHV btu/scf	Net Heat Release				EMISSIONS		
		MW	short-term		annual		lb/hr	lb/yr	scf/hr	mmscf/y r		short-term btu/scf	annual btu/scf	btu/hr	mmbtu/y r	Efficiency %	Emissions	
			wt %	mol%	wt %	mol%											lb/hr	tpy
Nitrogen	N	28.01	60.50%	53.75%	60.50%	53.75%	960.32	2,549,204	13,214	35.08	-	-	-	-	-			
Water	N	18.02	0.00%	0.01%	0.00%	0.01%	0.06	153	1	0.00	-	-	-	-	-			
Carbon Dioxide	N	44.01	0.77%	0.43%	0.77%	0.43%	12.15	32,266	106	0.28	-	-	-	-	-			
Methane	N	16.04	23.81%	36.94%	23.81%	36.94%	377.89	1,003,125	9,080	24.10	911.0	336.50	336.50	8,272,164	21,959	99%	3.78	5.02
Ethane	N	30.07	1.446%	1.20%	1.446%	1.20%	22.96	60,942	294	0.78	1,631.0	19.52	19.52	479,953	1,274	99%	0.23	0.30
Ethylene	Y	28.05	4.27%	3.79%	4.27%	3.79%	67.78	179,919	931	2.47	1,499.1	56.79	56.79	1,396,127	3,706	99%	0.68	0.90
Propane	Y	44.10	0.86%	0.48%	0.86%	0.48%	13.61	36,136	119	0.32	2,353.0	11.39	11.39	279,974	743	99%	0.14	0.18
i-Butane	Y	58.12	5.00%	2.14%	5.00%	2.14%	79.41	210,795	527	1.40	3,094.0	66.28	66.28	1,629,261	4,325	98%	1.59	2.11
n-Butane	Y	58.12	1.31%	0.56%	1.31%	0.56%	20.72	55,011	137	0.36	3,101.0	17.34	17.34	426,152	1,131	98%	0.41	0.55
i-Pentane	Y	72.15	1.76%	0.61%	1.76%	0.61%	27.89	74,029	149	0.40	3,698.0	22.41	22.41	550,922	1,462	98%	0.56	0.74
n-Pentane	Y	72.15	0.25%	0.09%	0.25%	0.09%	3.91	10,384	21	0.06	3,709.0	3.15	3.15	77,504	206	98%	0.08	0.10
Hexane	Y	86.18	0.02%	0.01%	0.02%	0.01%	0.38	1,021	2	0.00	4,403.8	0.31	0.31	7,578	20	98%	0.01	0.01
Heptane	Y	100.20	0.01%	0.00%	0.01%	0.00%	0.19	509	1	0.00	5,100.0	0.15	0.15	3,761	10	98%	0.00	0.01
hydrogen sulfide	N	34.08	0.0000%	0.0000%	0.0000%	0.0000%	-	-	-	-	-	-	-	-	-	98%	-	-
<b>TOTAL</b>		<b>24.89</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>1,587</b>	<b>4,213,494</b>	<b>24,583</b>	<b>65.26</b>		<b>533.84</b>	<b>533.84</b>	<b>13,123,399</b>	<b>34,837</b>		<b>7.47</b>	<b>9.92</b>

Short-Term Emission Factors		
NOX	0.138	lb/mmbtu
CO	0.55	lb/mmbtu

Annual Emission Factors		
NOX	0.138	lb/mmbtu
CO	0.55	lb/mmbtu

EMISSIONS		
VOC	3.46	4.60
NOX	1.81	2.40
CO	7.22	9.58
H2S	-	-
SO2	-	-

**Notes:**  
1. Maximum and annual emission rates based on worst case scenarios. Actual flow rates, emission factors, and gas compositions may vary; however, compliance with the proposed emission limits shall be maintained at all times.

**Sample Emission Calculation:**  
 $VOC = lbs/hr \times wt\% \times (1-DRE\%)$   
 $NOx \text{ and } CO = scf/hr \times wt\% \times 1/MW \times 385.16 \text{ scf/mole} = scf/hr$   
 $NOx \text{ and } CO = scf/hr \times LHV \times 1/1,000,000 \times \text{emission factor} = lbs/hr$

**Table A-8**  
**Emergency Generator Emissions - LNG Trains**  
**Stage 3 Expansion Project**  
**Corpus Christi Liquefaction LLC**

**EPNS: MSGENTK1 thru MSMSGENTK9**

<b>Basis</b>		
Fuel Type:	Diesel	
Total Engines:	9	
Engine Output:	1000	kw
Engine Horsepower:	1341	hp
Annual Operation:	100	hr/yr
Engine Load:	100%	
Brake Specific Fuel Consumption:	72.4	gal/hr
Diesel Heating Value:	128,488	btu/gal

**Emergency Generator Emission Rates (per generator)**

Pollutant	Emission Factor		Emission Rates		
			Annual Avg.	Max Hourly	Annual
			lb/hr	lb/hr	tpy
NO <sub>x</sub>	6.40	g/kw-hr	14.11	15.52	0.71
CO	3.50	g/kw-hr	7.72	8.49	0.39
PM <sub>10</sub>	0.20	g/kw-hr	0.44	0.49	0.02
PM <sub>2.5</sub>	0.20	g/kw-hr	0.44	0.49	0.02
VOC	0.77	g/kw-hr	1.69	1.86	0.08
SO <sub>2</sub>	0.0068	g/kw-hr	0.015	0.02	0.0008
<b>HAP Emissions</b>					
Acetaldehyde	2.52E-05	lb/MMBtu	2.3E-04	2.6E-04	1.2E-05
Acrolein	7.88E-06	lb/MMBtu	7.3E-05	8.1E-05	3.7E-06
Benzene	7.76E-04	lb/MMBtu	7.2E-03	7.9E-03	3.6E-04
Formaldehyde	7.89E-05	lb/MMBtu	7.3E-04	8.1E-04	3.7E-05
PAH	2.12E-04	lb/MMBtu	2.0E-03	2.2E-03	9.9E-05
Propylene	2.79E-03	lb/MMBtu	2.6E-02	2.9E-02	1.3E-03
Toluene	2.81E-04	lb/MMBtu	2.6E-03	2.9E-03	1.3E-04
Xylenes	1.93E-04	lb/MMBtu	1.8E-03	2.0E-03	9.0E-05

Notes:

1. Emissions of NO<sub>x</sub>, CO, PM<sub>10</sub>, and VOC are based on NSPS 40 CFR Part 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (Tier II). In terms of the NMHC + NO<sub>x</sub> emission factors, it is assumed that 100% represents the NO<sub>x</sub> emissions and 12% the VOC emissions.
2. Maximum hourly emission rates are based on maximum expected variability during routine operations.
3. HAP emissions are based on emission factors from AP-42, Section 3.4 - Large Stationary Diesel and All Stationary Dual-fuel Engines.
4. SO<sub>2</sub> emissions were calculated based on emission factor from AP-42, Section 3.4, Table 3.4-1, and maximum 15 ppm of Sulfur content as per 40 CFR 60.4207(b) and 40 CFR 80.510(b)(1)(i).

Example Calculation:

*NO<sub>x</sub> Emissions*

1000 hw	100% Load	6.4 g	lb	14.11 lb/hr
		kw-hr	453.59 g	

**Table A-10**  
**Fire Water Pump Engine Emissions**  
**Stage 3 Expansion Project**  
**Corpus Christi Liquefaction LLC**

**EPNs: MSFWP1 and MSFWP2**

<b>Basis</b>		
Fuel Type:	Diesel	
Total Engines:	2	
Engine Output:	177	kw
Engine Horsepower:	238	hp
Annual Operation:	100	hr/yr
Engine Load:	100%	
Brake Specific Fuel Consumption:	12	gal/hr
Diesel Heating Value:	128,488	btu/gal

**Firewater Pump Emission Rates (per pump)**

Pollutant	Emission Factor		Emission Rates		
			Annual Avg.	Max Hourly	Annual
			lb/hr	lb/hr	tpy
NO <sub>x</sub>	3.62	g/kw-hr	1.41	1.55	0.07
CO	1.20	g/kw-hr	0.47	0.52	0.02
PM <sub>10</sub>	0.13	g/kw-hr	0.05	0.06	0.003
PM <sub>2.5</sub>	0.13	g/kw-hr	0.05	0.06	0.003
VOC	0.16	g/kw-hr	0.06	0.07	0.003
SO <sub>2</sub>	0.0064	g/kw-hr	0.002	0.003	0.0001
<b>HAP Emissions</b>					
Acetaldehyde	2.52E-05	lb/MMBtu	3.9E-05	4.3E-05	1.9E-06
Acrolein	7.88E-06	lb/MMBtu	1.2E-05	1.3E-05	6.1E-07
Benzene	7.76E-04	lb/MMBtu	1.2E-03	1.3E-03	6.0E-05
Formaldehyde	7.89E-05	lb/MMBtu	1.2E-04	1.3E-04	6.1E-06
PAH	2.12E-04	lb/MMBtu	3.3E-04	3.6E-04	1.6E-05
Propylene	2.79E-03	lb/MMBtu	4.3E-03	4.7E-03	2.2E-04
Toluene	2.81E-04	lb/MMBtu	4.3E-04	4.8E-04	2.2E-05
Xylenes	1.93E-04	lb/MMBtu	3.0E-04	3.3E-04	1.5E-05

**Notes:**

1. Emissions of NO<sub>x</sub>, CO, PM<sub>10</sub>, and VOC are based on vendor provided factors.
2. Maximum hourly emission rates are based on maximum expected variability during routine operations.
3. HAP emissions are based on emission factors from AP-42, Section 3.4 - Large Stationary Diesel and All Stationary Dual-fuel Engines.
4. SO<sub>2</sub> emissions were calculated based on emission factor from AP-42, Section 3.4, Table 3.4-1, and maximum 15 ppm of Sulfur content as per 40 CFR 60.4207(b) and 40 CFR 80.510(b)(1)(i).

**Example Calculation:**

*NO<sub>x</sub> Emissions*

177 hw	100% Load	3.62 g	lb	1.41 lb/hr
		kw-hr	453.59 g	

**Table A-12**  
**Piping Fugitive Speciation**  
**Stage 3 Expansion Project**  
 Corpus Christi Liquefaction LLC

Compound	EPNs:MSFUG1 - MSFUG9									
	Amine	Acid Gas	Mixed Refrigerant Vapor	Mixed Refrigerant Liquid	Stg 3 Condensate	Feed Gas	Fuel Gas	LNG	LPG	Hot Oil
	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%
Nitrogen	-	0.05%	7.37%	0.64%	-	0.85%	1.24%	0.85%	0.00%	-
Water	56.71%	2.16%	-	-	-	-	0.01%	-	-	-
Carbon Dioxide	0.57%	97.55%	0.00%	-	-	0.03%	2.32%	-	0.00%	-
Methane	-	0.22%	9.31%	1.99%	-	94.30%	52.37%	94.67%	0.66%	-
Ethane	-	0.01%	0.35%	0.26%	-	3.48%	6.79%	3.49%	0.96%	-
Ethylene	-	-	34.36%	9.44%	-	-	-	-	-	-
Propane	-	-	1.64%	4.69%	-	0.67%	9.93%	0.67%	4.85%	-
i-Butane	-	-	0.02%	0.07%	0.11%	0.21%	7.46%	0.18%	21.98%	-
n-Butane	-	-	33.52%	72.03%	0.63%	0.18%	9.31%	0.11%	31.52%	-
i-Pentane	-	-	13.45%	10.88%	13.45%	0.09%	5.38%	0.04%	12.54%	-
n-Pentane	-	-	-	-	13.22%	0.04%	4.76%	-	27.37%	-
Hexane	-	-	-	-	45.90%	0.10%	0.33%	-	0.07%	-
Benzene	-	-	-	-	-	-	-	-	0.04%	-
Heptane	-	-	-	-	26.69%	0.06%	0.11%	-	0.00%	-
Hydrogen Sulfide	-	0.0007%	-	-	-	0.0008%	0.0001%	-	-	-
Hot Oil	-	-	-	-	-	-	-	-	-	100.00%
aMDEA Solvent	42.72%	-	-	-	-	-	-	-	-	-
Helium	-	-	-	-	-	-	-	-	-	-
<b>Total VOC</b>	<b>42.7%</b>	<b>0.0%</b>	<b>83.0%</b>	<b>97.1%</b>	<b>100.0%</b>	<b>1.3%</b>	<b>37.3%</b>	<b>1.0%</b>	<b>98.4%</b>	<b>100.0%</b>

**Table A-12**  
**Piping Fugitive Speciation**  
**Stage 3 Expansion Project**  
 Corpus Christi Liquefaction LLC

Compound	EPNs:MSFUG1 - MSFUG9											Total Emissions (EPNs MSFUG1 - MSFUG9)	
	Amine	Acid Gas	Mixed Refrigerant Vapor	Mixed Refrigerant Liquid	Stg 3 Condensate	Feed Gas	Fuel Gas	LNG	LPG	Hot Oil	lb/hr	tpy	
	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	tpy	
Nitrogen	0.000	0.005	0.286	0.002	0.000	0.139	0.003	0.000	0.000	0.000	0.436	1.91	
Water	0.066	0.211	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.277	1.21	
Carbon Dioxide	0.001	9.528	0.000	0.000	0.000	0.004	0.006	0.000	0.000	0.000	9.539	41.78	
Methane	0.000	0.021	0.361	0.007	0.000	15.477	0.130	0.034	0.000	0.000	16.031	70.22	
Ethane	0.000	0.001	0.013	0.001	0.000	0.570	0.017	0.001	0.000	0.000	0.604	2.65	
Ethylene	0.000	0.000	1.335	0.034	0.000	0.000	0.000	0.000	0.000	0.000	1.369	6.00	
Propane	0.000	0.000	0.064	0.017	0.000	0.109	0.025	0.000	0.001	0.000	0.216	0.95	
i-Butane	0.000	0.000	0.001	0.000	0.000	0.035	0.018	0.000	0.006	0.000	0.061	0.27	
n-Butane	0.000	0.000	1.302	0.262	0.002	0.029	0.023	0.000	0.009	0.000	1.628	7.13	
i-Pentane	0.000	0.000	0.522	0.040	0.052	0.014	0.013	0.000	0.004	0.000	0.646	2.83	
n-Pentane	0.000	0.000	0.000	0.000	0.051	0.007	0.012	0.000	0.008	0.000	0.078	0.34	
Hexane	0.000	0.000	0.000	0.000	0.178	0.017	0.001	0.000	0.000	0.000	0.196	0.86	
Benzene	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Heptane	0.000	0.000	0.000	0.000	0.104	0.010	0.000	0.000	0.000	0.000	0.114	0.50	
Hydrogen Sulfide	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0002	0.0009	
Hot Oil	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.295	0.295	1.29	
aMDEA Solvent	0.049	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.049	0.22	
Helium	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	
<b>Total VOC</b>	<b>0.05</b>	<b>0.00</b>	<b>3.22</b>	<b>0.35</b>	<b>0.39</b>	<b>0.22</b>	<b>0.09</b>	<b>0.00</b>	<b>0.03</b>	<b>0.29</b>	<b>4.65</b>	<b>20.38</b>	

**Table A-12**  
**Piping Fugitive Speciation**  
**Stage 3 Expansion Project**  
 Corpus Christi Liquefaction LLC

Compound	EPN: MSFUG								
	Amine	Acid Gas	Mixed Refrigerant Vapor	Mixed Refrigerant Liquid	Stg 3 Condensate	Feed Gas	Fuel Gas	LNG	NRU/EF G
	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%
Nitrogen	-	0.05%	7.37%	0.64%	-	0.85%	1.24%	0.85%	99.76%
Water	56.71%	2.16%	-	-	-	-	0.01%	-	-
Carbon Dioxide	0.57%	97.55%	0.00%	-	-	0.03%	2.32%	-	-
Methane	-	0.22%	9.31%	1.99%	-	94.30%	52.37%	94.67%	0.004%
Ethane	-	0.01%	0.35%	0.26%	-	3.48%	6.79%	3.49%	-
Ethylene	-	-	34.36%	9.44%	-	-	-	-	-
Propane	-	-	1.64%	4.69%	-	0.67%	9.93%	0.67%	-
i-Butane	-	-	0.02%	0.07%	0.11%	0.21%	7.46%	0.18%	-
n-Butane	-	-	33.52%	72.03%	0.63%	0.18%	9.31%	0.11%	-
i-Pentane	-	-	13.45%	10.88%	13.45%	0.09%	5.38%	0.04%	-
n-Pentane	-	-	-	-	13.22%	0.04%	4.76%	-	-
Hexane	-	-	-	-	45.90%	0.10%	0.33%	-	-
Benzene	-	-	-	-	-	-	-	-	-
Heptane	-	-	-	-	26.69%	0.06%	0.11%	-	-
Hydrogen Sulfide	-	0.0007%	-	-	-	0.0008%	0.0001%	-	-
Hot Oil	-	-	-	-	-	-	-	-	-
aMDEA Solvent	42.72%	-	-	-	-	-	-	-	-
Helium									0.24%
<b>Total VOC</b>	<b>42.7%</b>	<b>0.0%</b>	<b>83.0%</b>	<b>97.1%</b>	<b>100.0%</b>	<b>1.3%</b>	<b>37.3%</b>	<b>1.0%</b>	<b>0.0%</b>

**Table A-12**  
**Piping Fugitive Speciation**  
**Stage 3 Expansion Project**  
 Corpus Christi Liquefaction LLC

Compound	EPN: MSFUG										Total Emissions (EPNs MSFUG1 - MSFUG9)	
	Amine	Acid Gas	Mixed Refrigerant Vapor	Mixed Refrigerant Liquid	Stg 3 Condensate	Feed Gas	Fuel Gas	LNG	NRU/EF G		lb/hr	tpy
	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	tpy
Nitrogen	0.000	0.001	0.004	0.000	0.000	0.019	0.001	0.002	62.421		62.449	273.53
Water	0.000	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.021	0.09
Carbon Dioxide	0.000	0.957	0.000	0.000	0.000	0.001	0.002	0.000	0.000		0.960	4.20
Methane	0.000	0.002	0.005	0.000	0.000	2.164	0.056	0.274	0.003		2.504	10.97
Ethane	0.000	0.000	0.000	0.000	0.000	0.080	0.007	0.010	0.000		0.097	0.43
Ethylene	0.000	0.000	0.020	0.001	0.000	0.000	0.000	0.000	0.000		0.021	0.09
Propane	0.000	0.000	0.001	0.000	0.000	0.015	0.011	0.002	0.000		0.029	0.13
i-Butane	0.000	0.000	0.000	0.000	0.000	0.005	0.008	0.001	0.000		0.013	0.06
n-Butane	0.000	0.000	0.020	0.005	0.000	0.004	0.010	0.000	0.000		0.039	0.17
i-Pentane	0.000	0.000	0.008	0.001	0.001	0.002	0.006	0.000	0.000		0.017	0.08
n-Pentane	0.000	0.000	0.000	0.000	0.001	0.001	0.005	0.000	0.000		0.007	0.03
Hexane	0.000	0.000	0.000	0.000	0.002	0.002	0.000	0.000	0.000		0.005	0.02
Benzene	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.0000	-
Heptane	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000		0.003	0.01
Hydrogen Sulfide	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.0000	0.0001
Hot Oil	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.0000	-
aMDEA Solvent	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.0000	-
Helium	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.148		0.1481	0.65
<b>Total VOC</b>	<b>0.00</b>	<b>0.00</b>	<b>0.05</b>	<b>0.01</b>	<b>0.01</b>	<b>0.03</b>	<b>0.04</b>	<b>0.00</b>	<b>0.00</b>		<b>0.13</b>	<b>0.59</b>

**Table B-1**  
**Ground Flares MSS Emissions**  
**Stage 3 Expansion Project**  
**Corpus Christi Liquefaction LLC**

EPNs: MSGFLR1, MSGFLR2 MSGFLR3, GFLRCAP

Basis			lb/MMBtu
	High BTU	Low Btu	
NO <sub>x</sub> Emission Factor	0.138	0.0641	lb/MMBtu
CO Emission Factor	0.2755	0.5496	lb/MMBtu
High Pressure			lb/MMBtu
	Flare Header	Low Pressure Flare Header	
C <sub>1</sub> -C <sub>3</sub> VOC DRE	99%	99%	
C <sub>4</sub> + VOC DRE	99%	98%	
H <sub>2</sub> S Control Efficiency	99%	98%	
Standard Volume	385.43	ft <sup>3</sup> /lbmol	

Pollutant	Emission Rates	
	Max Hourly lb/hr	Annual tpy
NO <sub>x</sub>	1,115.70	194.45
CO	3,138.14	1,472.03
VOC	3,516.78	111.10
H <sub>2</sub> S	0.003	0.01
SO <sub>2</sub>	0.55	1.84

Maintenance Activity	Stream Name	Mass Per Activity	Duration [1]	Frequency [1]	Mass Flow Rate		Heat Release		Heating Value	NOx Emission Factor	CO Emission Factor	NOx Emission Rates		CO Emission Rates	
		lbs	hrs	events/yr	lb/hr	ton/yr	MMBtu/hr	MMBtu/yr	btu/scf	lb/MMBtu	lb/MMBtu	lb/hr	ton/yr	lb/hr	ton/yr
<b>Defrost</b>															
Depressure Feed Gas Passes	Feed/Fuel/LNG	49,275	2	54	24,638	1,330	533	57,543	929	0.0641	0.5496	34.15	1.84	292.83	15.81
Depressure Heavies Removal Column	Feed/Fuel/LNG	5,702	2	54	2,851	154	62	6,659	929	0.0641	0.5496	3.95	0.21	33.89	1.83
Mixed Refrigerant Circuit Depressuring	Mixed Refrigerant Vapor	732,024	2	27	423,800	9,882	8,085	377,047	1,718	0.1380	0.2755	1,115.70	26.02	2,227.36	51.94
Warming/drying of Feed Passes	Feed/Fuel/LNG	756,000	24	54	31,500	20,412	681	882,852	929	0.0641	0.5496	43.67	28.30	374.39	242.61
HRU Cool Down	Feed/Fuel/LNG	528,060	4	54	132,015	14,258	2,855	616,665	929	0.0641	0.5496	183.00	19.76	1,569.07	169.46
HRU Stabilization and Reflux Establishment	Feed/Fuel/LNG	528,060	2	54	264,030	14,258	5,710	616,665	929	0.0641	0.5496	366.00	19.76	3,138.14	169.46
Liquefaction Cool Down and LNG Run Down	Feed/Fuel/LNG	1,584,181	12	54	132,015	42,773	2,855	1,849,996	929	0.0641	0.5496	183.00	59.29	1,569.07	508.38
Condensate Stabilizer Column Stabilization	Condensate Stabilization Overheads	8,000	5	54	1,600	216	33	8,811	2,557	0.1380	0.2755	4.50	0.61	8.99	1.21
<b>Major Equipment Deinventory/Startup</b>															
Front-end depressuring	Feed/Fuel/LNG	103,597	2	5	103,597	259	2,240	11,202	929	0.0641	0.5496	143.61	0.36	1,231.31	3.08
Heavies Hydrocarbon Coldbox Depressuring	Feed/Fuel/LNG	49,275	2	5	24,638	123	533	5,328	929	0.0641	0.5496	34.15	0.17	292.83	1.46
Liquefaction Coldbox Depressuring (Exchangers)	Feed/Fuel/LNG	5,702	2	5	2,851	14	62	617	929	0.0641	0.5496	3.95	0.02	33.89	0.17
Condensate Stabilizer Circuit Depressuring	Condensate Stabilizer	8,992	2	5	4,496	22	91	910	2,587	0.1380	0.2755	12.56	0.06	25.08	0.13
LNG Run Down Line Depressuring	Feed/Fuel/LNG	8,000	1	5	8,000	20	173	865	929	0.0641	0.5496	11.09	0.03	95.08	0.24
Mixed Refrigerant Circuit Depressuring	Mixed Refrigerant Vapor	732,024	2	3	423,800	1,098	8,085	41,894	1,718	0.1380	0.2755	1,115.70	2.89	2,227.36	5.77
Fuel Gas supplement to flare for N <sub>2</sub>	Feed/Fuel/LNG	604,000	36	5	16,778	1,510	363	65,310	929	0.0641	0.5496	23.26	2.09	199.41	17.95
Opportunistic Derime	Feed/Fuel/LNG	378,000	12	5	31,500	945	681	40,873	929	0.0641	0.5496	43.67	1.31	374.39	11.23

**Table B-1**  
**Ground Flares MSS Emissions**  
**Stage 3 Expansion Project**  
**Corpus Christi Liquefaction LLC**

EPNs: MSGFLR1, MSGFLR2 MSGFLR3, GFLRCAP

Maintenance Activity	Stream Name	Mass Per Activity	Duration [1]	Frequency [1]	Mass Flow Rate		Heat Release		Heating Value	NOx Emission Factor	CO Emission Factor	NOx Emission Rates		CO Emission Rates	
		lbs	hrs	events/yr	lb/hr	ton/yr	MMBtu/hr	MMBtu/yr	btu/scf	lb/MMBtu	lb/MMBtu	lb/hr	ton/yr	lb/hr	ton/yr
<b>Major Equipment Deinventory/Startup (continued)</b>															
Purge Cycles - Return Systems to Service- Front Purge Cycles-Return To Service Heavies Hydrocarbon Coldbox	Feed/Fuel/LNG	533	2	5	267	1.3	5.8	58	929	0.0641	0.5496	0.37	0.00	3.17	0.02
Purge Cycles- Return to Service Condensate Stabilizer	Feed/Fuel/LNG	255	2	5	127	0.6	2.8	28	929	0.0641	0.5496	0.18	0.00	1.51	0.01
Purge Cycles- LNG Run Down Line	Feed/Fuel/LNG	23	2	5	11	0.06	0.24	2	929	0.0641	0.5496	0.02	0.00	0.13	0.00
Purge Cycles- MR Circuit	Feed/Fuel/LNG	369	2	5	185	0.9	4.0	40	929	0.0641	0.5496	0.26	0.00	2.20	0.01
Gas conditioning	Feed/Fuel/LNG	4,811	2	5	2,406	12.0	52	520	929	0.0641	0.5496	3.33	0.02	28.59	0.14
AGRU Start Up / Stabilization	Feed/Fuel/LNG	2,000	1	5	2,000	5.0	43	216	929	0.0641	0.5496	2.77	0.01	23.77	0.06
Dehydrator Start Up / Dry Out	Feed/Fuel/LNG	318,110	2	5	159,055	795	3,440	34,397	929	0.0641	0.5496	220.48	1.10	1,890.46	9.45
HRU Cool Down	Feed/Fuel/LNG	1,134,182	72	5	15,753	2,835	341	122,638	929	0.0641	0.5496	21.84	3.93	187.23	33.70
HRU Stabilization and Reflux Establishment	Feed/Fuel/LNG	528,060	4	5	132,015	1,320	2,855	57,099	929	0.0641	0.5496	183.00	1.83	1,569.07	15.69
Liquefaction Cool Down and LNG Run Down	Feed/Fuel/LNG	264,030	2	5	132,015	660	2,855	28,549	929	0.0641	0.5496	183.00	0.92	1,569.07	7.85
Condensate Stabilizer Column Stabilization	Condensate Stabilization Overheads	1,584,181	12	5	132,015	3,960	2,855	171,296	929	0.0641	0.5496	183.00	5.49	1,569.07	47.07
NRU Startup	NRU Feed	8,000	5	5	1,600	20	33	816	2,557	0.1380	0.2755	4.50	0.06	8.99	0.11
<b>Thermal Oxidizer MSS</b>															
Acid Gas with assist gas for comb. When TO is down	Acid Gas	374,112			21,316										
	Assist Gas	50,000			2,800										
	Combined Acid/Assist	424,112	24	378	24,116	80,157	61.6	409,739	239	0.0641	0.5496	3.95	13.13	33.88	112.60
<b>Misc. Maintenance</b>															
Regen Comp. Maintenance	Feed/Fuel/LNG	760,404	12	9	63,367	3,422	1,370.4	147,999	929	0.0641	0.5496	87.84	4.74	753.15	40.67
Hg Bed Change-out	Feed/Fuel/LNG	4,320	12	9	360	19	7.8	841	929	0.0641	0.5496	0.50	0.03	4.28	0.23
MR Composition Adjustment	Mixed Refrigerant Vapor	3,661	1	9	3,661	16	69.8	629	1,718	0.1380	0.2755	9.64	0.04	19.24	0.09

Note:

1. The duration and frequency of MSS events are estimates and are not intended to represent maximum values. Compliance with the permit limits will be determined with the maximum hourly and annual heat input to the combined flare header.

**Maximum>> 8,085**  
**Annual Total>> 5,571,233**

**Table B-1**  
**Ground Flares MSS Emissions**  
 Stage 3 Expansion Project  
 Corpus Christi Liquefaction LLC

EPNs: MSGFLR1, MSGFLR2 MSGFLR3, GFLRCAP

Stream Compositions

Component	LHV	MW	Feed/Fuel/LN G	Mixed Refrigerant Vapor	Condensate Stabilizer	Condensate Stabilization Overheads	NRU Feed	Combined Acid/Assist	Acid Gas	Assist Gas
	btu/scf	lb/lbmol	mol%	mol%	mol%	mol%	mol%	mol%	mol%	mol%
Nitrogen	-	28.01	0.49%	9.13%	0.05%	0.04%	52.00%	0.18%	0.08%	0.49%
Water	-	18.02	0.12%	-	-	-	-	3.85%	5.11%	0.12%
Carbon Dioxide	-	44.01	-	-	0.01%	-	0.40%	70.49%	94.28%	-
Methane	911	16.04	97.27%	20.14%	34.76%	26.55%	40.00%	24.97%	0.58%	97.27%
Ethane	1,631	30.07	1.91%	0.40%	5.56%	4.94%	1.80%	0.50%	0.02%	1.91%
Ethylene	1,499	28.05	-	42.53%	-	-	-	-	-	-
Propane	2,353	44.10	0.25%	1.29%	3.52%	4.13%	2.00%	0.06%	-	0.25%
i-Butane	3,094	58.12	0.06%	0.01%	6.98%	11.45%	1.00%	0.02%	-	0.06%
n-Butane	3,101	58.12	0.05%	20.02%	15.70%	28.96%	1.50%	0.01%	-	0.05%
i-Pentane	3,698	72.15	0.02%	6.47%	11.09%	19.08%	0.70%	0.01%	-	0.02%
n-Pentane	3,709	72.15	0.01%	-	5.56%	4.84%	0.60%	0.00%	-	0.01%
Hexane	4,404	86.18	0.02%	-	11.19%	-	0.03%	0.01%	-	0.02%
Heptane	5,100	100.20	0.01%	-	5.59%	-	-	0.00%	-	0.01%
Hydrogen Sulfide	587	34.08	0.000060%	-	-	-	-	0.00064%	0.00%	0.00%
<b>Total</b>			<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>LHV (Btu/lb)</b>			<b>21,626</b>	<b>19,077</b>	<b>20,244</b>	<b>20,396</b>	<b>8,754</b>	<b>2,556</b>	<b>51</b>	<b>21,626</b>
<b>LHV (Btu/scf)</b>			<b>929</b>	<b>1,718</b>	<b>2,587</b>	<b>2,557</b>	<b>568</b>	<b>239</b>	<b>6</b>	<b>929</b>
<b>MW (lb/lbmole)</b>			<b>16.56</b>	<b>34.72</b>	<b>49.26</b>	<b>48.32</b>	<b>25.00</b>	<b>35.98</b>	<b>42.54</b>	<b>16.56</b>

Component	Feed/Fuel/LNG	Mixed Refrigerant Vapor	Condensate Stabilizer	Condensate Stabilization Overheads	NRU Feed	Combined Acid/Assist	Acid Gas	Assist Gas
	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%
Nitrogen	0.83%	7.37%	0.03%	0.02%	58.27%	0.14%	0.05%	0.83%
Water	0.13%	0.00%	0.00%	0.00%	0.00%	1.93%	2.16%	0.13%
Carbon Dioxide	0.00%	0.00%	0.01%	0.00%	0.70%	86.22%	97.55%	0.00%
Methane	94.22%	9.31%	11.32%	8.81%	25.67%	11.13%	0.22%	94.22%
Ethane	3.47%	0.35%	3.39%	3.07%	2.17%	0.42%	0.01%	3.47%
Ethylene	0.00%	34.36%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Propane	0.67%	1.64%	3.15%	3.77%	3.53%	0.08%	0.00%	0.67%
i-Butane	0.21%	0.02%	8.24%	13.77%	2.33%	0.02%	0.00%	0.21%
n-Butane	0.18%	33.52%	18.53%	34.83%	3.49%	0.02%	0.00%	0.18%
i-Pentane	0.09%	13.45%	16.24%	28.49%	2.02%	0.01%	0.00%	0.09%
n-Pentane	0.04%	0.00%	8.14%	7.23%	1.73%	0.01%	0.00%	0.04%
Hexane	0.10%	0.00%	19.58%	0.00%	0.10%	0.01%	0.00%	0.10%
Heptane	0.06%	0.00%	11.37%	0.00%	0.00%	0.01%	0.00%	0.06%
Hydrogen Sulfide	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

**Table B-1**  
**Ground Flares MSS Emissions**  
 Stage 3 Expansion Project  
 Corpus Christi Liquefaction LLC

EPNs: MSGFLR1, MSGFLR2 MSGFLR3, GFLRCAP

**Maximum Short-term Emission Rates**

Component	High Pressure DRE	Feed/Fuel/LNG	Mixed Refrigerant Vapor	Condensate Stabilizer	Condensate Stabilization Overheads	NRU Feed	Low Pressure DRE	Combined Acid/Assist	Maximum	
		Maximum Flow Rate (lb/hr)								
		264,030	423,800	4,496	1,600	100,000		24,116		
		lb/hr	lb/hr	lb/hr	lb/hr	lb/hr		lb/hr		
Nitrogen	0%	2,188.49	31,218.34	1.28	0.37	58,267.23	0%	34.44	58,267.23	
Water	0%	344.80	-	-	-	-	0%	465.12	465.12	
Carbon Dioxide	0%	-	-	0.40	-	704.24	0%	20,793.53	20,793.53	
Methane	99%	2,487.82	394.36	5.09	1.41	256.67	99%	26.85	2,487.82	
Ethane	99%	91.58	14.68	1.53	0.49	21.65	99%	1.00	91.58	
Ethylene	99%	-	1,456.31	-	-	-	99%	-	1,456.31	
Propane	99%	17.58	69.44	1.42	0.60	35.28	99%	0.19	69.44	
i-Butane	99%	5.56	0.71	3.70	2.20	23.25	98%	0.12	23.25	
n-Butane	99%	4.63	1,420.47	8.33	5.57	34.88	98%	0.10	1,420.47	
i-Pentane	99%	2.30	569.85	7.30	4.56	20.20	98%	0.05	569.85	
n-Pentane	99%	1.15	-	3.66	1.16	17.32	98%	0.02	17.32	
Hexane	99%	2.75	-	8.80	-	1.03	98%	0.06	8.80	
Heptane	99%	1.60	-	5.11	-	-	98%	0.03	5.11	
Hydrogen Sulfide	99%	0.0003	-	-	-	-	98%	0.003	0.00	
<b>Maximum VOC (lb/hr)</b>		<b>35.6</b>	<b>3,516.8</b>	<b>38.3</b>	<b>14.1</b>	<b>132.0</b>		<b>0.6</b>		

**Annual Emission Rates**

Component	High Pressure DRE	Feed/Fuel/LNG	Mixed Refrigerant Vapor	Condensate Stabilizer	Condensate Stabilization Overheads	NRU Feed	Low Pressure DRE	Combined Acid/Assist	Annual Total	
		Annual Flow Rate (tpy)								
		109,089	10,997	22	236	750		80,157		
		tpy	tpy	tpy	tpy	tpy		tpy		
Nitrogen	0%	904.21	810.06	0.01	0.05	437.00	0%	114.47	2,265.80	
Water	0%	142.46	-	-	-	-	0%	1,545.96	1,688.42	
Carbon Dioxide	0%	-	-	0.00	-	5.28	0%	69,113.89	69,119.17	
Methane	99%	1,027.89	10.23	0.03	0.21	1.93	99%	89.24	1,129.52	
Ethane	99%	37.84	0.38	0.01	0.07	0.16	99%	3.33	41.79	
Ethylene	99%	-	37.79	-	-	-	99%	-	37.79	
Propane	99%	7.26	1.80	0.01	0.09	0.26	99%	0.62	10.04	
i-Butane	99%	2.30	0.02	0.02	0.33	0.17	98%	0.39	3.23	
n-Butane	99%	1.91	36.86	0.04	0.82	0.26	98%	0.33	40.23	
i-Pentane	99%	0.95	14.79	0.04	0.67	0.15	98%	0.16	16.76	
n-Pentane	99%	0.48	-	0.02	0.17	0.13	98%	0.08	0.88	
Hexane	99%	1.14	-	0.04	-	0.01	98%	0.19	1.38	
Heptane	99%	0.66	-	0.03	-	-	98%	0.11	0.80	
Hydrogen Sulfide	99%	0.00013	-	-	-	-	98%	0.01	0.01	
<b>Total VOC (tpy)</b>		<b>14.70</b>	<b>91.25</b>	<b>0.19</b>	<b>2.08</b>	<b>0.99</b>		<b>1.89</b>	<b>111.10</b>	

**Notes:**

1. NO<sub>x</sub> and CO emissions are based on emission factors TNRCC Technical Guidance for Flares and Vapor Oxidizers, October 2000.
2. A control efficiency of 98% was assumed for H2S. SO2 emissions assume that 100% of H2S present in the fuel is converted to SO2.
3. Flow rates and composition are for calculation purposes only and are not considered enforceable limits.

**Table B-1**  
**Ground Flares MSS Emissions**  
**Stage 3 Expansion Project**  
**Corpus Christi Liquefaction LLC**

**EPNs: MSGFLR1, MSGFLR2 MSGFLR3, GFLRCAP**

Example Calculations:

<i>NO<sub>x</sub> Emissions (Depressure Feed Gas Passes)</i>	532.81	MMBtu	0.0641	lb	=	34.15	lbs/hr
		hr		MMBtu			
<i>CO Emissions (Depressure Feed Gas Passes)</i>	532.81	MMBtu	0.5496	lb	=	292.83	lbs/hr
		hr		MMBtu			
<i>VOC Emissions (propane)</i>	152,575	lb C <sub>1</sub> -C <sub>3</sub> to Flr	100% - 99%	Control Eff	+	99,551.23	lb C <sub>3</sub> + to Flr
		hr					hr
	=	3516.78	lb/hr				