Karin Fickerson
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April 26, 2019

Mr. Matthew Lee
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

RE: Playa del Rey (Facility ID #8582) AB2588 Health Risk Assessment

Dear Mr. Lee:

SoCalGas owns and operates the Playa del Rey Storage facility at 8141 Gulana Avenue in Playa del Rey, California within the South Coast Air Quality Management District (SCAQMD). The SCAQMD facility identification number (FID) is #008582. The Health Risk Assessment (HRA) prepared for the Playa del Rey facility pursuant to the Air Toxics "Hot Spots" Act (AB 2588) and SCAQMD Rule 1402 was approved by the SCAQMD on January 2, 2019. The HRA concludes that public notification thresholds and risk reduction thresholds would be exceeded based on 2015 operations of the facility. The SCAQMD letter dated January 2, 2019 directs the submittal of a Risk Reduction Plan (RRP) to the SCAQMD by May 1, 2019. The enclosed document with attachments serves as the RRP and is being submitted timely.

Should you have any questions regarding the enclosed submittal, please do not hesitate to contact me at (805) 681-8013 or kfickerson@semprautilities.com.

Sincerely,

Karin Fickerson
Air Quality Team Lead

Enclosure

cc: Annie Ho

AB2588 RISK REDUCTION PLAN

PREPARED FOR

PLAYA DEL REY STORAGE FIELD

(SCAQMD FID #008582)

8141 GULANA AVENUE
PLAYA DEL REY, CA 90293

APRIL 2019

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1. Introduction

SoCalGas owns and operates the Playa del Rey Storage facility at 8141 Gulana Avenue in Playa del Rey, California within the South Coast Air Quality Management District (SCAQMD). The SCAQMD facility identification number (FID) is #008582. The Standard Industrial Code (SIC) of the facility is 4922 and North American Industry Classification System (NAICS) code of the facility is 486210.

The Health Risk Assessment (HRA) prepared for the Playa del Rey facility pursuant to the Air Toxics "Hot Spots" Act (AB 2588) and SCAQMD Rule 1402 was approved by the SCAQMD on January 2, 2019. The HRA concludes that public notification thresholds and risk reduction thresholds would be exceeded based on 2015 operations of the facility. The modeling conservatively assumed that the 26 times during the year where natural gas venting was conducted for about 30 minutes coincided with the meteorological conditions necessary for the dispersion to impact the area beyond the property boundary to the northwest of the facility during those same hours. However, because venting only occurred for about 13 hours, venting was unlikely to occur during these specific meteorological conditions and the likelihood that such a situation would have occurred is very low.

The SCAQMD letter dated January 2, 2019 directs the submittal of a Risk Reduction Plan (RRP) to the SCAQMD by May 1, 2019. This document serves as the RRP and is being submitted timely.

2. 2015 HRA Summary

As shown in the HRA prepared for 2015 operations, the non-cancer acute hazard index (HI) at the Point of Maximum Impact (PMI) receptor was concluded to exceed the public notification and risk reduction thresholds specified in Rule 1402. This non-cancer acute HI is primarily (98%) due to the blowdown vent stack (Source ID S32). The area where the Rule 1402 thresholds were concluded to be exceeded is part of the Ballona Wetlands Ecological Reserve owned by the State of California and maintained by the California Department of Fish and Wildlife (CFDW).

2.1. Anomalous Year

The volume of natural gas vented in 2015 appears to have been an anomaly (unusually high value) when compared to more recent years of operation. During the subsequent years (2016 and 2017), the volume of natural gas vented at the vent stack was substantially lower than in 2015. Specifically, the values were 0.68 MMscf in 2016 and 0.14 MMscf in 2017, respectively, as compared to 3.49 MMscf in 2015.

3. Change in Operations

Since the start of 2018, the facility no longer routes natural gas to the blowdown vent stack, S32, for routine natural gas venting for maintenance and the primary function of S32 is now for emergency station shutdown. Further, the facility has shifted its operational venting practices to permitted portable carbon canisters that are used at the specific site of venting. Specifically, the practice that is now in place is as follows: Prior to conducting natural gas venting activities, and if feasible, the facility depressurizes the system to a distribution line to reduce the volume of natural gas vented. Next, the process vent line/valve that will vent natural gas is routed to permitted portable carbon canisters. Use of the carbon canisters minimizes the emissions associated with natural gas venting. With this practice in place, the facility no longer uses S32 for routine natural gas venting and the primary function of S32 is now for emergency station shutdown.

3.1. Revised Risk Characterization

During 2018, the total volume of natural gas vented at locations throughout the facility (which would have been routed to the vent stack in prior years) was 0.067 MMscf. The associated benzene emissions were minimized with the use of carbon canisters. We have applied a 60% control of benzene emissions for the use of the carbon canisters. The 60% control efficiency is based on the lower end of the range provided in Table 7.1 of California Air Resources Board (CARB) documents for Emission Control Techniques (see snapshot provided below). Based on this CARB table, VOC with molecular weights between 50 and 150 Daltons would have an actual control efficiency of 60-95%. The molecular weight of benzene is 78 Daltons and the carbon control efficiency for benzene is anticipated to be 60-95%.

The resulting 2018 emissions were calculated to be a total of 0.06 pounds per year of benzene and maximum hourly benzene emissions of 0.04 pounds per hour as shown in Table 1 below. The

Table 7.1
Summary of recommended stream characteristics and efficiencies for regenerable carbon adsorption technique given by EPA [1989], EPA [1986] and EPA [1992].

Emission stream concentration	< 700 ppmv
Flow rate moisture	< 50%
Recommended temperature	< 150°F[a]
Molecular weight of VOC	50-150 Daltons
Actual efficiency	60-95% [b]

[a]At temperatures below 150°F, carbon adsorption works efficiently even if there are variations in the temperature.
[b]depending on the stream concentration.

updated Air Toxic Inventory Report (ATIR) is included in Attachment 1.

Table 1
2018 NG Vented Benzene Emission Calculations

Item	Value	Units
Total Gas Vented	6.74E-02	MMscf/yr
Max Hourly Gas Vented	4.59E-02	MMscf/hr
Benzene Emission Factor	2.27	lb/MMscf
Carbon Control Efficiency	60%	%
Total Controlled Benzene	0.06	lb/year
Max Hourly Controlled Benzene	0.04	lb/hr

The 2015 HRA was re-run with the following changes associated with 2018 emissions for natural gas venting: 1) Benzene emissions for S32 of zero; and 2) 0.04 pounds/hour and 0.06 pounds/year of benzene emissions modeled as a new point source (S35) located at the center of the lower level (367148 m E, 3759153 m N). The modeled parameters for the venting through the carbon canister are 50" high and 3" diameter with a minimal flow rate (1 meter per second) at ambient temperature (298 K). The peak acute HI at the new PMI was modeled to be less than 1.0. The complete modeling results are provided in Table 2 below. As shown in Table 2, the predicted acute HI for the 2015 HRA using the 2018 data to address Source ID S32 is below the risk reduction and public notification thresholds. Based on the 2018 change in operations and using the same modeling process and assumptions as the 2015 HRA, the Action Risk Levels were not met nor exceeded in the updated modeling. Furthermore, the change in operations has already been implemented. The updated HRA and associated modeling files are included in Attachment 2.

Table 2
Updated HRA Modeling Results

Location	X-UTM (m)	Y-UTM (m)	Acute HI
PMI	367239	3758859	0.46
MEIR	367300	3758810	0.24
MEIW	367270	3758620	0.11

4. Future Risk Reduction Measures

The facility has proposed an additional, permanent risk reduction measure as a further enhancement: the project is titled "Blowdown Upgrade for Venting Control" and is a permanent operational change. The project will minimize natural gas venting by rerouting routine natural gas venting from the well group headers during maintenance activities to the distribution pipeline. The pressure will be reduced from transmission system pressure to approximately 40 psig. The remaining 40 psig will be connected to carbon adsorbers for venting. Two carbon adsorbers in series will be used.

Alternatively, if distribution cannot accept the natural gas due to lack of system demand, then the natural gas will be routed to the wet gas compressor(s) and then to transmission. The same carbon adsorbers would be used for venting. Each event of natural gas venting volume is recorded on a

Natural Gas Vented-Operator's Logsheet and retained onsite. The volume vented is calculated by using the length and diameter of the pipe with the start and end pressures.

An application for a Permit to Construct (PTC) for the new portable carbon adsorbers will be submitted to SCAQMD. The PTC application will propose permit conditions such that the risk reduction measures are permanent and enforceable per Rule 1402. The PTC application will also propose permit conditions for the use of carbon in the new rerouted process located at S35 and for routine natural gas venting to not be routed to S32.

These carbon adsorbers will be used at the center of lower facility. The dimensions are anticipated to be similar to the modeled parameters used for the 2018 modeling update. These parameters were venting through carbon canister that are 50" high and 3" diameter with a minimal flow rate (1 meter per second) at ambient temperature (298 K). The final parameters will be determined once the project is fully designed.

The following is the proposed schedule for implementing the proposed additional risk reduction measure as quickly as feasible.

- An application for a PTC for the new carbon adsorbers will be submitted to SCAQMD within 180 days of approval of this RRP.
- The project will be completed within 6 months of receipt of the PTC from SCAQMD.

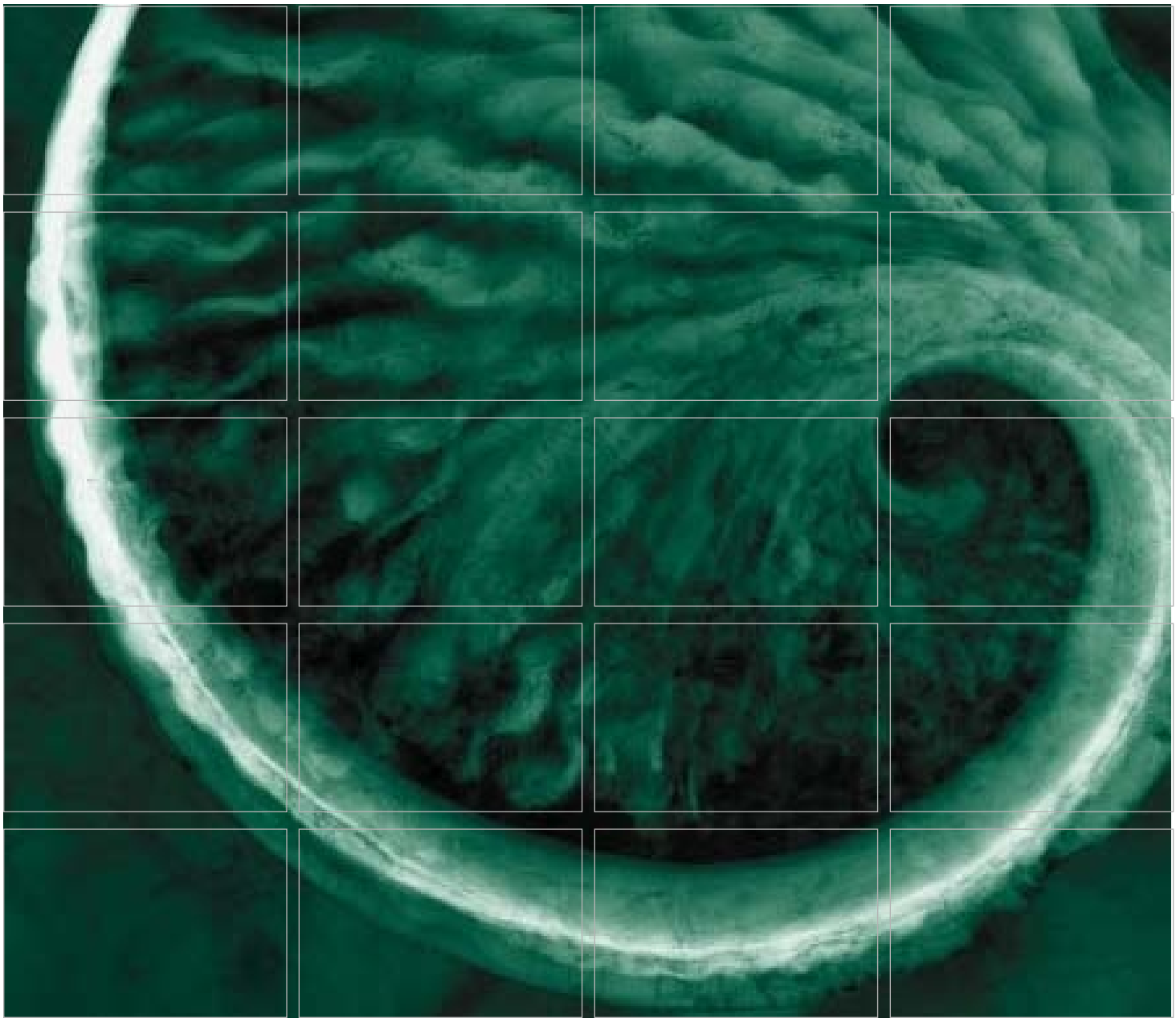
The "Blowdown Upgrade for Venting Control" project may utilize the existing permitted carbon adsorbers and/or rented carbon adsorbers with a various location permit until the PTC is issued so that the project can be implemented as expeditiously as possible.

Although earlier the document discussed that changes in operations already reduced the acute HI from the facility to below the threshold of 1.0, based on the modeling conducted for 2018 operations, this additional proposed "Blowdown Upgrade for Venting Control" project will further reduce emissions and support maintaining the modeled acute HI from the facility to below the threshold of 1.0. This conclusion was reached by taking into consideration that the proposed project will be located at the same location and will likely have the same parameters as that modeled for the 2018 operations update.

5. Certification

The required certification of the RRP has been signed by the facility's Responsible Official and is included as Attachment 3.

ATTACHMENT 1
UPDATED ATIR AND EIM FILES



Air Toxics Inventory Report

8141 Gulana Avenue
Playa Del Rey, California 90293
Facility ID: 8582

October 2017

Updated April 2019

www.erm.com

Prepared for:
SoCalGas

ERM

The business of sustainability

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1.0 SUMMARY

As requested by the South Coast Air Quality Management District (SCAQMD), this report is being submitted to the SCAQMD pursuant to the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB2588) and SCAQMD Rule 1402. Under AB2588, Southern California Gas Company/Playa Del Rey Storage Facility (SoCalGas) is required to prepare an Air Toxics Inventory Report (ATIR) for the facility located at 8141 Gulana Avenue, Playa Del Rey, California 90293 (SCAQMD ID: 8582) based on the most current quadrennial air toxic emission inventory submitted in 2015. In general accordance with the SCAQMD's *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act* for AB2588 (SCAQMD 2016a) on the preparation of an emission inventory, this report contains the emissions estimation methodologies and accompanying emissions from the facility. This ATIR follows the outline specified in Appendix D of the SCAQMD supplemental risk assessment guidelines for preparing an ATIR. The electronic files of the detailed ATIR using the HARP software have been included in the CD along with the hard copy of the detailed ATIR.

As mentioned in Section 3 and 4, there are a few items that have been revised since the submission of the *Initial Information for ATIR: SoCalGas (Facility ID #8582)* in June 2017. The pollutants with facility-wide emissions that are less than one-half of their corresponding degree of accuracy and TAC Codes 24 through 73 have been omitted from this report. The emissions for formaldehyde for D14, D16, and D17 have been reduced by 80% to reflect the efficiency of the BASF Camet oxidation catalysts. Furthermore, pollutants from RAMCO Attack II and NexGen95 have been omitted from the ATIR. The Material Safety Data Sheet (MSDS) for both chemicals did not list any of the AB2588 TACs. In response to SCAQMD's *Initial Information for ATIR* comments received in 20 October 2017, this detailed ATIR also addresses the discrepancies between the *Initial Information for ATIR* and the 2015 AER.

2.0 FACILITY DESCRIPTION

The SoCalGas facility is located at 8141 Gulana Avenue, Playa Del Rey, California 90293 (SCAQMD ID: 8582). The location of the facility is depicted in Figure 1 provided in Appendix B. The natural gas storage field is operated by SoCalGas in the Los Angeles area. The following is a list of the various operations and their potential emissions.

- Gasoline-fueled internal combustion engines used in junction with the air compressor units which result in combustion product emissions.

- Stationary natural gas-fueled and diesel-fueled engines used for a variety of reasons, including natural gas compression and injection as well as emergency power which result in emissions of combustion byproducts.

- Various external combustion equipment, which include incinerator/flare (Device ID C131), glycol reboiler (Device D145), Space Heater (Device ID E127), and small boilers and water heaters that are greater than 1 MMBTU/hr and less than or equal to 2 MMBTU/hr (Device ID E153), are fired with natural gas to assist with gas processing result in combustion product emissions.

- The facility processes waste water, crude oil and gas condensate in various storage tanks located at the facility which result in evaporative organic emissions due to working and breathing losses.

- Evaporative losses and leaks from various components (i.e., pressure release devices, flanges, valves, connectors, fittings, etc.) on equipment throughout the facility which result in emissions of organic compounds.

- Solvent cleaners and other organic solvents used for maintenance purposes which result in emissions of organic compounds.

- Various maintenance tasks which are typically routine and required to safely operate the facility result in emissions. These include natural gas venting, bulk loading of crude oil, waste water sumps, and AC Refrigerants.

3.0 IDENTIFICATION OF AB2588 LISTED SUBSTANCES AND EMITTING PROCESSES

The AB2588 program identifies substances that are required to be quantified in the inventory report if they are emitted into the air. Per SCAQMD's request, this ATIR includes all TAC emissions from the facility that are listed in Appendix A of the *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (*OEHHA 2015*)* and Table A-1 in Appendix A of the *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act* (SCAQMD 2016a). Table 1 lists all permitted and Rule 219 permit exempt emission sources at the facility.

Table 1 List of Permitted and Exempt Sources

Source Description	AQMD Device ID	AER Device ID
ICE, Emergency, Natural Gas, Waukesha, Model H-2476-GU, 348 HP with Generator	D1	ES 1
ICE, Emergency, Natural Gas, Waukesha, Model 145-GZB, 110 HP with Generator	D2	ES 2
ICE, Emergency, Natural Gas, Caterpillar, Model 3306NG, 93 HP with Pump	D7	ES 3
ICE, Non-Emergency, 2SLB with Insulated Ducts And Catalyst Housing, 6CB, Natural Gas, Cooper-Bessemer, Model GMVH-10, 2000 HP with Compressor	D14	ES 4
ICE, Non-Emergency, 2SLB, with Insulated Ducts And Catalyst Housing, 8CB, Natural Gas, Cooper-Bessemer, Model GMVH-10, 2000 HP with Compressor	D16	ES 5
ICE, Non-Emergency, 2SLB, with Insulated Ducts And Catalyst Housing, 9CB, Natural Gas, Cooper-Bessemer, Model GMVH-10, 2000 HP with Compressor	D17	ES 6
ICE, Emergency, Diesel, John Deere, Model 4045TF150, 99 HP with Generator	D135	ES 7
Incinerator, King, Buck & Associates, Model MMC-5, 150 SCFM Capacity, Natural Gas, with Supplemental Gas-Firing and Fully Modulating Automatic Control System, 1 MMBTU/hr with Compressor	C131	ES 10

Source Description	AQMD Device ID	AER Device ID
Heater, H-340A, Glycol Regeneration, Natural Gas, American Heating Company, Model AHE-500-LN, with Low NOX Burner, 5.2 MMBTU/hr with Burner	D145	ES 11
Carbon Adsorber, Siemens, Model 400, Portable (Intra-Facility), 400 LBS	C154	ES 17
Tank, Wash, TK-1A, 1000 BBL	D67	ES 30
Storage Tank, Fixed Roof, TK-3, Off-Spec Oil, 2000 BBL	D79	ES 18
Storage Tank, Fixed Roof, TK-4A, Crude Oil, 2000 BBL	D80	ES 19
Storage Tank, Fixed Roof, TK-4B, Crude Oil, 2000 BBL	D81	ES 20
Storage Tank, Fixed Roof, TK-4C, Crude Oil, Vented To Vapor Recovery System, 2000 BBL	D82	ES 21
Storage Tank, Fixed Roof, TK-6, Slop, 200 BBL	D84	ES 22
Storage Tank, Fixed Roof, TK-5, Condensate, 500 BBL	D83	ES 23
Storage Tank, Fixed Roof, Crankcase and Dirty Lube Oil, 1000 gals	D85	ES 31
Tank, Wash, TK-1B, 1000 BBL	D68	ES 29
Tank, Surge, TK-2, Wastewater, 1000 BBL	D78	ES 36
Tank, Surge, TK-12, Wastewater, 2000 BBL	D77	ES 37
Oil/Gas/Water Separator, Liquid, Inlet Compressor (Spare)	C97	ES 32
Oil/Gas/Water Separator, Liquid, Inlet Compressor	C96	ES 33
Fugitive Emissions, Drains	D130	ES 24
Fugitive Emissions, Valves	D93	ES 25
Fugitive Emissions, Flanges	D91	ES 26
Fugitive Emissions, PRV	D90	ES 27
Fugitive Emissions, Pumps	D89	ES 28
Fugitive Emissions, Compressors	D92	ES 34
Odorant Dispensing Equipment, 60 gals	D115	ES 35
Drum, Knockout, V-662, 1ST Stage	D148	ES 39
Drum, Knockout, V-663, 2ND Stage	D149	ES 38
Scrubber, V-661 Suction	D147	ES 40
Vessel, Glycol Flash Tank, V-643	D143	ES 41
Vessel, Glycol Reboiler, V-642	D142	ES 42
Vessel, Still Column, V-640	D141	ES 43
Vessel, TEG Contactor #1, V-601	D138	ES 45
Vessel, TEG Contactor #2, V-602	D139	ES 44
Vessel, Separator, Filter/Separator, V-600	D137	ES 46
Vessel, Still Overhead Condenser, V-644	D144	ES 9
Loading Arm	D125	ES 47
Carbon Filter	C117	ES 8
Coating Equipment, Portable, Architectural Coatings	E126	ES 59

Source Description	AQMD Device ID	AER Device ID
Space/Water Heater – Not Related To Process	E127	ES 13
Well Heads and Pumps, Oil and Gas	E128	ES 14
Pumps, Crude Oil/Natural Gas Pipeline Transfer	E129	ES 15
Small Boilers, Water Heaters and Process Heaters, >1 MMBTU/hr and <= 2 MMBTU/hr	E153	ES 16
Air Compressor 400	-	ES 48
Air Compressor 120	-	ES 49
Air Compressor (E-29) – Grease Truck	-	ES 51
Air Compressor (E-30) – Grease Truck	-	ES 52
Natural Gas Venting	-	ES 55
Wastewater Sump	-	ES 57
Bulk Loading Crude Oil	-	ES 56
Fugitive Emissions from Valves, Valves in Light Service, and Other (Including Fittings, Hatches, Sight-Glasses, Meters, Etc.)	-	ES 58
Refrigerants	E127	ES 60

2SLB = 2 Stroke Lean Burn
ICE = Internal Combustion Engine
EPA = United State Environmental Protection Agency
AQMD = South Coast Air Quality Management District

Table A-1 in SCAQMD's guideline (SCAQMD 2016a) also lists a degree of accuracy for each toxic. The degree of accuracy is a de minimis emission level for reporting. Facility-wide emissions of toxics less than one-half of their corresponding degree of accuracy do not need to be reported for TAC Codes 24 through 73. Therefore, sources with emissions below these reporting criteria have been omitted from the ATIR. As mentioned in the *Initial Information for ATIR* and Section 4, chlorine constituents are not included for natural gas-fired internal combustion engines. Table 2 below provides a list of the toxic pollutants that have a facility-wide emission below half of their respective degree of accuracy threshold.

Table 2 Summary of Non-reportable Pollutants

Pollutant	CAS	Annual Average Emission (lb/yr)	1/2 of Degree of Accuracy (lbs/yr)
Chloroform	67663	3.01E+00	4.5

Pollutant	CAS	Annual Average Emission (lb/yr)	1/2 of Degree of Accuracy (lbs/yr)
Styrene	100425	3.62E+00	50
1,3-Dichloropropene	542756	2.80E+00	5
Xylenes	1330207	1.75E+01	100
Copper	7440508	2.76E-03	0.05
Hydrochloric acid	7647010	1.08E-02	10
Manganese	7439965	2.70E-03	0.05
Mercury	7439976	1.16E-04	0.45
Selenium	7782492	1.27E-04	0.25
Methyl ethyl ketone {2-Butanone}	78933	5.16E-02	100
o-Xylene	95476	1.33E+00	100
Methyl tert-butyl ether	1634044	1.60E+00	48
Dipropylene glycol monomethyl ether	34590948	1.55E+00	50
Glycol ethers and their acetates	1115	1.61E+00	50
Chlorodifluoromethane {Freon 22}	75456	10.00E+00	100

As previously discussed in the *Initial Information for ATIR: SoCalGas (Facility ID #8582)*, fugitive emissions are associated with devices or equipment such as valves, drains, flanges, PRV, pumps, and compressors. AQMD Device IDs associated with these emissions sources are D130, D93, D91, D90, D89, and D92. Since the submission of the *Initial Information for ATIR*, the AER Devices associated with these emissions sources have been revised to ES24, ES25, ES26, ES27, ES28, and ES34. The emissions associated with the remaining permitted equipment are included in the reported emissions under the aforementioned AER Devices (ES24 – ES28, and ES34). These vessels and drums are pressure vessels which only have associated fugitive emissions. Because they are under pressure, gas in the fluid is unable to break away from the liquid. The AQMD Device IDs referenced above are D115, D148, D149, D147, D143, D142, D141, D138, D139, D137, D144, and D125.

The odor dispensing equipment (A/N A55256, AQMD ID: D115, AER ID: ES35) is connected to a carbon filter (A/N 289177, AQMD ID: C117, AER ID: ES8) and has not been in operation since 2015. There were no emissions coming from this unit in 2015. Since the only potential emissions from this unit are fugitive, it has been incorporated into the fugitive emissions source (ES25, ES26, and ES34) in this ATIR and Emission Inventory Module (EIM). Two devices (A/N 198427 and 198428)

were removed in 2008. They have not been included in this ATIR since SoCalGas is submitting the inactivation Form 200C. A copy of this letter will be sent to the AB 2588 Section of Planning. The carbon adsorber (A/N 509525, AQMD ID: C154, AER ID: ES17) is not included in this ATIR because it is not an emissions generating unit. The portable diesel-fired air compressor engine (AER ID: ES53) and asbestos abatement (AER ID: ES54) are permit exempt and do not have emissions. Therefore, they have been omitted from the ATIR. Table 3 lists the emission sources which are presented in the EIM in more detail.

Table 3 EIM Equipment Listing

Stack ID	Device ID	Process ID	AER Device ID	AQMD Device ID	Source Description	Process Description	Process Comments
1	10	100	ES1	D1	ICE, Emergency, Natural Gas, 348 HP	Internal Combustion	**----**
2	20	200	ES2	D2	ICE, Emergency, Natural Gas, 110 HP	Internal Combustion	**----**
3	30	300	ES3	D7	ICE, Emergency, Natural Gas, 93 HP	Internal Combustion	**----**
4	40	400	ES4	D14	ICE, Non-Emergency, Natural Gas, 2000 HP[2]	Internal Combustion	----
5	50	500	ES5	D16	ICE, Non-Emergency, Natural Gas, 2000 HP[2]	Internal Combustion	----
6	60	600	ES6	D17	ICE, Non-Emergency, Natural Gas, 2000 HP[2]	Internal Combustion	----
7	70	700	ES7	D135	ICE, Emergency, Diesel, 99 HP	Internal Combustion	----
8	80	800	ES11	D145	Glycol Reboiler	External Combustion	----
9	90	900	ES10	C131	Thermal Oxidizer[1]	Internal Combustion	Oil Loading Vapor Capture from Bulk Loading Crude Oil
10	100	1000	ES56	D125	Loading Arm	Other Process	----
11	110	1100	ES13	E127	Building AC & Heat V1	External Combustion	64' x 64' (22.63% of total compressor building area)
12	120	1200	ES13	E127	Building AC & Heat V2	External Combustion	64' x 64' (22.63% of total compressor building area)
13	130	1300	ES13	E127	Building AC & Heat V3	External Combustion	64' x 64' (22.63% of total compressor building area)
14	140	1400	ES13	E127	Building AC & Heat V4	External Combustion	44' x 44' (10.7% of total compressor building area)
15	150	1500	ES13	E127	Building AC & Heat V5	External Combustion	44" x 44" (10.7% of total compressor building area)

Stack ID	Device ID	Process ID	AER Device ID	AQMD Device ID	Source Description	Process Description	Process Comments
16	160	1600	ES13	E127	Building AC & Heat V6	External Combustion	44" x 44" (10.7% of total compressor building area)
17	170	1700	ES16	E153	Dehy Hot Oil Heater[1]	External Combustion	----
18	180	1800	ES18	D79	TK-3	Storage Tank	----
19	190	1900	ES19	D80	TK-4A	Storage Tank	----
20	200	2000	ES20	D81	TK-4B	Storage Tank	----
21	210	2100	ES21	D82	TK-4C	Storage Tank	----
22	220	2200	ES22	D84	TK-6	Storage Tank	----
23	230	2300	ES23	D83	TK-5	Storage Tank	----
24	240	2400	ES29	D68	TK-1B	Storage Tank	----
25	250	2500	ES30	D67	TK-1A	Storage Tank	----
26	260	2600	ES36	D78	TK-2	Storage Tank	----
27	270	2700	ES37	D77	TK-12	Storage Tank	----
28	280	2800	ES48	EXEMPT	Air Compressor 400 lb	Internal Combustion	----
29	290	2900	ES49	EXEMPT	Air Compressor 120 lb	Internal Combustion	----
30	300	3000	ES51	EXEMPT	Air Compressor (E-29)	Internal Combustion	----
31	310	3100	ES52	EXEMPT	Air Compressor (E-30)	Internal Combustion	----
32	320	3200	ES55	EXEMPT	Natural Gas Venting	Natural Gas Venting For Emergency Station Shutdown	Emissions associated with emergency operations are not included in AB2588
33	330	3300	ES59	EXEMPT	Organic Solvents	Z-Way (Penetrating Lubricant)	----
33	330	3301	ES59	EXEMPT	Organic Solvents	Tool Cool (Cutting and Tapping Fluid)	----
33	330	3302	ES59	EXEMPT	Organic Solvents	RAMCO Ram Strip	----
33	331	3310	ES25	D93	Valves	Valves Gas/Vapor	Includes fugitive emissions from ES9, ES27, ES35, ES38, ES39, ES40 to ES46

Stack ID	Device ID	Process ID	AER Device ID	AQMD Device ID	Source Description	Process Description	Process Comments
33	331	3311	ES25	D93	Valves	Valves in Light Liquid Service	Includes fugitive emissions from ES9, ES27, ES35, ES38, ES39, ES40 to ES46
33	332	3320	ES26	D91	Flanges & Other Fugitives	Others (hatches, drains, sight-glasses, meters, etc.)	Includes fugitive emissions from ES9, ES24, ES28, ES35, ES38, ES39, ES40 to ES46
33	332	3321	ES26	D91	Flanges & Other Fugitives	Compressors in gas injection	Includes fugitive emissions from ES9, ES35, ES38, ES39, ES40 to ES46
33	333	3330	ES34	D92	VRU Compressors	Compressors in vapor recovery service	Includes fugitive emissions from ES9, ES32, ES33, ES35, ES38, ES39, ES40 to ES46
33	334	3340	ES58	EXEMPT	Fugitives of Exempt Units	Valves Gas/Vapor from exempt equipment	----
33	334	3341	ES58	EXEMPT	Fugitives of Exempt Units	Valves in Light Liquid Service Fugitives from exempt equipment	----
33	334	3342	ES58	EXEMPT	Fugitives of Exempt Units	Other (including fittings, hatches, sight-glasses, meters, etc) Fugitives from exempt equipment	----
34	340	3400	ES57	EXEMPT	Sump	Clean-out Sumps	----
35	320	3200	ES55	EXEMPT	Natural Gas Venting	Natural Gas Venting for Maintenance	

1. Stacks are equipped with rain caps.
2. Equipped with BASF Camet oxidation catalysts with 80% reduction efficiency for formaldehyde.

Section 4 describes the emission inventory methodologies in more detail such as the source tests for organic compound emissions that were conducted for the bulk liquid loading operation in June 2012. Other potential TAC emissions were identified using the United States Environmental Protection Agency (EPA) and SCAQMD emission factors for combustion of natural gas, diesel and gasoline. Additionally, safety data sheets for organic solvent materials and EPA's TANKS software for organic solvent tank storage were used to identify the pollutants.

Table 4 provides the total facility emission rate by substance for all emission sources and was based on the operating activity for 2015.

Table 4 Summary of Facility-Wide Emissions

Pollutant	CAS	Annual Average Emission (lb/yr)	Annual Average Emission (g/s)	Max. 1-Hr Emission (lb/hr)	Max. 1-Hr Emission (g/s)
Formaldehyde	50000	7.12E+02	1.02E-02	1.64E-01	2.07E-02
Benzene	71432	2.56E+02	3.69E-03	6.10E-01	7.69E-02
Naphthalene[1]	91203	6.29E+00	9.05E-05	1.43E-03	1.80E-04
Ethylene dibromide {1,2-Dibromoethane}	106934	4.70E+00	6.76E-05	1.09E-03	1.37E-04
Butadiene [1,3]	106990	5.33E+01	7.66E-04	1.22E-02	1.53E-03
Benzo[a]pyrene[1]	50328	3.63E-04	5.22E-09	8.44E-08	1.06E-08
Benz[a]anthracene[1]	56553	2.15E-02	3.09E-07	4.99E-06	6.29E-07
Acenaphthene[1]	83329	8.51E-02	1.22E-06	1.98E-05	2.49E-06
Phenanthrene[1]	85018	2.26E-01	3.25E-06	5.24E-05	6.61E-06
Fluorene[1]	86737	1.08E-01	1.55E-06	2.51E-05	3.16E-06
2-Methyl naphthalene[1]	91576	1.37E+00	1.97E-05	3.18E-04	4.01E-05
Anthracene[1]	120127	4.59E-02	6.60E-07	1.07E-05	1.34E-06
Pyrene[1]	129000	3.73E-02	5.37E-07	8.68E-06	1.09E-06
Benzo[g,h,i]perylene[1]	191242	1.59E-03	2.28E-08	3.68E-07	4.64E-08
Benzo[e]pyrene[1]	192972	1.50E-03	2.15E-08	3.48E-07	4.38E-08
Indeno[1,2,3-cd]pyrene[1]	193395	6.35E-04	9.13E-09	1.48E-07	1.86E-08
Perylene[1]	198550	3.18E-04	4.57E-09	7.38E-08	9.30E-09
Benzo[b]fluoranthene[1]	205992	5.44E-04	7.83E-09	1.26E-07	1.59E-08
Fluoranthene[1]	206440	2.31E-02	3.32E-07	5.36E-06	6.76E-07
Benzo[k]fluoranthene[1]	207089	2.72E-04	3.92E-09	6.33E-08	7.97E-09
Acenaphthylene[1]	208968	2.03E-01	2.92E-06	4.71E-05	5.93E-06

Pollutant	CAS	Annual Average Emission (lb/yr)	Annual Average Emission (g/s)	Max. 1-Hr Emission (lb/hr)	Max. 1-Hr Emission (g/s)
Chrysene[1]	218019	4.30E-02	6.18E-07	9.98E-06	1.26E-06
PAHs, total, w/o individ. components reported[1]	1151	3.27E-03	4.70E-08	1.80E-04	2.27E-05
Lead compounds (inorganic)	7439921	4.80E-04	6.90E-09	4.14E-05	5.21E-06
Nickel	7440020	2.75E-03	3.96E-08	1.94E-05	2.45E-06
Chromium, hexavalent (and compounds)	18540299	5.78E-06	8.31E-11	4.99E-07	6.28E-08
Arsenic and Compounds (inorganic)	7440382	9.25E-05	1.33E-09	7.98E-06	1.01E-06
Cadmium	7440439	8.67E-05	1.25E-09	7.48E-06	9.42E-07
Methylene chloride {Dichloromethane}	75092	9.55E+00	1.37E-04	1.09E-03	1.37E-04
Methanol	67561	1.60E+02	2.31E-03	3.68E-02	4.64E-03
Acetaldehyde	75070	4.97E+02	7.15E-03	1.15E-01	1.45E-02
Ethyl benzene	100414	7.81E+01	1.12E-03	4.95E-03	6.23E-04
Toluene	108883	2.49E+02	3.58E-03	1.43E-02	1.80E-03
Ammonia	7664417	2.39E+02	3.43E-03	4.66E-02	5.87E-03
1,2,4-Trimethylbenzene	95636	6.51E+01	9.36E-04	4.08E-03	5.14E-04
Hexane	110543	1.15E+02	1.65E-03	6.61E-03	8.33E-04
Diesel Exhaust Particulates	9901	1.94E+00	2.79E-05	1.67E-01	2.10E-02
m-Xylene	108383	2.47E+02	3.56E-03	1.73E-02	2.18E-03
Chlorine	7782505	3.54E-01	5.09E-06	3.06E-04	3.85E-05

1. PAHs for Main Unit 6 (D14), Main Unit 8 (D16), and Main Unit 9 (D17) were speciated. PAHs for all other units were calculated under "PAHs, total, w/o individ. components reported" which excludes naphthalene.

4.0 EMISSIONS INVENTORY DEVELOPMENT

The AB2588 program requires the quantification of annual average and maximum hourly emissions for each substance at each relevant emissions source. The pollutant emissions were quantified based on the process knowledge of the facility staff, source tests, material throughput, permitted process limits, and industry specific emission factors. Table 5 provides a list of the emission sources and associated estimation methodologies. Appendix A provides a table of the emissions from each source and substance. Further descriptions of the emission sources and assumptions made in the calculations are provided in Section 4.1.

Table 5 Summary of Emission Estimation Methodology Used by Source

SCAQMD Device ID	Source Description	SCAQMD Default E.F.	EPA Tanks	Source Test[1]	Material Safety Data Sheet	Engineering Evaluation[2]
D1	ICE, Emergency, Natural Gas, Waukesha, Model H-2476-GU, 348 HP with Generator	X				
D2	ICE, Emergency, Natural Gas, Waukesha, Model 145-GZB, 110 HP with Generator	X				
D7	ICE, Emergency, Natural Gas, Caterpillar, Model 3306NG, 93 HP with Pump	X				
D14	ICE, Non-Emergency, 2SLB with Insulated Ducts And Catalyst Housing, 6CB, Natural Gas, Cooper-Bessemer, Model GMVH-10, 2000 HP with Compressor	X				
D16	ICE, Non-Emergency, 2SLB, with Insulated Ducts And Catalyst Housing, 8CB, Natural Gas, Cooper-Bessemer, Model GMVH-10, 2000 HP with Compressor	X				
D17	ICE, Non-Emergency, 2SLB, with Insulated Ducts And Catalyst Housing, 9CB, Natural Gas, Cooper-Bessemer, Model GMVH-10, 2000 HP with Compressor	X				

SCAQMD Device ID	Source Description	SCAQMD Default E.F.	EPA Tanks	Source Test[1]	Material Safety Data Sheet	Engineering Evaluation[2]
D135	ICE, Emergency, Diesel, John Deere, Model 4045TF150, 99 HP with Generator	X				
D145	Heater, H-340A, Glycol Regeneration, Natural Gas, American Heating Company, Model AHE-500-LN, with Low NOX Burner, 5.2 MMBTU/hr with Burner	X				
C131	Incinerator, King, Buck & Associates, Model MMC-5, 150 SCFM Capacity, Natural Gas, with Supplemental Gas-Firing and Fully Modulating Automatic Control System, 1 MMBTU/hr with Compressor	X				
D125	Loading Arm			X		X
D79	Storage Tank, Fixed Roof, TK-3, Off-Spec Oil, 2000 BBL		X			
D80	Storage Tank, Fixed Roof, TK-4A, Crude Oil, 2000 BBL		X			
D81	Storage Tank, Fixed Roof, TK-4B, Crude Oil, 2000 BBL		X			
D82	Storage Tank, Fixed Roof, TK-4C, Crude Oil, Vented To Vapor Recovery System, 2000 BBL		X			
D84	Storage Tank, Fixed Roof, TK-6, Slop, 200 BBL		X			
D83	Storage Tank, Fixed Roof, TK-5, Condensate, 500 BBL		X			
D68	Tank, Wash, TK-1B, 1000 BBL		X			
D67	Tank, Wash, TK-1A, 1000 BBL		X			
D78	Tank, Surge, TK-2, Wastewater, 1000 BBL		X			
D77	Tank, Surge, TK-12, Wastewater, 2000 BBL		X			

SCAQMD Device ID	Source Description	SCAQMD Default E.F.	EPA Tanks	Source Test[1]	Material Safety Data Sheet	Engineering Evaluation[2]
E127	Building AC & Heat[3]	X				
E153	Dehy Hot Oil Heater	X				
EXEMPT	Air Compressor 400	X				
EXEMPT	Air Compressor 120	X				
EXEMPT	Air Compressor (E-29) – Grease Truck	X				
EXEMPT	Air Compressor (E-30) – Grease Truck	X				
EXEMPT	Natural Gas Venting					X
Various	Fugitive Emissions (Evaporative Losses and Leaks from Various Components)	X				X
EXEMPT	Solvent Cleaners and Organic Solvents Used for Maintenance Purposes				X	
EXEMPT	Wastewater Sump	X				

2SLB = 2 Stroke Lean Burn
E.F. = Emission Factor
ICE = Internal Combustion Engine
EPA = United State Environmental Protection Agency
SCAQMD = South Coast Air Quality Management District
1. Benzene source test values were used for loading arm. Source test VOC values multiplied by default SCAQMD weight fraction for crude oil for loading arm (see section 4.1.3).
2. For natural gas venting, refer to section 4.1.5. and appendix C.
3. Building AC & Heater is equivalent to the space/water heater (AQMD Device ID: E127)

4.1 EMISSION SOURCE METHODOLOGIES

The following sections provide the methodologies used to estimate emissions from the emission sources.

4.1.1 Internal Combustion Engines

Emissions from engines that assist in natural gas and air compression, natural gas injection, and emergency generator power result from fuel combustion.

Default SCAQMD emission factors were used to estimate toxic emissions from these equipment. None of the engines are connected to a SCR or SNCR and therefore, default values of ammonia were used. Maximum hourly emissions were estimated by multiplying the maximum hourly design rate at full load for each engine with the appropriate emission factor and dividing by the fuel appropriate higher heating value (HHV). Annual emissions were based on the fuel usage data from SCAQMD 2015 AER software. Diesel Particulate Matter (DPM) was included as a TAC for the diesel-fueled engine.

As mentioned in the *Initial Information for ATIR: SoCalGas (Facility ID #8582)*, emission factors for natural gas combustion in these engines do not contain chlorine constituents. The natural gas, 2 stroke-lean burn reciprocating IC engines are equipped with BASF Camet oxidation catalysts that provide 80% control of formaldehyde. The emission factors for Main Unit 6 (D14), Main Unit 8 (D16), and Main Unit 9 (D17) were adjusted to reflect the emission control for formaldehyde before importing them into the Emission Inventory Module (EIM).

4.1.2 External Combustion Equipment

Combustion emissions from heaters and a thermal oxidizer were calculated by multiplying the annual fuel usage with the fuel type appropriate emission factor. Fuel usage data were obtained from SCAQMD 2015 AER software. Emission factors were based on SCAQMD default emission factors. None of the engines are connected to a SCR or SNCR and therefore, default values of ammonia were used.

The air conditioning and heating unit emissions vent inside the compressor building. As such, the compressor building was divided into six square portions where three of them are each 22.63% of the total building area (64 feet by 64 feet) and the other three are 10.7% each (44 feet by 44 feet). The total emissions reported in the SCAQMD 2015 AER software was then multiplied by their respective ratio to accurately represent the emissions from each volume source.

4.1.3 Bulk Loading Arm

Bulk loading of crude oil can result in air toxic emissions. Loading losses are the primary source of evaporative emissions that occur as organic vapors in "empty" tank trucks are displaced to the atmosphere by the liquid being loaded into the tanks. The loading arm for crude oil is connected to a thermal oxidizer. Air emissions from bulk loading of crude oil were calculated using the total volume

of crude oil loaded, VOC emission factor from source test, and default SCAQMD chemical speciation data.

The emission factors for loading from the source test were used to calculate total VOC emissions. The VOCs were speciated using the default chemical speciation for crude oil from the SCAQMD 2015 AER software. The following equation was used to calculate annual emissions from bulk loading:

$$AE_i = EF_{VOC} \times Q_A \times \frac{C_i}{100}$$

where:

AE_i = Annual emission of chemical *i*, pounds per year (lb/yr)

EF_{VOC} = VOC emission factor, pounds per thousand barrels (lb/Mgal)

Q_A = Annual loading rate, Mgal/yr

C_i = Wt. % of chemical *i* in crude oil stream

Maximum hourly emissions were estimated by multiplying the total VOC emission factor, the weight percentage of the speciated chemical, and the loading rate permit limit:

$$MHE_i = EF_{VOC} \times \frac{C_i}{100} \times PL \times \frac{12\frac{months}{year}}{(8760\frac{hours}{year} \times 1{,}000\frac{gals}{Mgal})}$$

where:

MHE_i = Maximum hourly emission of chemical *i*, pounds (lb/hr)

EF_{VOC} = VOC emission factor, pounds per thousand gallons (lb/Mgal)

C_i = Wt. % of chemical *i* in crude oil stream

PL = Permit limit condition of loading rate of no more than 800,000 gals/month

4.1.4 Fixed Roof Storage Tanks

Storage tank emissions were calculated using the method outlined in EPA's AP-42 Chapter 7.1 using EPA's TANKS program. Total VOC emissions were calculated using AP-42 equations. Emissions of individual toxic chemicals were

then calculated using the default chemical speciation for crude oil (RVP 5) from the SCAQMD 2015 AER software and EPA's TANKS program.

Emissions from fixed roof tanks were calculated using the following equations:

AE_i (lb/yr) = Total losses = Working losses (WL) + Breathing losses (BL)

$$WL_i = 0.001 \times M_V \times P \times Q \times K_n \times K_p \times \left(\frac{C_{vi}}{100}\right) \times \left\{1 - \left(\frac{CE}{100}\right)\right\}$$

$$BL_i = 365 \times V_v \times W_v \times K_e \times K_s \times OF \times \left(\frac{C_{vi}}{100}\right) \times \left\{1 - \left(\frac{CE}{100}\right)\right\}$$

where:

AE_i = Annual emission of chemical *i*, pounds per year (lb/yr)
M_v = Vapor molecular weight, lb/lb-mol
P = Vapor pressure, psia
Q = Yearly process rate, bbl/yr
K_n = Turnover factor, dimensionless
K_p = Product factor, dimensionless
V_v = Vapor space volume, ft^3 (based on tank size)
W_v = Vapor density, lb/ft^3 (based on material properties)
K_e = Vapor space expansion factor, dimensionless (based on daily temperature, pressure variations)
K_s = Vented vapor saturation factor, dimensionless (based on material pressure and tank size)
OF = Fraction of year tank is in use, fraction
C_{vi} = Chemical *i* vapor weight fraction based on Raoult's Law, wt. %
CE = Control efficiency of vapor recovery unit, %

Maximum hourly emissions were calculated by dividing the annual emission by the annual operating hours. A copy of the EPA's TANKS file can be found in Appendix C.

4.1.5 Natural Gas Venting

Natural gas venting occurs during the course of routine operation and maintenance of equipment. Since the start of 2018, the facility no longer routes natural gas to the blowdown vent stack, for routine natural gas venting and the primary function of the blowdown vent stack is for emergency station shutdown.

The facility has shifted its operational venting practices to permitted portable carbon canisters that are used at the specific site of venting. Specifically, the practice that is now in place is as follows: Prior to conducting natural gas venting activities, and if feasible, the facility depressurizes the system to a distribution line to reduce the volume of natural gas vented. Next, the process vent line/valve that will vent natural gas is routed to permitted portable carbon canisters. Use of the carbon canisters minimizes the emissions associated with natural gas venting.

Emissions from this operation were calculated using emission factors for benzene derived from a laboratory analysis and Material Safety Data Sheet (MSDS) for natural gas. Annual emissions were based on the amount of natural gas fuel vented in 2018. Maximum hourly emissions were estimated by dividing the annual emissions by the annual operating hours. The associated benzene emissions were minimized with the use of carbon canisters. A 60% control of benzene emissions was applied for the use of the carbon canisters. The 60% control efficiency is based on the lower end of the range provided in Table 7.1 of California Air Resources Board (CARB) documents for Emission Control Techniques (see snapshot provided below). Based on this CARB table, VOC with molecular weights between 50 and 150 Daltons would have an actual control efficiency of 60-95%. The molecular weight of benzene is 78 Daltons and the carbon control efficiency for benzene is anticipated to be 60-95%.

The supporting documentation mentioned above can be found in Appendix C.

Table 7.1
Summary of recommended stream characteristics and efficiencies for regenerable carbon adsorption technique given by EPA [1989], EPA [1986] and EPA [1992].

Emission stream concentration	< 700 ppmv
Flow rate moisture	< 50%
Recommended temperature	< 150°F[a]
Molecular weight of VOC	50-150 Daltons
Actual efficiency	60-95% [b]

[a]At temperatures below 150°F, carbon adsorption works efficiently even if there are variations in the temperature.
[b]depending on the stream concentration.

4.1.6 Wastewater Sump

Emissions from sumps are the result of fugitive emissions and this annual activity occurs uniformly throughout the year. Default SCAQMD emission factor for clean-out sumps were used to estimate the emissions from the wastewater sump. Annual emissions were estimated by multiplying the surface area of the sump in square feet with SCAQMD's default emission factor and chemical speciation for crude oil. Maximum hourly emissions were determined by dividing the annual emissions by the annual operating hours.

4.1.7 Organic Solvents

SoCalGas uses several VOC-based solvents for cleaning and maintenance purposes. The emissions from VOC-based solvents were determined by multiplying the annual solvent usage by the TAC content of the solvent which was based on the Material Safety Data Sheet (MSDS) of the material. Maximum hourly emissions were estimated by dividing the annual emissions by the annual operating hours. The emissions that were previously submitted in the *Initial Information for ATIR: SoCalGas (Facility ID #8582)* for the chemicals RAMCO Attack II and NexGen95 have been omitted from the ATIR. The MSDS for both chemicals did not list any of the AB2588 TACs.

4.1.8 Fugitive Emissions

Fugitive emissions occur due to leaks of organic compounds from various components (i.e., flanges, valves, connectors, pressure relief devices) on equipment throughout the facility. The annual emissions were calculated by multiplying the component counts with the default emission factors and crude oil speciation from the SCAQMD 2015 AER software. Fugitive emissions are continuous. Therefore, maximum hourly emissions were estimated by dividing the annual emissions by the 8,760 hours.

5.0 SUMMARY OF EMISSION ESTIMATES

The summary of emissions for each relevant source is presented in Appendix A. Appendix B contains site map figures showing this facility and location of the sources. Appendix C contains the Safety Data Sheets, source test report, EPA's TANKS emissions file, and other supporting documents. A signed copy of the AB2588 Air Toxics Document Certification & Application Form can be found in Appendix D. The electronic files of the detailed ATIR using the HARP software (EIM) have been included in the CD.

6.0 REFERENCES

California Air Resources Board (ARB). 2017. *HARP2 Version 2.1.0. AB 2588 Air Toxics "Hot Spots" Program*. Sacramento, California 95812.September.

Office of Environmental Health Hazard Assessment (OEHHA). 2015. *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. September.

South Coast Air Quality Management District (SCAQMD). 2016a. *Supplemental Guidelines for Preparing Risk Assessments and Risk Reduction Plan for the Air Toxics "Hot Spots" Information and Assessment Act*. September.

South Coast Air Quality Management District (SCAQMD). 2016b. *Rule 1402 – Control of Toxic Air Contaminants from Existing Sources*. September.

United States Environmental Protection Agency (EPA). 1995. AP 42, Volume I, Fifth Edition, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources.

Appendix A -
Summary of TAC Emissions by Source

Appendix A - Summary of TAC Emissions by Source

Sources									Throughput		Emission Factors					Emissions Calculation	
Stack ID	Device ID	PROID	Device ID/ Application No.	AER Device ID	AQMD Device ID	Source Name	Design Capacity (HP)	Design Capacity (MMBtu/hr)	Throughput	Throughput Unit	CAS	Pollutant	EF	EF Units	Basis for Emissions	Max. Hourly Emissions (lb/hr)	Average Annual Emissions (lb/yr)
1	10	100	198433	ES1	D1	Emergency ICE 348HP NG	348	2.84	0.07	mmscf	50000	Formaldehyde	20.91	lbs/mmscf	AQMD Default for Natural Gas IC Engines	5.77E-02	1.55E+00
1	10	100	198433	ES1	D1	Emergency ICE 348HP NG	348	2.84	0.07	mmscf	67561	Methanol	3.1212	lbs/mmscf	AQMD Default for Natural Gas IC Engines	8.61E-03	2.31E-01
1	10	100	198433	ES1	D1	Emergency ICE 348HP NG	348	2.84	0.07	mmscf	71432	Benzene	1.6116	lbs/mmscf	AQMD Default for Natural Gas IC Engines	4.45E-03	1.19E-01
1	10	100	198433	ES1	D1	Emergency ICE 348HP NG	348	2.84	0.07	mmscf	75070	Acetaldehyde	2.8458	lbs/mmscf	AQMD Default for Natural Gas IC Engines	7.85E-03	2.11E-01
1	10	100	198433	ES1	D1	Emergency ICE 348HP NG	348	2.84	0.07	mmscf	91203	Naphthalene [PAH, POM]	0.099042	lbs/mmscf	AQMD Default for Natural Gas IC Engines	2.73E-04	7.33E-03
1	10	100	198433	ES1	D1	Emergency ICE 348HP NG	348	2.84	0.07	mmscf	100414	Ethyl benzene	0.025296	lbs/mmscf	AQMD Default for Natural Gas IC Engines	6.98E-05	1.87E-03
1	10	100	198433	ES1	D1	Emergency ICE 348HP NG	348	2.84	0.07	mmscf	106934	Ethylene dibromide {1,2-Dibromoethane}	0.021726	lbs/mmscf	AQMD Default for Natural Gas IC Engines	5.99E-05	1.61E-03
1	10	100	198433	ES1	D1	Emergency ICE 348HP NG	348	2.84	0.07	mmscf	106990	Butadiene [1,3]	0.67626	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.87E-03	5.00E-02
1	10	100	198433	ES1	D1	Emergency ICE 348HP NG	348	2.84	0.07	mmscf	108883	Toluene	0.56916	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.57E-03	4.21E-02
1	10	100	198433	ES1	D1	Emergency ICE 348HP NG	348	2.84	0.07	mmscf	7664417	Ammonia	3.2	lbs/mmscf	AQMD default EF for equipment without SNCR or SCR	8.83E-03	2.37E-01
2	20	200	198434	ES2	D2	Emergency ICE 110HP NG	110	0.94	0.01	mmscf	50000	Formaldehyde	20.91	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.91E-02	1.55E-01
2	20	200	198434	ES2	D2	Emergency ICE 110HP NG	110	0.94	0.01	mmscf	67561	Methanol	3.1212	lbs/mmscf	AQMD Default for Natural Gas IC Engines	2.86E-03	2.31E-02
2	20	200	198434	ES2	D2	Emergency ICE 110HP NG	110	0.94	0.01	mmscf	71432	Benzene	1.6116	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.47E-03	1.19E-02
2	20	200	198434	ES2	D2	Emergency ICE 110HP NG	110	0.94	0.01	mmscf	75070	Acetaldehyde	2.8458	lbs/mmscf	AQMD Default for Natural Gas IC Engines	2.60E-03	2.11E-02
2	20	200	198434	ES2	D2	Emergency ICE 110HP NG	110	0.94	0.01	mmscf	91203	Naphthalene [PAH, POM]	0.099042	lbs/mmscf	AQMD Default for Natural Gas IC Engines	9.06E-05	7.33E-04
2	20	200	198434	ES2	D2	Emergency ICE 110HP NG	110	0.94	0.01	mmscf	100414	Ethyl benzene	0.025296	lbs/mmscf	AQMD Default for Natural Gas IC Engines	2.31E-05	1.87E-04
2	20	200	198434	ES2	D2	Emergency ICE 110HP NG	110	0.94	0.01	mmscf	106934	Ethylene dibromide {1,2-Dibromoethane}	0.021726	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.99E-05	1.61E-04
2	20	200	198434	ES2	D2	Emergency ICE 110HP NG	110	0.94	0.01	mmscf	106990	Butadiene [1,3]	0.67626	lbs/mmscf	AQMD Default for Natural Gas IC Engines	6.19E-04	5.00E-03
2	20	200	198434	ES2	D2	Emergency ICE 110HP NG	110	0.94	0.01	mmscf	108883	Toluene	0.56916	lbs/mmscf	AQMD Default for Natural Gas IC Engines	5.21E-04	4.21E-03
2	20	200	198434	ES2	D2	Emergency ICE 110HP NG	110	0.94	0.01	mmscf	7664417	Ammonia	3.2	lbs/mmscf	AQMD default EF for equipment without SNCR or SCR	2.93E-03	2.37E-02
3	30	300	198424	ES3	D7	Emergency ICE Fire Pump 93HP NG	93	0.69	0.01	mmscf	50000	Formaldehyde	20.91	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.41E-02	1.11E-01
3	30	300	198424	ES3	D7	Emergency ICE Fire Pump 93HP NG	93	0.69	0.01	mmscf	67561	Methanol	3.1212	lbs/mmscf	AQMD Default for Natural Gas IC Engines	2.11E-03	1.65E-02
3	30	300	198424	ES3	D7	Emergency ICE Fire Pump 93HP NG	93	0.69	0.01	mmscf	71432	Benzene	1.6116	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.09E-03	8.54E-03
3	30	300	198424	ES3	D7	Emergency ICE Fire Pump 93HP NG	93	0.69	0.01	mmscf	75070	Acetaldehyde	2.8458	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.92E-03	1.51E-02
3	30	300	198424	ES3	D7	Emergency ICE Fire Pump 93HP NG	93	0.69	0.01	mmscf	91203	Naphthalene [PAH, POM]	0.099042	lbs/mmscf	AQMD Default for Natural Gas IC Engines	6.69E-05	5.25E-04
3	30	300	198424	ES3	D7	Emergency ICE Fire Pump 93HP NG	93	0.69	0.01	mmscf	100414	Ethyl benzene	0.025296	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.71E-05	1.34E-04
3	30	300	198424	ES3	D7	Emergency ICE Fire Pump 93HP NG	93	0.69	0.01	mmscf	106934	Ethylene dibromide {1,2-Dibromoethane}	0.021726	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.47E-05	1.15E-04
3	30	300	198424	ES3	D7	Emergency ICE Fire Pump 93HP NG	93	0.69	0.01	mmscf	106990	Butadiene [1,3]	0.67626	lbs/mmscf	AQMD Default for Natural Gas IC Engines	4.57E-04	3.58E-03
3	30	300	198424	ES3	D7	Emergency ICE Fire Pump 93HP NG	93	0.69	0.01	mmscf	108883	Toluene	0.56916	lbs/mmscf	AQMD Default for Natural Gas IC Engines	3.85E-04	3.02E-03
3	30	300	198424	ES3	D7	Emergency ICE Fire Pump 93HP NG	93	0.69	0.01	mmscf	7664417	Ammonia	3.2	lbs/mmscf	AQMD default EF for equipment without SNCR or SCR	2.16E-03	1.70E-02

Appendix A - Summary of TAC Emissions by Source

Sources									Throughput		Emission Factors					Emissions Calculation	
Stack ID	Device ID	PROID	Device ID/ Application No.	AER Device ID	AQMD Device ID	Source Name	Design Capacity (HP)	Design Capacity (MMBtu/hr)	Throughput	Throughput Unit	CAS	Pollutant	EF	EF Units	Basis for Emissions	Max. Hourly Emissions (lb/hr)	Average Annual Emissions (lb/yr)
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.603	mmscf	50000	Formaldehyde	11.2608	lbs/mmscf	AQMD Default for Natural Gas IC Engines * (1-0.8)	1.64E-01	2.88E+02
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	50328	Benzo[a]pyrene [PAH, POM]	5.7936E-06	lbs/mmscf	AQMD Default for Natural Gas IC Engines	8.44E-08	1.48E-04
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	56553	Benz[a]anthracene [PAH, POM]	0.00034272	lbs/mmscf	AQMD Default for Natural Gas IC Engines	4.99E-06	8.77E-03
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	67561	Methanol	2.5296	lbs/mmscf	AQMD Default for Natural Gas IC Engines	3.68E-02	6.48E+01
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	71432	Benzene	1.9788	lbs/mmscf	AQMD Default for Natural Gas IC Engines	2.88E-02	5.07E+01
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	75070	Acetaldehyde	7.9152	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.15E-01	2.03E+02
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	83329	Acenaphthene [PAH, POM]	0.0013566	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.98E-05	3.47E-02
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	85018	Phenanthrene [PAH, POM]	0.0036006	lbs/mmscf	AQMD Default for Natural Gas IC Engines	5.24E-05	9.22E-02
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	86737	Fluorene [PAH, POM]	0.0017238	lbs/mmscf	AQMD Default for Natural Gas IC Engines	2.51E-05	4.41E-02
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	91203	Naphthalene [PAH, POM]	0.098226	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.43E-03	2.51E+00
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	91576	2-Methyl naphthalene [PAH, POM]	0.021828	lbs/mmscf	AQMD Default for Natural Gas IC Engines	3.18E-04	5.59E-01
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	95636	1,2,4-Trimethylbenzene	0.11322	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.65E-03	2.90E+00
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	100414	Ethyl benzene	0.11016	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.60E-03	2.82E+00
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	106934	Ethylene dibromide {1,2-Dibromoethane}	0.074868	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.09E-03	1.92E+00
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	106990	Butadiene [1,3]	0.8364	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.22E-02	2.14E+01
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	108883	Toluene	0.98226	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.43E-02	2.51E+01
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	110543	Hexane	0.4539	lbs/mmscf	AQMD Default for Natural Gas IC Engines	6.61E-03	1.16E+01
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	120127	Anthracene [PAH, POM]	0.00073236	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.07E-05	1.88E-02
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	129000	Pyrene [PAH, POM]	0.00059568	lbs/mmscf	AQMD Default for Natural Gas IC Engines	8.68E-06	1.53E-02
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	191242	Benzo[g,h,i]perylene [PAH, POM]	0.000025296	lbs/mmscf	AQMD Default for Natural Gas IC Engines	3.68E-07	6.48E-04
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	192972	Benzo[e]pyrene [PAH, POM]	0.000023868	lbs/mmscf	AQMD Default for Natural Gas IC Engines	3.48E-07	6.11E-04
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	193395	Indeno[1,2,3-cd]pyrene [PAH, POM]	1.01286E-05	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.48E-07	2.59E-04
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	198550	Perylene [PAH, POM]	5.0694E-06	lbs/mmscf	AQMD Default for Natural Gas IC Engines	7.38E-08	1.30E-04
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	205992	Benzo[b]fluoranthene [PAH, POM]	8.6802E-06	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.26E-07	2.22E-04
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	206440	Fluoranthene [PAH, POM]	0.00036822	lbs/mmscf	AQMD Default for Natural Gas IC Engines	5.36E-06	9.43E-03
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	207089	Benzo[k]fluoranthene [PAH, POM]	4.3452E-06	lbs/mmscf	AQMD Default for Natural Gas IC Engines	6.33E-08	1.11E-04
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	208968	Acenaphthylene [PAH, POM]	0.0032334	lbs/mmscf	AQMD Default for Natural Gas IC Engines	4.71E-05	8.28E-02
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	218019	Chrysene [PAH, POM]	0.00068544	lbs/mmscf	AQMD Default for Natural Gas IC Engines	9.98E-06	1.75E-02
4	40	400	539154	ES4	D14	ICE Main Unit 6 2000HP NG	2000	14.97	25.60	mmscf	7664417	Ammonia	3.2	lbs/mmscf	AQMD default EF for equipment without SNCR or SCR	4.66E-02	8.19E+01
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	50000	Formaldehyde	11.2608	lbs/mmscf	AQMD Default for Natural Gas IC Engines * (1-0.8)	1.54E-01	2.02E+02

Appendix A - Summary of TAC Emissions by Source

Sources									Throughput		Emission Factors					Emissions Calculation	
Stack ID	Device ID	PROID	Device ID/ Application No.	AER Device ID	AQMD Device ID	Source Name	Design Capacity (HP)	Design Capacity (MMBtu/hr)	Throughput	Throughput Unit	CAS	Pollutant	EF	EF Units	Basis for Emissions	Max. Hourly Emissions (lb/hr)	Average Annual Emissions (lb/yr)
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	50328	Benzo[a]pyrene [PAH, POM]	5.7936E-06	lbs/mmscf	AQMD Default for Natural Gas IC Engines	7.91E-08	1.04E-04
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	56553	Benz[a]anthracene [PAH, POM]	0.00034272	lbs/mmscf	AQMD Default for Natural Gas IC Engines	4.68E-06	6.14E-03
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	67561	Methanol	2.5296	lbs/mmscf	AQMD Default for Natural Gas IC Engines	3.45E-02	4.53E+01
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	71432	Benzene	1.9788	lbs/mmscf	AQMD Default for Natural Gas IC Engines	2.70E-02	3.54E+01
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	75070	Acetaldehyde	7.9152	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.08E-01	1.42E+02
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	83329	Acenaphthene [PAH, POM]	0.0013566	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.85E-05	2.43E-02
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	85018	Phenanthrene [PAH, POM]	0.0036006	lbs/mmscf	AQMD Default for Natural Gas IC Engines	4.92E-05	6.45E-02
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	86737	Fluorene [PAH, POM]	0.0017238	lbs/mmscf	AQMD Default for Natural Gas IC Engines	2.35E-05	3.09E-02
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	91203	Naphthalene [PAH, POM]	0.098226	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.34E-03	1.76E+00
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	91576	2-Methyl naphthalene [PAH, POM]	0.021828	lbs/mmscf	AQMD Default for Natural Gas IC Engines	2.98E-04	3.91E-01
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	95636	1,2,4-Trimethylbenzene	0.11322	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.55E-03	2.03E+00
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	100414	Ethyl benzene	0.11016	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.50E-03	1.97E+00
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	106934	Ethylene dibromide {1,2-Dibromoethane}	0.074868	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.02E-03	1.34E+00
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	106990	Butadiene [1,3]	0.8364	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.14E-02	1.50E+01
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	108883	Toluene	0.98226	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.34E-02	1.76E+01
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	110543	Hexane	0.4539	lbs/mmscf	AQMD Default for Natural Gas IC Engines	6.20E-03	8.13E+00
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	120127	Anthracene [PAH, POM]	0.00073236	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.00E-05	1.31E-02
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	129000	Pyrene [PAH, POM]	0.00059568	lbs/mmscf	AQMD Default for Natural Gas IC Engines	8.14E-06	1.07E-02
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	191242	Benzo[g,h,i]perylene [PAH, POM]	0.000025296	lbs/mmscf	AQMD Default for Natural Gas IC Engines	3.45E-07	4.53E-04
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	192972	Benzo[e]pyrene [PAH, POM]	0.000023868	lbs/mmscf	AQMD Default for Natural Gas IC Engines	3.26E-07	4.28E-04
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	193395	Indeno[1,2,3-cd]pyrene [PAH, POM]	1.01286E-05	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.38E-07	1.81E-04
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	198550	Perylene [PAH, POM]	5.0694E-06	lbs/mmscf	AQMD Default for Natural Gas IC Engines	6.92E-08	9.08E-05
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	205992	Benzo[b]fluoranthene [PAH, POM]	8.6802E-06	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.19E-07	1.55E-04
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	206440	Fluoranthene [PAH, POM]	0.00036822	lbs/mmscf	AQMD Default for Natural Gas IC Engines	5.03E-06	6.60E-03
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	207089	Benzo[k]fluoranthene [PAH, POM]	4.3452E-06	lbs/mmscf	AQMD Default for Natural Gas IC Engines	5.93E-08	7.78E-05
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	208968	Acenaphthylene [PAH, POM]	0.0032334	lbs/mmscf	AQMD Default for Natural Gas IC Engines	4.42E-05	5.79E-02
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	218019	Chrysene [PAH, POM]	0.00068544	lbs/mmscf	AQMD Default for Natural Gas IC Engines	9.36E-06	1.23E-02
5	50	500	539155	ES5	D16	ICE Main Unit 8 2000HP NG	2000	14.04	17.91	mmscf	7664417	Ammonia	3.2	lbs/mmscf	AQMD default EF for equipment without SNCR or SCR	4.37E-02	5.73E+01
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	50000	Formaldehyde	11.2608	lbs/mmscf	AQMD Default for Natural Gas IC Engines * (1-0.8)	1.61E-01	2.16E+02
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	50328	Benzo[a]pyrene [PAH, POM]	5.7936E-06	lbs/mmscf	AQMD Default for Natural Gas IC Engines	8.31E-08	1.11E-04

Appendix A - Summary of TAC Emissions by Source

Sources									Throughput		Emission Factors					Emissions Calculation	
Stack ID	Device ID	PROID	Device ID/ Application No.	AER Device ID	AQMD Device ID	Source Name	Design Capacity (HP)	Design Capacity (MMBtu/hr)	Throughput	Throughput Unit	CAS	Pollutant	EF	EF Units	Basis for Emissions	Max. Hourly Emissions (lb/hr)	Average Annual Emissions (lb/yr)
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	56553	Benz[a]anthracene [PAH, POM]	0.00034272	lbs/mmscf	AQMD Default for Natural Gas IC Engines	4.92E-06	6.57E-03
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	67561	Methanol	2.5296	lbs/mmscf	AQMD Default for Natural Gas IC Engines	3.63E-02	4.85E+01
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	71432	Benzene	1.9788	lbs/mmscf	AQMD Default for Natural Gas IC Engines	2.84E-02	3.80E+01
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	75070	Acetaldehyde	7.9152	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.14E-01	1.52E+02
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	83329	Acenaphthene [PAH, POM]	0.0013566	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.95E-05	2.60E-02
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	85018	Phenanthrene [PAH, POM]	0.0036006	lbs/mmscf	AQMD Default for Natural Gas IC Engines	5.16E-05	6.91E-02
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	86737	Fluorene [PAH, POM]	0.0017238	lbs/mmscf	AQMD Default for Natural Gas IC Engines	2.47E-05	3.31E-02
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	91203	Naphthalene [PAH, POM]	0.098226	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.41E-03	1.88E+00
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	91576	2-Methyl naphthalene [PAH, POM]	0.021828	lbs/mmscf	AQMD Default for Natural Gas IC Engines	3.13E-04	4.19E-01
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	95636	1,2,4-Trimethylbenzene	0.11322	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.62E-03	2.17E+00
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	100414	Ethyl benzene	0.11016	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.58E-03	2.11E+00
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	106934	Ethylene dibromide {1,2-Dibromoethane}	0.074868	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.07E-03	1.44E+00
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	106990	Butadiene [1,3]	0.8364	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.20E-02	1.60E+01
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	108883	Toluene	0.98226	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.41E-02	1.88E+01
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	110543	Hexane	0.4539	lbs/mmscf	AQMD Default for Natural Gas IC Engines	6.51E-03	8.71E+00
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	120127	Anthracene [PAH, POM]	0.00073236	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.05E-05	1.40E-02
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	129000	Pyrene [PAH, POM]	0.00059568	lbs/mmscf	AQMD Default for Natural Gas IC Engines	8.54E-06	1.14E-02
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	191242	Benzo[g,h,i]perylene [PAH, POM]	0.000025296	lbs/mmscf	AQMD Default for Natural Gas IC Engines	3.63E-07	4.85E-04
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	192972	Benzo[e]pyrene [PAH, POM]	0.000023868	lbs/mmscf	AQMD Default for Natural Gas IC Engines	3.42E-07	4.58E-04
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	193395	Indeno[1,2,3-cd]pyrene [PAH, POM]	1.01286E-05	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.45E-07	1.94E-04
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	198550	Perylene [PAH, POM]	5.0694E-06	lbs/mmscf	AQMD Default for Natural Gas IC Engines	7.27E-08	9.72E-05
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	205992	Benzo[b]fluoranthene [PAH, POM]	8.6802E-06	lbs/mmscf	AQMD Default for Natural Gas IC Engines	1.24E-07	1.66E-04
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	206440	Fluoranthene [PAH, POM]	0.00036822	lbs/mmscf	AQMD Default for Natural Gas IC Engines	5.28E-06	7.06E-03
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	207089	Benzo[k]fluoranthene [PAH, POM]	4.3452E-06	lbs/mmscf	AQMD Default for Natural Gas IC Engines	6.23E-08	8.33E-05
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	208968	Acenaphthylene [PAH, POM]	0.0032334	lbs/mmscf	AQMD Default for Natural Gas IC Engines	4.64E-05	6.20E-02
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	218019	Chrysene [PAH, POM]	0.00068544	lbs/mmscf	AQMD Default for Natural Gas IC Engines	9.83E-06	1.31E-02
6	60	600	539156	ES6	D17	ICE Main Unit 9 2000HP NG	2000	14.74	19.18	mmscf	7664417	Ammonia	3.2	lbs/mmscf	AQMD default EF for equipment without SNCR or SCR	4.59E-02	6.14E+01
7	70	700	404783	ES7	D135	Emergency ICE 99HP Diesel	99	0.69	0.0578	M gal	9901	Diesel exhaust particulates	33.5	lbs/M gal	AQMD Default for Diesel IC Engines	1.67E-01	1.94E+00
7	70	700	404783	ES7	D135	Emergency ICE 99HP Diesel	99	0.69	0.06	M gal	7664417	Ammonia	0.8	lbs/M gal	AQMD default EF for equipment without SNCR or SCR	3.99E-03	4.62E-02
7	70	700	404783	ES7	D135	Emergency ICE 99HP Diesel	99	0.69	0.06	M gal	1151	PAHs, total, w/o individ. components reported [PAH, POM]	0.0362	lbs/M gal	AQMD Default for Diesel IC Engines	1.80E-04	2.09E-03

Appendix A - Summary of TAC Emissions by Source

Sources									Throughput		Emission Factors					Emissions Calculation	
Stack ID	Device ID	PROID	Device ID/ Application No.	AER Device ID	AQMD Device ID	Source Name	Design Capacity (HP)	Design Capacity (MMBtu/hr)	Throughput	Throughput Unit	CAS	Pollutant	EF	EF Units	Basis for Emissions	Max. Hourly Emissions (lb/hr)	Average Annual Emissions (lb/yr)
7	70	700	404783	ES7	D135	Emergency ICE 99HP Diesel	99	0.69	0.06	M gal	91203	Naphthalene [PAH, POM]	0.0197	lbs/M gal	AQMD Default for Diesel IC Engines	9.82E-05	1.14E-03
7	70	700	404783	ES7	D135	Emergency ICE 99HP Diesel	99	0.69	0.06	M gal	7439921	Lead compounds (inorganic)	0.0083	lbs/M gal	AQMD Default for Diesel IC Engines	4.14E-05	4.80E-04
7	70	700	404783	ES7	D135	Emergency ICE 99HP Diesel	99	0.69	0.06	M gal	7440020	Nickel	0.0039	lbs/M gal	AQMD Default for Diesel IC Engines	1.94E-05	2.25E-04
7	70	700	404783	ES7	D135	Emergency ICE 99HP Diesel	99	0.69	0.06	M gal	18540299	Chromium, hexavalent (and compounds)	0.0001	lbs/M gal	AQMD Default for Diesel IC Engines	4.99E-07	5.78E-06
7	70	700	404783	ES7	D135	Emergency ICE 99HP Diesel	99	0.69	0.06	M gal	7440382	Arsenic and Compounds (inorganic)	0.0016	lbs/M gal	AQMD Default for Diesel IC Engines	7.98E-06	9.25E-05
7	70	700	404783	ES7	D135	Emergency ICE 99HP Diesel	99	0.69	0.06	M gal	7440439	Cadmium	0.0015	lbs/M gal	AQMD Default for Diesel IC Engines	7.48E-06	8.67E-05
7	70	700	404783	ES7	D135	Emergency ICE 99HP Diesel	99	0.69	0.06	M gal	50000	Formaldehyde	1.7261	lbs/M gal	AQMD Default for Diesel IC Engines	8.61E-03	9.98E-02
7	70	700	404783	ES7	D135	Emergency ICE 99HP Diesel	99	0.69	0.06	M gal	71432	Benzene	0.1863	lbs/M gal	AQMD Default for Diesel IC Engines	9.29E-04	1.08E-02
7	70	700	404783	ES7	D135	Emergency ICE 99HP Diesel	99	0.69	0.06	M gal	106990	Butadiene [1,3]	0.2174	lbs/M gal	AQMD Default for Diesel IC Engines	1.08E-03	1.26E-02
7	70	700	404783	ES7	D135	Emergency ICE 99HP Diesel	99	0.69	0.06	M gal	75070	Acetaldehyde	0.7833	lbs/M gal	AQMD Default for Diesel IC Engines	3.91E-03	4.53E-02
7	70	700	404783	ES7	D135	Emergency ICE 99HP Diesel	99	0.69	0.06	M gal	100414	Ethyl benzene	0.0109	lbs/M gal	AQMD Default for Diesel IC Engines	5.43E-05	6.30E-04
7	70	700	404783	ES7	D135	Emergency ICE 99HP Diesel	99	0.69	0.06	M gal	110543	Hexane	0.0269	lbs/M gal	AQMD Default for Diesel IC Engines	1.34E-04	1.55E-03
7	70	700	404783	ES7	D135	Emergency ICE 99HP Diesel	99	0.69	0.06	M gal	108883	Toluene	0.1054	lbs/M gal	AQMD Default for Diesel IC Engines	5.25E-04	6.09E-03
8	80	800	391136	ES11	D145	Glycol Reboiler	---	5.2	7.70	mmscf	1151	PAHs, total, w/o individ. components reported [PAH, POM]	0.0001	lbs/mmscf	AQMD Default	5.06E-07	7.70E-04
8	80	800	391136	ES11	D145	Glycol Reboiler	---	5.2	7.70	mmscf	50000	Formaldehyde	0.017	lbs/mmscf	AQMD Default	8.60E-05	1.31E-01
8	80	800	391136	ES11	D145	Glycol Reboiler	---	5.2	7.70	mmscf	71432	Benzene	0.008	lbs/mmscf	AQMD Default	4.05E-05	6.16E-02
8	80	800	391136	ES11	D145	Glycol Reboiler	---	5.2	7.70	mmscf	75070	Acetaldehyde	0.0043	lbs/mmscf	AQMD Default	2.18E-05	3.31E-02
8	80	800	391136	ES11	D145	Glycol Reboiler	---	5.2	7.70	mmscf	91203	Naphthalene [PAH, POM]	0.0003	lbs/mmscf	AQMD Default	1.52E-06	2.31E-03
8	80	800	391136	ES11	D145	Glycol Reboiler	---	5.2	7.70	mmscf	100414	Ethyl benzene	0.0095	lbs/mmscf	AQMD Default	4.81E-05	7.31E-02
8	80	800	391136	ES11	D145	Glycol Reboiler	---	5.2	7.70	mmscf	108883	Toluene	0.0366	lbs/mmscf	AQMD Default	1.85E-04	2.82E-01
8	80	800	391136	ES11	D145	Glycol Reboiler	---	5.2	7.70	mmscf	110543	Hexane	0.0063	lbs/mmscf	AQMD Default	3.19E-05	4.85E-02
8	80	800	391136	ES11	D145	Glycol Reboiler	---	5.2	7.70	mmscf	7664417	Ammonia	3.2	lbs/mmscf	AQMD default EF for equipment without SNCR or SCR	1.62E-02	2.46E+01
9	90	900	407305	ES10	C131	Thermal Oxidizer	---	1	0.22	mmscf	1151	PAHs, total, w/o individ. components reported [PAH, POM]	0.0001	lbs/mmscf	AQMD Default	9.73E-08	2.23E-05
9	90	900	407305	ES10	C131	Thermal Oxidizer	---	1	0.22	mmscf	50000	Formaldehyde	0.017	lbs/mmscf	AQMD Default	1.65E-05	3.80E-03
9	90	900	407305	ES10	C131	Thermal Oxidizer	---	1	0.22	mmscf	71432	Benzene	0.008	lbs/mmscf	AQMD Default	7.78E-06	1.79E-03
9	90	900	407305	ES10	C131	Thermal Oxidizer	---	1	0.22	mmscf	75070	Acetaldehyde	0.0043	lbs/mmscf	AQMD Default	4.18E-06	9.60E-04
9	90	900	407305	ES10	C131	Thermal Oxidizer	---	1	0.22	mmscf	91203	Naphthalene [PAH, POM]	0.0003	lbs/mmscf	AQMD Default	2.92E-07	6.70E-05
9	90	900	407305	ES10	C131	Thermal Oxidizer	---	1	0.22	mmscf	100414	Ethyl benzene	0.0095	lbs/mmscf	AQMD Default	9.24E-06	2.12E-03
9	90	900	407305	ES10	C131	Thermal Oxidizer	---	1	0.22	mmscf	108883	Toluene	0.0366	lbs/mmscf	AQMD Default	3.56E-05	8.17E-03
9	90	900	407305	ES10	C131	Thermal Oxidizer	---	1	0.22	mmscf	110543	Hexane	0.0063	lbs/mmscf	AQMD Default	6.13E-06	1.41E-03

Appendix A - Summary of TAC Emissions by Source

Sources									Throughput		Emission Factors					Emissions Calculation	
Stack ID	Device ID	PROID	Device ID/ Application No.	AER Device ID	AQMD Device ID	Source Name	Design Capacity (HP)	Design Capacity (MMBtu/hr)	Throughput	Throughput Unit	CAS	Pollutant	EF	EF Units	Basis for Emissions	Max. Hourly Emissions (lb/hr)	Average Annual Emissions (lb/yr)
9	90	900	407305	ES10	C131	Thermal Oxidizer	---	1	0.22	mmscf	7664417	Ammonia	3.2	lbs/mmscf	AQMD default EF for equipment without SNCR or SCR	3.11E-03	7.15E-01
10	100	1000	491695	ES56	D125	Loading Arm	---	---	1971.06	M gal	71432	Benzene	0.0000198	lbs/M gal	Source test VOC EF (0.0033 lb/mgal) * default AQMD wt fraction for crude oil (0.6%) = 1.980E-5	2.17E-05	3.90E-02
10	100	1000	491695	ES56	D125	Loading Arm	---	---	1971.06	M gal	95636	1,2,4-Trimethylbenzene	0.00001089	lbs/M gal	Source test VOC EF (0.0033 lb/mgal) * default AQMD wt fraction for crude oil (0.33%) = 1.089E-05	1.19E-05	2.15E-02
10	100	1000	491695	ES56	D125	Loading Arm	---	---	1971.06	M gal	100414	Ethyl benzene	0.0000132	lbs/M gal	Source test VOC EF (0.0033 lb/mgal) * default AQMD wt fraction for crude oil (0.4%) = 1.320E-05	1.45E-05	2.60E-02
10	100	1000	491695	ES56	D125	Loading Arm	---	---	1971.06	M gal	108383	m-Xylene	0.0000462	lbs/M gal	Source test VOC EF (0.0033 lb/mgal) * default AQMD wt fraction for crude oil (1.4%) = 4.620E-05	5.06E-05	9.11E-02
10	100	1000	491695	ES56	D125	Loading Arm	---	---	1971.06	M gal	108883	Toluene	0.000033	lbs/M gal	Source test VOC EF (0.0033 lb/mgal) * default AQMD wt fraction for crude oil (1.0%) = 3.300E-05	3.62E-05	6.50E-02
10	100	1000	491695	ES56	D125	Loading Arm	---	---	1971.06	M gal	110543	Hexane	0.0000132	lbs/M gal	Source test VOC EF (0.0033 lb/mgal) * default AQMD wt fraction for crude oil (0.4%) = 1.320E-05	1.45E-05	2.60E-02
11	110	1100	EXEMPT	ES13	E127	Building AC & Heat V1	---	0.5	0.33	mmscf	1151	PAHs, total, w/o individ. components reported [PAH, POM]	0.0001	lbs/mmscf	AQMD default	1.10E-08	7.43E-06
11	110	1100	EXEMPT	ES13	E127	Building AC & Heat V1	---	0.5	0.33	mmscf	50000	Formaldehyde	0.017	lbs/mmscf	AQMD default	1.87E-06	1.26E-03
11	110	1100	EXEMPT	ES13	E127	Building AC & Heat V1	---	0.5	0.33	mmscf	71432	Benzene	0.008	lbs/mmscf	AQMD default	8.81E-07	5.94E-04
11	110	1100	EXEMPT	ES13	E127	Building AC & Heat V1	---	0.5	0.33	mmscf	75070	Acetaldehyde	0.0043	lbs/mmscf	AQMD default	4.73E-07	3.19E-04
11	110	1100	EXEMPT	ES13	E127	Building AC & Heat V1	---	0.5	0.33	mmscf	91203	Naphthalene [PAH, POM]	0.0003	lbs/mmscf	AQMD default	3.30E-08	2.23E-05
11	110	1100	EXEMPT	ES13	E127	Building AC & Heat V1	---	0.5	0.33	mmscf	100414	Ethyl benzene	0.0095	lbs/mmscf	AQMD default	1.05E-06	7.06E-04
11	110	1100	EXEMPT	ES13	E127	Building AC & Heat V1	---	0.5	0.33	mmscf	108883	Toluene	0.0366	lbs/mmscf	AQMD default	4.03E-06	2.72E-03
11	110	1100	EXEMPT	ES13	E127	Building AC & Heat V1	---	0.5	0.33	mmscf	110543	Hexane	0.0063	lbs/mmscf	AQMD default	6.93E-07	4.68E-04
11	110	1100	EXEMPT	ES13	E127	Building AC & Heat V1	---	0.5	0.33	mmscf	7664417	Ammonia	3.2	lbs/mmscf	AQMD default EF for equipment without SNCR or SCR	3.52E-04	2.38E-01
12	120	1200	EXEMPT	ES13	E127	Building AC & Heat V2	---	0.5	0.33	mmscf	1151	PAHs, total, w/o individ. components reported [PAH, POM]	0.0001	lbs/mmscf	AQMD default	1.10E-08	7.43E-06
12	120	1200	EXEMPT	ES13	E127	Building AC & Heat V2	---	0.5	0.33	mmscf	50000	Formaldehyde	0.017	lbs/mmscf	AQMD default	1.87E-06	1.26E-03
12	120	1200	EXEMPT	ES13	E127	Building AC & Heat V2	---	0.5	0.33	mmscf	71432	Benzene	0.008	lbs/mmscf	AQMD default	8.81E-07	5.94E-04
12	120	1200	EXEMPT	ES13	E127	Building AC & Heat V2	---	0.5	0.33	mmscf	75070	Acetaldehyde	0.0043	lbs/mmscf	AQMD default	4.73E-07	3.19E-04
12	120	1200	EXEMPT	ES13	E127	Building AC & Heat V2	---	0.5	0.33	mmscf	91203	Naphthalene [PAH, POM]	0.0003	lbs/mmscf	AQMD default	3.30E-08	2.23E-05
12	120	1200	EXEMPT	ES13	E127	Building AC & Heat V2	---	0.5	0.33	mmscf	100414	Ethyl benzene	0.0095	lbs/mmscf	AQMD default	1.05E-06	7.06E-04
12	120	1200	EXEMPT	ES13	E127	Building AC & Heat V2	---	0.5	0.33	mmscf	108883	Toluene	0.0366	lbs/mmscf	AQMD default	4.03E-06	2.72E-03
12	120	1200	EXEMPT	ES13	E127	Building AC & Heat V2	---	0.5	0.33	mmscf	110543	Hexane	0.0063	lbs/mmscf	AQMD default	6.93E-07	4.68E-04
12	120	1200	EXEMPT	ES13	E127	Building AC & Heat V2	---	0.5	0.33	mmscf	7664417	Ammonia	3.2	lbs/mmscf	AQMD default EF for equipment without SNCR or SCR	3.52E-04	2.38E-01
13	130	1300	EXEMPT	ES13	E127	Building AC & Heat V3	---	0.5	0.33	mmscf	1151	PAHs, total, w/o individ. components reported [PAH, POM]	0.0001	lbs/mmscf	AQMD default	1.10E-08	7.43E-06
13	130	1300	EXEMPT	ES13	E127	Building AC & Heat V3	---	0.5	0.33	mmscf	50000	Formaldehyde	0.017	lbs/mmscf	AQMD default	1.87E-06	1.26E-03
13	130	1300	EXEMPT	ES13	E127	Building AC & Heat V3	---	0.5	0.33	mmscf	71432	Benzene	0.008	lbs/mmscf	AQMD default	8.81E-07	5.94E-04
13	130	1300	EXEMPT	ES13	E127	Building AC & Heat V3	---	0.5	0.33	mmscf	75070	Acetaldehyde	0.0043	lbs/mmscf	AQMD default	4.73E-07	3.19E-04
13	130	1300	EXEMPT	ES13	E127	Building AC & Heat V3	---	0.5	0.33	mmscf	91203	Naphthalene [PAH, POM]	0.0003	lbs/mmscf	AQMD default	3.30E-08	2.23E-05

Appendix A - Summary of TAC Emissions by Source

Sources									Throughput		Emission Factors					Emissions Calculation	
Stack ID	Device ID	PROID	Device ID/ Application No.	AER Device ID	AQMD Device ID	Source Name	Design Capacity (HP)	Design Capacity (MMBtu/hr)	Throughput	Throughput Unit	CAS	Pollutant	EF	EF Units	Basis for Emissions	Max. Hourly Emissions (lb/hr)	Average Annual Emissions (lb/yr)
13	130	1300	EXEMPT	ES13	E127	Building AC & Heat V3	---	0.5	0.33	mmscf	100414	Ethyl benzene	0.0095	lbs/mmscf	AQMD default	1.05E-06	7.06E-04
13	130	1300	EXEMPT	ES13	E127	Building AC & Heat V3	---	0.5	0.33	mmscf	108883	Toluene	0.0366	lbs/mmscf	AQMD default	4.03E-06	2.72E-03
13	130	1300	EXEMPT	ES13	E127	Building AC & Heat V3	---	0.5	0.33	mmscf	110543	Hexane	0.0063	lbs/mmscf	AQMD default	6.93E-07	4.68E-04
13	130	1300	EXEMPT	ES13	E127	Building AC & Heat V3	---	0.5	0.33	mmscf	7664417	Ammonia	3.2	lbs/mmscf	AQMD default EF for equipment without SNCR or SCR	3.52E-04	2.38E-01
14	140	1400	EXEMPT	ES13	E127	Building AC & Heat V4	---	0.5	0.33	mmscf	1151	PAHs, total, w/o individ. components reported [PAH, POM]	0.0001	lbs/mmscf	AQMD default	5.20E-09	3.51E-06
14	140	1400	EXEMPT	ES13	E127	Building AC & Heat V4	---	0.5	0.33	mmscf	50000	Formaldehyde	0.017	lbs/mmscf	AQMD default	8.85E-07	5.97E-04
14	140	1400	EXEMPT	ES13	E127	Building AC & Heat V4	---	0.5	0.33	mmscf	71432	Benzene	0.008	lbs/mmscf	AQMD default	4.16E-07	2.81E-04
14	140	1400	EXEMPT	ES13	E127	Building AC & Heat V4	---	0.5	0.33	mmscf	75070	Acetaldehyde	0.0043	lbs/mmscf	AQMD default	2.24E-07	1.51E-04
14	140	1400	EXEMPT	ES13	E127	Building AC & Heat V4	---	0.5	0.33	mmscf	91203	Naphthalene [PAH, POM]	0.0003	lbs/mmscf	AQMD default	1.56E-08	1.05E-05
14	140	1400	EXEMPT	ES13	E127	Building AC & Heat V4	---	0.5	0.33	mmscf	100414	Ethyl benzene	0.0095	lbs/mmscf	AQMD default	4.94E-07	3.34E-04
14	140	1400	EXEMPT	ES13	E127	Building AC & Heat V4	---	0.5	0.33	mmscf	108883	Toluene	0.0366	lbs/mmscf	AQMD default	1.90E-06	1.29E-03
14	140	1400	EXEMPT	ES13	E127	Building AC & Heat V4	---	0.5	0.33	mmscf	110543	Hexane	0.0063	lbs/mmscf	AQMD default	3.28E-07	2.21E-04
14	140	1400	EXEMPT	ES13	E127	Building AC & Heat V4	---	0.5	0.33	mmscf	7664417	Ammonia	3.2	lbs/mmscf	AQMD default EF for equipment without SNCR or SCR	1.67E-04	1.12E-01
15	150	1500	EXEMPT	ES13	E127	Building AC & Heat V5	---	0.5	0.33	mmscf	1151	PAHs, total, w/o individ. components reported [PAH, POM]	0.0001	lbs/mmscf	AQMD default	5.20E-09	3.51E-06
15	150	1500	EXEMPT	ES13	E127	Building AC & Heat V5	---	0.5	0.33	mmscf	50000	Formaldehyde	0.017	lbs/mmscf	AQMD default	8.85E-07	5.97E-04
15	150	1500	EXEMPT	ES13	E127	Building AC & Heat V5	---	0.5	0.33	mmscf	71432	Benzene	0.008	lbs/mmscf	AQMD default	4.16E-07	2.81E-04
15	150	1500	EXEMPT	ES13	E127	Building AC & Heat V5	---	0.5	0.33	mmscf	75070	Acetaldehyde	0.0043	lbs/mmscf	AQMD default	2.24E-07	1.51E-04
15	150	1500	EXEMPT	ES13	E127	Building AC & Heat V5	---	0.5	0.33	mmscf	91203	Naphthalene [PAH, POM]	0.0003	lbs/mmscf	AQMD default	1.56E-08	1.05E-05
15	150	1500	EXEMPT	ES13	E127	Building AC & Heat V5	---	0.5	0.33	mmscf	100414	Ethyl benzene	0.0095	lbs/mmscf	AQMD default	4.94E-07	3.34E-04
15	150	1500	EXEMPT	ES13	E127	Building AC & Heat V5	---	0.5	0.33	mmscf	108883	Toluene	0.0366	lbs/mmscf	AQMD default	1.90E-06	1.29E-03
15	150	1500	EXEMPT	ES13	E127	Building AC & Heat V5	---	0.5	0.33	mmscf	110543	Hexane	0.0063	lbs/mmscf	AQMD default	3.28E-07	2.21E-04
15	150	1500	EXEMPT	ES13	E127	Building AC & Heat V5	---	0.5	0.33	mmscf	7664417	Ammonia	3.2	lbs/mmscf	AQMD default EF for equipment without SNCR or SCR	1.67E-04	1.12E-01
16	160	1600	EXEMPT	ES13	E127	Building AC & Heat V6	---	0.5	0.33	mmscf	1151	PAHs, total, w/o individ. components reported [PAH, POM]	0.0001	lbs/mmscf	AQMD default	5.20E-09	3.51E-06
16	160	1600	EXEMPT	ES13	E127	Building AC & Heat V6	---	0.5	0.33	mmscf	50000	Formaldehyde	0.017	lbs/mmscf	AQMD default	8.85E-07	5.97E-04
16	160	1600	EXEMPT	ES13	E127	Building AC & Heat V6	---	0.5	0.33	mmscf	71432	Benzene	0.008	lbs/mmscf	AQMD default	4.16E-07	2.81E-04
16	160	1600	EXEMPT	ES13	E127	Building AC & Heat V6	---	0.5	0.33	mmscf	75070	Acetaldehyde	0.0043	lbs/mmscf	AQMD default	2.24E-07	1.51E-04
16	160	1600	EXEMPT	ES13	E127	Building AC & Heat V6	---	0.5	0.33	mmscf	91203	Naphthalene [PAH, POM]	0.0003	lbs/mmscf	AQMD default	1.56E-08	1.05E-05
16	160	1600	EXEMPT	ES13	E127	Building AC & Heat V6	---	0.5	0.33	mmscf	100414	Ethyl benzene	0.0095	lbs/mmscf	AQMD default	4.94E-07	3.34E-04
16	160	1600	EXEMPT	ES13	E127	Building AC & Heat V6	---	0.5	0.33	mmscf	108883	Toluene	0.0366	lbs/mmscf	AQMD default	1.90E-06	1.29E-03
16	160	1600	EXEMPT	ES13	E127	Building AC & Heat V6	---	0.5	0.33	mmscf	110543	Hexane	0.0063	lbs/mmscf	AQMD default	3.28E-07	2.21E-04

Appendix A - Summary of TAC Emissions by Source

Sources									Throughput		Emission Factors					Emissions Calculation	
Stack ID	Device ID	PROID	Device ID/ Application No.	AER Device ID	AQMD Device ID	Source Name	Design Capacity (HP)	Design Capacity (MMBtu/hr)	Throughput	Throughput Unit	CAS	Pollutant	EF	EF Units	Basis for Emissions	Max. Hourly Emissions (lb/hr)	Average Annual Emissions (lb/yr)
16	160	1600	EXEMPT	ES13	E127	Building AC & Heat V6	---	0.5	0.33	mmscf	7664417	Ammonia	3.2	lbs/mmscf	AQMD default EF for equipment without SNCR or SCR	1.67E-04	1.12E-01
17	170	1700	EXEMPT	ES16	E153	Dehy Hot Oil Heater	---	1.5	3.51	mmscf	1151	PAHs, total, w/o individ. components reported [PAH, POM]	0.0001	lbs/mmscf	AQMD default	1.46E-07	3.51E-04
17	170	1700	EXEMPT	ES16	E153	Dehy Hot Oil Heater	---	1.5	3.51	mmscf	50000	Formaldehyde	0.017	lbs/mmscf	AQMD default	2.48E-05	5.97E-02
17	170	1700	EXEMPT	ES16	E153	Dehy Hot Oil Heater	---	1.5	3.51	mmscf	71432	Benzene	0.008	lbs/mmscf	AQMD default	1.17E-05	2.81E-02
17	170	1700	EXEMPT	ES16	E153	Dehy Hot Oil Heater	---	1.5	3.51	mmscf	75070	Acetaldehyde	0.0043	lbs/mmscf	AQMD default	6.27E-06	1.51E-02
17	170	1700	EXEMPT	ES16	E153	Dehy Hot Oil Heater	---	1.5	3.51	mmscf	91203	Naphthalene [PAH, POM]	0.0003	lbs/mmscf	AQMD default	4.38E-07	1.05E-03
17	170	1700	EXEMPT	ES16	E153	Dehy Hot Oil Heater	---	1.5	3.51	mmscf	100414	Ethyl benzene	0.0095	lbs/mmscf	AQMD default	1.39E-05	3.34E-02
17	170	1700	EXEMPT	ES16	E153	Dehy Hot Oil Heater	---	1.5	3.51	mmscf	108883	Toluene	0.0366	lbs/mmscf	AQMD default	5.34E-05	1.29E-01
17	170	1700	EXEMPT	ES16	E153	Dehy Hot Oil Heater	---	1.5	3.51	mmscf	110543	Hexane	0.0063	lbs/mmscf	AQMD default	9.19E-06	2.21E-02
17	170	1700	EXEMPT	ES16	E153	Dehy Hot Oil Heater	---	1.5	3.51	mmscf	7664417	Ammonia	3.2	lbs/mmscf	AQMD default EF for equipment without SNCR or SCR	4.67E-03	1.12E+01
18	180	1800	110251	ES18	D79	TK-3	---	---	1.42	M gal	71432	Benzene	14.3600294	lbs/M gal	Back Calculation using EPA Tanks	1.17E-04	1.02E+00
18	180	1800	110251	ES18	D79	TK-3	---	---	1.42	M gal	95636	1,2,4-Trimethylbenzene	0.140951994	lbs/M gal	Back Calculation using EPA Tanks	1.14E-06	1.00E-02
18	180	1800	110251	ES18	D79	TK-3	---	---	1.42	M gal	100414	Ethyl benzene	0.91611747	lbs/M gal	Back Calculation using EPA Tanks	7.44E-06	6.51E-02
18	180	1800	110251	ES18	D79	TK-3	---	---	1.42	M gal	108383	m-Xylene	2.69194359	lbs/M gal	Back Calculation using EPA Tanks	2.18E-05	1.91E-01
18	180	1800	110251	ES18	D79	TK-3	---	---	1.42	M gal	108883	Toluene	6.8776347	lbs/M gal	Back Calculation using EPA Tanks	5.58E-05	4.89E-01
18	180	1800	110251	ES18	D79	TK-3	---	---	1.42	M gal	110543	Hexane	15.5415294	lbs/M gal	Back Calculation using EPA Tanks	1.26E-04	1.11E+00
19	190	1900	110252	ES19	D80	TK-4A	---	---	657.02	M gal	71432	Benzene	0.0608048	lbs/M gal	Back Calculation using EPA Tanks	2.28E-04	2.00E+00
19	190	1900	110252	ES19	D80	TK-4A	---	---	657.02	M gal	95636	1,2,4-Trimethylbenzene	0.00060881	lbs/M gal	Back Calculation using EPA Tanks	2.28E-06	2.00E-02
19	190	1900	110252	ES19	D80	TK-4A	---	---	657.02	M gal	100414	Ethyl benzene	0.00388116	lbs/M gal	Back Calculation using EPA Tanks	1.46E-05	1.28E-01
19	190	1900	110252	ES19	D80	TK-4A	---	---	657.02	M gal	108383	m-Xylene	0.01138474	lbs/M gal	Back Calculation using EPA Tanks	4.27E-05	3.74E-01
19	190	1900	110252	ES19	D80	TK-4A	---	---	657.02	M gal	108883	Toluene	0.0291316	lbs/M gal	Back Calculation using EPA Tanks	1.09E-04	9.57E-01
19	190	1900	110252	ES19	D80	TK-4A	---	---	657.02	M gal	110543	Hexane	0.0658275	lbs/M gal	Back Calculation using EPA Tanks	2.47E-04	2.16E+00
20	200	2000	110253	ES20	D81	TK-4B	---	---	657.02	M gal	71432	Benzene	0.0608048	lbs/M gal	Back Calculation using EPA Tanks	2.28E-04	2.00E+00
20	200	2000	110253	ES20	D81	TK-4B	---	---	657.02	M gal	95636	1,2,4-Trimethylbenzene	0.00060881	lbs/M gal	Back Calculation using EPA Tanks	2.28E-06	2.00E-02
20	200	2000	110253	ES20	D81	TK-4B	---	---	657.02	M gal	100414	Ethyl benzene	0.00388116	lbs/M gal	Back Calculation using EPA Tanks	1.46E-05	1.28E-01
20	200	2000	110253	ES20	D81	TK-4B	---	---	657.02	M gal	108383	m-Xylene	0.01138474	lbs/M gal	Back Calculation using EPA Tanks	4.27E-05	3.74E-01
20	200	2000	110253	ES20	D81	TK-4B	---	---	657.02	M gal	108883	Toluene	0.0291316	lbs/M gal	Back Calculation using EPA Tanks	1.09E-04	9.57E-01
20	200	2000	110253	ES20	D81	TK-4B	---	---	657.02	M gal	110543	Hexane	0.0658275	lbs/M gal	Back Calculation using EPA Tanks	2.47E-04	2.16E+00
21	210	2100	110254	ES21	D82	TK-4C	---	---	657.02	M gal	71432	Benzene	0.0608048	lbs/M gal	Back Calculation using EPA Tanks	2.28E-04	2.00E+00
21	210	2100	110254	ES21	D82	TK-4C	---	---	657.02	M gal	95636	1,2,4-Trimethylbenzene	0.00060881	lbs/M gal	Back Calculation using EPA Tanks	2.28E-06	2.00E-02

Appendix A - Summary of TAC Emissions by Source

Sources									Throughput		Emission Factors					Emissions Calculation	
Stack ID	Device ID	PROID	Device ID/ Application No.	AER Device ID	AQMD Device ID	Source Name	Design Capacity (HP)	Design Capacity (MMBtu/hr)	Throughput	Throughput Unit	CAS	Pollutant	EF	EF Units	Basis for Emissions	Max. Hourly Emissions (lb/hr)	Average Annual Emissions (lb/yr)
21	210	2100	110254	ES21	D82	TK-4C	---	---	657.02	M gal	100414	Ethyl benzene	0.00388116	lbs/M gal	Back Calculation using EPA Tanks	1.46E-05	1.28E-01
21	210	2100	110254	ES21	D82	TK-4C	---	---	657.02	M gal	108383	m-Xylene	0.01138474	lbs/M gal	Back Calculation using EPA Tanks	4.27E-05	3.74E-01
21	210	2100	110254	ES21	D82	TK-4C	---	---	657.02	M gal	108883	Toluene	0.0291316	lbs/M gal	Back Calculation using EPA Tanks	1.09E-04	9.57E-01
21	210	2100	110254	ES21	D82	TK-4C	---	---	657.02	M gal	110543	Hexane	0.0658275	lbs/M gal	Back Calculation using EPA Tanks	2.47E-04	2.16E+00
22	220	2200	110255	ES22	D84	TK-6	---	---	39.85	M gal	71432	Benzene	0.0775369	lbs/M gal	Back Calculation using EPA Tanks	1.76E-05	1.55E-01
22	220	2200	110255	ES22	D84	TK-6	---	---	39.85	M gal	95636	1,2,4-Trimethylbenzene	0.000501856	lbs/M gal	Back Calculation using EPA Tanks	1.14E-07	1.00E-03
22	220	2200	110255	ES22	D84	TK-6	---	---	39.85	M gal	100414	Ethyl benzene	0.00476764	lbs/M gal	Back Calculation using EPA Tanks	1.08E-06	9.50E-03
22	220	2200	110255	ES22	D84	TK-6	---	---	39.85	M gal	108383	m-Xylene	0.01430293	lbs/M gal	Back Calculation using EPA Tanks	3.25E-06	2.85E-02
22	220	2200	110255	ES22	D84	TK-6	---	---	39.85	M gal	108883	Toluene	0.0368865	lbs/M gal	Back Calculation using EPA Tanks	8.39E-06	7.35E-02
22	220	2200	110255	ES22	D84	TK-6	---	---	39.85	M gal	110543	Hexane	0.084061	lbs/M gal	Back Calculation using EPA Tanks	1.91E-05	1.68E-01
23	230	2300	111946	ES23	D83	TK-5	---	---	38.97	M gal	71432	Benzene	0.1740023	lbs/M gal	Back Calculation using EPA Tanks	3.87E-05	3.39E-01
23	230	2300	111946	ES23	D83	TK-5	---	---	38.97	M gal	95636	1,2,4-Trimethylbenzene	0.001539841	lbs/M gal	Back Calculation using EPA Tanks	3.42E-07	3.00E-03
23	230	2300	111946	ES23	D83	TK-5	---	---	38.97	M gal	100414	Ethyl benzene	0.01103554	lbs/M gal	Back Calculation using EPA Tanks	2.45E-06	2.15E-02
23	230	2300	111946	ES23	D83	TK-5	---	---	38.97	M gal	108383	m-Xylene	0.03233675	lbs/M gal	Back Calculation using EPA Tanks	7.19E-06	6.30E-02
23	230	2300	111946	ES23	D83	TK-5	---	---	38.97	M gal	108883	Toluene	0.0831515	lbs/M gal	Back Calculation using EPA Tanks	1.85E-05	1.62E-01
23	230	2300	111946	ES23	D83	TK-5	---	---	38.97	M gal	110543	Hexane	0.1883741	lbs/M gal	Back Calculation using EPA Tanks	4.19E-05	3.67E-01
24	240	2400	137495	ES29	D68	TK-1B	---	---	985.53	M gal	71432	Benzene	0.0387304	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	2.18E-04	1.91E+00
24	240	2400	137495	ES29	D68	TK-1B	---	---	985.53	M gal	95636	1,2,4-Trimethylbenzene	0.000395726	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	2.23E-06	1.95E-02
24	240	2400	137495	ES29	D68	TK-1B	---	---	985.53	M gal	100414	Ethyl benzene	0.002475822	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	1.39E-05	1.22E-01
24	240	2400	137495	ES29	D68	TK-1B	---	---	985.53	M gal	108383	m-Xylene	0.00725498	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	4.08E-05	3.58E-01
24	240	2400	137495	ES29	D68	TK-1B	---	---	985.53	M gal	108883	Toluene	0.01855856	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	1.04E-04	9.15E-01
24	240	2400	137495	ES29	D68	TK-1B	---	---	985.53	M gal	110543	Hexane	0.04194702	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	2.36E-04	2.07E+00
25	250	2500	137495	ES30	D67	TK-1A	---	---	985.53	M gal	71432	Benzene	0.0387304	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	2.18E-04	1.91E+00
25	250	2500	137495	ES30	D67	TK-1A	---	---	985.53	M gal	95636	1,2,4-Trimethylbenzene	0.000395726	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	2.23E-06	1.95E-02
25	250	2500	137495	ES30	D67	TK-1A	---	---	985.53	M gal	100414	Ethyl benzene	0.002475822	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	1.39E-05	1.22E-01
25	250	2500	137495	ES30	D67	TK-1A	---	---	985.53	M gal	108383	m-Xylene	0.00725498	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	4.08E-05	3.58E-01
25	250	2500	137495	ES30	D67	TK-1A	---	---	985.53	M gal	108883	Toluene	0.01855856	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	1.04E-04	9.15E-01
25	250	2500	137495	ES30	D67	TK-1A	---	---	985.53	M gal	110543	Hexane	0.04194702	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	2.36E-04	2.07E+00
26	260	2600	355183	ES36	D78	TK-2	---	---	1.42	M gal	71432	Benzene	7.5738394	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	6.15E-05	5.39E-01
26	260	2600	355183	ES36	D78	TK-2	---	---	1.42	M gal	95636	1,2,4-Trimethylbenzene	0.070628494	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	5.73E-07	5.02E-03

Appendix A - Summary of TAC Emissions by Source

Sources									Throughput		Emission Factors					Emissions Calculation	
Stack ID	Device ID	PROID	Device ID/ Application No.	AER Device ID	AQMD Device ID	Source Name	Design Capacity (HP)	Design Capacity (MMBtu/hr)	Throughput	Throughput Unit	CAS	Pollutant	EF	EF Units	Basis for Emissions	Max. Hourly Emissions (lb/hr)	Average Annual Emissions (lb/yr)
26	260	2600	355183	ES36	D78	TK-2	---	---	1.42	M gal	100414	Ethyl benzene	0.48011247	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	3.90E-06	3.41E-02
26	260	2600	355183	ES36	D78	TK-2	---	---	1.42	M gal	108383	m-Xylene	1.41908359	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	1.15E-05	1.01E-01
26	260	2600	355183	ES36	D78	TK-2	---	---	1.42	M gal	108883	Toluene	3.6286947	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	2.95E-05	2.58E-01
26	260	2600	355183	ES36	D78	TK-2	---	---	1.42	M gal	110543	Hexane	8.1997194	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	6.66E-05	5.83E-01
27	270	2700	355183	ES37	D77	TK-12	---	---	1541.74	M gal	71432	Benzene	0.042984	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	3.78E-04	3.31E+00
27	270	2700	355183	ES37	D77	TK-12	---	---	1541.74	M gal	95636	1,2,4-Trimethylbenzene	0.000434575	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	3.82E-06	3.35E-02
27	270	2700	355183	ES37	D77	TK-12	---	---	1541.74	M gal	100414	Ethyl benzene	0.002750145	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	2.42E-05	2.12E-01
27	270	2700	355183	ES37	D77	TK-12	---	---	1541.74	M gal	108383	m-Xylene	0.00804937	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	7.08E-05	6.21E-01
27	270	2700	355183	ES37	D77	TK-12	---	---	1541.74	M gal	108883	Toluene	0.02060014	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	1.81E-04	1.59E+00
27	270	2700	355183	ES37	D77	TK-12	---	---	1541.74	M gal	110543	Hexane	0.0465449	lbs/M gal	EPA TANKS and AQMD Default Weight Fraction	4.10E-04	3.59E+00
28	280	2800	N/A	ES48	EXEMPT	Air Compressor 400	49	0.34	0.01	mmscf	50000	Formaldehyde	20.91	lbs/mmscf	AQMD default	6.98E-03	1.76E-01
28	280	2800	N/A	ES48	EXEMPT	Air Compressor 400	49	0.34	0.01	mmscf	67561	Methanol	3.1212	lbs/mmscf	AQMD default	1.04E-03	2.62E-02
28	280	2800	N/A	ES48	EXEMPT	Air Compressor 400	49	0.34	0.01	mmscf	71432	Benzene	1.6116	lbs/mmscf	AQMD default	5.38E-04	1.35E-02
28	280	2800	N/A	ES48	EXEMPT	Air Compressor 400	49	0.34	0.01	mmscf	75070	Acetaldehyde	2.8458	lbs/mmscf	AQMD default	9.50E-04	2.39E-02
28	280	2800	N/A	ES48	EXEMPT	Air Compressor 400	49	0.34	0.01	mmscf	91203	Naphthalene [PAH, POM]	0.099042	lbs/mmscf	AQMD default	3.30E-05	8.32E-04
28	280	2800	N/A	ES48	EXEMPT	Air Compressor 400	49	0.34	0.01	mmscf	100414	Ethyl benzene	0.025296	lbs/mmscf	AQMD default	8.44E-06	2.12E-04
28	280	2800	N/A	ES48	EXEMPT	Air Compressor 400	49	0.34	0.01	mmscf	106934	Ethylene dibromide {1,2-Dibromoethane}	0.021726	lbs/mmscf	AQMD default	7.25E-06	1.82E-04
28	280	2800	N/A	ES48	EXEMPT	Air Compressor 400	49	0.34	0.01	mmscf	106990	Butadiene [1,3]	0.67626	lbs/mmscf	AQMD default	2.26E-04	5.68E-03
28	280	2800	N/A	ES48	EXEMPT	Air Compressor 400	49	0.34	0.01	mmscf	108883	Toluene	0.56916	lbs/mmscf	AQMD default	1.90E-04	4.78E-03
28	280	2800	N/A	ES48	EXEMPT	Air Compressor 400	49	0.34	0.01	mmscf	7664417	Ammonia	3.2	lbs/mmscf	AQMD default EF for equipment without SNCR or SCR	1.07E-03	2.69E-02
29	290	2900	N/A	ES49	EXEMPT	Air Compressor 120	49	0.34	0.05	mmscf	50000	Formaldehyde	20.91	lbs/mmscf	AQMD default	6.98E-03	9.76E-01
29	290	2900	N/A	ES49	EXEMPT	Air Compressor 120	49	0.34	0.05	mmscf	67561	Methanol	3.1212	lbs/mmscf	AQMD default	1.04E-03	1.46E-01
29	290	2900	N/A	ES49	EXEMPT	Air Compressor 120	49	0.34	0.05	mmscf	71432	Benzene	1.6116	lbs/mmscf	AQMD default	5.38E-04	7.53E-02
29	290	2900	N/A	ES49	EXEMPT	Air Compressor 120	49	0.34	0.05	mmscf	75070	Acetaldehyde	2.8458	lbs/mmscf	AQMD default	9.50E-04	1.33E-01
29	290	2900	N/A	ES49	EXEMPT	Air Compressor 120	49	0.34	0.05	mmscf	91203	Naphthalene [PAH, POM]	0.099042	lbs/mmscf	AQMD default	3.30E-05	4.63E-03
29	290	2900	N/A	ES49	EXEMPT	Air Compressor 120	49	0.34	0.05	mmscf	100414	Ethyl benzene	0.025296	lbs/mmscf	AQMD default	8.44E-06	1.18E-03
29	290	2900	N/A	ES49	EXEMPT	Air Compressor 120	49	0.34	0.05	mmscf	106934	Ethylene dibromide {1,2-Dibromoethane}	0.021726	lbs/mmscf	AQMD default	7.25E-06	1.01E-03
29	290	2900	N/A	ES49	EXEMPT	Air Compressor 120	49	0.34	0.05	mmscf	106990	Butadiene [1,3]	0.67626	lbs/mmscf	AQMD default	2.26E-04	3.16E-02
29	290	2900	N/A	ES49	EXEMPT	Air Compressor 120	49	0.34	0.05	mmscf	108883	Toluene	0.56916	lbs/mmscf	AQMD default	1.90E-04	2.66E-02
29	290	2900	N/A	ES49	EXEMPT	Air Compressor 120	49	0.34	0.05	mmscf	7664417	Ammonia	3.2	lbs/mmscf	AQMD default EF for equipment without SNCR or SCR	1.07E-03	1.49E-01

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Sources									Throughput		Emission Factors					Emissions Calculation	
Stack ID	Device ID	PROID	Device ID/ Application No.	AER Device ID	AQMD Device ID	Source Name	Design Capacity (HP)	Design Capacity (MMBtu/hr)	Throughput	Throughput Unit	CAS	Pollutant	EF	EF Units	Basis for Emissions	Max. Hourly Emissions (lb/hr)	Average Annual Emissions (lb/yr)
30	300	3000	N/A	ES51	EXEMPT	ICE Air Compressor 12HP Gasoline E29	12	0.08	0.66	M gal	50000	Formaldehyde	3.452	lbs/M gal	AQMD default	2.32E-03	2.27E+00
30	300	3000	N/A	ES51	EXEMPT	ICE Air Compressor 12HP Gasoline E29	12	0.08	0.66	M gal	67561	Methanol	0.774487	lbs/M gal	AQMD default	5.20E-04	5.10E-01
30	300	3000	N/A	ES51	EXEMPT	ICE Air Compressor 12HP Gasoline E29	12	0.08	0.66	M gal	71432	Benzene	3.80605	lbs/M gal	AQMD default	2.56E-03	2.50E+00
30	300	3000	N/A	ES51	EXEMPT	ICE Air Compressor 12HP Gasoline E29	12	0.08	0.66	M gal	75070	Acetaldehyde	0.829808	lbs/M gal	AQMD default	5.58E-04	5.46E-01
30	300	3000	N/A	ES51	EXEMPT	ICE Air Compressor 12HP Gasoline E29	12	0.08	0.66	M gal	91203	Naphthalene [PAH, POM]	0.143833	lbs/M gal	AQMD default	9.67E-05	9.46E-02
30	300	3000	N/A	ES51	EXEMPT	ICE Air Compressor 12HP Gasoline E29	12	0.08	0.66	M gal	95636	1,2,4-Trimethylbenzene	1.39408	lbs/M gal	AQMD default	9.37E-04	9.17E-01
30	300	3000	N/A	ES51	EXEMPT	ICE Air Compressor 12HP Gasoline E29	12	0.08	0.66	M gal	100414	Ethyl benzene	1.65962	lbs/M gal	AQMD default	1.12E-03	1.09E+00
30	300	3000	N/A	ES51	EXEMPT	ICE Air Compressor 12HP Gasoline E29	12	0.08	0.66	M gal	106990	Butadiene [1,3]	0.918321	lbs/M gal	AQMD default	6.17E-04	6.04E-01
30	300	3000	N/A	ES51	EXEMPT	ICE Air Compressor 12HP Gasoline E29	12	0.08	0.66	M gal	108383	m-Xylene	4.92353	lbs/M gal	AQMD default	3.31E-03	3.24E+00
30	300	3000	N/A	ES51	EXEMPT	ICE Air Compressor 12HP Gasoline E29	12	0.08	0.66	M gal	108883	Toluene	7.51253	lbs/M gal	AQMD default	5.05E-03	4.94E+00
30	300	3000	N/A	ES51	EXEMPT	ICE Air Compressor 12HP Gasoline E29	12	0.08	0.66	M gal	110543	Hexane	1.4494	lbs/M gal	AQMD default	9.74E-04	9.54E-01
30	300	3000	N/A	ES51	EXEMPT	ICE Air Compressor 12HP Gasoline E29	12	0.08	0.66	M gal	7440020	Nickel	0.00325	lbs/M gal	AQMD default	2.18E-06	2.14E-03
30	300	3000	N/A	ES51	EXEMPT	ICE Air Compressor 12HP Gasoline E29	12	0.08	0.66	M gal	7782505	Chlorine	0.455	lbs/M gal	AQMD default	3.06E-04	2.99E-01
31	310	3100	N/A	ES52	EXEMPT	ICE Air Compressor 12HP Gasoline E30	12	0.08	0.12	M gal	50000	Formaldehyde	3.452	lbs/M gal	AQMD default	2.32E-03	4.11E-01
31	310	3100	N/A	ES52	EXEMPT	ICE Air Compressor 12HP Gasoline E30	12	0.08	0.12	M gal	67561	Methanol	0.774487	lbs/M gal	AQMD default	5.20E-04	9.22E-02
31	310	3100	N/A	ES52	EXEMPT	ICE Air Compressor 12HP Gasoline E30	12	0.08	0.12	M gal	71432	Benzene	3.80605	lbs/M gal	AQMD default	2.56E-03	4.53E-01
31	310	3100	N/A	ES52	EXEMPT	ICE Air Compressor 12HP Gasoline E30	12	0.08	0.12	M gal	75070	Acetaldehyde	0.829808	lbs/M gal	AQMD default	5.58E-04	9.87E-02
31	310	3100	N/A	ES52	EXEMPT	ICE Air Compressor 12HP Gasoline E30	12	0.08	0.12	M gal	91203	Naphthalene [PAH, POM]	0.143833	lbs/M gal	AQMD default	9.67E-05	1.71E-02
31	310	3100	N/A	ES52	EXEMPT	ICE Air Compressor 12HP Gasoline E30	12	0.08	0.12	M gal	95636	1,2,4-Trimethylbenzene	1.39408	lbs/M gal	AQMD default	9.37E-04	1.66E-01
31	310	3100	N/A	ES52	EXEMPT	ICE Air Compressor 12HP Gasoline E30	12	0.08	0.12	M gal	100414	Ethyl benzene	1.65962	lbs/M gal	AQMD default	1.12E-03	1.97E-01
31	310	3100	N/A	ES52	EXEMPT	ICE Air Compressor 12HP Gasoline E30	12	0.08	0.12	M gal	106990	Butadiene [1,3]	0.918321	lbs/M gal	AQMD default	6.17E-04	1.09E-01
31	310	3100	N/A	ES52	EXEMPT	ICE Air Compressor 12HP Gasoline E30	12	0.08	0.12	M gal	108383	m-Xylene	4.92353	lbs/M gal	AQMD default	3.31E-03	5.86E-01
31	310	3100	N/A	ES52	EXEMPT	ICE Air Compressor 12HP Gasoline E30	12	0.08	0.12	M gal	108883	Toluene	7.51253	lbs/M gal	AQMD default	5.05E-03	8.94E-01
31	310	3100	N/A	ES52	EXEMPT	ICE Air Compressor 12HP Gasoline E30	12	0.08	0.12	M gal	110543	Hexane	1.4494	lbs/M gal	AQMD default	9.74E-04	1.72E-01
31	310	3100	N/A	ES52	EXEMPT	ICE Air Compressor 12HP Gasoline E30	12	0.08	0.12	M gal	7440020	Nickel	0.00325	lbs/M gal	AQMD default	2.18E-06	3.87E-04
31	310	3100	N/A	ES52	EXEMPT	ICE Air Compressor 12HP Gasoline E30	12	0.08	0.12	M gal	7782505	Chlorine	0.455	lbs/M gal	AQMD default	3.06E-04	5.41E-02
33	330	3302	N/A	ES59	EXEMPT	Organic Solvents/Fugitive Emissions	---	---	1.69	gal	67561	Methanol	0.47	lbs/gal	From SDS: (1.13 spec. gravity) * (8.34 lb/gal) * (5% Methanol)	9.07E-05	7.94E-01
33	330	3302	N/A	ES59	EXEMPT	Organic Solvents/Fugitive Emissions	---	---	1.69	gal	75092	Methylene chloride {Dichloromethane}	5.65	lbs/gal	From SDS: (1.13 spec. gravity) * (8.34 lb/gal) * (60% MC)	1.09E-03	9.55E+00
33	330	3302	N/A	ES59	EXEMPT	Organic Solvents/Fugitive Emissions	---	---	1.69	gal	108883	Toluene	0.94	lbs/gal	From SDS: (1.13 spec. gravity) * (8.34 lb/gal) * (10% Toluene)	1.81E-04	1.59E+00
33	331	3310	137495	ES25	D93	Organic Solvents/Fugitive Emissions	---	---	98.00	components	71432	Benzene	0.003377	lbs/components	(AQMD defaults 12 lb VOC/comp + 60 lb methane/comp) * (4.69E-5 lb benzene/lb natural gas)	3.78E-05	3.31E-01

Appendix A - Summary of TAC Emissions by Source

Sources									Throughput		Emission Factors					Emissions Calculation	
Stack ID	Device ID	PROID	Device ID/ Application No.	AER Device ID	AQMD Device ID	Source Name	Design Capacity (HP)	Design Capacity (MMBtu/hr)	Throughput	Throughput Unit	CAS	Pollutant	EF	EF Units	Basis for Emissions	Max. Hourly Emissions (lb/hr)	Average Annual Emissions (lb/yr)
33	331	3311	137495	ES25	D93	Organic Solvents/Fugitive Emissions	---	---	95.00	components	71432	Benzene	3.42E-01	lbs/components	(AQMD defaults 47 lb VOC/comp + 10 lb methane/comp) * (0.6% AQMD default wt fraction for crude oil)	3.71E-03	3.25E+01
33	331	3311	137495	ES25	D93	Organic Solvents/Fugitive Emissions	---	---	95.00	components	95636	1,2,4-Trimethylbenzene	1.88E-01	lbs/components	(AQMD defaults 47 lb VOC/comp + 10 lb methane/comp) * (0.33% AQMD default wt fraction for crude oil)	2.04E-03	1.79E+01
33	331	3311	137495	ES25	D93	Organic Solvents/Fugitive Emissions	---	---	95.00	components	100414	Ethyl benzene	2.28E-01	lbs/components	(AQMD defaults 47 lb VOC/comp + 10 lb methane/comp) * (0.4% AQMD default wt fraction for crude oil)	2.47E-03	2.17E+01
33	331	3311	137495	ES25	D93	Organic Solvents/Fugitive Emissions	---	---	95.00	components	108383	m-Xylene	7.98E-01	lbs/components	(AQMD defaults 47 lb VOC/comp + 10 lb methane/comp) * (1.4% AQMD default wt fraction for crude oil)	8.65E-03	7.58E+01
33	331	3311	137495	ES25	D93	Organic Solvents/Fugitive Emissions	---	---	95.00	components	108883	Toluene	5.70E-01	lbs/components	(AQMD defaults 47 lb VOC/comp + 10 lb methane/comp) * (1.0% AQMD default wt fraction for crude oil)	6.18E-03	5.42E+01
33	331	3311	137495	ES25	D93	Organic Solvents/Fugitive Emissions	---	---	95.00	components	110543	Hexane	0.228	lbs/components	(AQMD defaults 47 lb VOC/comp + 10 lb methane/comp) * (0.4% AQMD default wt fraction for crude oil)	2.47E-03	2.17E+01
33	332	3320	137495	ES26	D91	Organic Solvents/Fugitive Emissions	---	---	74.00	components	71432	Benzene	0.0294	lbs/components	(AQMD default 4.9 lb VOC/component) * (0.6% AQMD default weight fraction for crude oil)	2.48E-04	2.18E+00
33	332	3320	137495	ES26	D91	Organic Solvents/Fugitive Emissions	---	---	74.00	components	95636	1,2,4-Trimethylbenzene	0.01617	lbs/components	(AQMD default 4.9 lb VOC/component) * (0.33% AQMD default weight fraction for crude oil)	1.37E-04	1.20E+00
33	332	3320	137495	ES26	D91	Organic Solvents/Fugitive Emissions	---	---	74.00	components	100414	Ethyl benzene	0.0196	lbs/components	(AQMD default 4.9 lb VOC/component) * (0.4% AQMD default weight fraction for crude oil)	1.66E-04	1.45E+00
33	332	3320	137495	ES26	D91	Organic Solvents/Fugitive Emissions	---	---	74.00	components	108383	m-Xylene	0.0686	lbs/components	(AQMD default 4.9 lb VOC/component) * (1.4% AQMD default weight fraction for crude oil)	5.79E-04	5.08E+00
33	332	3320	137495	ES26	D91	Organic Solvents/Fugitive Emissions	---	---	74.00	components	108883	Toluene	0.049	lbs/components	(AQMD default 4.9 lb VOC/component) * (1.0% AQMD default weight fraction for crude oil)	4.14E-04	3.63E+00
33	332	3320	137495	ES26	D91	Organic Solvents/Fugitive Emissions	---	---	74.00	components	110543	Hexane	0.0196	lbs/components	(AQMD default 4.9 lb VOC/component) * (0.4% AQMD default weight fraction for crude oil)	1.66E-04	1.45E+00
33	332	3321	137495	ES26	D91	Organic Solvents/Fugitive Emissions	---	---	3.00	components	71432	Benzene	0.1205	lbs/components	(AQMD defaults 437 lb VOC/comp + 2133 lb methane/comp) * (4.69E-5 lb benzene/lb natural gas)	4.13E-05	3.62E-01
33	333	3330	227890	ES34	D92	Organic Solvents/Fugitive Emissions	---	---	2.00	components	71432	Benzene	0.03987	lbs/components	(AQMD defaults 145 lb VOC/comp + 705 lb methane/comp) * 4.69E-5 lb benzene/lb VOC	9.10E-06	7.97E-02
33	334	3340	EXEMPT	ES58	D93	Organic Solvents/Fugitive Emissions	---	---	580.00	components	71432	Benzene	0.003377	lbs/components	(AQMD defaults 12 lb VOC/comp + 60 lb methane/comp) * (4.69E-5 lb benzene/lb natural gas)	2.24E-04	1.96E+00
33	334	3341	EXEMPT	ES58	D93	Organic Solvents/Fugitive Emissions	---	---	190.00	components	71432	Benzene	0.342	lbs/components	(AQMD defaults 47 lb VOC/comp + 10 lb methane/comp) * (0.6% AQMD default wt fraction for crude oil)	7.42E-03	6.50E+01
33	334	3341	EXEMPT	ES58	D93	Organic Solvents/Fugitive Emissions	---	---	190.00	components	95636	1,2,4-Trimethylbenzene	0.1881	lbs/components	(AQMD defaults 47 lb VOC/comp + 10 lb methane/comp) * (0.33% AQMD default wt fraction for crude oil)	4.08E-03	3.57E+01
33	334	3341	EXEMPT	ES58	D93	Organic Solvents/Fugitive Emissions	---	---	190.00	components	100414	Ethyl benzene	0.228	lbs/components	(AQMD defaults 47 lb VOC/comp + 10 lb methane/comp) * (0.4% AQMD default wt fraction for crude oil)	4.95E-03	4.33E+01
33	334	3341	EXEMPT	ES58	D93	Organic Solvents/Fugitive Emissions	---	---	190.00	components	108383	m-Xylene	0.798	lbs/components	(AQMD defaults 47 lb VOC/comp + 10 lb methane/comp) * (1.4% AQMD default wt fraction for crude oil)	1.73E-02	1.52E+02
33	334	3341	EXEMPT	ES58	D93	Organic Solvents/Fugitive Emissions	---	---	190.00	components	108883	Toluene	0.57	lbs/components	(AQMD defaults 47 lb VOC/comp + 10 lb methane/comp) * (1.0% AQMD default wt fraction for crude oil)	1.24E-02	1.08E+02
33	334	3341	EXEMPT	ES58	D93	Organic Solvents/Fugitive Emissions	---	---	190.00	components	110543	Hexane	0.228	lbs/components	(AQMD defaults 47 lb VOC/comp + 10 lb methane/comp) * (0.4% AQMD default wt fraction for crude oil)	4.95E-03	4.33E+01
33	334	3342	EXEMPT	ES58	D91	Organic Solvents/Fugitive Emissions	---	---	102.00	components	71432	Benzene	0.0294	lbs/components	(AQMD default 4.9 lb VOC/component) * (0.6% AQMD default benzene weight fraction for crude oil)	3.42E-04	3.00E+00
33	334	3342	EXEMPT	ES58	D91	Organic Solvents/Fugitive Emissions	---	---	102.00	components	95636	1,2,4-Trimethylbenzene	0.01617	lbs/components	(AQMD default 4.9 lb VOC/component) * (0.33% AQMD default weight fraction for crude oil)	1.88E-04	1.65E+00
33	334	3342	EXEMPT	ES58	D91	Organic Solvents/Fugitive Emissions	---	---	102.00	components	100414	Ethyl benzene	0.0196	lbs/components	(AQMD default 4.9 lb VOC/component) * (0.4% AQMD default weight fraction for crude oil)	2.28E-04	2.00E+00
33	334	3342	EXEMPT	ES58	D91	Organic Solvents/Fugitive Emissions	---	---	102.00	components	108383	m-Xylene	0.0686	lbs/components	(AQMD default 4.9 lb VOC/component) * (1.4% AQMD default weight fraction for crude oil)	7.99E-04	7.00E+00
33	334	3342	EXEMPT	ES58	D91	Organic Solvents/Fugitive Emissions	---	---	102.00	components	108883	Toluene	0.049	lbs/components	(AQMD default 4.9 lb VOC/component) * (1.0% AQMD default weight fraction for crude oil)	5.71E-04	5.00E+00
33	334	3342	EXEMPT	ES58	D91	Organic Solvents/Fugitive Emissions	---	---	102.00	components	110543	Hexane	0.0196	lbs/components	(AQMD default 4.9 lb VOC/component) * (0.4% AQMD default weight fraction for crude oil)	2.28E-04	2.00E+00
34	340	3400	EXEMPT	ES57	EXEMPT	Sump	---	---	44.90	sq ft	71432	Benzene	0.0108	lbs/sq ft	(AQMD default 1.8 lb VOC/sq ft) * (0.6% AQMD default weight fraction for crude oil)	5.54E-05	4.85E-01
34	340	3400	EXEMPT	ES57	EXEMPT	Sump	---	---	44.90	sq ft	95636	1,2,4-Trimethylbenzene	0.00594	lbs/sq ft	(AQMD default 1.8 lb VOC/sq ft) * (0.33% AQMD default weight fraction for crude oil)	3.04E-05	2.67E-01
34	340	3400	EXEMPT	ES57	EXEMPT	Sump	---	---	44.90	sq ft	100414	Ethyl benzene	0.0072	lbs/sq ft	(AQMD default 1.8 lb VOC/sq ft) * (0.4% AQMD default weight fraction for crude oil)	3.69E-05	3.23E-01

Appendix A - Summary of TAC Emissions by Source

Sources									Throughput		Emission Factors					Emissions Calculation	
Stack ID	Device ID	PROID	Device ID/ Application No.	AER Device ID	AQMD Device ID	Source Name	Design Capacity (HP)	Design Capacity (MMBtu/hr)	Throughput	Throughput Unit	CAS	Pollutant	EF	EF Units	Basis for Emissions	Max. Hourly Emissions (lb/hr)	Average Annual Emissions (lb/yr)
34	340	3400	EXEMPT	ES57	EXEMPT	Sump	---	---	44.90	sq ft	108383	m-Xylene	0.0252	lbs/sq ft	(AQMD default 1.8 lb VOC/sq ft) * (1.4% AQMD default weight fraction for crude oil)	1.29E-04	1.13E+00
34	340	3400	EXEMPT	ES57	EXEMPT	Sump	---	---	44.90	sq ft	108883	Toluene	0.018	lbs/sq ft	(AQMD default 1.8 lb VOC/sq ft) * (1.0% AQMD default weight fraction for crude oil)	9.23E-05	8.08E-01
34	340	3400	EXEMPT	ES57	EXEMPT	Sump	---	---	44.90	sq ft	110543	Hexane	0.0072	lbs/sq ft	(AQMD default 1.8 lb VOC/sq ft) * (0.4% AQMD default weight fraction for crude oil)	3.69E-05	3.23E-01
35	350	3500	N/A	ES55	EXEMPT	Natural Gas Venting	---	---	0.07	mmscf	71432	Benzene	2.27	lbs/mmscf	Engineering Evaluation, Refer to Appendix C; and 60% Control Efficiency for Carbon	4.17E-02	6.12E-02

NOTES:

(1) Average brake-specific fuel consumption (BSFC) provided by SoCalGas for S1-S3 but the BSFC for S4-S6 was taken from source test conducted in August 2015.
(2) SCAQMD AER HHV values used for natural gas (1,028 Btu/scf), diesel (139 mmBTU/1000 gallon), and natural gas (125 mmBTU/1000 gallon).
(3) The emission factors for chlorine constituents are not included in this list per EPA's RICE Emissions Test Plan (November 5, 1997) for D1, D2, D7, D14, D16, D17, Air Compressor 400, Air Compressor 120.
(4) [PAH] indicates included as PAH and will be represented as Benzo[a]pyrene in Health Risk Assessment per Air Toxics Hot Spots Program Guidance Manual, Appendix G (February 2015).
(5) The default emission factors for formaldehyde have been changed to reflect the 80% reduction from the oxidation catalyst for D14, D16, D17.
(6) Average brake-specific fuel consumption of 7,000 Btu/hp-hr was assumed to convert from lb/MMBtu to lb/hp-hr (Footnote e to Table 3.4-1 and Footnote a to Table 3.3-1 from AP 42) for S28 - S31.

Appendix B – Figures

DRAWN BY: Under Map Properties
FILE: M:\Projects\Southern California Gas Company_Playa Del Rey StorageMaps\Figure 1 Site Plot Plan.mxd, REVISED: 10/19/2017 , SCALE: 1:2,500 when printed at 11x17

Legend

- Building 1
- Building 2
- Building 3
- Building 4
- Property Boundary

Notes:

Building Dimensions (Length x Width x Height):
Building 1: 189 x 192 x 47 x125 x144 x 66 x 12 (H) ft
Building 2: 216 (L) x 87 (W) x 32 (H) ft
Building 3: 32 (L) x 30 (W) x12 (H) ft
Building 4: 51 x 21 x 31x 18 x 14 (H) ft

All dimensions are in feet (ft)

N

0 200 400
Feet

Source: Esri - World Topoographic Map; NAD 1983 UTM Zone 11N

Figure 1
Site Plot Plan
Southern California Gas Company/
Playa Del Rey Storage Facility
8141 Gulana Avenue
Playa Del Rey, CA 90293

Environmental Resources Management
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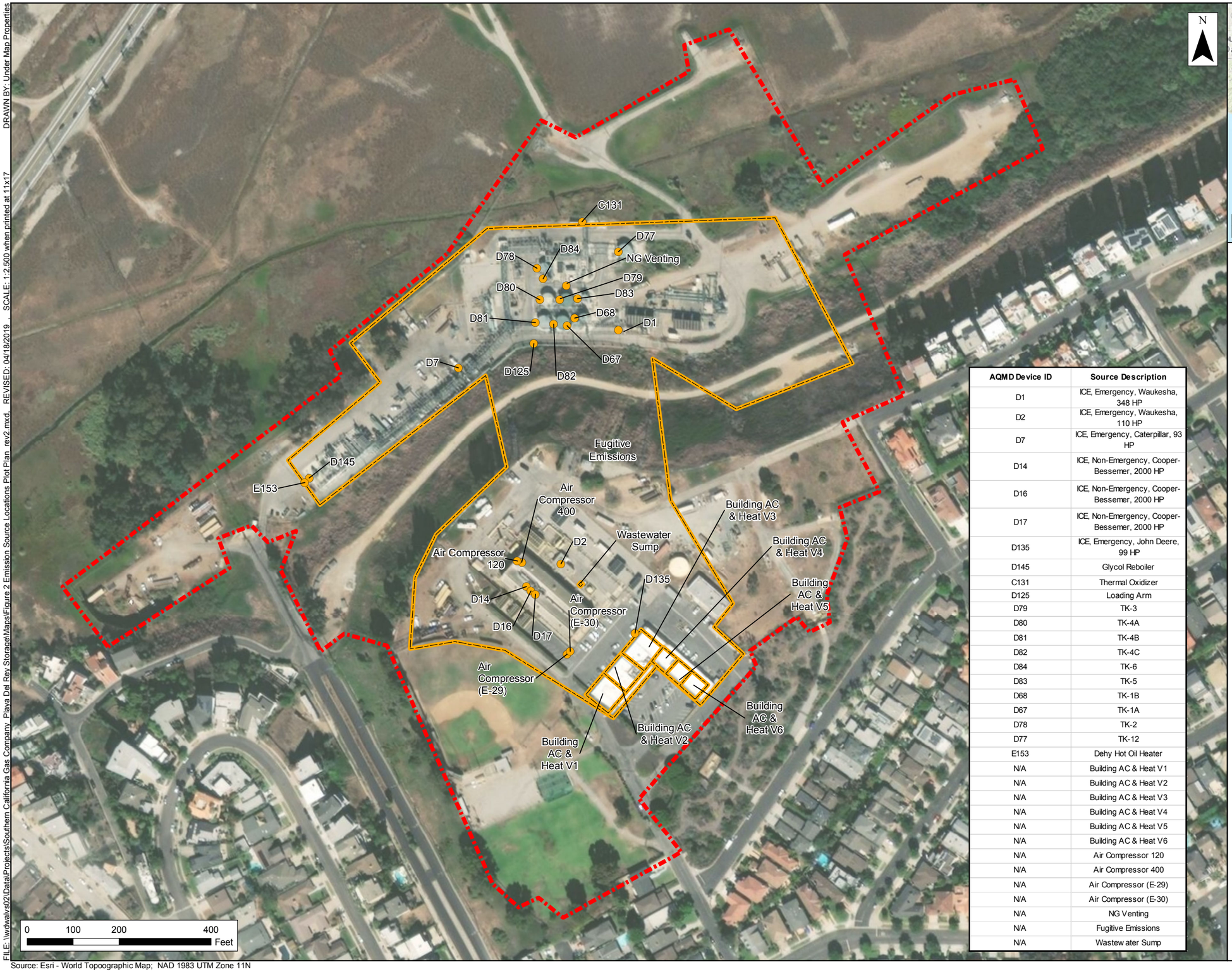
ERM



AQMD Device ID	Source Description
D1	ICE, Emergency, Waukesha, 348 HP
D2	ICE, Emergency, Waukesha, 110 HP
D7	ICE, Emergency, Caterpillar, 93 HP
D14	ICE, Non-Emergency, Cooper-Bessemer, 2000 HP
D16	ICE, Non-Emergency, Cooper-Bessemer, 2000 HP
D17	ICE, Non-Emergency, Cooper-Bessemer, 2000 HP
D135	ICE, Emergency, John Deere, 99 HP
D145	Glycol Reboiler
C131	Thermal Oxidizer
D125	Loading Arm
D79	TK-3
D80	TK-4A
D81	TK-4B
D82	TK-4C
D84	TK-6
D83	TK-5
D68	TK-1B
D67	TK-1A
D78	TK-2
D77	TK-12
E153	Dehy Hot Oil Heater
N/A	Building AC & Heat V1
N/A	Building AC & Heat V2
N/A	Building AC & Heat V3
N/A	Building AC & Heat V4
N/A	Building AC & Heat V5
N/A	Building AC & Heat V6
N/A	Air Compressor 120
N/A	Air Compressor 400
N/A	Air Compressor (E-29)
N/A	Air Compressor (E-30)
N/A	NG Venting
N/A	Fugitive Emissions
N/A	Wastew ater Sump

Legend

- Emission Source
- Property Boundary
- Emission Sources*

Notes:

*Fugitive Emissions and Wastewater Sump are Area Sources

Building & AC Heat V1-6 are Volume Sources

N/A: No AQMD Device ID

N

0 200 400 Feet

Figure 2
Emission Source Locations Plot Plan
Southern California Gas Company/
Playa Del Rey Storage Facility
8141 Gulana Avenue
Playa Del Rey, CA 90293

Environmental Resources Management
www.erm.com

Source: Esri - World Topoographic Map; NAD 1983 UTM Zone 11N

FILE: \\wdwalvs02\Data\Projects\Southern California Gas Company_Playa Del Rey Storage\Maps\Figure 2 Emission Source Locations Plot Plan_rev2.mxd, REVISED: 04/18/2019 SCALE: 1:2,500 when printed at 11x17 DRAWN BY: Under Map Properties

Appendix C -
Supporting Documentations

HORIZON

AIR MEASUREMENT SERVICES, INC.

Horizon Test #: S03-210-FRA
Date Tested: May 1 and 2, 2012
Report Date: June 12, 2012
Revision Number: 0

DESTRUCTION EFFICIENCY OF AN OXIDIZER CONTROLLING ORGANIC VAPOR EMISSIONS FROM A BULK LIQUIDS LOADING FACILITY

Facility ID No.: 8582
Source ID No.: C131

Facility:

Southern California Gas Company
8141 Gulena Avenue
Playa Del Rey, California 90293

Prepared for:

Southern California Gas Company
Post Office Box 3249
Los Angeles, California 90051-1249

Prepared by:

Horizon Air Measurement Services, Inc.
310 Cortez Circle
Camarillo, California 93012

Regulatory Agency:

South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765

Edward S. Swede
Edward S. Swede
Sr. Project Manager

Richard J. Vacherot
Technical Director

2. SUMMARY OF RESULTS

The results of the test program are summarized in Table 2-1. The reported values are the average of four, 90-minute test runs for a total run time of 6 hours as required by SCAQMD Method 501.1. The total VOC destruction efficiency of the oxidizer was 99.7%. The controlled emission rate of VOC was 0.0033 pounds per thousand gallons (lbs/1000 gallons) of fuel transferred which is well within the Permit to Operate limit of 0.08 lbs/1000 gallons.

During the loading of each truck, every component of the entire waste gas vapor line, including the couplings to the trucks, was surveyed using an Organic Vapor Analyzer (OVA) in accordance with EPA Method 21. No leaks were detected as defined in SCAQMD Rule 462 (75 ppm, as methane, above the local ambient concentration).

Table 2-1
Summary of Results
Southern California Gas Company
Playa Del Rey
Thermal Oxidizer

	Average (Runs 1-4)	Emissions Limit
Flow Rate,		
Waste Gas Vapors, dscfm	26.0	
Oxidizer Exhaust, dscfm	362	
Volatile Organic Compounds,		
Inlet Gas Vapors,		
ppm, C_1	146,875	
lb/hr, C_1	7.26	
Oxidizer Exhaust.		
ppm, C_1	36.9	
lb/hr, C_1	0.0250	
lb/hr, VOC	0.0304	
lb VOC/1000 gal fuel transferred	0.0033	0.08
Oxidizer Destruction Efficiency, %	99.7	90
Operating Parameters,		
Oxidizer Temperature Set Point,°F	1,530	>1400
Fuel Transferred, gallons	55,328	
Duration, hrs	6.00	
Fuel Transfer Rate, gph	9,221	

RAMCO SPECIALTY PRODUCTS INC

ATTACK II

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard (29CFR 1910.1200)

Made in the USA: RAMCO SPECIALTY PRODUCTS, INC. ◇ 5956 State Road ◇ Bakersfield, CA 93308-3022
Ph: (800) 334-7071 ◇ Fax: (714) 375-1225 ◇ E-Mail: 1wcsramco@ramcospec.com ◇ Web: www.ramcospec.com

SECTION I – PRODUCT IDENTIFICATION

Product Name:	**ATTACK II (Aerosol)**	Proper Shipping Name:	**CONSUMER COMMODITY**
Product Number:	**1671**	Date Prepared:	**03/03/2006**
Product Description:	**Solvent Cleaner & Degreaser**	Prepared By:	**Paul Williams**
Information Phone:	**(800) 334-7071**	24-Hour Emergency Phone:	**(800) 255-3924**

NFPA – HMIS CODES

Health	**1**	Flammability	**2**	Corrosive	**0**	Reactivity	**0**	Personal Protection	**B**

SECTION II – MATERIAL IDENTIFICATION AND INFORMATION

Description	CAS #	313-Chem	Skin	Carcinogen	PEL	TWA/TLV	Wt %
Citrus Terpene	5989-27-5	NO	NO	NO	N/E	N/E	40-50
Nonylphenol Ethoxylate	127087-87-0	NO	NO	NO	N/E	N/E	10-20
Carbon Dioxide Propellant	124-38-9	NO	NO	NO	10,000 ppm	10,000 ppm	01-05

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

***Boiling Point**	~ 323°F	**Evaporation Rate (n-Bu-Ac=1.0)**	N/A
Vapor Pressure of Can (psig @ 70°F)	78	***Water Solubility**	Emulsifies
***Vapor Density (Air=1.0 @ 77°F)**	>1	**Molecular Weight, Avg.**	N/A
***Specific Gravity (H2O=1 @ 75°F)**	0.874	**Viscosity, Typical (cp)**	N/A
VOC (Grams/Liter @ 25°C – EPA Method 24)	N/A	***Appearance**	Clear Orange Liquid
% Volatile by Volume	N/A	***Odor**	Citrus Fragrance
Total VOC % (Volatile Organic Compounds)	~78	***pH**	N/A

*Data Based on Aerosol Concentrate Only.

SECTION IV – FIRE & EXPLOSION HAZARD DATA

Flash Point (Of Concentrate Only)	122°F (T.O.C.)
Auto Ignition Temperatures	N/A
Flammability Limits in Air	
Lower Explosive Limit Estimated	N/A
Upper Explosive Limit Estimated	N/A
Extinguishing Media	Foam, CO2, Dry Media
Unusual Fire Fighting Procedures	Exposure to temperatures above 120°F may cause bursting.
Special Fire Fighting Procedures	Wear self-contained breathing apparatus and protective clothing. Cool fire-exposed containers to prevent rupturing.
Flammability (as per USA Flame Projection Test)	Extremely-Flammable Spray

SECTION V – HEALTH HAZARD DATA & EMERGENCY FIRST AID PROCEDURES

ENTRY ROUTES	ADVERSE/CHRONIC EFFECTS	FIRST AID PROCEDURES
EYES	May cause slight irritation but does not injure eye tissue.	Flush with large amounts of cool running water for at least 15 minutes while holding upper and lower lids open. If irritation persists, get medical attention immediately.
INGESTION	Can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis.	DO NOT INDUCE VOMITING. Seek medical attention immediately.
INHALATION	Inhalation of mist can cause irritation of nasal and respiratory passages. Abusive or excessive inhalation can cause irritation to the upper respiratory tract, dizziness, nausea and other central nervous system effects.	Remove to fresh air. Seek medical attention immediately. If breathing stops, give artificial respiration.
SKIN	Frequent or prolonged contact may cause irritation.	Wash with soap and water. If irritation persists, seek medical attention.
MEDICAL CONDITIONS TO AVOID	None Known.	

SECTION VI – REACTIVITY DATA

STABILITY	Stable – Avoid open flames and exposure to high temperatures.
HAZARDOUS POLYMERIZATION	Will not occur – No conditions known.
INCOMPATIBILITY	Strong oxidizing agents.
HAZARDOUS DECOMPOSITION	Carbon Dioxide, Carbon Monoxide.

SECTION VII – PRECAUTIONS FOR SAFE HANDLING & USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED – Allow propellant to evaporate. Maintain local exhaust and adequate ventilation. No smoking. Keep sparks, heat sources and open flame far away from spill or leak. Cover with absorbent material and sweep up. Wash area to prevent slipping. Dispose of soaked absorbent material in accordance with Federal, State and local laws.	
WASTE DISPOSAL	Aerosol cans, when emptied and depressurized through normal use, pose no disposal hazard and should be recycled. Consult Federal, State and local authorities for approved procedures.
HANDLING & STORAGE	Store in a cool, dry area away from heat or open flame. Do not store at temperatures above 120°F.
NFPA Code 30B Rating	Level 3 Aerosol
OTHER PRECAUTIONS	KEEP OUT OF REACH OF CHILDREN – For Industrial/Institutional Use Only. Read and follow label directions.

SECTION VIII – CONTROL MEASURES

RESPIRATORY PROTECTION	None needed for proper use in accordance with label directions.
VENTILATION	Provide local exhaust to keep air concentration of ingredients listed in Section II below established exposure limits.
PROTECTIVE GLOVES	None needed for proper use in accordance with label directions. Use chemical resistant gloves if skin contact will be made.
EYE PROTECTION	None needed unless it is anticipated that a splash or spray back will occur, then wear safety glasses or chemical proof goggles.
OTHER PROTECTIVE CLOTHING/EQUIPMENT	None needed for proper use in accordance with label directions.
WORK HYGIENIC PRACTICES	Employees must practice good personal hygiene; washing exposed areas of skin several times daily and before eating, drinking, smoking, using restroom and at end of work period. Remove contaminated clothing and launder before reuse.

SECTION IX – TRANSPORTATION DATA

PROPER SHIPPING NAME	CONSUMER COMMODITY
DOT ID NUMBER	N/A
DOT HAZARD CLASS	ORM-D

The information and recommendations set forth herein are presented in good faith and believed to be correct and reliable. RAMCO Specialty Products, Inc. makes no representation as to the completeness or accuracy thereof and supplies information upon the condition that the persons receiving same will make their own determination as to its suitability for their purpose prior to use.

MSDS 2006

N/D = Not Determined N/E = Not Established N/A = Not Applicable < = Less Than > - Greater Than

TOOL COOL

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard (29CFR 1910.1200)

Made in the USA: RAMCO SPECIALTY PRODUCTS, INC. ◊ 5956 State Road ◊ Bakersfield, CA 93308-3022
Ph: (800) 334-7071 ◊ Fax: (714) 375-1225 ◊ E-Mail: 1wcsramco@ramcospec.com ◊ Web: www.ramcospec.com

SECTION I – PRODUCT IDENTIFICATION

Product Name:	**TOOL COOL (Aerosol)**	Proper Shipping Name:	**CONSUMER COMMODITY**
Product Number:	**10491**	Date Prepared:	**01/14/2010**
Product Description:	**Cutting and Tapping Fluid**	Prepared By:	**Warren Squyres**
Information Phone:	**(800) 334-7071**	24-Hour Emergency Phone:	**(800) 255-3924**

HMIS RATING

(Based on Aerosol Concentrate)

0 – Minimal 1 – Slight 2 – Moderate 3 – Serious 4 – Extreme

HEALTH	**1**	FLAMMABILITY	**3**	PHYSICAL HAZARD	**0**	Personal Protection	**B**

SECTION II – MATERIAL IDENTIFICATION AND INFORMATION

Description	CAS #	313-Chem	Skin	Carcinogen	PEL	TWA/TLV	Wt %
Ethyl Alcohol	64-17-5	NO	NO	NO	1000 ppm	1000 ppm	40-60
Polyalkylene Glycol Monobutyl Ether	9038-95-3	NO	NO	NO	N/E	N/E	10-20
Amine containing alcohol	Trade Secret*	NO	NO	NO	N/E	N/E	01-10
Liquified Petroleum Gas	68476-86-8	NO	NO	NO	1000 ppm	1000ppm	20-40

*Massachusetts Trade Secret Code No. = 99-206-098

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

AEROSOL CONCENTRATE ONLY		TOTAL CONTENTS	
Boiling Point	170°F	**Total VOC %**	78.36%
Water Solubility	Complete	**Vapor Pressure** (can, psig @ 72°F)	50
Vapor Density (Air=1)	>1		
Specific Gravity (H2O=1 @ 70°F)	0.862		
Appearance	Clear Liquid		
Odor	Alcohol Odor		
pH	N/A		

SECTION IV – FIRE & EXPLOSION HAZARD DATA

Flash Point (Of Concentrate Only)	41°F (T.C.C.)
Auto Ignition Temperatures	N/A
Flammability Limits in Air	
Lower Explosive Limit Estimated	N/A
Upper Explosive Limit Estimated	N/A
Extinguishing Media	Water Fog, Foam, CO2, Dry Media
Unusual Fire Fighting Procedures	Exposure to temperatures above 120°F may cause bursting.
Special Fire Fighting Procedures	Wear self-contained breathing apparatus and protective clothing. Cool fire-exposed containers to prevent rupturing.
Flammability (as per CSMA Flame Projection Test)	Extremely-Flammable Spray

SECTION V – HEALTH HAZARD DATA & EMERGENCY FIRST AID PROCEDURES

PRIMARY ROUTES OF ENTRY & EFFECTS OF OVEREXPOSURE		FIRST AID PROCEDURES
EYES	May cause irritation and corneal inflammation.	Flush with large amounts of cool running water for at least 15 minutes while holding upper and lower lids open. If irritation persists, get medical attention immediately.
INGESTION	Can cause gastrointestinal irritation, nausea, vomiting, diarrhea, and depression of the central nervous system. Prolonged ingestion may cause liver damage, "fetal alcohol syndrome" in pregnant females, and neuronal degeneration. Aspiration of material into the lungs can cause severe pulmonary injury.	DO NOT INDUCE VOMITING. Seek medical attention immediately.
INHALATION	Inhalation of vapors or mist can cause irritation of nasal and respiratory passages, dizziness, and headache. Repeated or prolonged inhalation of mist can produce delayed lung damage, possibly progressing to death.	Remove to fresh air. Seek medical attention immediately. If breathing stops, give artificial respiration.
SKIN	Frequent or prolonged contact may cause irritation and/or dermatitis. May aggravate existing skin conditions.	Wash with soap and water. If irritation persists, seek medical attention.

SECTION VI – REACTIVITY DATA

STABILITY	Material Stable
HAZARDOUS POLYMERIZATION	Will not occur
INCOMPATIBILITY	Avoid contact with halogens, strong acids, strong bases, and strong oxidizing agents.
HAZARDOUS DECOMPOSITION	Material decomposed by fire may produce oxides of carbon, nitrogen, and phosphorous.

SECTION VII – PRECAUTIONS FOR SAFE HANDLING & USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED – Allow propellant to evaporate. Maintain local exhaust and adequate ventilation. No smoking. Keep sparks, heat sources and open flame far away from spill or leak. Cover with absorbent material and sweep up. Wash area to prevent slipping. Dispose of soaked absorbent material in accordance with Federal, State and local laws.	
WASTE DISPOSAL	Aerosol cans, when emptied and depressurized through normal use, pose no disposal hazard and should be recycled. Consult Federal, State and local authorities for approved procedures.
HANDLING & STORAGE	Store in a cool, dry area away from heat or open flame. Do not store at temperatures above 120°F.
NFPA Code 30B Rating	Level 3 Aerosol
OTHER PRECAUTIONS	KEEP OUT OF REACH OF CHILDREN – For Industrial/Institutional Use Only. Read and follow label directions.

SECTION VIII – CONTROL MEASURES

RESPIRATORY PROTECTION	None needed for proper use in accordance with label directions.
VENTILATION	Provide local exhaust.
PROTECTIVE GLOVES	Wear solvent resistant gloves to prevent skin contact.
EYE PROTECTION	Always wear safety glasses or chemical proof goggles when working with chemicals.
OTHER PROTECTIVE CLOTHING/EQUIPMENT	None needed for proper use in accordance with label directions.
WORK HYGIENIC PRACTICES	Employees must practice good personal hygiene; washing exposed areas of skin several times daily and before eating, drinking, smoking, using restroom and at end of work period. Remove contaminated clothing and launder before reuse.

SECTION IX – TRANSPORTATION DATA

PROPER SHIPPING NAME	CONSUMER COMMODITY
DOT ID NUMBER	N/A
DOT HAZARD CLASS	ORM-D

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MSDS 2009

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RAMCO SPECIALTY PRODUCTS INC

Z-WAY

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard (29CFR 1910.1200)

Made in the USA: RAMCO SPECIALTY PRODUCTS, INC. ◇ 5956 State Road ◇ Bakersfield, CA 93308-3022
Ph: (800) 334-7071 ◇ Fax: (714) 375-1225 ◇ E-Mail: 1wcsramco@ramcospec.com ◇ Web: www.ramcospec.com

SECTION I – PRODUCT IDENTIFICATION

Product Name:	**Z-WAY (Aerosol)**	Proper Shipping Name:	**CONSUMER COMMODITY**
Product Number:	**101010**	Date Prepared:	**03/03/2006**
Product Description:	**Penetrating Lubricant**	Prepared By:	**Paul Williams**
Information Phone:	**(800) 334-7071**	24-Hour Emergency Phone:	**(800) 255-3924**

NFPA – HMIS CODES

Health	**1**	Flammability	**1**	Corrosive	**0**	Reactivity	**0**	Personal Protection	**B**

SECTION II – MATERIAL IDENTIFICATION AND INFORMATION

Description	CAS #	313-Chem	Skin	Carcinogen	PEL	TWA/TLV	Wt %
Mineral Oil	8042-47-5	NO	NO	NO	5mg/m^3	5mg/m^3	10-20
Dipropylene Glycol Monomethyl Ether	34590-94-8	NO	NO	NO	100 ppm	100 ppm	01-10
Octamethylcyclotetrasiloxane	556-67-2	NO	NO	NO	N/E	10 ppm*	01-05
Decamethylcyclopentasiloxane	541-02-6	NO	NO	NO	N/E	10 ppm*	01-05
Carbon Dioxide Propellant	124-38-9	NO	NO	NO	10,000 ppm	10,000 ppm	01-05

* Manufacturer's recommended TWA exposure limit.

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

***Boiling Point**	>300°F	**Evaporation Rate (n-Bu-Ac=1.0)**	N/A
Vapor Pressure of Can (psig @ 70°F)	90	***Water Solubility**	Slight
***Vapor Density (Air=1.0 @ 77°F)**	>1	**Molecular Weight, Avg.**	N/A
***Specific Gravity (H2O=1 @ 75°F)**	0.83	**Viscosity, Typical (cp)**	N/A
VOC (Grams/Liter @ 25°C – EPA Method 24)	N/A	***Appearance**	Clear Yellowish Liquid
% Volatile by Volume	N/A	***Odor**	Banana Scent
Total VOC % (Volatile Organic Compounds)	~6.5	***pH**	N/A

*Data Based on Aerosol Concentrate Only.

SECTION IV – FIRE & EXPLOSION HAZARD DATA

Flash Point (Of Concentrate Only)	>200°F (T.O.C.)
Auto Ignition Temperatures	N/A
Flammability Limits in Air	
Lower Explosive Limit Estimated	N/A
Upper Explosive Limit Estimated	N/A
Extinguishing Media	Foam, CO2, Dry Media
Unusual Fire Fighting Procedures	Exposure to temperatures above 120°F may cause bursting.
Special Fire Fighting Procedures	Wear self-contained breathing apparatus and protective clothing. Cool fire-exposed containers to prevent rupturing.
Flammability (as per USA Flame Projection Test)	Non-Flammable Spray

SECTION V – HEALTH HAZARD DATA & EMERGENCY FIRST AID PROCEDURES

ENTRY ROUTES	ADVERSE/CHRONIC EFFECTS	FIRST AID PROCEDURES
EYES	May cause slight irritation.	Flush with large amounts of cool running water for at least 15 minutes while holding upper and lower lids open. If irritation persists, get medical attention.
INGESTION	Can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis.	DO NOT INDUCE VOMITING. Seek medical attention immediately.
INHALATION	Inhalation of mist can cause irritation of nasal and respiratory passages. Abusive or excessive inhalation can cause irritation to the upper respiratory tract, dizziness, nausea and other central nervous system effects. Prolonged exposure may affect the liver.	Remove to fresh air. Seek medical attention immediately. If breathing stops, give artificial respiration.
SKIN	Frequent or prolonged contact may cause irritation.	Wash with soap and water. If irritation persists, seek medical attention.
MEDICAL CONDITIONS TO AVOID	None Known.	

SECTION VI – REACTIVITY DATA

STABILITY	Stable – Avoid open flames and exposure to high temperatures.
HAZARDOUS POLYMERIZATION	Will not occur – No conditions known.
INCOMPATIBILITY	Strong oxidizing agents.
HAZARDOUS DECOMPOSITION	Carbon Dioxide, Carbon Monoxide.

SECTION VII – PRECAUTIONS FOR SAFE HANDLING & USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED – Allow propellant to evaporate. Maintain local exhaust and adequate ventilation. No smoking. Keep sparks, heat sources and open flame far away from spill or leak. Cover with absorbent material and sweep up. Wash area to prevent slipping. Dispose of soaked absorbent material in accordance with Federal, State and local laws.	
WASTE DISPOSAL	Aerosol cans, when emptied and depressurized through normal use, pose no disposal hazard and should be recycled. Consult Federal, State and local authorities for approved procedures.
HANDLING & STORAGE	Store in a cool, dry area away from heat or open flame. Do not store at temperatures above 120°F.
NFPA Code 30B Rating	Level 1 Aerosol
OTHER PRECAUTIONS	KEEP OUT OF REACH OF CHILDREN – For Industrial/Institutional Use Only. Read and follow label directions.

SECTION VIII – CONTROL MEASURES

RESPIRATORY PROTECTION	None needed for proper use in accordance with label directions.
VENTILATION	Provide local exhaust to keep air concentration of ingredients listed in Section II below established exposure limits.
PROTECTIVE GLOVES	Use chemical resistant gloves if skin contact will be made.
EYE PROTECTION	Always wear safety glasses or chemical proof goggles when working with chemicals.
OTHER PROTECTIVE CLOTHING/EQUIPMENT	None needed for proper use in accordance with label directions.
WORK HYGIENIC PRACTICES	Employees must practice good personal hygiene; washing exposed areas of skin several times daily and before eating, drinking, smoking, using restroom and at end of work period. Remove contaminated clothing and launder before reuse.

SECTION IX – TRANSPORTATION DATA

PROPER SHIPPING NAME	CONSUMER COMMODITY
DOT ID NUMBER	N/A
DOT HAZARD CLASS	ORM-D

The information and recommendations set forth herein are presented in good faith and believed to be correct and reliable. RAMCO Specialty Products, Inc. makes no representation as to the completeness or accuracy thereof and supplies information upon the condition that the persons receiving same will make their own determination as to its suitability for their purpose prior to use.

MSDS 2006

N/D = Not Determined N/E = Not Established N/A = Not Applicable < = Less Than > - Greater Than

NEXGEN 95

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard (29CFR 1910.1200)

Made in the USA: RAMCO SPECIALTY PRODUCTS, INC. ◊ 853 W. 17th Street Unit B ◊ Costa Mesa, CA 92627
Ph: (800) 334-7071 ◊ Fax: (714) 949-646-4649 ◊ E-Mail: 1wcsramco@ramcospec.com ◊ Web: www.ramcospec.com

SECTION I – PRODUCT IDENTIFICATION

Product Name:	**NEXGEN 95 (Aerosol)**	Proper Shipping Name:	**CONSUMER COMMODITY**
Product Number:	**101211**	Date Prepared:	**03/14/2010**
Product Description:	**Safety Solvent Degreaser**	Prepared By:	**Warren Squyres**
Information Phone:	**(800) 334-7071**	24-Hour Emergency Phone:	**(800) 255-3924**

HMIS RATING

(Based on Aerosol Concentrate)

0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Extreme

Health	**2**	Flammability	**0**	Reactivity	**1**	Personal Protection	**G**

SECTION II – MATERIAL IDENTIFICATION AND INFORMATION

Description	CAS #	313-Chem	Skin	Carcinogen	PEL	TWA/TLV	Wt %
1-bromopropane	106-94-5	NO	NO	NO	25 ppm	25 ppm	80-100
1,3-Dioxolane	646-06-0	NO	NO	NO	N/A	N/A	01-05
1,2 Butylene Oxide	106-88-7	NO	NO	YES	N/A	N/A	00-01
Carbon Dioxide Propellant	124-38-9	NO	NO	NO	10,000 ppm	10,000 ppm	01-10

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

***Boiling Point**	160°F	**Evaporation Rate (n-Bu-Ac=1.0)**	N/A
Vapor Pressure of Can (psig @ 70°F)	90	***Water Solubility**	Slight
***Vapor Density (Air=1.0 @ 77°F)**	4.25	***Appearance**	Clear Colorless Liquid
***Specific Gravity (H2O=1 @ 75°F)**	1.33	***Odor**	Strong Odor
Total VOC % (Volatile Organic Compounds)	96	***pH**	N/A

*Data Based on Aerosol Concentrate Only.

SECTION IV – FIRE & EXPLOSION HAZARD DATA

Flash Point (Of Concentrate Only)	None
Auto Ignition Temperatures	N/A
Flammability Limits in Air	
Lower Explosive Limit Estimated	N/A
Upper Explosive Limit Estimated	N/A
Extinguishing Media	Foam, CO2, Dry Media
Unusual Fire Fighting Procedures	Exposure to temperatures above 120°F may cause bursting.
Special Fire Fighting Procedures	Wear self-contained breathing apparatus and protective clothing. Cool fire-exposed containers to prevent rupturing.
Flammability (as per USA Flame Projection Test)	Non-Flammable Spray

SECTION V – HEALTH HAZARD DATA & EMERGENCY FIRST AID PROCEDURES

ENTRY ROUTES	ADVERSE/CHRONIC EFFECTS	FIRST AID PROCEDURES
EYES	May cause slight irritation but does not injure eye tissue.	Flush with large amounts of cool running water for at least 15 minutes while holding upper and lower lids open. If irritation persists, get medical attention immediately.
INGESTION	Can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis.	DO NOT INDUCE VOMITING. Seek medical attention immediately.
INHALATION	Inhalation of mist can cause irritation of nasal and respiratory passages. Abusive or excessive inhalation can cause irritation to the upper respiratory tract, dizziness, nausea and other central nervous system effects.	Remove to fresh air. Seek medical attention immediately. If breathing stops, give artificial respiration.
SKIN	Frequent or prolonged contact may cause irritation.	Wash with soap and water. If irritation persists, seek medical attention.

SECTION VI – REACTIVITY DATA

STABILITY	Material stable
HAZARDOUS POLYMERIZATION	Will not occur
INCOMPATIBILITY	No materials identified
HAZARDOUS DECOMPOSITION	Hydrogen Bromide, bromine, oxides of carbon and oxides of nitrogen

SECTION VII – PRECAUTIONS FOR SAFE HANDLING & USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED – Allow propellant to evaporate. Maintain local exhaust and adequate ventilation. No smoking. Keep sparks, heat sources and open flame far away from spill or leak. Cover with absorbent material and sweep up. Wash area to prevent slipping. Dispose of soaked absorbent material in accordance with Federal, State and local laws.	
WASTE DISPOSAL	Aerosol cans, when emptied and depressurized through normal use, pose no disposal hazard and should be recycled. Consult Federal, State and local authorities for approved procedures.
HANDLING & STORAGE	Store in a cool, dry area away from heat or open flame. Do not store at temperatures above 120°F.
NFPA Code 30B Rating	Level 1 Aerosol
OTHER PRECAUTIONS	KEEP OUT OF REACH OF CHILDREN – For Industrial/Institutional Use Only. Read and follow label directions.

SECTION VIII – CONTROL MEASURES

RESPIRATORY PROTECTION	None needed for normal use in accordance with label directions.
VENTILATION	Provide local exhaust to keep air concentration of ingredients listed in Section II below established exposure limits.
PROTECTIVE GLOVES	Use chemical resistant gloves to help prevent skin contact.
EYE PROTECTION	Always wear safety glasses or chemical proof goggles when working with chemicals.
OTHER PROTECTIVE CLOTHING/EQUIPMENT	None
WORK HYGIENIC PRACTICES	Employees must practice good personal hygiene; washing exposed areas of skin several times daily and before eating, drinking, smoking, using restroom and at end of work period. Remove contaminated clothing and launder before reuse.

SECTION IX – TRANSPORTATION DATA

PROPER SHIPPING NAME	CONSUMER COMMODITY
DOT ID NUMBER	N/A
DOT HAZARD CLASS	ORM-D

The information and recommendations set forth herein are presented in good faith and believed to be correct and reliable. RAMCO Specialty Products, Inc. makes no representation as to the completeness or accuracy thereof and supplies information upon the condition that the persons receiving same will make their own determination as to its suitability for their purpose prior to use.

MSDS 2009

N/D = Not Determined N/E = Not Established N/A = Not Applicable < = Less Than > - Greater Than

RAM STRIP

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard (29CFR 1910.1200)

Made in the USA: RAMCO SPECIALTY PRODUCTS, INC. ◇ 5956 State Road ◇ Bakersfield, CA 93308-3022
Ph: (800) 334-7071 ◇ Fax: (714) 375-1225 ◇ E-Mail: 1wcsramco@ramcospec.com ◇ Web: www.ramcospec.com

SECTION I – PRODUCT IDENTIFICATION

Product Name:	**RAM STRIP (Aerosol)**	Proper Shipping Name:	**CONSUMER COMMODITY**
Product Number:	**1014**	Date Prepared:	**03/01/2006**
Product Description:	**Paint & Varnish Remover**	Prepared By:	**Paul Williams**
Information Phone:	**(800) 334-7071**	24-Hour Emergency Phone:	**(800) 255-3924**

NFPA – HMIS CODES

Health	**3**	Flammability	**3**	Corrosive	**0**	Reactivity	**1**	Personal Protection	**H**

SECTION II – MATERIAL IDENTIFICATION AND INFORMATION

Description	CAS #	313-Chem	Skin	Carcinogen	PEL	TWA/TLV	Wt %
*Methylene Chloride	75-09-2	YES	NO	YES	25 ppm	25 ppm	50-60
*Toluene	108-88-3	YES	YES	NO	100 ppm	100 ppm	01-10
Ethanol	64-17-5	NO	NO	NO	400 ppm	400 ppm	01-10
Methanol	67-56-1	YES	YES	NO	200 ppm	200 ppm	01-05
Liquified Petroleum Gas	68476-85-7	NO	NO	NO	1000 ppm	1000 ppm	10-20

*WARNING – This chemical known to the State of California to cause cancer.
*WARNING – This chemical known to the State of California to cause birth defects or other reproductive harm.

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

***Boiling Point**	104°F	**Evaporation Rate (n-Bu-Ac=1.0)**	N/A
Vapor Pressure of Can (psig @ 70°F)	50	***Water Solubility**	Slight
***Vapor Density (Air=1.0 @ 77°F)**	>1	**Molecular Weight, Avg.**	N/A
***Specific Gravity (H2O=1 @ 75°F)**	1.130	**Viscosity, Typical (cp)**	N/A
VOC (Grams/Liter @ 25°C – EPA Method 24)	N/A	***Appearance**	Clear to Opaque Liquid
% Volatile by Volume	N/A	***Odor**	Mild Sweet Solvent Odor
Total VOC % (Volatile Organic Compounds)	39.8	***pH**	N/A

*Data Based on Aerosol Concentrate Only.

SECTION IV – FIRE & EXPLOSION HAZARD DATA

Flash Point (Of Concentrate Only)	~ 75°F (T.O.C.)
Auto Ignition Temperatures	N/A
Flammability Limits in Air	
Lower Explosive Limit Estimated	N/A
Upper Explosive Limit Estimated	N/A
Extinguishing Media	Foam, CO2, Dry Media
Unusual Fire Fighting Procedures	Exposure to temperatures above 120°F may cause bursting.
Special Fire Fighting Procedures	Wear self-contained breathing apparatus and protective clothing. Cool fire-exposed containers to prevent rupturing.
Flammability (as per USA Flame Projection Test)	Extremely-Flammable Spray

SECTION V – HEALTH HAZARD DATA & EMERGENCY FIRST AID PROCEDURES

ENTRY ROUTES	ADVERSE/CHRONIC EFFECTS	FIRST AID PROCEDURES
EYES	May cause pain. May cause moderate eye irritation. May cause slight corneal injury. Vapors may irritate eyes.	Flush with large amounts of cool running water for at least 15 minutes while holding upper and lower lids open. If irritation persists, get medical attention immediately.
INGESTION	Can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis.	DO NOT INDUCE VOMITING. Seek medical attention immediately.
INHALATION	Inhalation of mist can cause irritation of nasal and respiratory passages. Abusive or excessive inhalation can cause irritation to the upper respiratory tract, dizziness, nausea and other central nervous system effects.	Remove to fresh air. Seek medical attention immediately. If breathing stops, give artificial respiration.
SKIN	Frequent or prolonged contact may cause irritation.	Wash with soap and water. If irritation persists, seek medical attention.
MEDICAL CONDITIONS TO AVOID	None Known.	

SECTION VI – REACTIVITY DATA

STABILITY	Stable – Avoid open flames and exposure to high temperatures.
HAZARDOUS POLYMERIZATION	Will not occur – No conditions known.
INCOMPATIBILITY	Strong oxidizing agents.
HAZARDOUS DECOMPOSITION	Carbon Dioxide, Carbon Monoxide.

SECTION VII – PRECAUTIONS FOR SAFE HANDLING & USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED – Allow propellant to evaporate. Maintain local exhaust and adequate ventilation. No smoking. Keep sparks, heat sources and open flame far away from spill or leak. Cover with absorbent material and sweep up. Wash area to prevent slipping. Dispose of soaked absorbent material in accordance with Federal, State and local laws.	
WASTE DISPOSAL	Aerosol cans, when emptied and depressurized through normal use, pose no disposal hazard and should be recycled. Consult Federal, State and local authorities for approved procedures.
HANDLING & STORAGE	Store in a cool, dry area away from heat or open flame. Do not store at temperatures above 120°F.
NFPA Code 30B Rating	Level 1 Aerosol
OTHER PRECAUTIONS	KEEP OUT OF REACH OF CHILDREN – For Industrial/Institutional Use Only. Read and follow label directions.

SECTION VIII – CONTROL MEASURES

RESPIRATORY PROTECTION	None needed for proper use in accordance with label directions. If ventilation is not adequate to reduce vapors below Threshold Limit Value (TLV) levels, use a NIOSH/MSHA approved air-purifying respirator equipped with an organic vapor cartridge for short-term exposures. For long-term exposure, use supplied air respirator.
VENTILATION	Provide local exhaust to keep air concentration of ingredients listed in Section II below established exposure limits.
PROTECTIVE GLOVES	Use chemical resistant gloves if hand contact will be made.
EYE PROTECTION	Safety glasses or chemical proof goggles.
OTHER PROTECTIVE CLOTHING/EQUIPMENT	None needed for proper use in accordance with label directions.
WORK HYGIENIC PRACTICES	Employees must practice good personal hygiene; washing exposed areas of skin several times daily and before eating, drinking, smoking, using restroom and at end of work period. Remove contaminated clothing and launder before reuse.

SECTION IX – TRANSPORTATION DATA

PROPER SHIPPING NAME	CONSUMER COMMODITY
DOT ID NUMBER	N/A
DOT HAZARD CLASS	ORM-D

The information and recommendations set forth herein are presented in good faith and believed to be correct and reliable. RAMCO Specialty Products, Inc. makes no representation as to the completeness or accuracy thereof and supplies information upon the condition that the persons receiving same will make their own determination as to its suitability for their purpose prior to use.

MSDS 2006

N/D = Not Determined N/E = Not Established N/A = Not Applicable < = Less Than > - Greater Than

Material Safety Data Sheet

OMB No. 1218-0072 (Non-Mandatory Form) From U.S. Department of Labor/OSHA

IDENTITY: Natural Gas	

Section I

Manufacturer's Name: Southern California Gas Company	Emergency Telephone Number: Residential (800) 427-2200 Commercial/Industrial (800) 427-2000
Address: 555 West 5th Street, GT 16C0 Los Angeles, CA 90013-1044	Telephone Number for Information: (213) 244 – 2740 (Safety & Health Department - general information)
	Date Prepared: UPDATED – 1/2009, 4/2010, 2/2012

Section II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	%*(optional)*
Methane CAS number 74-82-8	Cal/OSHA PEL none listed	Simple asphyxiant ACGIH TLV 1,000 ppm		approx. 93%
Ethane CAS number 74-84-0	Cal/OSHA PEL none listed	Simple asphyxiant ACGIH TLV 1,000 ppm		approx. 4%
Propane CAS number 74-98-6	Cal/OSHA PEL 1,000 ppm	Simple asphyxiant ACGIH TLV 1,000 ppm		approx. 1%
Butane CAS number 106-97-8	Cal/OSHA PEL 800 ppm	Simple asphyxiant ACGIH TLV 1,000 ppm		approx. 0.5%
Carbon Dioxide CAS number 124-38-9	Cal/OSHA PEL 5,000 ppm	Simple asphyxiant ACGIH TLV 5,000 ppm		approx. 1%

Section III - Physical/Chemical Characteristics

Boiling Point	-259 F (methane)	Specific Gravity (H_2O = 1)	* N/A
Vapor Pressure (mm Hg)	* N/A	Melting Point	*N/A
Vapor Density (AIR = 1)	0.58 - 0.63	Evaporation Rate (Butyl Acetate = 1)	*N/A
Solubility in Water: 3.5 ml/ 100 ml water at 17 C			

SoCalGas vents natural gas during the course of routine operation and maintenance of equipment.

The VOC emission factor is calculated as follows:

Specific Gravity = 0.58-0.63 (Air = 1)

Air Density = 1.23 kg/m3 at 60 deg F

Nat Gas Density = (0.63) * (1.23 kg/m3) * (1000 g/kg) * (1 lb/453.6g) * (0.3048^3 m3/ft3)
= 0.0484 lb natural gas/scf
= 48,400 lb natural gas/mmscf

Natural gas composition is approximately (per SoCalGas MSDS):

Gas Component	Molecular Formula	MSDS Vol. Concentration (%)	Molecular Weight (g/mole)	NG Density at 60 deg F (g/l)	Constant at 60 deg F (l/mole)	Weight Percent (%)
Methane	CH4	93.00%	16.04	0.7749	23.68	81.29%
Ethane	C2H6	4.00%	30.07	0.7749	23.68	6.55%
Propane	***C3H8***	***1.00%***	***44.1***	***0.7749***	***23.68***	***2.40%***
Butane	***C4H10***	***0.50%***	***58.12***	***0.7749***	***23.68***	***1.58%***
CO2	CO2	1.00%	44.01	0.7749	23.68	2.40%
Other		0.50%				5.77%

VOC composition (excluding methane, ethane, carbon dioxide, and other) = 3.98% by weight

VOC emission factor = (48,400 lb natural gas/mmscf) * (0.0398 lb VOC/lb natural gas)
= 1930 lb VOC/mmscf

Benzene Laboratory Analyses Summary

Northern Transmission System

North Needles, Lines 4000 and 235 (Transwestern)

Line 4000	Brn & Cldwl	Rep #09-088-5	15 ppm - 2.99 lb/mmcf
Line 4000	Mntgmry Labs	Rep #H99939	19 ppm - 1.19 lb/mmcf
Nwbry Spg	Brn & Cldwl	Rep #08-218-3	20 ppm - 3.99 lb/mmcf
Vctrvlle	Mntgmry Labs	Rep #H99940	7.3 ppm - 1.46 lb/mmcf

South Needles, Line 3000 (El Paso)

Nwbry Spg	Brn & Cldwl	Rep #08-218-4	14 ppm - 2.79 lb/mmcf

Southern Transmission System

Blythe, Lines 2001 & 2002 (El Paso)

Pnte Sta	Brn & Cldwl	Rep #09-088-4	3.3 ppm - 0.66 lb/mmcf
Pnte Sta	Brn & Cldwl	Rep #08-218-1	22 ppm - 4.39 lb/mmcf
Pnte Sta	Mntgmry Labs	Rep #H99938	11 ppm - 0.69 lb/mmcf

System Average Benzene Concentration = 2.27 lb/mmcf

Benzene Emission Factor = 4.69E-05 lb benzene / lb natural gas

(2.27 lb benzene / mmscf) * (mmscf / 48,400 lb natural gas)

Table 2-1
Summary of Results
Southern California Gas Company- Playa Del Rey
Unit No. 6 D14
August 12, 2013

Run		Max (15 Min)		Normal (30 min)		Min (15 Min)	Emission Limit
Oxygen, %		14.63		14.62		14.73	
Carbon Dioxide, %		3.99		4.01		3.96	
Flow Rate, dscfm		7,573		7,572		7,527	
Carbon Monoxide,							
ppm	<	10.0	<	10.0	<	10.0	
ppm @ 15% O_2	<	9.41	<	9.39	<	9.56	89
lb/hr	<	0.335	<	0.335	<	0.333	
g/bHp-hr	<	0.0769	<	0.0769	<	0.0798	
lbs/MMscf	<	23.2	<	23.2	<	23.6	
Total Non-Methane/Non-Ethane Hydrocarbons,							
ppm				15.9			
ppm @ 15% O_2				14.9			56
lb/hr				0.305			
g/bHp-hr				0.0698			
lbs/MMscf				21.1			
Operating Parameters,							
Engine Load, %		98.9		99.0		94.7	
Fuel Flow, scfh		14,441		14,452		14,114	
Heat Rate, MMbtu/hr		14.09		14.10		13.77	
Horsepower, bHp		1,979		1,980		1,894	
RPM		330		330		330	
Comp. Suction Press., psi		389		389		387	
Comp. Discharge Press., psi		1,459		1,459		1,474	
Catalyst Temp. Inlet, °F		613		614		612	
Catalyst Temp. Outlet, °F		NR		NR		NR	
Timing, °BTDC		0.3		0.3		0.3	
Engine Operating Hours		77,263		77,263		77,263	
AFRC Faults / Alarms		None		None		None	
Engine Operating Hours (since last emission test)		1,403		1,403		1,403	

NR - Not Required

Table 2-2
Summary of Results
Souther California Gas Company- Playa Del Rey
Unit No. 8 D16
August 12, 2013

Run		Max (15 Min)		Normal (30 min)		Min (15 Min)	Emission Limit
Oxygen, %		14.70		14.69		14.73	
Carbon Dioxide, %		3.93		3.93		3.90	
Flow Rate, dscfm		7,823		7,795		7,674	
Carbon Monoxide,							
ppm	<	10.0	<	10.0	<	10.0	
ppm @ 15% O_2	<	9.51	<	9.51	<	9.57	89
lb/hr	<	0.346	<	0.345	<	0.340	
g/bHp-hr	<	0.0796	<	0.0793	<	0.0817	
lbs/MMscf	<	23.4	<	23.4	<	23.5	
Total Non-Methane/Non-Ethane Hydrocarbons,							
ppm				17.2			
ppm @ 15% O_2				16.4			56
lb/hr				0.340			
g/bHp-hr				0.0782			
lbs/MMscf				23.1			
Operating Parameters,							
Engine Load, %		98.8		98.7		94.4	
Fuel Flow, scfh		14,795		14,747		14,468	
Heat Rate, MMbtu/hr		14.44		14.39		14.12	
Horsepower, bHp		1,975		1,974		1,888	
RPM		329		329		330	
Comp. Suction Press., psi		386		385		386	
Comp. Discharge Press., psi		1,457		1,458		1,458	
Catalyst Temp. Inlet, °F		615		624		632	
Catalyst Temp. Outlet, °F		NR		NR		NR	
Timing, °BTDC		0.6		0.6		0.6	
Engine Operating Hours		80,533		80,533		80,533	
AFRC Faults / Alarms		None		None		None	
Engine Operating Hours (since last emission test)		1,423		1,423		1,423	

NR - Not Required

Table 2-3
Summary of Results
Southern California Gas Company- Playa Del Rey
Unit No. 9 D17
August 13, 2013

Run		Max (15 Min)		Normal (30 min)		Min (15 Min)	Emission Limit
Oxygen, %		14.56		14.58		14.58	
Carbon Dioxide, %		4.01		4.04		4.03	
Flow Rate, dscfm		7,761		7,808		7,760	
Carbon Monoxide,							
ppm	<	10.0	<	10.0	<	10.0	
ppm @ 15% O_2	<	9.30	<	9.34	<	9.33	89
lb/hr	<	0.344	<	0.346	<	0.344	
g/bHp-hr	<	0.0809	<	0.0812	<	0.0814	
lbs/MMscf	<	23.4	<	23.5	<	23.6	
Total Non-Methane/Non-Ethane Hydrocarbons,							
ppm				13.5			
ppm @ 15% O_2				12.6			56
lb/hr				0.266			
g/bHp-hr				0.062			
lbs/MMscf				18.1			
Operating Parameters,							
Engine Load, %		96.4		96.6		95.8	
Fuel Flow, scfh		14,666		14,701		14,526	
Heat Rate, MMbtu/hr		14.26		14.30		14.13	
Horsepower, bHp		1,928		1,931		1,916	
RPM		330		330		329	
Comp. Suction Press., psi		443		443		442	
Comp. Discharge Press., psi		1,471		1,471		1,465	
Catalyst Temp. Inlet, °F		642		615		641	
Catalyst Temp. Outlet, °F		NR		NR		NR	
Engine Operating Hours		79,473		79,473		79,473	
AFRC Faults / Alarms		None		None		None	
Engine Operating Hours (since last emission test)		1,188		1,188		1,188	

NR - Not Required

Table 2-1
Summary of Results
Southern California Gas Company
Playa Del Rey
Unit 6 - D14
August 4, 2015

Run		Max (15 Min)		Normal (30 min)		Min (15 Min)	Emission Limit
Oxygen, %		14.44		14.50		14.50	
Carbon Dioxide, %		3.59		3.55		3.56	
Flow Rate, dscfm		6,797		6,749		6,386	
Carbon Monoxide,							
ppm	<	10.0	<	10.0	<	10.0	
ppm @ 15% O_2	<	9.14	<	9.23	<	9.21	89
lb/hr	<	0.301	<	0.299	<	0.283	
g/bHp-hr	<	0.07	<	0.07	<	0.067	
lbs/MMscf	<	20.4	<	20.4	<	19.4	
Total Non-Methane/Non-Ethane Hydrocarbons,							
ppm				25.6			
ppm @ 15% O_2				23.6			56
lb/hr				0.437			
g/bHp-hr				0.102			
lbs/MMscf				29.8			
Operating Parameters,							
Engine Load, %		99.3		96.9		96.3	
Fuel Flow, scfh		14,731		14,636		14,600	
Heat Rate, MMbtu/hr		15.05		14.95		14.92	
Horsepower, bHp		1,985		1,938		1,925	
RPM		330		329		330	
Comp. Suction Press., psi		439		438		429	
Comp. Discharge Press., psi		1,455		1,460		1,503	
Catalyst Temp. Inlet, °F		629		633		637	
Catalyst Temp. Outlet, °F		NR		NR		NR	
Timing, °BTDC		0.3		0.3		0.3	
AFRC Target, mV		7.400		7.400		7.400	
Engine Operating Hours		80,313		80,313		80,313	
AFRC Faults / Alarms		None		None		None	
Engine Operating Hours (since last emission test)		3,050		3,050		3,050	

NA - Not Available
NR - Not Required

Table 2-2
Summary of Results
Southern California Gas Company
Playa Del Rey
Unit 8 - D16
August 3, 2015

Run		Max (15 Min)		Normal (30 min)		Min (15 Min)	Emission Limit
Oxygen, %		14.78		14.36		14.95	
Carbon Dioxide, %		3.41		3.28		3.30	
Flow Rate, dscfm		7,453		7,377		6,814	
Carbon Monoxide,							
ppm	<	10.0	<	10.0	<	10.0	
ppm @ 15% O_2	<	9.64	<	9.03	<	9.92	89
lb/hr	<	0.330	<	0.327	<	0.302	
g/bHp-hr	<	0.0776	<	0.0770	<	0.0747	
lbs/MMscf	<	23.9	<	23.7	<	22.6	
Total Non-Methane/Non-Ethane Hydrocarbons,							
ppm				18.2			
ppm @ 15% O_2				16.4			56
lb/hr				0.340			
g/bHp-hr				0.0801			
lbs/MMscf				24.7			
Operating Parameters,							
Engine Load, %		96.5		96.3		91.7	
Fuel Flow, scfh		13,794		13,774		13,317	
Heat Rate, MMbtu/hr		14.21		14.19		13.72	
Horsepower, bHp		1,931		1,925		1,834	
RPM		332		332		331	
Comp. Suction Press., psi		400		396		393	
Comp. Discharge Press., psi		1,453		1,453		1,452	
Catalyst Temp. Inlet, °F		613		615		610	
Catalyst Temp. Outlet, °F		NR		NR		NR	
Timing, °BTDC		0.0		0.0		0.0	
AFRC Target, mV		6.900		6.900		6.900	
Engine Operating Hours		82,263		82,263		82,263	
AFRC Faults / Alarms		None		None		None	
Engine Operating Hours (since last emission test)		1,730		1,730		1,730	

NA - Not Available
NR - Not Required

Table 2-3
Summary of Results
Southern California Gas Company
Playa Del Rey
Unit 9 – D17
August 3, 2015

Run	Max (15 Min)	Normal (30 min)	Min (15 Min)	Emission Limit
Oxygen, %	14.51	14.55	14.60	
Carbon Dioxide, %	3.53	3.53	3.48	
Flow Rate, dscfm	6,592	6,700	6,352	
Carbon Monoxide,				
ppm	15.3	14.7	14.9	
ppm @ 15% O_2	14.1	13.6	14.0	89
lb/hr	0.447	0.435	0.420	
g/bHp-hr	0.105	0.102	0.103	
lbs/MMscf	30.9	30.2	29.9	
Total Non-Methane/Non-Ethane Hydrocarbons,				
ppm		32.3		
ppm @ 15% O_2		30.0		56
lb/hr		0.548		
g/bHp-hr		0.129		
lbs/MMscf		38.0		
Operating Parameters,				
Engine Load, %	96.5	96.4	92.5	
Fuel Flow, scfh	14,449	14,417	14,062	
Heat Rate, MMbtu/hr	14.89	14.85	14.49	
Horsepower, bHp	1,931	1,928	1,850	
RPM	330	329	329	
Comp. Suction Press., psi	409	407	405	
Comp. Discharge Press., psi	1,455	1,455	1,454	
Catalyst Temp. Inlet, °F	619	627	631	
Catalyst Temp. Outlet, °F	NR	NR	NR	
Timing, °BTDC	0.5	0.5	0.5	
AFRC Target, mA	7.5	7.5	7.5	
Engine Operating Hours	82,604	82,604	82,604	
AFRC Faults / Alarms	None	None	None	
Engine Operating Hours (since last emission test)	3,131	3,131	3,131	

NA - Not Available
NR - Not Required

Table 2-1
Summary of Results
Southern California Gas Company
Hot Oil Heater - H670A – D145
August 4, 2015

Run/Load		1	Permit Limit
Oxygen, %		9.26	
Carbon Dioxide, %		6.73	
Flow Rate, dscfm		1215	
Carbon Monoxide,	<	10.0	50
ppm	<	15.4	
ppm @ 3% O_2	<	0.0538	
lb/hr	<	0.0112	
lb/MMBtu	<	11.5	
lb/MMscf			
Operating Parameters,		92	
Load, %		4678	
Fuel Flow, scfh		4.78	
Heat Rate, MMbtu/hr			

Appendix D -
SCAQMD Form A: Toxics Document Certification & Application Form

ATTACHMENT

INVENTORY YEAR 20 15	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AB2588 SECTION, 21865 E. COPLEY DR., DIAMOND BAR CA 91765-0949	FORM A

AB2588 AIR TOXICS DOCUMENT CERTIFICATION & APPLICATION FORM

Please check the appropriate boxes for purpose of submittal:

[ ]	*VOLUNTARY RISK REDUCTION PLAN (VRRP)*			[ ]	*FIRST YEAR'S REPORT*
[X]	*AIR TOXICS INVENTORY REPORT (ATIR)*			[ ]	*UPDATE PLAN*
[ ]	*HEALTH RISK ASSESSMENT (HRA)*	[ ]	*INITIAL*	[ ]	*UPDATE REPORT*
		[X]	*REVISED*		

[ ]

(Facility Label)

[ ]

If the facility ownership or location has changed, please indicate new name, ID#, and addresses in boxes provided.
Please print the following information:

Facility name
Playa del Rey Storage Field

Company name
SoCalGas

Facility address
8141 Gulana Avenue
Playa del Rey, CA 90293

Mailing address
8141 Gulana Avenue
Playa del Rey, CA 90293

SCAQMD Facility ID#
8582

Facility SIC #
4922

Contact Person (Company Official)
John A. Thompson

Telephone (Contact Official)
310-578-2689

Preparer (if different from above)

Name: Karin Fickerson **Title:** Air Quality Team Lead, Environmental Services

Company: SoCalGas **Telephone:** 805-681-8013

FAILURE TO SUBMIT REQUIRED INFORMATION OR KNOWINGLY SUPPLYING FALSE INFORMATION IS PUNISHABLE TO THE EXTENT DEFINED IN HEALTH AND SAFETY CODE SECTIONS 44381(a) AND 44381(b), WHICH INCLUDES MINIMUM FINES OF NOT LESS THAN FIVE HUNDRED DOLLARS.

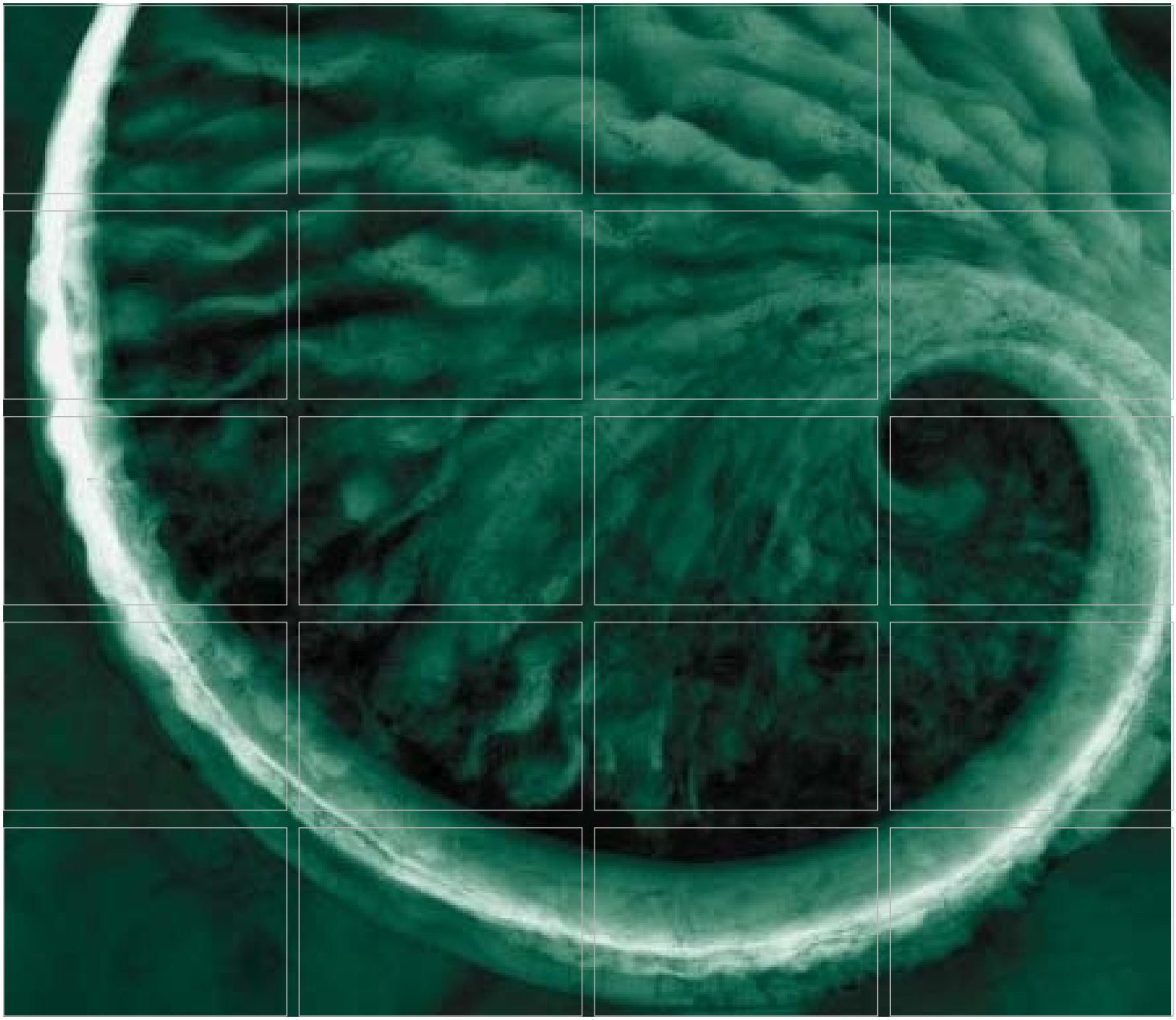
Signature Of Responsible Company Official
John A. Thompson

Date
10/27/17

Name Of Responsible Company Official
John A. Thompson

Title
Storage Manager

ATTACHMENT 2
UPDATED HRA AND MODELING FILES



AB2588 Health Risk Assessment

8141 Gulana Avenue
Playa Del Rey, California 90293
Facility ID: 8582

Prepared for:
Southern California
Gas Company

June 2018

Updated April 2019

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DEFINITIONS

Acute Health Impacts
Non-cancer health impacts for short-term, one-hour peak exposures to potential facility emissions. The total sum of the ratio of concentrations of each toxic air contaminant to its acute reference exposure level (REL).

Chronic Health Impacts
Non-cancer health impacts for long-term exposure to potential facility emissions. The total sum of the ratio of concentrations of each toxic air contaminant to its chronic reference exposure level (REL).

8-Hour Chronic Health Impacts
The ratio of the predicted air toxic exposure to the air concentrations at or below which health impacts would not be expected with repeated daily 8-hour exposures over a significant fraction of a lifetime. The 8-hour non-cancer hazard index is considered a chronic risk as it uses an 8-hour concentration that represents the long-term average of repeated 8-hour daily averages that occur.

Cancer Risk
The health risk associated with long-term exposures resulting from emissions of carcinogenic agents.

ACRONYMS AND ABBREVIATIONS

AB 2588	Assembly Bill 2588
AE	Annual Emissions
AER	Annual Emissions Report
AERMOD	American Meteorological Society/Environmental Protection Agency regulatory air dispersion model
ARB	California Air Resources Board
BL	Breathing Loss
BPIP	Building Profile Input Program
CE	Control Efficiency
CSF	Cancer Slope Factor
DICE	Diesel Internal Combustion Engines
DPM	Diesel Particulate Matter
EF	Emission Factor
EPA	U.S. Environmental Protection Agency
HARP2	Hot Spots Analysis and Reporting Program 2
HI	Hazard Index
HRA	Health Risk Assessment
ICE	Internal Combustion Engine
lb	Pound
lb/lb-mol	Pound per Pound Mol
lb/MMscf	Pounds per Million Standard Cubic Feet
m	Meter
MEIR	Maximally Exposed Individual Resident
MEIW	Maximally Exposed Individual Worker
MHE	Maximum Hourly Emissions
MSDS	Material Safety Data Sheet
µg/m3	Micrograms per Cubic Meter
NOx	Oxides of Nitrogen
OEHHA	Office of Environmental Health Hazard Assessment
PF	Potency Factor
PM	Particulate Matter
PM10	Particulate Matter less than 10 Microns in Diameter
PMI	Point of Maximum Impact
ppmv	Parts per Million by Volume
REL	Reference Exposure Level
RY	Reporting Year
SCAQMD	South Coast Air Quality Management District
scf/lb-mol	Standard Cubic Feet per Pound Mol
scfm	Standard Cubic Feet per Minute
SOx	Oxides of Sulfur
TAC	Toxic Air Contaminant
URF	Unit Risk Factor
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound
WL	Working Loss

1.0 EXECUTIVE SUMMARY

As requested by the South Coast Air Quality Management District (SCAQMD), Southern California Gas Company/Playa Del Rey Storage Facility (SoCalGas) has prepared this updated Health Risk Assessment (HRA) for the facility located at 8141 Gulana Avenue, Playa Del Rey, California 90293 (SCAQMD ID: 8582). This HRA is based on the reporting year (RY) 2015 Annual Emission Report (AER) and follows the current OEHHA's *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2015), and SCAQMD's *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act* for AB2588 (SCAQMD 2016a).

This HRA report follows the outline specified in Appendix C of the SCAQMD supplemental risk assessment guidelines for preparing an HRA. The following section provides an executive summary of the operations at SoCalGas and the resulting potential human health risk from the release of toxic air contaminants (TAC). The SCAQMD HRA Summary Form is provided at the end of this Executive Summary section.

Site Description and Facility Operations

The SoCalGas facility is located at 8141 Gulana Avenue, Playa Del Rey, California 90293 (SCAQMD ID: 8582). The location of the facility is depicted in Figure 1. The facility is one of four natural gas storage field operated by The Gas Company in the Los Angeles area. The following is a list of the various operations and their potential emissions.

- Gasoline-fueled internal combustion engines used in junction with the air compressor units and natural gas-fueled engines that provides air compression that result in combustion product emissions.

- Stationary natural gas-fueled and diesel-fueled engines used for a variety of reasons, including natural gas compression and injection as well as emergency power which result in emissions of combustion byproducts. The 99 HP John Deere emergency diesel internal combustion engine is the only diesel-fueled stationary emergency ICE at the facility.

- Boilers and heaters fired with natural gas which results in combustion product emissions.

- Vapor incinerator used to combust process gas fired with natural gas which results in emissions of combustion byproducts.

- Fixed roof storage tanks which result in evaporative organic emissions due to working and breathing losses.

- Bulk loading of natural gas and natural gas venting which results in air toxic emissions of organics.

- Evaporative losses and leaks from various components (i.e., pressure release devices, flanges, valves, connectors, fittings, etc.) on equipment throughout the facility which result in emissions of organic compounds.

- Solvent cleaners and other organic solvents used for maintenance purposes which result in emissions of organic compounds.

- Wastewater sump which results in evaporative emissions of organics.

Table 1 provides a list of the TACs emitted from the facility, along with their maximum hourly and annual emissions. Table 2 details the TAC emissions, which includes Diesel Particulate Matter (DPM), from the emergency diesel internal combustion engine (DICE) located at the facility.

Air Dispersion Modeling and Exposure Assessment

Air dispersion modeling and health risk analysis were used to assess exposure to TAC emissions from the facility. Exposure calculations were performed using the most recent version of American Meteorological Society/Environmental Protection Agency regulatory air dispersion model (AERMOD version 16216r) for air dispersion modeling analysis to predict ground-level toxic air contaminants concentrations by source. Modeled results were used in conjunction with the chemical specific emission rates to estimate potential ambient air concentrations of each compound. A dose-response assessment was then performed using the Hot Spots Analysis and Reporting Program 2 (HARP2) model, version 17320, developed by the California Air Resources Board (ARB).

This HRA evaluates upper-level estimates of potential cancer, non-cancer chronic, and non-cancer acute health effects at the point of maximum impact (PMI), the maximally exposed individual resident (MEIR), the maximally exposed individual worker (MEIW), and sensitive receptors. The potential excess cancer burden was also evaluated.

As required in the OEHHA and SCAQMD guidance for preparing a Tier 1 risk assessment under AB2588, residential cancer risks assume a 30-year exposure and cancer burden assumes a 70-year exposure. The following pathways were considered for residential receptors: homegrown produce, dermal absorption, soil ingestion, and mother's milk. All cancer risks at residential receptors were estimated by applying the "RMP Using the Derived Method" risk calculation option. The "OEHHA Derived Method" risk calculation option was applied to estimate chronic non-cancer health effects at residential receptors. The 8-hour chronic non-cancer health effects were also evaluated for residential and worker receptors.

The worker cancer risks assumed a 25-year exposure and includes the dermal absorption and soil ingestion pathways. The "OEHHA Derived Method" risk calculation option was used for estimating cancer risks and non-cancer chronic health effects at worker receptors. Regardless of the receptor type, the deposition velocity for the non-inhalation pathways was assumed to be 0.02 m/s. Furthermore, the default values were used for all pathways except for the dermal pathway, which was assumed as a "warm" climate.

Table 3 lists the substances with multi-pathway systems. Table 4 shows a list of target organ systems for non-cancer impact by different substances emitted from the facility. Table 5 provides a summary of the risk assumptions discussed above.

HRA Summary of Results

The summary results below were calculated using standard risk assessment techniques that are designed to provide the upper-level estimate of excess cancer risk, as well as potential chronic and acute non-cancer health effects from current operations.

Cancer Health Effects

Results of the cancer health effects assessment, which include impacts from the emergency diesel internal combustion engine (DICE), indicate that the potential cancer risk for all offsite residential and commercial receptors are less than 10 in one million (1.0E-05). Therefore, the cancer risks are less than the SCAQMD Rule 1402 significant threshold of 10 in one million and do not require additional facility action. Per SCAQMD's "Notice to Prepare a HRA" letter, this HRA also evaluated the maximum individual cancer risks excluding risks from DICE and are presented in Table 6. Considering that the potential cancer risks that included the risks from DICE are below the significance threshold, the cancer risks from the latter assessment were also below the notification levels.

Table 7 summarizes the results of this HRA for cancer risks. The cancer risks are estimated to be 15.2 in one million (1.5E-05) at the point of maximum impact (PMI), 8.9 in one million (8.9E-06) at the maximum exposed individual resident (MEIR), and 0.05 in one million (5.0E-08) at the maximum exposed individual worker (MEIW). The UTM coordinates for the PMI, MEIR, and MEIW are (367297m E, 3758930m N), (367400m E, 3759000m N), and (367290m E, 3758630m N), respectively. Source contribution to cancer risk at the PMI, MEIR, and MEIW are presented in Tables 20, 22, and 24. Chemical contributions to cancer risk at the PMI, MEIR, and MEIW by substance and exposure pathway are presented in Tables 21, 23, and 25. The primary substances contributing to the estimated cancer risks are 1,3-Butadiene, Benzene, Diesel Particulate Matter, Formaldehyde and Acetaldehyde. Detailed discussions regarding the cancer risks can be found in Section 4.1.1.

Since carcinogenic risk were above 1 in one million (see Figure 8), cancer burden for affected populations was estimated to be 0.02 as shown in Table 9. This is well below the SCAQMD Rule 1402 action risk level of 0.5.

Chronic Non-cancer Health Effects

Results of the chronic non-cancer health effects assessment, which include impacts from the emergency diesel internal combustion engine (DICE), indicate that all of the chronic hazard index (HI) values for each organ system are less than 1.0. Therefore, all calculated chronic non-cancer health effects are less than the SCAQMD Rule 1402 significant threshold of 1.0 and do not require additional facility action. Per SCAQMD's "Notice to Prepare a HRA" letter, this HRA also evaluated the maximum potential chronic HI excluding risks from DICE and are presented in Table 6. Considering that the potential chronic HIs that included the health impacts from DICE are below the significance threshold, the chronic HI values from the latter assessment were also below the notification levels.

Table 7 summarizes the results of this HRA for chronic non-cancer health hazards. The maximum potential chronic HI for an organ system is 0.04 at the PMI. It is located on the northwestern border of the property boundary. The maximum chronic HI for the MEIR is 0.02. The MEIR is located near the southeastern property boundary of the facility. The maximum chronic HI is 0.002 at the MEIW and is located west of the property boundary of the facility. The UTM coordinates for the PMI, MEIR, and MEIW are (367046m E, 3759154m N), (367400m E, 3758950m N), and (366450m E, 3758850m N), respectively. Source contribution to chronic HI at the PMI, MEIR, and MEIW are presented in Tables 26, 28, and 30. Chemical contributions to chronic HI at the PMI, MEIR, and MEIW by substance and exposure pathway are presented in Tables 27, 29, and 31. The primary

substances contributing to the estimated chronic HI are Benzene, Toluene, Formaldehyde, m-Xylene, and Hexane. The primary target organ impacted from chronic exposures is mostly the hematologic system. Detailed discussions regarding the chronic non-cancer health effects can be found in Section 4.1.2.

8-Hour Chronic Non-cancer Health Effects

Results of the 8-hour chronic non-cancer health effects assessment, which include impacts from the emergency diesel internal combustion engine (DICE), indicate that all of the 8-hour chronic HI values for each organ system are less than 1.0. Therefore, all calculated 8-hour chronic non-cancer health effects are less than the SCAQMD Rule 1402 significant threshold of 1.0 and do not require additional facility action. Per SCAQMD's "Notice to Prepare a HRA" letter, this HRA also evaluated the maximum potential 8-hour chronic HI excluding risks from DICE and are presented in Table 6. Considering that the potential 8-hour chronic HIs that included the health impacts from DICE are below the significance threshold, the 8-hour chronic HI values from the latter assessment were also below the notification levels.

Table 7 summarizes the results of this HRA for 8-hour chronic non-cancer health hazards. The maximum potential 8-hour chronic HI for an organ system is 0.04 at the PMI. It is located on the northwestern border of the property boundary. The maximum 8-hour chronic HI for the MEIR is 0.01. The MEIR is located near the southeastern property boundary of the facility. The maximum 8-hour chronic HI is 0.002 at the MEIW and is located west of the property boundary of the facility. The UTM coordinates for the PMI, MEIR, and MEIW are (367046m E, 3759154m N), (367400m E, 3758950m N), and (366450m E, 3758850m N), respectively. Source contribution to 8-hour chronic HI at the PMI, MEIR, and MEIW are presented in Tables 32, 34, and 36. Chemical contributions to 8-hour chronic HI at the PMI, MEIR, and MEIW by substance and exposure pathway are presented in Tables 33, 35, and 37. The primary substances contributing to the estimated 8-hour chronic HI are Benzene and Formaldehyde. The primary target organ impacted from 8-hour chronic exposures is mostly the hematologic system. Detailed discussions regarding the 8-hour chronic non-cancer health effects can be found in Section 4.1.3.

Acute Non-cancer Health Effects

Results of the acute non-cancer health effects assessment, which include impacts from the emergency diesel internal combustion engine (DICE),

indicate that all of the acute HI values for each organ system are less than 1.0 (public notification threshold) at any residential or commercial location.

Per SCAQMD's "Notice to Prepare a HRA" letter, this HRA also evaluated the maximum potential acute HI excluding risks from DICE and are presented in Table 6. Table 7 summarizes the results of this HRA for acute non-cancer health hazards, which include DICE, and are discussed below.

The maximum acute HI is 0.46 at the PMI. It is located on the southern border of the property boundary. The maximum acute non-cancer HI is 0.24 at the MEIR and is located at a residence near the southern end of property boundary of the facility. The maximum acute HI is 0.11 at the MEIW and is located south of the property boundary of the facility. The UTM coordinates for the PMI, MEIR, and MEIW are (367239m E, 3758859m N), (367300m E, 3758810m N), and (367270m E, 3758620m N), respectively. Source contribution to acute HI at the PMI, MEIR, and MEIW are presented in Tables 38, 40, and 42. Chemical contributions to acute HI at the PMI, MEIR, and MEIW by substance and exposure pathway are presented in Tables 39, 41, and 43. The primary substances contributing to the estimated acute HI are Benzene, Formaldehyde, and Nickel. The primary target organ impacted from acute exposures is mostly the immune system. Detailed discussions regarding the acute non-cancer health effects can be found in Section 4.1.3.

The locations of the cancer, chronic and acute non-cancer PMI, MEIR, and MEIW are shown on Figure 2. Sensitive receptors, defined as those who are especially susceptible to adverse health effects from exposure to TACs, such as children, the elderly, and the health impaired, were assessed in the HRA. These include schools, nursing homes, day care centers, hospitals, and any other location where sensitive individuals may reside or spend significant amounts of time. Results of cancer and non-cancer health effects assessment indicate that all cancer risks and non-cancer HIs at the sensitive receptors were well below the cancer risk threshold of 10 in one million (1.0E-05) and non-cancer HI threshold of 1.0 (See Table 8) . The locations of the sensitive receptors evaluated in the HRA are presented on Figure 7.

2.0 HAZARD IDENTIFICATION

The list of all potentially hazardous substances that are emitted from the facility have been identified in Table 1 based on the toxic air contaminants listed in Appendix A of The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (HRA). Table 3 details the TACs emitted by the Facility during RY 2015 and identifies which compounds have inhalation-only exposure or multi-pathway exposure. Table 4 shows a list of target organ systems for non-cancer impact by different substances emitted from the facility. Table 10 also summarizes the TACs and the associated carcinogenic slope factors (CSFs), chronic non-cancer Reference Exposure Level (RELs) and acute non-cancer RELs consistent with values provided in the OEHHA guidelines. A description of each activity that generates air toxic emissions is listed below.

- Gasoline-fueled internal combustion engines used in junction with the air compressor units and natural gas-fueled engines that provide air compressions, which result in combustion product emissions. The emissions are intermittent.

- Stationary natural gas-fueled and diesel-fueled engines used for a variety of reasons, including natural gas compression and injection as well as emergency power which result in emissions of combustion byproducts. The emissions are intermittent.

- Boilers and heaters fired with natural gas which results in combustion product emissions. The emissions are continuous.

- Vapor incinerator used to combust process gas fired with natural gas which results in emissions of combustion byproducts. The emissions are assumed to be continuous.

- Fixed roof storage tanks which result in evaporative organic emissions due to working and breathing losses. The emissions are continuous.

- Bulk loading of natural gas and natural gas venting which results in air toxic emissions of organics. Emissions are routine and continuous during loading.

- Evaporative losses and leaks from various components (i.e., pressure release devices, flanges, valves, connectors, fittings, etc.) on equipment throughout the facility that result in fugitive emissions of organic compounds. Fugitive emissions are continuous.

- Solvent cleaners and other organic solvents used for maintenance purposes that result in emissions of organic compounds. These fugitive emissions are continuous.

- Wastewater sump that results in evaporative emissions of organics. These fugitive emissions are continuous.

3.0 EXPOSURE ASSESSMENT

Exposure assessments estimate the extent of public exposure to emitted substances for potential cancer, chronic, acute, and repeated 8-hour exposures.

3.1 FACILITY DESCRIPTION AND EXPOSURE PATHWAYS

The facility name is Southern California Gas Company/Playa Del Rey Storage Facility (SoCalGas) and is located at 8141 Gulana Avenue, Playa Del Rey, California 90293 (SCAQMD ID: 8582). It is primarily surrounded by residential and commercial buildings. The facility geographical reference point used in HARP2 is 367160.26 East and 3758940.00 North in Universal Transverse Mercator (UTM) WGS84 coordinates. The facility is located in the northern region of the City of Playa del Rey, which is located in the northwestern corner of the Los Angeles Basin. The topography in the area is relatively rugged around the facility, with the northern portion of the facility located at the base of the bluff of the Del Rey Lagoon that extends to the Pacific Ocean and the southern portion of the facility located on top of the bluff with residence to the east, west, and south (See Figure 1). Figure 3, 4, and 5 show the location of the point sources, area sources, and volume sources, respectively. The building locations and dimensions are shown in Figure 6.

Based on SCAQMD guidelines, the inhalation pathway is addressed for all modeled sources and substances. Residential cancer and non-cancer risks for multi-pathway substances evaluated the following non-inhalation exposure pathways: dermal exposure, soil ingestion, plant ingestion, and mother's milk. Worker cancer and non-cancer risks for multi-pathway substances were modeled with the pathways of dermal exposure and soil ingestion. The OEHHA guidelines also lists other pathways, which include water ingestion, dairy and beef, and poultry and eggs. However, these pathways are not applicable exposure routes for the facility due to the surrounding land use. Table 3 lists the pathways evaluated for all emitted substances at the facility.

3.2 EMISSION INVENTORY

This HRA utilizes the emissions reported in the RY 2015 AER and the 2018 update for natural gas venting. As previously mentioned in the detailed Air Toxics Inventory Report (ATIR) submitted to SCAQMD, the emissions for formaldehyde for Main Unit 6, Main Unit 8, and Main Unit 9 have been

reduced by 80% to reflect the efficiency of the BASF Camet oxidation catalysts. Furthermore, pollutants from RAMCO Attack II and NexGen95 have been omitted because the Material Safety Data Sheet (MSDS) for both chemicals did not list any of the AB2588 TACs. These changes are accounted for in this HRA to accurately reflect the facility operations and emissions.

The processes at the facility were modeled according to the Tables 11, 12, and 13. The operating hours for each process are listed in Table 14. Table 1 provides the facility total annual and maximum hourly emissions by substance. Table 15 presents the total annual facility emissions and maximum hourly facility emissions by substance and by source. The following sections provide the methodologies used to estimate emissions from the emission sources.

3.2.1 Internal Combustion Engines

Emissions from engines that assist in natural gas and air compression, natural gas injection, and emergency generator power result from fuel combustion. Default SCAQMD emission factors were used to estimate toxic emissions from these equipment. None of the engines are connected to a SCR or SNCR and therefore, default values of ammonia were used. Maximum hourly emissions were estimated by multiplying the maximum hourly design rate at full load for each engine with the appropriate emission factor and dividing by the fuel appropriate higher heating value (HHV). Annual emissions were based on the fuel usage data from SCAQMD 2015 AER software with 2018 update for natural gas venting. Diesel Particulate Matter (DPM) emissions from diesel-fueled engines, which include DICE, were incorporated in this HRA.

As mentioned in the detailed ATIR, the engines that are fired by natural gas do not contain any chlorine constituents. The natural gas, 2 stroke-lean burn reciprocating IC engines are equipped with oxidation catalysts that provide 80% control of formaldehyde.

3.2.2 External Combustion Equipment

Combustion emissions from heaters and a thermal oxidizer were calculated by multiplying the annual fuel usage with the fuel type appropriate emission factor. Fuel usage data were obtained from SCAQMD 2015 AER software with 2018 update for natural gas venting. Emission factors were based on SCAQMD default emission factors. None of the engines are connected to a SCR or SNCR and therefore, default values of ammonia were used.

The air conditioning and heating unit emissions vent inside the compressor building. As such, the compressor building was divided into six square portions where three of them are each 22.63% of the total building area (64 feet by 64 feet) and the other three are 10.7% each (44 feet by 44 feet). The total emissions reported in the SCAQMD 2015 AER software was then multiplied by their respective ratio to accurately represent the emissions from each volume source.

3.2.3 Bulk Loading

Bulk loading of crude oil can result in air toxic emissions. Loading losses are the primary source of evaporative emissions that occur as organic vapors in "empty" tank trucks are displaced to the atmosphere by the liquid being loaded into the tanks. The loading arm for crude oil is connected to a thermal oxidizer. Air emissions from bulk loading of crude oil were calculated using the total volume of crude oil loaded, VOC emission factor from source test, and default SCAQMD chemical speciation data (Appendix C).

The emission factors for loading from the source test were used to calculate total VOC emissions. The VOCs were speciated using the default chemical speciation for crude oil from the SCAQMD 2015 AER software. The following equation was used to calculate annual emissions from bulk loading:

$$AE_i = EF_{VOC} \times Q_A \times \frac{C_i}{100}$$

where:

AE_i = Annual emission of chemical *i*, pounds per year (lb/yr)

EF_{VOC} = VOC emission factor, pounds per thousand barrels (lb/Mgal)

Q_A = Annual loading rate, Mgal/yr

C_i = Wt. % of chemical *i* in crude oil stream

Maximum hourly emissions were estimated by multiplying the total VOC emission factor, the weight percentage of the speciated chemical, and the loading rate limit:

$$MHE_i = EF_{VOC} \times \frac{C_i}{100} \times PL \times \frac{12\,\frac{months}{year}}{(8760\,\frac{hours}{year} \times 1{,}000\,\frac{gals}{Mgal})}$$

where:

MHE_i = Maximum hourly emission of chemical *i*, pounds (lb/hr)

EF_{VOC} = VOC emission factor, pounds per thousand gallons (lb/Mgal)

C_i = Wt. % of chemical *i* in crude oil stream

PL = Permit limit condition of loading rate of no more than 800,000 gals/month

3.2.4 Fixed Roof Storage Tanks

Storage tank emissions were calculated using the method outlined in EPA's AP-42 Chapter 7.1 using EPA's TANKS program. Total VOC emissions were calculated using AP-42 equations. Emissions of individual toxic chemicals were then calculated using the default chemical speciation for crude oil (RVP 5) from the SCAQMD 2015 AER software and EPA's TANKS program.

Emissions from fixed roof tanks were calculated using the following equations:

AE_i (lb/yr) = Total losses = Working losses (WL) + Breathing losses (BL)

$$WL_i = 0.001 \times M_V \times P \times Q \times K_n \times K_p \times \left(\frac{C_{vi}}{100}\right) \times \left\{1 - \left(\frac{CE}{100}\right)\right\}$$

$$BL_i = 365 \times V_v \times W_v \times K_e \times K_s \times OF \times \left(\frac{C_{vi}}{100}\right) \times \left\{1 - \left(\frac{CE}{100}\right)\right\}$$

where:

AE_i = Annual emission of chemical *i*, pounds per year (lb/yr)

M_v = Vapor molecular weight, lb/lb-mol

P = Vapor pressure, psia

Q = Yearly process rate, bbl/yr

K_n = Turnover factor, dimensionless

K_p = Product factor, dimensionless

V_v = Vapor space volume, ft^3 (based on tank size)

W_v = Vapor density, lb/ft^3 (based on material properties)

K_e = Vapor space expansion factor, dimensionless (based on daily temperature, pressure variations)

K_s = Vented vapor saturation factor, dimensionless (based on material pressure and tank size)

OF = Fraction of year tank is in use, fraction

C_{vi} = Chemical *i* vapor weight fraction based on Raoult's Law, wt. %

CE = Control efficiency of vapor recovery unit, %

Maximum hourly emissions were calculated by dividing the annual emission by the annual operating hours. A copy of the EPA's TANKS file can be found in Appendix C.

3.2.5 Natural Gas Venting

Natural gas venting occurs during the course of routine operation and maintenance of equipment. Since the start of 2018, the facility no longer routes natural gas to the blowdown vent stack, for routine natural gas venting and the primary function of the blowdown vent stack is for emergency station shutdown. The facility has shifted its operational venting practices to permitted portable carbon canisters that are used at the specific site of venting. Specifically, the practice that is now in place is as follows: Prior to conducting natural gas venting activities, and if feasible, the facility depressurizes the system to a distribution line to reduce the volume of natural gas vented. Next, the process vent line/valve that will vent natural gas is routed to permitted portable carbon canisters. Use of the carbon canisters minimizes the emissions associated with natural gas venting.

Emissions from this operation were calculated using emission factors for benzene derived from a laboratory analysis and Material Safety Data Sheet (MSDS) for natural gas. Annual emissions were based on the amount of natural gas fuel vented in 2018. Maximum hourly emissions were estimated by dividing the annual emissions by the annual operating hours.

The associated benzene emissions were minimized with the use of carbon canisters. A 60% control of benzene emissions was applied for the use of the carbon canisters. The 60% control efficiency is based on the lower end

of the range provided in Table 7.1 of California Air Resources Board (CARB) documents for Emission Control Techniques. Based on this CARB table, VOC with molecular weights between 50 and 150 Daltons would have an actual control efficiency of 60-95%. The molecular weight of benzene is 78 Daltons and the carbon control efficiency for benzene is anticipated to be 60-95%.

The supporting documentation mentioned above can be found in Appendix C.

3.2.6 Wastewater Sump

Emissions from sumps are the result of fugitive emissions and this annual activity occurs uniformly throughout the year. Default SCAQMD emission factor for clean-out sumps were used to estimate the emissions from the wastewater sump. Annual emissions were estimated by multiplying the surface area of the sump in square feet with SCAQMD's default emission factor and chemical speciation for crude oil. Maximum hourly emissions were determined by dividing the annual emissions by the annual operating hours.

3.2.7 Organic Solvents

SoCalGas uses several VOC-based solvents for cleaning and maintenance purposes. The emissions from VOC-based solvents were determined by multiplying the annual solvent usage by the TAC content of the solvent which was based on the Material Safety Data Sheet (MSDS) of the material. Maximum hourly emissions were estimated by dividing the annual emissions by the annual operating hours. The emissions that were previously submitted in the detailed ATIR for the chemicals RAMCO Attack II and NexGen95 have been omitted. The MSDS for both chemicals did not list any of the AB2588 TACs.

3.2.8 Fugitive Emissions

Fugitive emissions occur due to leaks of organic compounds from various components (i.e., flanges, valves, connectors, pressure relief devices) on equipment throughout the facility. The annual emissions were calculated by multiplying the component counts with the default emission factors and crude oil speciation from the SCAQMD 2015 AER software. Fugitive emissions are continuous. Therefore, maximum hourly emissions were estimated by dividing the annual emissions by the 8,760 hours.

3.3 AIR DISPERSION MODELING

Air dispersion modeling is performed for the exposure assessment of the health risk assessment. This HRA utilizes the most recent version of AERMOD (version 16216r) to estimate ambient concentrations for the facility. Modeled results were then integrated into the latest version of HARP2 (dated 17320). The air dispersion analysis was performed in accordance with OEHHA Guidance, the SCAQMD Supplemental Guidelines, and SCAQMD Modeling Guidance for AERMOD.

3.3.1 Model Selection and Model Options

Emission sources were categorized into three basic types: point, area, or volume sources. Table 16 summarizes the dispersion modeling assumptions and receptor grid spacing methods.

3.3.2 Meteorological Data

SCAQMD has AERMOD-ready meteorological data, which are processed with the ADJ_U* option, from 24 stations in the South Coast Air Basin. These files were developed using the U.S. EPA's AERMET processor and pre-processors AERMINUTE Version 15181 and AERSURFACE Version 13016. The data set collected at Los Angeles International Airport meteorological station (KLAX) from 2010 to 2016 was selected as the most representative surface station for the facility. It is the closest meteorological station and is expected to record similar meteorological conditions to that of the facility.

3.3.3 Receptors

In order to identify the maximum impacted receptor locations, receptor networks were constructed which include property boundary line with a spacing of 10 meters, a fine grid containing receptors spaced 10 meters apart out to a 100-meter radius, and a course grid containing receptors spaced 50 meters apart out to a 250-meter radius followed by a receptor grid spaced 75 meters apart out to 750-meter radius. The locations of the off-site residential and worker receptor areas were identified based on Google Earth/Maps and the Department of City Planning's Zone Information and Map Access System (ZIMAS) for the City of Los Angeles. Discrete receptors were identified for the sensitive receptors and are shown in Figure 7.

3.3.4 Air Dispersion Modeling Results

The cancer point of maximum impact (PMI), maximally exposed individual resident (MEIR), and maximally exposed individual worker (MEIW) receptors' average annual and maximum one-hour concentrations are determined using HARP2. The annual average, maximum one-hour and chronic 8-hour concentrations for all toxics are summarized in Tables 17, 18, and 19.

4.0 RISK CHARACTERIZATION

Modeled health risks were estimated for the facility based on methods and tools outlined in the OEHHA Guidance. Potential facility emissions and air dispersion results were input into HARP2 in accordance to the SCAQMD Supplemental Guidelines. Table 5 summarizes the risk assumptions required by SCAQMD, and a description of the guidance can be found in the Executive Summary section in pages 2 and 3. Table 3 lists the substances with multi-pathway systems. Table 4 shows a list of target organ systems for non-cancer impact by different substances emitted from the facility.

The PMI, MEIR, and MEIW were identified for potential cancer risks and chronic and acute non-cancer health effects by calculating the maximum hourly and average annual concentration of the TACs at each of the receptors, assigning the TACs CSFs and/or non-cancer RELs, and applying the appropriate worker and residential exposure durations. Results of the cancer and chronic and acute non-cancer health effects assessment indicate that the potential cancer risk and non-cancer chronic and acute HI for all off-site residential and commercial receptors are less than 10 in one million (1.0E-05) and 1.0, respectively. The locations of the cancer and chronic and acute non-cancer risks at the PMI, MEIR, and MEIW are presented on Figure 2.

4.1.1 Cancer Risk

The PMI is located on the southern property boundary and estimated to be 15.2 in one million (1.5E-05). A summary of the HRA results for the PMI is presented in Table 7. The primary sources contributing to the estimated cancer risk at the PMI are the Air Compressor E-29, Emergency ICE 99HP, Organic Solvents & Fugitive Emissions, ICE Main Unit 6, ICE Main Unit 9, and ICE Main Unit 8. The primary chemical contribution to the estimated cancer risk at the PMI is 1,3-Butadiene with approximately 35% of the risk, followed by Benzene, Diesel Particulate Matter, Formaldehyde and Acetaldehyde with 33%, 14%, 10%, and 3%, respectively. Source contribution to cancer risk at the PMI is presented in Table 20. Chemical contributions to cancer risk at the PMI by substance and exposure pathway is presented in Table 21.

The potential cancer risk at the MEIR is at a residence near the southeastern property boundary and estimated to be 8.9 in one million (8.9E-06). A summary of the HRA results for the cancer MEIR is presented in Table 7. The primary sources contributing to the estimated cancer risk at the MEIR are Air Compressor E-29, ICE Main Unit 6, ICE Main Unit 9, ICE

Main Unit 8, Organic Solvents & Fugitive Emissions, and Emergency ICE 99HP. The primary chemical contribution to the estimated cancer risk at the MEIR is 1,3-Butadiene with approximately 37% of the risk, followed by Benzene, Formaldehyde, Diesel Particulate Matter, and Acetaldehyde with 31%, 15%, 8%, and 5%, respectively. Source contribution to cancer risk at the MEIR is presented in Table 22. Chemical contributions to cancer risk at the MEIR by substance and exposure pathway is presented in Table 23.

The potential cancer risk at the MEIW is located south of the property boundary and estimated to be 0.1 in one million (5.0E-08). A summary of the HRA results for the cancer MEIW is presented in Table 7. The primary sources contributing to the estimated cancer risk at the MEIW are Organic Solvents & Fugitive Emissions, Emergency ICE 99HP, Air Compressor E-29, ICE Main Unit 6, ICE Main Unit 9, and ICE Main Unit 8. The primary chemical contribution to the estimated cancer risk at the MEIW is Benzene with approximately 39% of the risk, followed by 1,3-Butadiene, Diesel Particulate Matter, Formaldehyde, and Acetaldehyde with 28%, 17%, 10%, and 3%, respectively. Source contribution to cancer risk at the MEIW is presented in Table 24. Chemical contributions to cancer risk at the MEIW by substance and exposure pathway is presented in Table 25.

Figure 8 graphically represents the isopleths for the cancer risks.

4.1.2 Chronic Non-Cancer Health Effects

The maximum potential chronic HI for an organ system is 0.04 at the PMI targeting mostly the hematologic system. It is located on the northwestern border of the property boundary. The chronic HI results for the PMI is presented in Table 7. The primary sources contributing to the estimated chronic HI at the PMI are the Organic Solvents & Fugitive Emissions, Air Compressor E-29, TK-4A, and TK-12. The primary chemical contribution to the estimated chronic HI at the PMI is m-Xylene with approximately 32% of the chronic HI, followed by Toluene, Benzene, Hexane, and Ethyl Benzene with 23%, 15%, 10%, and 9%, respectively.. Source contribution to chronic HI at the PMI is presented in Table 26. Chemical contributions to chronic HI at the PMI by substance and exposure pathway is presented in Table 27.

The maximum potential chronic HI at the MEIR is at a residence near the southeastern property boundary and estimated to be 0.02. A summary of the HRA results for the chronic MEIR is presented in Table 7. The primary sources contributing to the estimated chronic HI at the MEIR are Air Compressor E-29, Organic Solvents & Fugitive Emissions, ICE Main Unit 6, ICE Main Unit 9, ICE Main Unit 8, and Air Compressor E-30. The primary chemical contribution to the estimated chronic HI at the MEIR is

Formaldehyde with approximately 21 % of the chronic HI, followed by Toluene, m-Xylene, Acetaldehyde, and Benzene with 15%, 13%, 13%, and 10%, respectively. Source contribution to chronic HI at the MEIW is presented in Table 28. Chemical contributions to chronic HI at the MEIW by substance and exposure pathway is presented in Table 29.

The maximum chronic HI is 0.002 at the MEIW and is located west of the property boundary of the facility. A summary of the HRA results for the chronic MEIW is presented in Table 7. The primary sources contributing to the estimated chronic HI at the MEIW are Organic Solvents & Fugitive Emissions, Air Compressor E-29, ICE Main Unit 6, ICE Main Unit 9, ICE Main Unit 8, and Air Compressor E-30. The primary chemical contribution to the estimated chronic HI at the MEIW is m-Xylene with approximately 28% of the chronic HI, followed by Toluene, Benzene, Hexane, and Ethyl Benzene with 21%, 14%, 9%, and 8%, respectively. Source contribution to chronic HI at the MEIW is presented in Table 30. Chemical contributions to chronic HI at the MEIW by substance and exposure pathway is presented in Table 31. The primary target organ impacted from chronic exposures is mostly the hematologic system.

Non-cancer chronic hazard index contours have not been mapped because they are below 0.5.

4.1.3 8-Hour Chronic Non-Cancer Health Effects

The maximum potential 8-hour chronic HI for an organ system is 0.04 at the PMI. It is located on the northwestern border of the property boundary. The 8-hour chronic HI results for the PMI is presented in Table 7. The primary sources contributing to the estimated 8-hour chronic HI at the PMI are the Organic Solvents & Fugitive Emissions, TK-4A, TK-12, and TK-1A. The primary chemical contribution to the estimated 8-hour chronic HI at the PMI is Benzene with approximately 98% of the 8-hour chronic HI, followed by Formaldehyde with 2%. Source contribution to 8-hour chronic HI at the PMI is presented in Table 32. Chemical contributions to 8-hour chronic HI at the PMI by substance and exposure pathway is presented in Table 33.

The maximum potential 8-hour chronic HI at the MEIR is at a residence near the southeastern property boundary and estimated to be 0.01. A summary of the HRA results for the 8-hour chronic MEIR is presented in Table 7. The primary sources contributing to the estimated 8-hour chronic HI at the MEIR are Organic Solvents & Fugitive Emissions, Air Compressor E-29, ICE Main Unit 6, ICE Main Unit 9, and ICE Main Unit 8. The primary chemical contribution to the estimated 8-hour chronic HI at the MEIR is Benzene with approximately 57% of the 8-hour chronic HI,

followed by Formaldehyde with 38%. Source contribution to 8-hour chronic HI at the MEIW is presented in Table 34. Chemical contributions to 8-hour chronic HI at the MEIW by substance and exposure pathway is presented in Table 35.

The maximum 8-hour chronic HI is 0.002 at the MEIW and is located west of the property boundary of the facility. A summary of the HRA results for the 8-hour chronic MEIW is presented in Table 7. The primary sources contributing to the estimated 8-hour chronic HI at the MEIW are Organic Solvents & Fugitive Emissions, Air Compressor E-29, ICE Main Unit 6, ICE Main Unit 9, and ICE Main Unit 8. The primary chemical contribution to the estimated 8-hour chronic HI at the MEIW is Benzene with approximately 91% of the 8-hour chronic HI, followed by Formaldehyde with 8%. Source contribution to 8-hour chronic HI at the MEIW is presented in Table 36. Chemical contributions to 8-hour chronic HI at the MEIW by substance and exposure pathway is presented in Table 37. The primary target organ impacted from chronic exposures is mostly the hematologic system.

Non-cancer 8-hour chronic hazard index contours have not been mapped because they are below 0.5.

4.1.4 Acute Non-Cancer Health Effects

The maximum acute HI is 0.46 at the PMI. It is located on the southern property boundary. The acute HI results for the PMI is presented in Table 7. The primary sources contributing to the estimated acute HI at the PMI are theAir Compressor E-29, Air Compressor E-30, ICE Main Unit 6, ICE Main Unit 9, and ICE Main Unit 8.

The primary chemical contribution to the estimated acute HI at the PMI is Benzene with approximately 49% of the acute HI, followed by Formaldehyde, Nickel, Acetaldehyde, and Arsenic with 41%, 7%, 2%, and 1%, respectively. Source contribution to acute HI at the PMI is presented in Table 38. Chemical contributions to acute HI at the PMI by substance and exposure pathway is presented in Table 39.

The maximum acute non-cancer HI is 0.24 at the MEIR and is located at a residence near the southern end of the property boundary. A summary of the HRA results for the acute MEIR is presented in Table 7. The primary sources contributing to the estimated acute HI at the MEIR are Natural Gas Venting, Air Compressor E-29, Air Compressor E-30, Air Compressor 400, and Air Compressor 120. The primary chemical contribution to the estimated acute HI at the MEIR is Benzene with approximately 49% of the acute HI, followed by Formaldehyde, Nickel, Acetaldehyde, and Arsenic

with 42%, 5%, 2%, and 1%, respectively. Source contribution to acute HI at the MEIR is presented in Table 40. Chemical contributions to acute HI at the MEIR by substance and exposure pathway is presented in Table 41.

The maximum acute HI is 0.11 at the MEIW and is located south of the property boundary of the facility. A summary of the HRA results for the acute MEIW is presented in Table 7. The primary sources contributing to the estimated acute HI at the MEIW are Natural Gas Venting, Air Compressor E-30, Air Compressor E-29, Air Compressor 120, and Air Compressor 400. The primary chemical contribution to the estimated acute HI at the MEIW is Formaldehyde with approximately 49% of the acute HI, followed by Benzene, Nickel, and Acetaldehyde with 44%, 3%, and 2%, respectively. Source contribution to acute HI at the MEIW is presented in Table 42. Chemical contributions to acute HI at the MEIW by substance and exposure pathway is presented in Table 43. The primary target organ impacted from all acute exposures is mostly the immune system.

Non-cancer acute hazard index contours have not been mapped because they are below 0.5.

4.1.5 Cancer Burden and Zone of Impact

The Zone of Impact (ZOI) for cancer risks is the area subject to an added cancer risk of more than 1 in one million (1.0 x 10-6), and is used to identify sensitive receptors and population-wide cancer burden. The 30-year cancer risk ZOI extends approximately 0.5 miles (730 meters) to the east from the property boundary. Figure 8 shows the 30-year lifetime cancer risk ZOI (i.e., 1 in one million).

Population cancer burden is another measure of cancer risk and represents a worst-case estimate of the increased number of cancer cases that might occur in the exposed population as a whole as a result of emissions from routine facility-wide operations. Burden is estimated by multiplying the cancer risk determined at a specific location by the population (i.e., census block) residing in that location and summing those results for all populated areas within the carcinogenic ZOI. The ZOI was determined using a 70-year residential exposure period. The 1 in one million (1.0 x 10-6) cancer risk ZOI extends approximately 0.5 miles (830 meters) to the east from the eastern facility boundary.

From census data, the population within the ZOI is 1,535 people. The cancer burden is estimated to be 0.02, which is below the SCAQMD Rule 1402 action risk level of 0.5 and suggests that the emissions from routine

facility-wide operations have minimal impacts on the exposed population. A summary of the cancer burden estimate is presented in Table 9. Isopleths of the cancer burden are not shown since the cancer burden does not exceed the ZOI isopleth threshold of 0.5.

The ZOI for non-cancer acute or chronic health hazard impacts is the area subject to an HI of 0.5 or greater. The non-cancer acute and chronic health impacts do not exceed the ZOI isopleth threshold of 0.5, and therefore, isopleths are not shown for these impacts.

4.1.6 9-Year Cancer Risk and Sensitive Receptors

The PMI and MEIR were assessed using a 9-year exposure as required by OEHHA guidelines. The cancer risk at the PMI with 9-year exposure is 11.2 in one million (1.12E-05). The cancer risk at the MEIR with 9-year exposure is 6.5 in one million (6.5E-06). Sensitive receptors defined as those who are especially susceptible to adverse health effects from exposure to TACs, such as children, the elderly, and the health impaired were included in the HRA. There are no sensitive receptors within the ZOI. However, they have been included in this HRA for informative purposes only. Table 8 lists the cancer, chronic non-cancer HI, and acute non-cancer HI values for the sensitive receptors. The locations of the sensitive receptors evaluated in the HRA are presented in Figure 7.

4.1.7 Estimates of Population Exposure

From census data, the estimated exposed population is 1,535 people within the 1 in one million cancer risk ZOI. A summary of the exposed population estimate is presented in Table 44. The non-cancer acute and chronic health impacts do not exceed the ZOI isopleth threshold of 0.5, and therefore, the exposed population has not been estimated for these impacts.

5.0 UNCERTAINTIES

Predictions of potential health risks related to SoCalGas emissions contain uncertainties because of gaps in scientific knowledge in the practice of exposure and risk assessment, as well as the need to simplify some aspects of the process for a manageable computational effort. In general, there are model and data uncertainties with respect to the assumed emissions, dispersion modeling, characteristics of the potentially exposed populations, and toxicological factors.

Because risk assessments are so often performed to set some regulatory limit on exposure for the protection of public health, the assumptions of risk assessments tend to overestimate rather than underestimate risk. The methodologies used in this AB 2588 HRA followed the Tier 1 "point estimate" approach described in the OEHHA Guidelines and are based on a central tendency approach combined with 95 percent upper-confidence-limit exposure factors to arrive at single-point health risk estimates, believed to be conservative, upper-bound estimates. This health-protective "point estimate" assumption was used to provide a degree of maximum protection on environmental values. The resulting health risk predictions should be viewed as maximum estimates of the actual health risks. Although the assessment process includes assumptions that may individually either overestimate or underestimate impact, as described below, on balance, health risk impacts are likely overestimated by a substantial margin.

5.1 EMISSION ESTIMATES

Emission estimates could be in error due to limits in scientific certainty. This bias could be toward underestimation or overestimation for any given source. Conservative (i.e., overpredictive) assumptions were applied where possible in the estimation of emissions. The chemicals evaluated in this HRA include common chemicals addressed in most risk assessments, and are likely representative of the highest emitted TACs at SoCalGas. While it is possible a chemical was not included in this HRA that could be a significant contributor to health risk, it is believed unlikely.

The emission estimation methodologies that were used could have errors leading to underestimation or overestimation of emissions for any given chemical. The emission estimates for the combustion sources are based on information contained in the 2015 ATIR submitted to SCAQMD with updates for 2018 operations, information supplied by SoCalGas, and in the Title V Operating Permit. These data were assumed to be representative of

operations during the 2015 reporting year. The CATEF emission factors used in this HRA tend to overestimate rather than underestimate potential emissions.

5.2 AIR DISPERSION MODELING

In general, USEPA-approved dispersion models, such as the one used in this HRA, tend to over predict rather than under predict concentrations. For example, all chemical emissions are assumed not to be transformed in the atmosphere. For certain pollutants, conversion to less toxic forms may occur sufficiently fast to reduce concentrations from the conservative model predictions. In addition, the models use assumptions about plume dispersion that tend to over predict concentrations.

5.3 EXPOSURE ASSESSMENT

The most important uncertainties concern the definitions of exposed populations and their exposure characteristics. The choice of a 30-year exposure period at residential exposure locations for lifetime risk estimates is very conservative in the sense that no person will likely spend 24 hours a day, 350 days a year, for over 30 years, at exactly the point of highest toxicity-weighted annual-average air concentrations. The greatest true exposure is likely to be at least two times, and perhaps more than 10 times lower than that calculated by this assumption. The average period of U.S. residency at any one location is about 9 years, and the 90th percentile of residency (typically used by the USEPA in "reasonable maximum exposure" estimates) is about 30 years. In addition, the exposure assessment considered all feasible environmental exposure pathways, including inhalation, soil ingestion, dermal absorption, crop consumption, and mother's milk.

For selected non-residential receptors included in the analysis for which a 30-year exposure assumption is not representative, a 25-year working lifetime was assumed. For short-term exposure, there is also likely over prediction, because the analysis assumed that all campus operations involving the use of chemicals of short-term concern will occur at maximum hourly emission rates all at the same time.

5.4 TOXICITY ASSESSMENT

All estimates of cancer and non-cancer toxicity for this HRA came from toxicologists with the State of California, and are among the most

conservative compilations of toxicity information available. Toxicity estimates are derived either from observations in humans or from projection of information derived from experiments with laboratory animals. Human data are obviously more relevant for HRAs, but are often uncertain because of the difficulty of estimating exposures associated with the specific health effect of interest or due to insufficient numbers of people studied.

Cancer risk coefficients from human data are typically considered best estimates and are applied without safety factors. As discussed previously, cancer risk is typically considered proportional to pollutant concentration at any level of exposure (i.e., a linear, no-threshold model), which is conservative at low environmental doses. For non-cancer effects, the lowest exposure known to cause effects in humans is usually divided by uncertainty or safety factors to account for variations in susceptibility and other factors. When toxicity estimates come from animal data, they usually involve extra safety factors to account for possibly greater sensitivity in humans, and the less-than-human-lifetime observations in animals. Overall, the toxicity assumptions and criteria used in this HRA are biased toward overestimating risk.

5.5 SUMMARY

Although this HRA includes both component features that overestimate and underestimate impacts, on balance, maximum individual health risks are likely overestimated.

6.0 REFERENCES

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Appendix A

Tables

Table 1: Facility-Wide Total Emission Rates by Substance
SoCalGas Playa del Rey

CAS	Compound	Annual Emissions (lbs/yr)	Annual Emissions (g/s)	Max Hourly Emissions (lbs/hr)	Max Hourly Emissions (g/s)
50000	Formaldehyde	7.12E+02	1.02E-02	1.64E-01	2.07E-02
67561	Methanol	1.60E+02	2.31E-03	3.68E-02	4.64E-03
71432	Benzene	2.48E+02	3.57E-03	4.17E-02	5.26E-03
75070	Acetaldehyde	4.97E+02	7.15E-03	1.15E-01	1.45E-02
91203	Naphthalene	6.29E+00	9.05E-05	1.43E-03	1.80E-04
100414	Ethyl benzene	7.81E+01	1.12E-03	4.95E-03	6.23E-04
106934	Ethylene dibromide {EDB}	4.70E+00	6.76E-05	1.09E-03	1.37E-04
106990	1,3-Butadiene	5.33E+01	7.66E-04	1.22E-02	1.53E-03
108883	Toluene	2.49E+02	3.58E-03	1.43E-02	1.80E-03
7664417	Ammonia	2.39E+02	3.43E-03	4.66E-02	5.87E-03
50328	Benzo[a]pyrene	3.63E-04	5.22E-09	8.44E-08	1.06E-08
56553	Benz[a]anthracene	2.15E-02	3.09E-07	4.99E-06	6.29E-07
83329	Acenaphthene	8.51E-02	1.22E-06	1.98E-05	2.49E-06
85018	Phenanthrene	2.26E-01	3.25E-06	5.24E-05	6.61E-06
86737	Fluorene	1.08E-01	1.55E-06	2.51E-05	3.16E-06
91576	2-Methyl naphthalene	1.37E+00	1.97E-05	3.18E-04	4.01E-05
95636	1,2,4-Trimethylbenzene	6.51E+01	9.36E-04	4.08E-03	5.14E-04
110543	Hexane	1.15E+02	1.65E-03	6.61E-03	8.33E-04
120127	Anthracene	4.59E-02	6.60E-07	1.07E-05	1.34E-06
129000	Pyrene	3.73E-02	5.37E-07	8.68E-06	1.09E-06
191242	Benzo[g,h,i]perylene	1.59E-03	2.28E-08	3.68E-07	4.64E-08
192972	Benzo[e]pyrene	1.50E-03	2.15E-08	3.48E-07	4.38E-08
193395	Indeno[1,2,3-cd]pyrene	6.35E-04	9.13E-09	1.48E-07	1.86E-08
198550	Perylene	3.18E-04	4.57E-09	7.38E-08	9.30E-09
205992	Benzo[b]fluoranthene	5.44E-04	7.83E-09	1.26E-07	1.59E-08

Table 1: Facility-Wide Total Emission Rates by Substance
SoCalGas Playa del Rey

CAS	Compound	Annual Emissions (lbs/yr)	Annual Emissions (g/s)	Max Hourly Emissions (lbs/hr)	Max Hourly Emissions (g/s)
206440	Fluoranthene	2.31E-02	3.32E-07	5.36E-06	6.76E-07
207089	Benzo[k]fluoranthene	2.72E-04	3.92E-09	6.33E-08	7.97E-09
208968	Acenaphthylene	2.03E-01	2.92E-06	4.71E-05	5.93E-06
218019	Chrysene	4.30E-02	6.18E-07	9.98E-06	1.26E-06
9901	Diesel engine exhaust, particulate matter (Diesel PM)	1.94E+00	2.79E-05	1.67E-01	2.10E-02
1151	PAHs, total, w/o individ. components reported [Treated as B(a)P for HRA]	3.27E-03	4.70E-08	1.80E-04	2.27E-05
7439921	Lead	4.80E-04	6.90E-09	4.14E-05	5.21E-06
7440020	Nickel	2.75E-03	3.96E-08	1.94E-05	2.45E-06
18540299	Chromium, hexavalent (& compounds)	5.78E-06	8.31E-11	4.99E-07	6.28E-08
7440382	Arsenic	9.25E-05	1.33E-09	7.98E-06	1.01E-06
7440439	Cadmium	8.67E-05	1.25E-09	7.48E-06	9.42E-07
108383	m-Xylene	2.47E+02	3.56E-03	1.73E-02	2.18E-03
7782505	Chlorine	3.54E-01	5.09E-06	3.06E-04	3.85E-05
75092	Methylene chloride {Dichloromethane}	9.55E+00	1.37E-04	1.09E-03	1.37E-04

Table 2: Emissions from Emergency Diesel Internal Combustion Engines (DICE)
SoCalGas Playa del Rey

Stack ID	Source Name	CAS	Pollutant	Annual Emissions (lbs/yr)	Annual Emissions (g/s)	Max Hourly Emissions (lbs/hr)	Max Hourly Emissions (g/s)
7	Emergency ICE 99HP Diesel	9901	Diesel exhaust particulates	1.94E+00	2.79E-05	1.67E-01	2.10E-02
7	Emergency ICE 99HP Diesel	7664417	Ammonia	4.62E-02	6.65E-07	3.99E-03	5.03E-04
7	Emergency ICE 99HP Diesel	1151	PAHs, total, w/o individ. components reported [PAH, POM]	2.09E-03	3.01E-08	1.80E-04	2.27E-05
7	Emergency ICE 99HP Diesel	91203	Naphthalene [PAH, POM]	1.14E-03	1.64E-08	9.82E-05	1.24E-05
7	Emergency ICE 99HP Diesel	7439921	Lead compounds (inorganic)	4.80E-04	6.90E-09	4.14E-05	5.21E-06
7	Emergency ICE 99HP Diesel	7440020	Nickel	2.25E-04	3.24E-09	1.94E-05	2.45E-06
7	Emergency ICE 99HP Diesel	18540299	Chromium, hexavalent (and compounds)	5.78E-06	8.31E-11	4.99E-07	6.28E-08
7	Emergency ICE 99HP Diesel	7440382	Arsenic and Compounds (inorganic)	9.25E-05	1.33E-09	7.98E-06	1.01E-06
7	Emergency ICE 99HP Diesel	7440439	Cadmium	8.67E-05	1.25E-09	7.48E-06	9.42E-07
7	Emergency ICE 99HP Diesel	50000	Formaldehyde	9.98E-02	1.44E-06	8.61E-03	1.08E-03
7	Emergency ICE 99HP Diesel	71432	Benzene	1.08E-02	1.55E-07	9.29E-04	1.17E-04
7	Emergency ICE 99HP Diesel	106990	Butadiene [1,3]	1.26E-02	1.81E-07	1.08E-03	1.37E-04
7	Emergency ICE 99HP Diesel	75070	Acetaldehyde	4.53E-02	6.51E-07	3.91E-03	4.92E-04
7	Emergency ICE 99HP Diesel	100414	Ethyl benzene	6.30E-04	9.06E-09	5.43E-05	6.85E-06
7	Emergency ICE 99HP Diesel	110543	Hexane	1.55E-03	2.24E-08	1.34E-04	1.69E-05
7	Emergency ICE 99HP Diesel	108883	Toluene	6.09E-03	8.76E-08	5.25E-04	6.62E-05

Table 3: List of AB2588 Substances and Toxic Pathways
SoCalGas Playa del Rey

CAS	Compound	Inhalation	Multipathway	Inhalation	Dermal	Soil Ingestion	Homegrown Produce	Mother's Milk
50000	Formaldehyde	X	---	Resident & Worker	---	---	---	---
67561	Methanol	X	---	Resident & Worker	---	---	---	---
71432	Benzene	X	---	Resident & Worker	---	---	---	---
75070	Acetaldehyde	X	---	Resident & Worker	---	---	---	---
91203	Naphthalene	X	---	Resident & Worker	---	---	---	---
100414	Ethyl benzene	X	---	Resident & Worker	---	---	---	---
106934	Ethylene dibromide {EDB}	X	---	Resident & Worker	---	---	---	---
106990	1,3-Butadiene	X	---	Resident & Worker	---	---	---	---
108883	Toluene	X	---	Resident & Worker	---	---	---	---
7664417	Ammonia	X	---	Resident & Worker	---	---	---	---
50328	Benzo[a]pyrene	X	X	Resident & Worker	Resident & Worker	Resident & Worker	Resident	Resident
56553	Benz[a]anthracene	X	X	Resident & Worker	Resident & Worker	Resident & Worker	Resident	Resident
83329	Acenaphthene	X	---	Resident & Worker	---	---	---	---
85018	Phenanthrene	X	---	Resident & Worker	---	---	---	---
86737	Fluorene	X	---	Resident & Worker	---	---	---	---
91576	2-Methyl naphthalene	X	---	Resident & Worker	---	---	---	---
95636	1,2,4-Trimethylbenzene	X	---	Resident & Worker	---	---	---	---
110543	Hexane	X	---	Resident & Worker	---	---	---	---
120127	Anthracene	X	---	Resident & Worker	---	---	---	---
129000	Pyrene	X	---	Resident & Worker	---	---	---	---
191242	Benzo[g,h,i]perylene	X	---	Resident & Worker	---	---	---	---
192972	Benzo[e]pyrene	X	---	Resident & Worker	---	---	---	---
193395	Indeno[1,2,3-cd]pyrene	X	X	Resident & Worker	Resident & Worker	Resident & Worker	Resident	Resident
198550	Perylene	X	---	Resident & Worker	---	---	---	---
205992	Benzo[b]fluoranthene	X	X	Resident & Worker	Resident & Worker	Resident & Worker	Resident	Resident
206440	Fluoranthene	X	---	Resident & Worker	---	---	---	---
207089	Benzo[k]fluoranthene	X	X	Resident & Worker	Resident & Worker	Resident & Worker	Resident	Resident
208968	Acenaphthylene	X	---	Resident & Worker	---	---	---	---
218019	Chrysene	X	X	Resident & Worker	Resident & Worker	Resident & Worker	Resident	Resident

Table 3: List of AB2588 Substances and Toxic Pathways
SoCalGas Playa del Rey

CAS	Compound	Inhalation	Multipathway	Inhalation	Dermal	Soil Ingestion	Homegrown Produce	Mother's Milk
9901	Diesel engine exhaust, particulate matter (Diesel PM)	X	---	Resident & Worker	---	---	---	---
1151	PAHs, total, w/o individ. components reported [Treated as B(a)P for HRA]	X	X	Resident & Worker	Resident & Worker	Resident & Worker	Resident	Resident
7439921	Lead	X	X	Resident & Worker	Resident & Worker	Resident & Worker	Resident	Resident
7440020	Nickel	X	X	Resident & Worker	Resident & Worker	Resident & Worker	Resident	Resident
18540299	Chromium, hexavalent (& compounds)	X	X	Resident & Worker	Resident & Worker	Resident & Worker	Resident	Resident
7440382	Arsenic	X	X	Resident & Worker	Resident & Worker	Resident & Worker	Resident	Resident
7440439	Cadmium	X	X	Resident & Worker	Resident & Worker	Resident & Worker	Resident	Resident
108383	m-Xylene	X	---	Resident & Worker	---	---	---	---
7782505	Chlorine	X	---	Resident & Worker	---	---	---	---
75092	Methylene chloride {Dichloromethane}	X	---	Resident & Worker	---	---	---	---

Table 4: Target Organs for Non-Cancer Health Effects
SoCalGas Playa del Rey

CAS	Compound	Chronic Hazard Target Organs	Acute Hazard Target Organs
50000	Formaldehyde	Respiratory System	Eyes
67561	Methanol	Reproductive/Developmental	Central Nervous System
71432	Benzene	Hematologic System	Immune System, Reproductive/Developmental, Hematologic System
75070	Acetaldehyde	Respiratory System	Respiratory System, Eyes
91203	Naphthalene	Respiratory System	---
100414	Ethyl benzene	Kidney, Alimentary System, Reproductive/Developmental, Endocrine System	---
106934	Ethylene dibromide {EDB}	Reproductive/Developmental	---
106990	1,3-Butadiene	Reproductive/Developmental	Reproductive/Developmental
108883	Toluene	Central Nervous System, Reproductive/Developmental, Respiratory System	Central Nervous System, Reproductive/Developmental, Respiratory System, Eyes
7664417	Ammonia	Respiratory System	Respiratory System, Eyes
50328	Benzo[a]pyrene	---	---
56553	Benz[a]anthracene	---	---
83329	Acenaphthene	---	---
85018	Phenanthrene	---	---
86737	Fluorene	---	---
91576	2-Methyl naphthalene	---	---
95636	1,2,4-Trimethylbenzene	---	---
110543	Hexane	Central Nervous System	---
120127	Anthracene	---	---
129000	Pyrene	---	---
191242	Benzo[g,h,i]perylene	---	---
192972	Benzo[e]pyrene	---	---
193395	Indeno[1,2,3-cd]pyrene	---	---
198550	Perylene	---	---

Table 4: Target Organs for Non-Cancer Health Effects
SoCalGas Playa del Rey

CAS	Compound	Chronic Hazard Target Organs	Acute Hazard Target Organs
205992	Benzo[b]fluoranthene	---	---
206440	Fluoranthene	---	---
207089	Benzo[k]fluoranthene	---	---
208968	Acenaphthylene	---	---
218019	Chrysene	---	---
9901	Diesel engine exhaust, particulate matter (Diesel PM)	Respiratory System	---
1151	PAHs, total, w/o individ. components reported [Treated as B(a)P for HRA]	---	---
7439921	Lead	---	---
7440020	Nickel	Respiratory System, Hematologic System, Reproductive/Developmental	Immune System,
18540299	Chromium, hexavalent (& compounds)	Respiratory System, Hematologic System	---
7440382	Arsenic	Cardiovascular System, Central Nervous System, Skin, Respiratory System, Reproductive/Developmental	Cardiovascular System, Central Nervous System, Reproductive/Developmental
7440439	Cadmium	Kidney, Respiratory System	---
108383	m-Xylene	Central Nervous System, Respiratory System, Eyes	Central Nervous System, Respiratory System, Eyes
7782505	Chlorine	Respiratory System	Respiratory System, Eyes
75092	Methylene chloride {Dichloromethane}	Cardiovascular System, Central Nervous System	Cardiovascular System, Central Nervous System

Table 5: Summary of SCAQMD Health Risk Assessment Guidance
SoCalGas Playa del Rey

Parameter	Assumption
Multi-Pathway	
• Inhalation	Required for residential & worker receptors
• Dermal	Required for residential & worker receptors
• Soil	Required for residential & worker receptors
• Homegrown Produce	Required for residential receptors
• Mother's Milk	Required for residential receptors
• Deposition Velocity	0.02 m/s
• MP Exposure Assumptions	Use HARP2 defaults except for dermal pathway which uses 'warm' climate
Residential Cancer Risk Assumptions	
• Exposure Duration	30 years for individual receptors 70 years for cancer burden
• Analysis Option	RMP Using the Derived Method
Worker Cancer Risk Assumptions	
• Exposure Duration	25 years
• Meteorological Data	OEHHA Derived Method
Residential and Worker Non-Cancer Risk Assumptions	
• Meteorological Data	OEHHA Derived Method

Table 6: AB2588 HRA Results Summary Excluding Risks from DICE SoCalGas Playa del Rey

AERMET KLAX (2012-2016)

	X-UTM (m)	Y-UTM (m)	HRA Result
Cancer 30-years			
PMI	367305	3758935	12.9 in one million
MEIR (Residence)	367400	3759000	8.1 in one million
Cancer 25-years			
MEIW (Worker)	367290	3758630	0.04 in one million
Cancer 9-years			
PMI	367305	3758935	9.4 in one million
MEIR (Residence)	367400	3758950	5.9 in one million
Chronic			
PMI	367046	3759154	0.04
MEIR (Residence)	367400	3758950	0.02
MEIW (Worker)	366450	3758850	0.002
8-Hour Chronic			
PMI	367046	3759154	0.04
MEIR (Residence)	367400	3758950	0.01
MEIW (Worker)	366450	3758850	0.002
Acute			
PMI	367239	3758859	0.4
MEIR (Residence)	367300	3758810	0.2
MEIW (Worker)	367270	3758620	0.1

Table 7: AB2588 HRA Results Summary - Primary Sources and Chemical Contribution
SoCalGas Playa del Rey
AERMET KLAX (2012-2016)

	X-UTM (m)	Y-UTM (m)	HRA Result	Significance Threshold	Primary Sources Contribution	Primary Chemical Contribution
Cancer 30-years						
PMI	367297	3758930	15.2 in one million	---	Air Compressor E-29 (29.33%) Emergency ICE 99HP (15.11%) Organic Solvents & Fugitive Emissions (14.28%) ICE Main Unit 6 (13.97%) ICE Main Unit 9 (10.71%) ICE Main Unit 8 (10.15%)	1,3-Butadiene (35.25%) Benzene (33.22%) Diesel Particulate Matter (13.73%) Formaldehyde (10.36%) Acetaldehyde (2.91%)
MEIR (Residence)	367400	3759000	8.9 in one million	10 in one million	ICE Main Unit 6 (26.15%) ICE Main Unit 9 (18.09%) ICE Main Unit 8 (17.91%) Organic Solvents & Fugitive Emissions (13.73%) Air Compressor E-29 (9.83%) Emergency ICE 99HP (8.77%)	1,3-Butadiene (37.34%) Benzene (30.50%) Formaldehyde (15.18%) Diesel Particulate Matter (7.97%) Acetaldehyde (4.81%)
Cancer 25-years						
MEIW (Worker)	367290	3758630	0.05 in one million	10 in one million	Organic Solvents & Fugitive Emissions (23.68%) Emergency ICE 99HP (17.11%) Air Compressor E-29 (16.61%) ICE Main Unit 6 (15.13%) ICE Main Unit 9 (10.40%) ICE Main Unit 8 (10.19%)	Benzene (38.98%) 1,3-Butadiene (28.03%) Diesel Particulate Matter (16.53%) Formaldehyde (9.89%) Acetaldehyde (2.89%)
Cancer 9-years						
PMI	367297	3758930	11.15 in one million	---	Air Compressor E-29 (29.16%) Emergency ICE 99HP (15.54%) Organic Solvents & Fugitive Emissions (14.19%) ICE Main Unit 6 (13.91%) ICE Main Unit 9 (10.66%) ICE Main Unit 8 (10.11%)	1,3-Butadiene (35.05%) Benzene (33.04%) Diesel Particulate Matter (13.66%) Formaldehyde (10.30%) Acetaldehyde (2.89%)
MEIR (Residence)	367400	3758950	6.5 in one million	10 in one million	Air Compressor E-29 (25.80%) ICE Main Unit 6 (19.34%) ICE Main Unit 9 (14.26%) ICE Main Unit 8 (13.69%) Organic Solvents & Fugitive Emissions (10.81%) Emergency ICE 99HP (10.05%)	1,3-Butadiene (39.00%) Benzene (30.89%) Formaldehyde (12.90%) Diesel Particulate Matter (8.83%) Acetaldehyde (3.81%)
Chronic						
PMI	367046	3759154	0.04	---	Organic Solvents & Fugitive Emissions (88.85%) Air Compressor E-29 (1.71%) TK-4A (1.10%) TK-12 (1.06%)	m-Xylene (31.56%) Toluene (23.34%) Benzene (15.10%) Hexane (10.22%) Ethyl Benzene (9.04%)
MEIR (Residence)	367400	3758950	0.02	1.00	Air Compressor E-29 (38.68%) Organic Solvents & Fugitive Emissions (18.13%) ICE Main Unit 6 (13.10%) ICE Main Unit 9 (9.66%) ICE Main Unit 8 (9.27%) Air Compressor E-30 (7.80%)	Formaldehyde (20.82%) Toluene (14.85%) m-Xylene (12.95%) Acetaldehyde (12.91%) Benzene (10.47%)
MEIW (Worker)	366450	3758850	0.002	1.00	Organic Solvents & Fugitive Emissions (74.82%) Air Compressor E-29 (8.41%) ICE Main Unit 6 (2.63%) ICE Main Unit 9 (2.22%) ICE Main Unit 8 (1.96%) Air Compressor E-30 (1.51%)	m-Xylene (27.67%) Toluene (21.29%) Benzene (13.94%) Hexane (9.07%) Ethyl Benzene (8.00%)

Table 7: AB2588 HRA Results Summary - Primary Sources and Chemical Contribution
SoCalGas Playa del Rey
AERMET KLAX (2012-2016)

	X-UTM (m)	Y-UTM (m)	HRA Result	Significance Threshold	Primary Sources Contribution	Primary Chemical Contribution
8-Hour Chronic						
PMI	367046	3759154	0.04	---	Organic Solvents & Fugitive Emissions (90.12%) TK-4A (1.11%) TK-12 (1.08%) TK-1A (1.07%)	Benzene (98.17%) Formaldehyde (1.59%)
MEIR (Residence)	367400	3758950	0.01	1.00	Organic Solvents & Fugitive Emissions (25.91%) Air Compressor E-29 (23.81%) ICE Main Unit 6 (17.87%) ICE Main Unit 9 (13.18%) ICE Main Unit 8 (12.65%)	Benzene (56.77%) Formaldehyde (37.64%)
MEIW (Worker)	366450	3758850	0.002	1.00	Organic Solvents & Fugitive Emissions (80.42%) Air Compressor E-29 (3.87%) ICE Main Unit 6 (2.70%) ICE Main Unit 9 (2.28%) ICE Main Unit 8 (2.01%)	Benzene (90.47%) Formaldehyde (8.34%)
Acute						
PMI	367239	3758859	0.46	---	Air Compressor E-29 (44.58%) Air Compressor E-30 (13.39%) ICE Main Unit 6 (5.60%) ICE Main Unit 9 (5.30%) ICE Main Unit 8 (5.17%)	Benzene (48.87%) Formaldehyde (40.78%) Nickel (6.45%) Acetaldehyde (1.69%) Arsenic (0.87%)
MEIR (Residence)	367300	3758810	0.24	1.00	Air Compressor E-29 (39.00%) Air Compressor E-30 (13.30%) Natural Gas Venting (6.86%) Air Compressor 120 (6.75%) Air Compressor 400 (6.70%)	Benzene (48.67%) Formaldehyde (42.37%) Nickel (5.39%) Acetaldehyde (1.73%) Arsenic (0.57%)
MEIW (Worker)	367270	3758620	0.11	1.00	Air Compressor E-29 (17.76%) Air Compressor E-30 (17.40%) Air Compressor 400 (9.32%) Air Compressor 120 (9.31%) Natural Gas Venting (9.15%)	Formaldehyde (49.11%) Benzene (44.25%) Nickel (3.35%) Acetaldehyde (2.02%)

Table 8: AB2588 HRA Results Summary - Sensitive Receptors
SoCalGas Playa del Rey

Sensitive Receptor	X-UTM (m)	Y-UTM (m)	Elevation (m)	9-year Cancer Risk (in one million)	Chronic HI	Acute HI
Playa Vista Elementary School	368394	3759532	4.98	0.38	0.0015	0.00004
Westside Neighborhood School	368604	3760580	3.79	0.06	0.0002	0.00002
Saint Bernard High School	367615	3758022	34.93	0.08	0.0003	0.00007
Westchester Enriched Sciences Magnets	367945	3758434	44.1	0.09	0.0003	0.00009
Loyola Marymount University	369057	3759767	43.92	0.23	0.0007	0.00003
Marina del Rey Hospital	367047	3761082	3.79	0.04	0.0001	0.00002
Playa Vista Medical Center	368598	3760147	2.41	0.11	0.0004	0.00003
Sunrise of Playa Vista (Senior Center)	368070	3760143	2.27	0.08	0.0003	0.00003

Table 9: Summary of Cancer Burden Estimates
SoCalGas Playa del Rey

Census Tract	Maximum Cancer Risk	Receptor	Census Tract Population[1]	Estimated Percentage of Census Tract Within ZOI[2]	Zone of Impact Population	Cancer Burden[3]
2766.01	1.08E-05	(367400m E, 3758950m N)	3838	0.40	1535	0.02

(1) Population from 2010 Census data

(2) Percentage of risk in census tract estimated from 2010 Census data

(3) Cancer Burden = (Maximum Cancer Risk) x (Zone of Impact Population)

Table 10: Toxicity Values for Compounds Included in HRA - CSFs and RELs
SoCalGas Playa del Rey

CAS	Compound	Inhalation Cancer SF (mg/kg-d)^-1	Oral Cancer SF (mg/kg-d)^-1	Inhalation Chronic REL (ug/m^3)	Oral Chronic REL (mg/kg-d)	Inhalation 8-Hour Chronic REL (ug/m^3)	Acute REL (ug/m^3)
50000	Formaldehyde	0.021	---	9	---	9	55
67561	Methanol	---	---	4000	---	---	28000
71432	Benzene	0.1	---	3	---	3	27
75070	Acetaldehyde	0.01	---	140	---	300	470
91203	Naphthalene	0.12	---	9	---	---	---
100414	Ethyl benzene	0.0087	---	2000	---	---	---
106934	Ethylene dibromide {EDB}	0.25	---	0.8	---	---	---
106990	1,3-Butadiene	0.6	---	2	---	9	660
108883	Toluene	---	---	300	---	---	37000
7664417	Ammonia	---	---	200	---	---	3200
50328	Benzo[a]pyrene	3.9	12	---	---	---	---
56553	Benz[a]anthracene	0.39	1.2	---	---	---	---
83329	Acenaphthene	---	---	---	---	---	---
85018	Phenanthrene	---	---	---	---	---	---
86737	Fluorene	---	---	---	---	---	---
91576	2-Methyl naphthalene	---	---	---	---	---	---
95636	1,2,4-Trimethylbenzene	---	---	---	---	---	---
110543	Hexane	---	---	7000	---	---	---
120127	Anthracene	---	---	---	---	---	---
129000	Pyrene	---	---	---	---	---	---
191242	Benzo[g,h,i]perylene	---	---	---	---	---	---

Table 10: Toxicity Values for Compounds Included in HRA - CSFs and RELs
SoCalGas Playa del Rey

CAS	Compound	Inhalation Cancer SF (mg/kg-d)^-1	Oral Cancer SF (mg/kg-d)^-1	Inhalation Chronic REL (ug/m^3)	Oral Chronic REL (mg/kg-d)	Inhalation 8-Hour Chronic REL (ug/m^3)	Acute REL (ug/m^3)
192972	Benzo[e]pyrene	---	---	---	---	---	---
193395	Indeno[1,2,3-cd]pyrene	0.39	1.2	---	---	---	---
198550	Perylene	---	---	---	---	---	---
205992	Benzo[b]fluoranthene	0.39	1.2	---	---	---	---
206440	Fluoranthene	---	---	---	---	---	---
207089	Benzo[k]fluoranthene	0.39	1.2	---	---	---	---
208968	Acenaphthylene	---	---	---	---	---	---
218019	Chrysene	0.039	0.12	---	---	---	---
9901	Diesel engine exhaust, particulate matter (Diesel PM)	1.1	---	5	---	---	---
1151	PAHs, total, w/o individ. components reported [Treated as B(a)P for HRA]	3.9	12	---	---	---	---
7439921	Lead	0.042	0.0085	---	---	---	---
7440020	Nickel	0.91	---	0.014	0.011	0.06	0.2
18540299	Chromium, hexavalent (& compounds)	510	0.5	0.2	0.02	---	---
7440382	Arsenic	12	1.5	0.015	0.0000035	0.015	0.2
7440439	Cadmium	15	---	0.02	0.0005	---	---
108383	m-Xylene	---	---	700	---	---	22000
7782505	Chlorine	---	---	0.2	---	---	210
75092	Methylene chloride {Dichloromethane}	0.0035	---	400	---	---	14000

Table 11: Modeled Parameters - Point Sources
SoCalGas Playa del Rey

Stack ID	Stack Name	UTM Easting (m)[1]	UTM Northing (m)[1]	Source Type	Elevation (m)	Stack Height (m)	Stack Diameter (m)	Temperature (K)	Exit Velocity (m/s)
1	Emergency ICE 348HP NG	367187.27	3759126.00	POINT	3.10	2.49	0.15	727.59	52.78
2	Emergency ICE 110HP NG	367149.27	3758971.00	POINT	41.07	3.66	0.15	783.15	20.70
3	Emergency ICE Fire Pump 93HP NG	367081.27	3759101.00	POINT	3.02	5.18	0.15	833.15	18.03
4	ICE Main Unit 6 2000HP NG	367126.27	3758956.00	POINT	40.06	7.32	0.61	607.04	28.80
5	ICE Main Unit 8 2000HP NG	367129.27	3758953.00	POINT	40.17	7.32	0.61	601.48	28.22
6	ICE Main Unit 9 2000HP NG	367132.27	3758951.00	POINT	40.31	7.32	0.61	605.93	27.66
7	Emergency ICE 99HP Diesel	367198.27	3758925.00	POINT	42.88	2.13	0.08	800.37	56.61
8	Glycol Reboiler	366982.27	3759028.00	POINT	3.47	6.10	0.58	457.25	3.21
9	Thermal Oxidizer[2]	367163.27	3759198.00	POINT	2.27	6.10	0.30	1033.15	4.57
10	Loading Arm	367131.27	3759117.00	POINT	3.10	6.10	0.15	273.00	0.01
17	Dehy Hot Oil Heater[2]	366979.27	3759025.00	POINT	3.49	4.65	0.61	499.82	4.78
28	Air Compressor 400	367124.09	3758972.05	POINT	39.92	0.69	0.08	810.93	24.70
29	Air Compressor 120	367121.10	3758973.29	POINT	39.75	0.69	0.08	810.93	24.70
30	ICE Air Compressor 12HP Gasoline E29	367159.87	3758913.86	POINT	41.44	0.15	0.05	288.71	7.79
31	ICE Air Compressor 12HP Gasoline E30	367162.11	3758916.28	POINT	41.56	0.15	0.05	288.71	7.79
35	Natural Gas Venting	367148.00	3759153.00	POINT	2.27	1.27	0.08	298.00	1.00

(1) UTM Coordinates in WGS84 projection

(2) Sources have raincaps. According to AERMOD Guideline from December 2016, actual stack parameters should be used for capped releases as if the release were a non-capped vertical point source. The AERMOD model performs the necessary adjustments internally to account for plume rise and stack-tip downwash.

Table 12: Modeled Parameters - Area Sources
SoCalGas Playa del Rey

Stack ID	Stack Name	UTM Easting (m)[1]	UTM Northing (m)[1]	Source Type	Initial Vertical Dimension (m)	Easterly Length of Area Release (m)	Northerly Length of Area Release (m)	Angle	Elevation (m)	Release Height (m)	Number of Vertices	Easting X1 (m)	Northing Y1 (m)
34	Sump	367160.80	3758957.34	AREA	0.00	2.04	2.04	40	41.44	0.00	---	---	---
33	Organic Solvents/Fugitive Emissions	---	---	AREAPOLY	0.00	---	---	---	4.40	0.00	23	366988.99	3759010.08

(1) UTM Coordinates in WGS84 projection

Table 12: Modeled Parameters - Area Sources
SoCalGas Playa del Rey

Stack ID	Stack Name	UTM Easting (m)[1]	UTM Northing (m)[1]	Source Type	Easting X2 (m)	Northing Y2 (m)	Easting X3 (m)	Northing Y3 (m)	Easting X4 (m)	Northing Y4 (m)	Easting X5 (m)	Northing Y5 (m)	Easting X6 (m)	Northing Y6 (m)	Easting X7 (m)	Northing Y7 (m)	Easting X8 (m)	Northing Y8 (m)	Easting X9 (m)	Northing Y9 (m)	Easting X10 (m)	Northing Y10 (m)	Easting X11 (m)	Northing Y11 (m)	Easting X12 (m)	Northing Y12 (m)
34	Sump	367160.80	3758957.34	AREA	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
33	Organic Solvents/Fugitive Emissions	---	---	AREAPOLY	366967.96	3759039.7	367028.89	3759091.5	367009.48	3759117.4	367100.07	3759193.4	367290.96	3759200.4	367342.19	3759103.9	367265.08	3759073.7	367209.54	3759107.1	367221.4	3759013.3	367262.92	3758944.8	367250.52	3758929.2

(1) UTM Coordinates in WGS84 projection

Table 12: Modeled Parameters - Area Sources
SoCalGas Playa del Rey

Stack ID	Stack Name	UTM Easting (m)[1]	UTM Northing (m)[1]	Source Type	Easting X13 (m)	Northing Y13 (m)	Easting X14 (m)	Northing Y14 (m)	Easting X15 (m)	Northing Y15 (m)	Easting X16 (m)	Northing Y16 (m)	Easting X17 (m)	Northing Y17 (m)	Easting X18 (m)	Northing Y18 (m)	Easting X19 (m)	Northing Y19 (m)	Easting X20 (m)	Northing Y20 (m)	Easting X21 (m)	Northing Y21 (m)	Easting X22 (m)	Northing Y22 (m)	Easting X23 (m)	Northing Y23 (m)
34	Sump	367160.80	3758957.34	AREA	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
33	Organic Solvents/Fugitive Emissions	---	---	AREAPOLY	367269.93	3758911.4	367241.35	3758877.4	367212.23	3758902.8	367183.65	3758868.8	367111.93	3758913.6	367078.5	3758919.5	367048.84	3758914.6	367052.08	3758962.1	367066.1	3758990.7	367113.01	3759035.4	367098.99	3759095.8

(1) UTM Coordinates in WGS84 projection

Table 13: Modeled Parameters - Volume Sources
SoCalGas Playa del Rey

Stack ID	Stack Name	UTM Easting (m)[1]	UTM Northing (m)[1]	Source Type	Initial Lateral Dimension (m)	Initial Vertical Dimension (m)	Elevation (m)	Release Height (m)
11	Building AC & Heat V1	367180.46	3758871.65	VOLUME	4.54	1.70	41.74	1.83
12	Building AC & Heat V2	367192.84	3758886.16	VOLUME	4.54	1.70	42.27	1.83
13	Building AC & Heat V3	367205.39	3758900.66	VOLUME	4.54	1.70	42.80	1.83
14	Building AC & Heat V4	367219.29	3758897.28	VOLUME	3.12	1.70	43.05	1.83
15	Building AC & Heat V5	367228.94	3758889.10	VOLUME	3.12	1.70	42.95	1.83
16	Building AC & Heat V6	367238.42	3758880.83	VOLUME	3.12	1.70	42.89	1.83
18	TK-3	367148.27	3759146.00	VOLUME	2.11	2.27	2.28	9.07
19	TK-4A	367135.27	3759146.00	VOLUME	2.11	2.27	2.29	9.07
20	TK-4B	367132.27	3759131.00	VOLUME	2.11	2.27	2.70	9.07
21	TK-4C	367144.27	3759130.00	VOLUME	2.11	2.27	2.80	9.07
22	TK-6	367137.27	3759160.00	VOLUME	0.65	2.27	2.27	2.79
23	TK-5	367160.27	3759147.00	VOLUME	1.10	2.27	2.34	4.72
24	TK-1B	367158.27	3759134.00	VOLUME	1.28	3.40	2.66	5.49
25	TK-1A	367153.27	3759129.00	VOLUME	1.28	3.40	2.87	5.49
26	TK-2	367133.27	3759167.00	VOLUME	1.52	2.27	2.27	6.55
27	TK-12	367187.27	3759178.00	VOLUME	2.10	2.28	2.43	9.04

(1) UTM Coordinates in WGS84 projection

Table 14: Source Operating Hours
SoCalGas Playa del Rey

Stack ID	Stack Name	Hours/Day	Days/Week	Weeks/Year
1	Emergency ICE 348HP NG	1	1	1
2	Emergency ICE 110HP NG	1	1	1
3	Emergency ICE Fire Pump 93HP NG	1	1	1
4	ICE Main Unit 6 2000HP NG	6	2	12
5	ICE Main Unit 8 2000HP NG	4	1	8
6	ICE Main Unit 9 2000HP NG	4	2	9
7	Emergency ICE 99HP Diesel	1	1	1
8	Glycol Reboiler	24	7	52
9	Thermal Oxidizer	24	7	52
10	Loading Arm	24	7	52
11	Building AC & Heat V1	24	7	52
12	Building AC & Heat V2	24	7	52
13	Building AC & Heat V3	24	7	52
14	Building AC & Heat V4	24	7	52
15	Building AC & Heat V5	24	7	52
16	Building AC & Heat V6	24	7	52
17	Dehy Hot Oil Heater	24	7	52
18	TK-3	24	7	52
19	TK-4A	24	7	52
20	TK-4B	24	7	52
21	TK-4C	24	7	52
22	TK-6	24	7	52
23	TK-5	24	7	52
24	TK-1B	24	7	52
25	TK-1A	24	7	52
26	TK-2	24	7	52
27	TK-12	24	7	52
28	Air Compressor 400	1	1	1
29	Air Compressor 120	1	1	1
30	ICE Air Compressor 12HP Gasoline E29	2	1	4
31	ICE Air Compressor 12HP Gasoline E30	1	1	1
33	Organic Solvents/Fugitive Emissions	24	7	52
34	Sump	24	7	52
35	Natural Gas Venting	1	1	10

Table 15: Emission Rates by Source and Substance
SoCalGas Playa del Rey

Stack ID	Source Name	CAS	Pollutant	Annual Emissions (lbs/yr)	Annual Emissions (g/s)	Max Hourly Emissions (lbs/hr)	Max Hourly Emissions (g/s)
1	Emergency ICE 348HP NG	50000	Formaldehyde	1.55E+00	2.23E-05	5.77E-02	7.27E-03
1	Emergency ICE 348HP NG	67561	Methanol	2.31E-01	3.32E-06	8.61E-03	1.08E-03
1	Emergency ICE 348HP NG	71432	Benzene	1.19E-01	1.72E-06	4.45E-03	5.60E-04
1	Emergency ICE 348HP NG	75070	Acetaldehyde	2.11E-01	3.03E-06	7.85E-03	9.89E-04
1	Emergency ICE 348HP NG	91203	Naphthalene [PAH, POM]	7.33E-03	1.05E-07	2.73E-04	3.44E-05
1	Emergency ICE 348HP NG	100414	Ethyl benzene	1.87E-03	2.69E-08	6.98E-05	8.79E-06
1	Emergency ICE 348HP NG	106934	Ethylene dibromide {1,2-Dibromoethane}	1.61E-03	2.31E-08	5.99E-05	7.55E-06
1	Emergency ICE 348HP NG	106990	Butadiene [1,3]	5.00E-02	7.20E-07	1.87E-03	2.35E-04
1	Emergency ICE 348HP NG	108883	Toluene	4.21E-02	6.06E-07	1.57E-03	1.98E-04
1	Emergency ICE 348HP NG	7664417	Ammonia	2.37E-01	3.41E-06	8.83E-03	1.11E-03
2	Emergency ICE 110HP NG	50000	Formaldehyde	1.55E-01	2.23E-06	1.91E-02	2.41E-03
2	Emergency ICE 110HP NG	67561	Methanol	2.31E-02	3.32E-07	2.86E-03	3.60E-04
2	Emergency ICE 110HP NG	71432	Benzene	1.19E-02	1.72E-07	1.47E-03	1.86E-04
2	Emergency ICE 110HP NG	75070	Acetaldehyde	2.11E-02	3.03E-07	2.60E-03	3.28E-04
2	Emergency ICE 110HP NG	91203	Naphthalene [PAH, POM]	7.33E-04	1.05E-08	9.06E-05	1.14E-05
2	Emergency ICE 110HP NG	100414	Ethyl benzene	1.87E-04	2.69E-09	2.31E-05	2.92E-06
2	Emergency ICE 110HP NG	106934	Ethylene dibromide {1,2-Dibromoethane}	1.61E-04	2.31E-09	1.99E-05	2.50E-06
2	Emergency ICE 110HP NG	106990	Butadiene [1,3]	5.00E-03	7.20E-08	6.19E-04	7.80E-05
2	Emergency ICE 110HP NG	108883	Toluene	4.21E-03	6.06E-08	5.21E-04	6.56E-05
2	Emergency ICE 110HP NG	7664417	Ammonia	2.37E-02	3.41E-07	2.93E-03	3.69E-04
3	Emergency ICE Fire Pump 93HP NG	50000	Formaldehyde	1.11E-01	1.59E-06	1.41E-02	1.78E-03
3	Emergency ICE Fire Pump 93HP NG	67561	Methanol	1.65E-02	2.38E-07	2.11E-03	2.66E-04
3	Emergency ICE Fire Pump 93HP NG	71432	Benzene	8.54E-03	1.23E-07	1.09E-03	1.37E-04
3	Emergency ICE Fire Pump 93HP NG	75070	Acetaldehyde	1.51E-02	2.17E-07	1.92E-03	2.42E-04
3	Emergency ICE Fire Pump 93HP NG	91203	Naphthalene [PAH, POM]	5.25E-04	7.55E-09	6.69E-05	8.43E-06
3	Emergency ICE Fire Pump 93HP NG	100414	Ethyl benzene	1.34E-04	1.93E-09	1.71E-05	2.15E-06
3	Emergency ICE Fire Pump 93HP NG	106934	Ethylene dibromide {1,2-Dibromoethane}	1.15E-04	1.66E-09	1.47E-05	1.85E-06

Table 15: Emission Rates by Source and Substance
SoCalGas Playa del Rey

Stack ID	Source Name	CAS	Pollutant	Annual Emissions (lbs/yr)	Annual Emissions (g/s)	Max Hourly Emissions (lbs/hr)	Max Hourly Emissions (g/s)
3	Emergency ICE Fire Pump 93HP NG	106990	Butadiene [1,3]	3.58E-03	5.16E-08	4.57E-04	5.76E-05
3	Emergency ICE Fire Pump 93HP NG	108883	Toluene	3.02E-03	4.34E-08	3.85E-04	4.85E-05
3	Emergency ICE Fire Pump 93HP NG	7664417	Ammonia	1.70E-02	2.44E-07	2.16E-03	2.73E-04
4	ICE Main Unit 6 2000HP NG	50000	Formaldehyde	2.88E+02	4.15E-03	1.64E-01	2.07E-02
4	ICE Main Unit 6 2000HP NG	50328	Benzo[a]pyrene [PAH, POM]	1.48E-04	2.13E-09	8.44E-08	1.06E-08
4	ICE Main Unit 6 2000HP NG	56553	Benz[a]anthracene [PAH, POM]	8.77E-03	1.26E-07	4.99E-06	6.29E-07
4	ICE Main Unit 6 2000HP NG	67561	Methanol	6.48E+01	9.32E-04	3.68E-02	4.64E-03
4	ICE Main Unit 6 2000HP NG	71432	Benzene	5.07E+01	7.29E-04	2.88E-02	3.63E-03
4	ICE Main Unit 6 2000HP NG	75070	Acetaldehyde	2.03E+02	2.91E-03	1.15E-01	1.45E-02
4	ICE Main Unit 6 2000HP NG	83329	Acenaphthene [PAH, POM]	3.47E-02	5.00E-07	1.98E-05	2.49E-06
4	ICE Main Unit 6 2000HP NG	85018	Phenanthrene [PAH, POM]	9.22E-02	1.33E-06	5.24E-05	6.61E-06
4	ICE Main Unit 6 2000HP NG	86737	Fluorene [PAH, POM]	4.41E-02	6.35E-07	2.51E-05	3.16E-06
4	ICE Main Unit 6 2000HP NG	91203	Naphthalene [PAH, POM]	2.51E+00	3.62E-05	1.43E-03	1.80E-04
4	ICE Main Unit 6 2000HP NG	91576	2-Methyl naphthalene [PAH, POM]	5.59E-01	8.04E-06	3.18E-04	4.01E-05
4	ICE Main Unit 6 2000HP NG	95636	1,2,4-Trimethylbenzene	2.90E+00	4.17E-05	1.65E-03	2.08E-04
4	ICE Main Unit 6 2000HP NG	100414	Ethyl benzene	2.82E+00	4.06E-05	1.60E-03	2.02E-04
4	ICE Main Unit 6 2000HP NG	106934	Ethylene dibromide {1,2-Dibromoethane}	1.92E+00	2.76E-05	1.09E-03	1.37E-04
4	ICE Main Unit 6 2000HP NG	106990	Butadiene [1,3]	2.14E+01	3.08E-04	1.22E-02	1.53E-03
4	ICE Main Unit 6 2000HP NG	108883	Toluene	2.51E+01	3.62E-04	1.43E-02	1.80E-03
4	ICE Main Unit 6 2000HP NG	110543	Hexane	1.16E+01	1.67E-04	6.61E-03	8.33E-04
4	ICE Main Unit 6 2000HP NG	120127	Anthracene [PAH, POM]	1.88E-02	2.70E-07	1.07E-05	1.34E-06
4	ICE Main Unit 6 2000HP NG	129000	Pyrene [PAH, POM]	1.53E-02	2.19E-07	8.68E-06	1.09E-06
4	ICE Main Unit 6 2000HP NG	191242	Benzo[g,h,i]perylene [PAH, POM]	6.48E-04	9.32E-09	3.68E-07	4.64E-08
4	ICE Main Unit 6 2000HP NG	192972	Benzo[e]pyrene [PAH, POM]	6.11E-04	8.79E-09	3.48E-07	4.38E-08
4	ICE Main Unit 6 2000HP NG	193395	Indeno[1,2,3-cd]pyrene [PAH, POM]	2.59E-04	3.73E-09	1.48E-07	1.86E-08
4	ICE Main Unit 6 2000HP NG	198550	Perylene [PAH, POM]	1.30E-04	1.87E-09	7.38E-08	9.30E-09
4	ICE Main Unit 6 2000HP NG	205992	Benzo[b]fluoranthene [PAH, POM]	2.22E-04	3.20E-09	1.26E-07	1.59E-08

Table 15: Emission Rates by Source and Substance
SoCalGas Playa del Rey

Stack ID	Source Name	CAS	Pollutant	Annual Emissions (lbs/yr)	Annual Emissions (g/s)	Max Hourly Emissions (lbs/hr)	Max Hourly Emissions (g/s)
4	ICE Main Unit 6 2000HP NG	206440	Fluoranthene [PAH, POM]	9.43E-03	1.36E-07	5.36E-06	6.76E-07
4	ICE Main Unit 6 2000HP NG	207089	Benzo[k]fluoranthene [PAH, POM]	1.11E-04	1.60E-09	6.33E-08	7.97E-09
4	ICE Main Unit 6 2000HP NG	208968	Acenaphthylene [PAH, POM]	8.28E-02	1.19E-06	4.71E-05	5.93E-06
4	ICE Main Unit 6 2000HP NG	218019	Chrysene [PAH, POM]	1.75E-02	2.52E-07	9.98E-06	1.26E-06
4	ICE Main Unit 6 2000HP NG	7664417	Ammonia	8.19E+01	1.18E-03	4.66E-02	5.87E-03
5	ICE Main Unit 8 2000HP NG	50000	Formaldehyde	2.02E+02	2.90E-03	1.54E-01	1.94E-02
5	ICE Main Unit 8 2000HP NG	50328	Benzo[a]pyrene [PAH, POM]	1.04E-04	1.49E-09	7.91E-08	9.97E-09
5	ICE Main Unit 8 2000HP NG	56553	Benz[a]anthracene [PAH, POM]	6.14E-03	8.83E-08	4.68E-06	5.90E-07
5	ICE Main Unit 8 2000HP NG	67561	Methanol	4.53E+01	6.52E-04	3.45E-02	4.35E-03
5	ICE Main Unit 8 2000HP NG	71432	Benzene	3.54E+01	5.10E-04	2.70E-02	3.41E-03
5	ICE Main Unit 8 2000HP NG	75070	Acetaldehyde	1.42E+02	2.04E-03	1.08E-01	1.36E-02
5	ICE Main Unit 8 2000HP NG	83329	Acenaphthene [PAH, POM]	2.43E-02	3.50E-07	1.85E-05	2.33E-06
5	ICE Main Unit 8 2000HP NG	85018	Phenanthrene [PAH, POM]	6.45E-02	9.28E-07	4.92E-05	6.20E-06
5	ICE Main Unit 8 2000HP NG	86737	Fluorene [PAH, POM]	3.09E-02	4.44E-07	2.35E-05	2.97E-06
5	ICE Main Unit 8 2000HP NG	91203	Naphthalene [PAH, POM]	1.76E+00	2.53E-05	1.34E-03	1.69E-04
5	ICE Main Unit 8 2000HP NG	91576	2-Methyl naphthalene [PAH, POM]	3.91E-01	5.62E-06	2.98E-04	3.76E-05
5	ICE Main Unit 8 2000HP NG	95636	1,2,4-Trimethylbenzene	2.03E+00	2.92E-05	1.55E-03	1.95E-04
5	ICE Main Unit 8 2000HP NG	100414	Ethyl benzene	1.97E+00	2.84E-05	1.50E-03	1.90E-04
5	ICE Main Unit 8 2000HP NG	106934	Ethylene dibromide {1,2-Dibromoethane}	1.34E+00	1.93E-05	1.02E-03	1.29E-04
5	ICE Main Unit 8 2000HP NG	106990	Butadiene [1,3]	1.50E+01	2.15E-04	1.14E-02	1.44E-03
5	ICE Main Unit 8 2000HP NG	108883	Toluene	1.76E+01	2.53E-04	1.34E-02	1.69E-03
5	ICE Main Unit 8 2000HP NG	110543	Hexane	8.13E+00	1.17E-04	6.20E-03	7.81E-04
5	ICE Main Unit 8 2000HP NG	120127	Anthracene [PAH, POM]	1.31E-02	1.89E-07	1.00E-05	1.26E-06
5	ICE Main Unit 8 2000HP NG	129000	Pyrene [PAH, POM]	1.07E-02	1.53E-07	8.14E-06	1.03E-06
5	ICE Main Unit 8 2000HP NG	191242	Benzo[g,h,i]perylene [PAH, POM]	4.53E-04	6.52E-09	3.45E-07	4.35E-08
5	ICE Main Unit 8 2000HP NG	192972	Benzo[e]pyrene [PAH, POM]	4.28E-04	6.15E-09	3.26E-07	4.11E-08
5	ICE Main Unit 8 2000HP NG	193395	Indeno[1,2,3-cd]pyrene [PAH, POM]	1.81E-04	2.61E-09	1.38E-07	1.74E-08

Table 15: Emission Rates by Source and Substance
SoCalGas Playa del Rey

Stack ID	Source Name	CAS	Pollutant	Annual Emissions (lbs/yr)	Annual Emissions (g/s)	Max Hourly Emissions (lbs/hr)	Max Hourly Emissions (g/s)
5	ICE Main Unit 8 2000HP NG	198550	Perylene [PAH, POM]	9.08E-05	1.31E-09	6.92E-08	8.72E-09
5	ICE Main Unit 8 2000HP NG	205992	Benzo[b]fluoranthene [PAH, POM]	1.55E-04	2.24E-09	1.19E-07	1.49E-08
5	ICE Main Unit 8 2000HP NG	206440	Fluoranthene [PAH, POM]	6.60E-03	9.49E-08	5.03E-06	6.34E-07
5	ICE Main Unit 8 2000HP NG	207089	Benzo[k]fluoranthene [PAH, POM]	7.78E-05	1.12E-09	5.93E-08	7.48E-09
5	ICE Main Unit 8 2000HP NG	208968	Acenaphthylene [PAH, POM]	5.79E-02	8.33E-07	4.42E-05	5.56E-06
5	ICE Main Unit 8 2000HP NG	218019	Chrysene [PAH, POM]	1.23E-02	1.77E-07	9.36E-06	1.18E-06
5	ICE Main Unit 8 2000HP NG	7664417	Ammonia	5.73E+01	8.24E-04	4.37E-02	5.51E-03
6	ICE Main Unit 9 2000HP NG	50000	Formaldehyde	2.16E+02	3.11E-03	1.61E-01	2.03E-02
6	ICE Main Unit 9 2000HP NG	50328	Benzo[a]pyrene [PAH, POM]	1.11E-04	1.60E-09	8.31E-08	1.05E-08
6	ICE Main Unit 9 2000HP NG	56553	Benz[a]anthracene [PAH, POM]	6.57E-03	9.46E-08	4.92E-06	6.19E-07
6	ICE Main Unit 9 2000HP NG	67561	Methanol	4.85E+01	6.98E-04	3.63E-02	4.57E-03
6	ICE Main Unit 9 2000HP NG	71432	Benzene	3.80E+01	5.46E-04	2.84E-02	3.58E-03
6	ICE Main Unit 9 2000HP NG	75070	Acetaldehyde	1.52E+02	2.18E-03	1.14E-01	1.43E-02
6	ICE Main Unit 9 2000HP NG	83329	Acenaphthene [PAH, POM]	2.60E-02	3.74E-07	1.95E-05	2.45E-06
6	ICE Main Unit 9 2000HP NG	85018	Phenanthrene [PAH, POM]	6.91E-02	9.93E-07	5.16E-05	6.51E-06
6	ICE Main Unit 9 2000HP NG	86737	Fluorene [PAH, POM]	3.31E-02	4.76E-07	2.47E-05	3.11E-06
6	ICE Main Unit 9 2000HP NG	91203	Naphthalene [PAH, POM]	1.88E+00	2.71E-05	1.41E-03	1.77E-04
6	ICE Main Unit 9 2000HP NG	91576	2-Methyl naphthalene [PAH, POM]	4.19E-01	6.02E-06	3.13E-04	3.94E-05
6	ICE Main Unit 9 2000HP NG	95636	1,2,4-Trimethylbenzene	2.17E+00	3.12E-05	1.62E-03	2.05E-04
6	ICE Main Unit 9 2000HP NG	100414	Ethyl benzene	2.11E+00	3.04E-05	1.58E-03	1.99E-04
6	ICE Main Unit 9 2000HP NG	106934	Ethylene dibromide {1,2-Dibromoethane}	1.44E+00	2.07E-05	1.07E-03	1.35E-04
6	ICE Main Unit 9 2000HP NG	106990	Butadiene [1,3]	1.60E+01	2.31E-04	1.20E-02	1.51E-03
6	ICE Main Unit 9 2000HP NG	108883	Toluene	1.88E+01	2.71E-04	1.41E-02	1.77E-03
6	ICE Main Unit 9 2000HP NG	110543	Hexane	8.71E+00	1.25E-04	6.51E-03	8.20E-04
6	ICE Main Unit 9 2000HP NG	120127	Anthracene [PAH, POM]	1.40E-02	2.02E-07	1.05E-05	1.32E-06
6	ICE Main Unit 9 2000HP NG	129000	Pyrene [PAH, POM]	1.14E-02	1.64E-07	8.54E-06	1.08E-06
6	ICE Main Unit 9 2000HP NG	191242	Benzo[g,h,i]perylene [PAH, POM]	4.85E-04	6.98E-09	3.63E-07	4.57E-08

Table 15: Emission Rates by Source and Substance
SoCalGas Playa del Rey

Stack ID	Source Name	CAS	Pollutant	Annual Emissions (lbs/yr)	Annual Emissions (g/s)	Max Hourly Emissions (lbs/hr)	Max Hourly Emissions (g/s)
6	ICE Main Unit 9 2000HP NG	192972	Benzo[e]pyrene [PAH, POM]	4.58E-04	6.58E-09	3.42E-07	4.31E-08
6	ICE Main Unit 9 2000HP NG	193395	Indeno[1,2,3-cd]pyrene [PAH, POM]	1.94E-04	2.79E-09	1.45E-07	1.83E-08
6	ICE Main Unit 9 2000HP NG	198550	Perylene [PAH, POM]	9.72E-05	1.40E-09	7.27E-08	9.16E-09
6	ICE Main Unit 9 2000HP NG	205992	Benzo[b]fluoranthene [PAH, POM]	1.66E-04	2.39E-09	1.24E-07	1.57E-08
6	ICE Main Unit 9 2000HP NG	206440	Fluoranthene [PAH, POM]	7.06E-03	1.02E-07	5.28E-06	6.65E-07
6	ICE Main Unit 9 2000HP NG	207089	Benzo[k]fluoranthene [PAH, POM]	8.33E-05	1.20E-09	6.23E-08	7.85E-09
6	ICE Main Unit 9 2000HP NG	208968	Acenaphthylene [PAH, POM]	6.20E-02	8.92E-07	4.64E-05	5.84E-06
6	ICE Main Unit 9 2000HP NG	218019	Chrysene [PAH, POM]	1.31E-02	1.89E-07	9.83E-06	1.24E-06
6	ICE Main Unit 9 2000HP NG	7664417	Ammonia	6.14E+01	8.83E-04	4.59E-02	5.78E-03
7	Emergency ICE 99HP Diesel	9901	Diesel exhaust particulates	1.94E+00	2.79E-05	1.67E-01	2.10E-02
7	Emergency ICE 99HP Diesel	7664417	Ammonia	4.62E-02	6.65E-07	3.99E-03	5.03E-04
7	Emergency ICE 99HP Diesel	1151	PAHs, total, w/o individ. components reported [PAH, POM]	2.09E-03	3.01E-08	1.80E-04	2.27E-05
7	Emergency ICE 99HP Diesel	91203	Naphthalene [PAH, POM]	1.14E-03	1.64E-08	9.82E-05	1.24E-05
7	Emergency ICE 99HP Diesel	7439921	Lead compounds (inorganic)	4.80E-04	6.90E-09	4.14E-05	5.21E-06
7	Emergency ICE 99HP Diesel	7440020	Nickel	2.25E-04	3.24E-09	1.94E-05	2.45E-06
7	Emergency ICE 99HP Diesel	18540299	Chromium, hexavalent (and compounds)	5.78E-06	8.31E-11	4.99E-07	6.28E-08
7	Emergency ICE 99HP Diesel	7440382	Arsenic and Compounds (inorganic)	9.25E-05	1.33E-09	7.98E-06	1.01E-06
7	Emergency ICE 99HP Diesel	7440439	Cadmium	8.67E-05	1.25E-09	7.48E-06	9.42E-07
7	Emergency ICE 99HP Diesel	50000	Formaldehyde	9.98E-02	1.44E-06	8.61E-03	1.08E-03
7	Emergency ICE 99HP Diesel	71432	Benzene	1.08E-02	1.55E-07	9.29E-04	1.17E-04
7	Emergency ICE 99HP Diesel	106990	Butadiene [1,3]	1.26E-02	1.81E-07	1.08E-03	1.37E-04
7	Emergency ICE 99HP Diesel	75070	Acetaldehyde	4.53E-02	6.51E-07	3.91E-03	4.92E-04
7	Emergency ICE 99HP Diesel	100414	Ethyl benzene	6.30E-04	9.06E-09	5.43E-05	6.85E-06
7	Emergency ICE 99HP Diesel	110543	Hexane	1.55E-03	2.24E-08	1.34E-04	1.69E-05
7	Emergency ICE 99HP Diesel	108883	Toluene	6.09E-03	8.76E-08	5.25E-04	6.62E-05
8	Glycol Reboiler	1151	PAHs, total, w/o individ. components reported [PAH, POM]	7.70E-04	1.11E-08	5.06E-07	6.37E-08
8	Glycol Reboiler	50000	Formaldehyde	1.31E-01	1.88E-06	8.60E-05	1.08E-05

Table 15: Emission Rates by Source and Substance
SoCalGas Playa del Rey

Stack ID	Source Name	CAS	Pollutant	Annual Emissions (lbs/yr)	Annual Emissions (g/s)	Max Hourly Emissions (lbs/hr)	Max Hourly Emissions (g/s)
8	Glycol Reboiler	71432	Benzene	6.16E-02	8.86E-07	4.05E-05	5.10E-06
8	Glycol Reboiler	75070	Acetaldehyde	3.31E-02	4.76E-07	2.18E-05	2.74E-06
8	Glycol Reboiler	91203	Naphthalene [PAH, POM]	2.31E-03	3.32E-08	1.52E-06	1.91E-07
8	Glycol Reboiler	100414	Ethyl benzene	7.31E-02	1.05E-06	4.81E-05	6.05E-06
8	Glycol Reboiler	108883	Toluene	2.82E-01	4.05E-06	1.85E-04	2.33E-05
8	Glycol Reboiler	110543	Hexane	4.85E-02	6.98E-07	3.19E-05	4.02E-06
8	Glycol Reboiler	7664417	Ammonia	2.46E+01	3.54E-04	1.62E-02	2.04E-03
9	Thermal Oxidizer	1151	PAHs, total, w/o individ. components reported [PAH, POM]	2.23E-05	3.21E-10	9.73E-08	1.23E-08
9	Thermal Oxidizer	50000	Formaldehyde	3.80E-03	5.46E-08	1.65E-05	2.08E-06
9	Thermal Oxidizer	71432	Benzene	1.79E-03	2.57E-08	7.78E-06	9.81E-07
9	Thermal Oxidizer	75070	Acetaldehyde	9.60E-04	1.38E-08	4.18E-06	5.27E-07
9	Thermal Oxidizer	91203	Naphthalene [PAH, POM]	6.70E-05	9.64E-10	2.92E-07	3.68E-08
9	Thermal Oxidizer	100414	Ethyl benzene	2.12E-03	3.05E-08	9.24E-06	1.16E-06
9	Thermal Oxidizer	108883	Toluene	8.17E-03	1.18E-07	3.56E-05	4.49E-06
9	Thermal Oxidizer	110543	Hexane	1.41E-03	2.02E-08	6.13E-06	7.72E-07
9	Thermal Oxidizer	7664417	Ammonia	7.15E-01	1.03E-05	3.11E-03	3.92E-04
10	Loading Arm	71432	Benzene	3.90E-02	5.61E-07	2.17E-05	2.73E-06
10	Loading Arm	95636	1,2,4-Trimethylbenzene	2.15E-02	3.09E-07	1.19E-05	1.50E-06
10	Loading Arm	100414	Ethyl benzene	2.60E-02	3.74E-07	1.45E-05	1.82E-06
10	Loading Arm	108383	m-Xylene	9.11E-02	1.31E-06	5.06E-05	6.38E-06
10	Loading Arm	108883	Toluene	6.50E-02	9.36E-07	3.62E-05	4.56E-06
10	Loading Arm	110543	Hexane	2.60E-02	3.74E-07	1.45E-05	1.82E-06
11	Building AC & Heat V1	1151	PAHs, total, w/o individ. components reported [PAH, POM]	7.43E-06	1.07E-10	1.10E-08	1.39E-09
11	Building AC & Heat V1	50000	Formaldehyde	1.26E-03	1.82E-08	1.87E-06	2.36E-07
11	Building AC & Heat V1	71432	Benzene	5.94E-04	8.55E-09	8.81E-07	1.11E-07
11	Building AC & Heat V1	75070	Acetaldehyde	3.19E-04	4.59E-09	4.73E-07	5.96E-08
11	Building AC & Heat V1	91203	Naphthalene [PAH, POM]	2.23E-05	3.21E-10	3.30E-08	4.16E-09

Table 15: Emission Rates by Source and Substance
SoCalGas Playa del Rey

Stack ID	Source Name	CAS	Pollutant	Annual Emissions (lbs/yr)	Annual Emissions (g/s)	Max Hourly Emissions (lbs/hr)	Max Hourly Emissions (g/s)
11	Building AC & Heat V1	100414	Ethyl benzene	7.06E-04	1.02E-08	1.05E-06	1.32E-07
11	Building AC & Heat V1	108883	Toluene	2.72E-03	3.91E-08	4.03E-06	5.08E-07
11	Building AC & Heat V1	110543	Hexane	4.68E-04	6.73E-09	6.93E-07	8.74E-08
11	Building AC & Heat V1	7664417	Ammonia	2.38E-01	3.42E-06	3.52E-04	4.44E-05
12	Building AC & Heat V2	1151	PAHs, total, w/o individ. components reported [PAH, POM]	7.43E-06	1.07E-10	1.10E-08	1.39E-09
12	Building AC & Heat V2	50000	Formaldehyde	1.26E-03	1.82E-08	1.87E-06	2.36E-07
12	Building AC & Heat V2	71432	Benzene	5.94E-04	8.55E-09	8.81E-07	1.11E-07
12	Building AC & Heat V2	75070	Acetaldehyde	3.19E-04	4.59E-09	4.73E-07	5.96E-08
12	Building AC & Heat V2	91203	Naphthalene [PAH, POM]	2.23E-05	3.21E-10	3.30E-08	4.16E-09
12	Building AC & Heat V2	100414	Ethyl benzene	7.06E-04	1.02E-08	1.05E-06	1.32E-07
12	Building AC & Heat V2	108883	Toluene	2.72E-03	3.91E-08	4.03E-06	5.08E-07
12	Building AC & Heat V2	110543	Hexane	4.68E-04	6.73E-09	6.93E-07	8.74E-08
12	Building AC & Heat V2	7664417	Ammonia	2.38E-01	3.42E-06	3.52E-04	4.44E-05
13	Building AC & Heat V3	1151	PAHs, total, w/o individ. components reported [PAH, POM]	7.43E-06	1.07E-10	1.10E-08	1.39E-09
13	Building AC & Heat V3	50000	Formaldehyde	1.26E-03	1.82E-08	1.87E-06	2.36E-07
13	Building AC & Heat V3	71432	Benzene	5.94E-04	8.55E-09	8.81E-07	1.11E-07
13	Building AC & Heat V3	75070	Acetaldehyde	3.19E-04	4.59E-09	4.73E-07	5.96E-08
13	Building AC & Heat V3	91203	Naphthalene [PAH, POM]	2.23E-05	3.21E-10	3.30E-08	4.16E-09
13	Building AC & Heat V3	100414	Ethyl benzene	7.06E-04	1.02E-08	1.05E-06	1.32E-07
13	Building AC & Heat V3	108883	Toluene	2.72E-03	3.91E-08	4.03E-06	5.08E-07
13	Building AC & Heat V3	110543	Hexane	4.68E-04	6.73E-09	6.93E-07	8.74E-08
13	Building AC & Heat V3	7664417	Ammonia	2.38E-01	3.42E-06	3.52E-04	4.44E-05
14	Building AC & Heat V4	1151	PAHs, total, w/o individ. components reported [PAH, POM]	3.51E-06	5.05E-11	5.20E-09	6.56E-10
14	Building AC & Heat V4	50000	Formaldehyde	5.97E-04	8.59E-09	8.85E-07	1.11E-07
14	Building AC & Heat V4	71432	Benzene	2.81E-04	4.04E-09	4.16E-07	5.25E-08
14	Building AC & Heat V4	75070	Acetaldehyde	1.51E-04	2.17E-09	2.24E-07	2.82E-08
14	Building AC & Heat V4	91203	Naphthalene [PAH, POM]	1.05E-05	1.52E-10	1.56E-08	1.97E-09

Table 15: Emission Rates by Source and Substance
SoCalGas Playa del Rey

Stack ID	Source Name	CAS	Pollutant	Annual Emissions (lbs/yr)	Annual Emissions (g/s)	Max Hourly Emissions (lbs/hr)	Max Hourly Emissions (g/s)
14	Building AC & Heat V4	100414	Ethyl benzene	3.34E-04	4.80E-09	4.94E-07	6.23E-08
14	Building AC & Heat V4	108883	Toluene	1.29E-03	1.85E-08	1.90E-06	2.40E-07
14	Building AC & Heat V4	110543	Hexane	2.21E-04	3.18E-09	3.28E-07	4.13E-08
14	Building AC & Heat V4	7664417	Ammonia	1.12E-01	1.62E-06	1.67E-04	2.10E-05
15	Building AC & Heat V5	1151	PAHs, total, w/o individ. components reported [PAH, POM]	3.51E-06	5.05E-11	5.20E-09	6.56E-10
15	Building AC & Heat V5	50000	Formaldehyde	5.97E-04	8.59E-09	8.85E-07	1.11E-07
15	Building AC & Heat V5	71432	Benzene	2.81E-04	4.04E-09	4.16E-07	5.25E-08
15	Building AC & Heat V5	75070	Acetaldehyde	1.51E-04	2.17E-09	2.24E-07	2.82E-08
15	Building AC & Heat V5	91203	Naphthalene [PAH, POM]	1.05E-05	1.52E-10	1.56E-08	1.97E-09
15	Building AC & Heat V5	100414	Ethyl benzene	3.34E-04	4.80E-09	4.94E-07	6.23E-08
15	Building AC & Heat V5	108883	Toluene	1.29E-03	1.85E-08	1.90E-06	2.40E-07
15	Building AC & Heat V5	110543	Hexane	2.21E-04	3.18E-09	3.28E-07	4.13E-08
15	Building AC & Heat V5	7664417	Ammonia	1.12E-01	1.62E-06	1.67E-04	2.10E-05
16	Building AC & Heat V6	1151	PAHs, total, w/o individ. components reported [PAH, POM]	3.51E-06	5.05E-11	5.20E-09	6.56E-10
16	Building AC & Heat V6	50000	Formaldehyde	5.97E-04	8.59E-09	8.85E-07	1.11E-07
16	Building AC & Heat V6	71432	Benzene	2.81E-04	4.04E-09	4.16E-07	5.25E-08
16	Building AC & Heat V6	75070	Acetaldehyde	1.51E-04	2.17E-09	2.24E-07	2.82E-08
16	Building AC & Heat V6	91203	Naphthalene [PAH, POM]	1.05E-05	1.52E-10	1.56E-08	1.97E-09
16	Building AC & Heat V6	100414	Ethyl benzene	3.34E-04	4.80E-09	4.94E-07	6.23E-08
16	Building AC & Heat V6	108883	Toluene	1.29E-03	1.85E-08	1.90E-06	2.40E-07
16	Building AC & Heat V6	110543	Hexane	2.21E-04	3.18E-09	3.28E-07	4.13E-08
16	Building AC & Heat V6	7664417	Ammonia	1.12E-01	1.62E-06	1.67E-04	2.10E-05
17	Dehy Hot Oil Heater	1151	PAHs, total, w/o individ. components reported [PAH, POM]	3.51E-04	5.05E-09	1.46E-07	1.84E-08
17	Dehy Hot Oil Heater	50000	Formaldehyde	5.97E-02	8.59E-07	2.48E-05	3.13E-06
17	Dehy Hot Oil Heater	71432	Benzene	2.81E-02	4.04E-07	1.17E-05	1.47E-06
17	Dehy Hot Oil Heater	75070	Acetaldehyde	1.51E-02	2.17E-07	6.27E-06	7.91E-07
17	Dehy Hot Oil Heater	91203	Naphthalene [PAH, POM]	1.05E-03	1.52E-08	4.38E-07	5.52E-08

Table 15: Emission Rates by Source and Substance
SoCalGas Playa del Rey

Stack ID	Source Name	CAS	Pollutant	Annual Emissions (lbs/yr)	Annual Emissions (g/s)	Max Hourly Emissions (lbs/hr)	Max Hourly Emissions (g/s)
17	Dehy Hot Oil Heater	100414	Ethyl benzene	3.34E-02	4.80E-07	1.39E-05	1.75E-06
17	Dehy Hot Oil Heater	108883	Toluene	1.29E-01	1.85E-06	5.34E-05	6.73E-06
17	Dehy Hot Oil Heater	110543	Hexane	2.21E-02	3.18E-07	9.19E-06	1.16E-06
17	Dehy Hot Oil Heater	7664417	Ammonia	1.12E+01	1.62E-04	4.67E-03	5.88E-04
18	TK-3	71432	Benzene	1.02E+00	1.47E-05	1.17E-04	1.47E-05
18	TK-3	95636	1,2,4-Trimethylbenzene	1.00E-02	1.44E-07	1.14E-06	1.44E-07
18	TK-3	100414	Ethyl benzene	6.51E-02	9.37E-07	7.44E-06	9.37E-07
18	TK-3	108383	m-Xylene	1.91E-01	2.75E-06	2.18E-05	2.75E-06
18	TK-3	108883	Toluene	4.89E-01	7.03E-06	5.58E-05	7.03E-06
18	TK-3	110543	Hexane	1.11E+00	1.59E-05	1.26E-04	1.59E-05
19	TK-4A	71432	Benzene	2.00E+00	2.87E-05	2.28E-04	2.87E-05
19	TK-4A	95636	1,2,4-Trimethylbenzene	2.00E-02	2.88E-07	2.28E-06	2.88E-07
19	TK-4A	100414	Ethyl benzene	1.28E-01	1.83E-06	1.46E-05	1.83E-06
19	TK-4A	108383	m-Xylene	3.74E-01	5.38E-06	4.27E-05	5.38E-06
19	TK-4A	108883	Toluene	9.57E-01	1.38E-05	1.09E-04	1.38E-05
19	TK-4A	110543	Hexane	2.16E+00	3.11E-05	2.47E-04	3.11E-05
20	TK-4B	71432	Benzene	2.00E+00	2.87E-05	2.28E-04	2.87E-05
20	TK-4B	95636	1,2,4-Trimethylbenzene	2.00E-02	2.88E-07	2.28E-06	2.88E-07
20	TK-4B	100414	Ethyl benzene	1.28E-01	1.83E-06	1.46E-05	1.83E-06
20	TK-4B	108383	m-Xylene	3.74E-01	5.38E-06	4.27E-05	5.38E-06
20	TK-4B	108883	Toluene	9.57E-01	1.38E-05	1.09E-04	1.38E-05
20	TK-4B	110543	Hexane	2.16E+00	3.11E-05	2.47E-04	3.11E-05
21	TK-4C	71432	Benzene	2.00E+00	2.87E-05	2.28E-04	2.87E-05
21	TK-4C	95636	1,2,4-Trimethylbenzene	2.00E-02	2.88E-07	2.28E-06	2.88E-07
21	TK-4C	100414	Ethyl benzene	1.28E-01	1.83E-06	1.46E-05	1.83E-06
21	TK-4C	108383	m-Xylene	3.74E-01	5.38E-06	4.27E-05	5.38E-06
21	TK-4C	108883	Toluene	9.57E-01	1.38E-05	1.09E-04	1.38E-05

Table 15: Emission Rates by Source and Substance
SoCalGas Playa del Rey

Stack ID	Source Name	CAS	Pollutant	Annual Emissions (lbs/yr)	Annual Emissions (g/s)	Max Hourly Emissions (lbs/hr)	Max Hourly Emissions (g/s)
21	TK-4C	110543	Hexane	2.16E+00	3.11E-05	2.47E-04	3.11E-05
22	TK-6	71432	Benzene	1.55E-01	2.22E-06	1.76E-05	2.22E-06
22	TK-6	95636	1,2,4-Trimethylbenzene	1.00E-03	1.44E-08	1.14E-07	1.44E-08
22	TK-6	100414	Ethyl benzene	9.50E-03	1.37E-07	1.08E-06	1.37E-07
22	TK-6	108383	m-Xylene	2.85E-02	4.10E-07	3.25E-06	4.10E-07
22	TK-6	108883	Toluene	7.35E-02	1.06E-06	8.39E-06	1.06E-06
22	TK-6	110543	Hexane	1.68E-01	2.41E-06	1.91E-05	2.41E-06
23	TK-5	71432	Benzene	3.39E-01	4.88E-06	3.87E-05	4.88E-06
23	TK-5	95636	1,2,4-Trimethylbenzene	3.00E-03	4.31E-08	3.42E-07	4.31E-08
23	TK-5	100414	Ethyl benzene	2.15E-02	3.09E-07	2.45E-06	3.09E-07
23	TK-5	108383	m-Xylene	6.30E-02	9.06E-07	7.19E-06	9.06E-07
23	TK-5	108883	Toluene	1.62E-01	2.33E-06	1.85E-05	2.33E-06
23	TK-5	110543	Hexane	3.67E-01	5.28E-06	4.19E-05	5.28E-06
24	TK-1B	71432	Benzene	1.91E+00	2.75E-05	2.18E-04	2.75E-05
24	TK-1B	95636	1,2,4-Trimethylbenzene	1.95E-02	2.80E-07	2.23E-06	2.80E-07
24	TK-1B	100414	Ethyl benzene	1.22E-01	1.75E-06	1.39E-05	1.75E-06
24	TK-1B	108383	m-Xylene	3.58E-01	5.14E-06	4.08E-05	5.14E-06
24	TK-1B	108883	Toluene	9.15E-01	1.32E-05	1.04E-04	1.32E-05
24	TK-1B	110543	Hexane	2.07E+00	2.97E-05	2.36E-04	2.97E-05
25	TK-1A	71432	Benzene	1.91E+00	2.75E-05	2.18E-04	2.75E-05
25	TK-1A	95636	1,2,4-Trimethylbenzene	1.95E-02	2.80E-07	2.23E-06	2.80E-07
25	TK-1A	100414	Ethyl benzene	1.22E-01	1.75E-06	1.39E-05	1.75E-06
25	TK-1A	108383	m-Xylene	3.58E-01	5.14E-06	4.08E-05	5.14E-06
25	TK-1A	108883	Toluene	9.15E-01	1.32E-05	1.04E-04	1.32E-05
25	TK-1A	110543	Hexane	2.07E+00	2.97E-05	2.36E-04	2.97E-05
26	TK-2	71432	Benzene	5.39E-01	7.75E-06	6.15E-05	7.75E-06
26	TK-2	95636	1,2,4-Trimethylbenzene	5.02E-03	7.22E-08	5.73E-07	7.22E-08

Table 15: Emission Rates by Source and Substance
SoCalGas Playa del Rey

Stack ID	Source Name	CAS	Pollutant	Annual Emissions (lbs/yr)	Annual Emissions (g/s)	Max Hourly Emissions (lbs/hr)	Max Hourly Emissions (g/s)
26	TK-2	100414	Ethyl benzene	3.41E-02	4.91E-07	3.90E-06	4.91E-07
26	TK-2	108383	m-Xylene	1.01E-01	1.45E-06	1.15E-05	1.45E-06
26	TK-2	108883	Toluene	2.58E-01	3.71E-06	2.95E-05	3.71E-06
26	TK-2	110543	Hexane	5.83E-01	8.39E-06	6.66E-05	8.39E-06
27	TK-12	71432	Benzene	3.31E+00	4.77E-05	3.78E-04	4.77E-05
27	TK-12	95636	1,2,4-Trimethylbenzene	3.35E-02	4.82E-07	3.82E-06	4.82E-07
27	TK-12	100414	Ethyl benzene	2.12E-01	3.05E-06	2.42E-05	3.05E-06
27	TK-12	108383	m-Xylene	6.21E-01	8.92E-06	7.08E-05	8.92E-06
27	TK-12	108883	Toluene	1.59E+00	2.28E-05	1.81E-04	2.28E-05
27	TK-12	110543	Hexane	3.59E+00	5.16E-05	4.10E-04	5.16E-05
28	Air Compressor 400	50000	Formaldehyde	1.76E-01	2.53E-06	6.98E-03	8.79E-04
28	Air Compressor 400	67561	Methanol	2.62E-02	3.77E-07	1.04E-03	1.31E-04
28	Air Compressor 400	71432	Benzene	1.35E-02	1.95E-07	5.38E-04	6.78E-05
28	Air Compressor 400	75070	Acetaldehyde	2.39E-02	3.44E-07	9.50E-04	1.20E-04
28	Air Compressor 400	91203	Naphthalene [PAH, POM]	8.32E-04	1.20E-08	3.30E-05	4.16E-06
28	Air Compressor 400	100414	Ethyl benzene	2.12E-04	3.06E-09	8.44E-06	1.06E-06
28	Air Compressor 400	106934	Ethylene dibromide {1,2-Dibromoethane}	1.82E-04	2.62E-09	7.25E-06	9.13E-07
28	Air Compressor 400	106990	Butadiene [1,3]	5.68E-03	8.17E-08	2.26E-04	2.84E-05
28	Air Compressor 400	108883	Toluene	4.78E-03	6.88E-08	1.90E-04	2.39E-05
28	Air Compressor 400	7664417	Ammonia	2.69E-02	3.87E-07	1.07E-03	1.35E-04
29	Air Compressor 120	50000	Formaldehyde	9.76E-01	1.40E-05	6.98E-03	8.79E-04
29	Air Compressor 120	67561	Methanol	1.46E-01	2.10E-06	1.04E-03	1.31E-04
29	Air Compressor 120	71432	Benzene	7.53E-02	1.08E-06	5.38E-04	6.78E-05
29	Air Compressor 120	75070	Acetaldehyde	1.33E-01	1.91E-06	9.50E-04	1.20E-04
29	Air Compressor 120	91203	Naphthalene [PAH, POM]	4.63E-03	6.65E-08	3.30E-05	4.16E-06
29	Air Compressor 120	100414	Ethyl benzene	1.18E-03	1.70E-08	8.44E-06	1.06E-06
29	Air Compressor 120	106934	Ethylene dibromide {1,2-Dibromoethane}	1.01E-03	1.46E-08	7.25E-06	9.13E-07

Table 15: Emission Rates by Source and Substance
SoCalGas Playa del Rey

Stack ID	Source Name	CAS	Pollutant	Annual Emissions (lbs/yr)	Annual Emissions (g/s)	Max Hourly Emissions (lbs/hr)	Max Hourly Emissions (g/s)
29	Air Compressor 120	106990	Butadiene [1,3]	3.16E-02	4.54E-07	2.26E-04	2.84E-05
29	Air Compressor 120	108883	Toluene	2.66E-02	3.82E-07	1.90E-04	2.39E-05
29	Air Compressor 120	7664417	Ammonia	1.49E-01	2.15E-06	1.07E-03	1.35E-04
30	ICE Air Compressor 12HP Gasoline E29	50000	Formaldehyde	2.27E+00	3.27E-05	2.32E-03	2.92E-04
30	ICE Air Compressor 12HP Gasoline E29	67561	Methanol	5.10E-01	7.33E-06	5.20E-04	6.56E-05
30	ICE Air Compressor 12HP Gasoline E29	71432	Benzene	2.50E+00	3.60E-05	2.56E-03	3.22E-04
30	ICE Air Compressor 12HP Gasoline E29	75070	Acetaldehyde	5.46E-01	7.85E-06	5.58E-04	7.03E-05
30	ICE Air Compressor 12HP Gasoline E29	91203	Naphthalene [PAH, POM]	9.46E-02	1.36E-06	9.67E-05	1.22E-05
30	ICE Air Compressor 12HP Gasoline E29	95636	1,2,4-Trimethylbenzene	9.17E-01	1.32E-05	9.37E-04	1.18E-04
30	ICE Air Compressor 12HP Gasoline E29	100414	Ethyl benzene	1.09E+00	1.57E-05	1.12E-03	1.41E-04
30	ICE Air Compressor 12HP Gasoline E29	106990	Butadiene [1,3]	6.04E-01	8.69E-06	6.17E-04	7.78E-05
30	ICE Air Compressor 12HP Gasoline E29	108383	m-Xylene	3.24E+00	4.66E-05	3.31E-03	4.17E-04
30	ICE Air Compressor 12HP Gasoline E29	108883	Toluene	4.94E+00	7.11E-05	5.05E-03	6.36E-04
30	ICE Air Compressor 12HP Gasoline E29	110543	Hexane	9.54E-01	1.37E-05	9.74E-04	1.23E-04
30	ICE Air Compressor 12HP Gasoline E29	7440020	Nickel	2.14E-03	3.08E-08	2.18E-06	2.75E-07
30	ICE Air Compressor 12HP Gasoline E29	7782505	Chlorine	2.99E-01	4.31E-06	3.06E-04	3.85E-05
31	ICE Air Compressor 12HP Gasoline E30	50000	Formaldehyde	4.11E-01	5.91E-06	2.32E-03	2.92E-04
31	ICE Air Compressor 12HP Gasoline E30	67561	Methanol	9.22E-02	1.33E-06	5.20E-04	6.56E-05
31	ICE Air Compressor 12HP Gasoline E30	71432	Benzene	4.53E-01	6.51E-06	2.56E-03	3.22E-04
31	ICE Air Compressor 12HP Gasoline E30	75070	Acetaldehyde	9.87E-02	1.42E-06	5.58E-04	7.03E-05
31	ICE Air Compressor 12HP Gasoline E30	91203	Naphthalene [PAH, POM]	1.71E-02	2.46E-07	9.67E-05	1.22E-05
31	ICE Air Compressor 12HP Gasoline E30	95636	1,2,4-Trimethylbenzene	1.66E-01	2.39E-06	9.37E-04	1.18E-04
31	ICE Air Compressor 12HP Gasoline E30	100414	Ethyl benzene	1.97E-01	2.84E-06	1.12E-03	1.41E-04
31	ICE Air Compressor 12HP Gasoline E30	106990	Butadiene [1,3]	1.09E-01	1.57E-06	6.17E-04	7.78E-05
31	ICE Air Compressor 12HP Gasoline E30	108383	m-Xylene	5.86E-01	8.43E-06	3.31E-03	4.17E-04
31	ICE Air Compressor 12HP Gasoline E30	108883	Toluene	8.94E-01	1.29E-05	5.05E-03	6.36E-04
31	ICE Air Compressor 12HP Gasoline E30	110543	Hexane	1.72E-01	2.48E-06	9.74E-04	1.23E-04

Table 15: Emission Rates by Source and Substance
SoCalGas Playa del Rey

Stack ID	Source Name	CAS	Pollutant	Annual Emissions (lbs/yr)	Annual Emissions (g/s)	Max Hourly Emissions (lbs/hr)	Max Hourly Emissions (g/s)
31	ICE Air Compressor 12HP Gasoline E30	7440020	Nickel	3.87E-04	5.56E-09	2.18E-06	2.75E-07
31	ICE Air Compressor 12HP Gasoline E30	7782505	Chlorine	5.41E-02	7.79E-07	3.06E-04	3.85E-05
33	Organic Solvents/Fugitive Emissions	67561	Methanol	7.94E-01	1.14E-05	9.07E-05	1.14E-05
33	Organic Solvents/Fugitive Emissions	75092	Methylene chloride {Dichloromethane}	9.55E+00	1.37E-04	1.09E-03	1.37E-04
33	Organic Solvents/Fugitive Emissions	108883	Toluene	1.59E+00	2.28E-05	1.81E-04	2.28E-05
33	Organic Solvents/Fugitive Emissions	71432	Benzene	3.31E-01	4.76E-06	3.78E-05	4.76E-06
33	Organic Solvents/Fugitive Emissions	71432	Benzene	3.25E+01	4.67E-04	3.71E-03	4.67E-04
33	Organic Solvents/Fugitive Emissions	95636	1,2,4-Trimethylbenzene	1.79E+01	2.57E-04	2.04E-03	2.57E-04
33	Organic Solvents/Fugitive Emissions	100414	Ethyl benzene	2.17E+01	3.12E-04	2.47E-03	3.12E-04
33	Organic Solvents/Fugitive Emissions	108383	m-Xylene	7.58E+01	1.09E-03	8.65E-03	1.09E-03
33	Organic Solvents/Fugitive Emissions	108883	Toluene	5.42E+01	7.79E-04	6.18E-03	7.79E-04
33	Organic Solvents/Fugitive Emissions	110543	Hexane	2.17E+01	3.12E-04	2.47E-03	3.12E-04
33	Organic Solvents/Fugitive Emissions	71432	Benzene	2.18E+00	3.13E-05	2.48E-04	3.13E-05
33	Organic Solvents/Fugitive Emissions	95636	1,2,4-Trimethylbenzene	1.20E+00	1.72E-05	1.37E-04	1.72E-05
33	Organic Solvents/Fugitive Emissions	100414	Ethyl benzene	1.45E+00	2.09E-05	1.66E-04	2.09E-05
33	Organic Solvents/Fugitive Emissions	108383	m-Xylene	5.08E+00	7.30E-05	5.79E-04	7.30E-05
33	Organic Solvents/Fugitive Emissions	108883	Toluene	3.63E+00	5.22E-05	4.14E-04	5.22E-05
33	Organic Solvents/Fugitive Emissions	110543	Hexane	1.45E+00	2.09E-05	1.66E-04	2.09E-05
33	Organic Solvents/Fugitive Emissions	71432	Benzene	3.62E-01	5.20E-06	4.13E-05	5.20E-06
33	Organic Solvents/Fugitive Emissions	71432	Benzene	7.97E-02	1.15E-06	9.10E-06	1.15E-06
33	Organic Solvents/Fugitive Emissions	71432	Benzene	1.96E+00	2.82E-05	2.24E-04	2.82E-05
33	Organic Solvents/Fugitive Emissions	71432	Benzene	6.50E+01	9.35E-04	7.42E-03	9.35E-04
33	Organic Solvents/Fugitive Emissions	95636	1,2,4-Trimethylbenzene	3.57E+01	5.14E-04	4.08E-03	5.14E-04
33	Organic Solvents/Fugitive Emissions	100414	Ethyl benzene	4.33E+01	6.23E-04	4.95E-03	6.23E-04
33	Organic Solvents/Fugitive Emissions	108383	m-Xylene	1.52E+02	2.18E-03	1.73E-02	2.18E-03
33	Organic Solvents/Fugitive Emissions	108883	Toluene	1.08E+02	1.56E-03	1.24E-02	1.56E-03
33	Organic Solvents/Fugitive Emissions	110543	Hexane	4.33E+01	6.23E-04	4.95E-03	6.23E-04

Table 15: Emission Rates by Source and Substance
SoCalGas Playa del Rey

Stack ID	Source Name	CAS	Pollutant	Annual Emissions (lbs/yr)	Annual Emissions (g/s)	Max Hourly Emissions (lbs/hr)	Max Hourly Emissions (g/s)
33	Organic Solvents/Fugitive Emissions	71432	Benzene	3.00E+00	4.31E-05	3.42E-04	4.31E-05
33	Organic Solvents/Fugitive Emissions	95636	1,2,4-Trimethylbenzene	1.65E+00	2.37E-05	1.88E-04	2.37E-05
33	Organic Solvents/Fugitive Emissions	100414	Ethyl benzene	2.00E+00	2.88E-05	2.28E-04	2.88E-05
33	Organic Solvents/Fugitive Emissions	108383	m-Xylene	7.00E+00	1.01E-04	7.99E-04	1.01E-04
33	Organic Solvents/Fugitive Emissions	108883	Toluene	5.00E+00	7.19E-05	5.71E-04	7.19E-05
33	Organic Solvents/Fugitive Emissions	110543	Hexane	2.00E+00	2.88E-05	2.28E-04	2.88E-05
34	Sump	71432	Benzene	4.85E-01	6.97E-06	5.54E-05	6.97E-06
34	Sump	95636	1,2,4-Trimethylbenzene	2.67E-01	3.84E-06	3.04E-05	3.84E-06
34	Sump	100414	Ethyl benzene	3.23E-01	4.65E-06	3.69E-05	4.65E-06
34	Sump	108383	m-Xylene	1.13E+00	1.63E-05	1.29E-04	1.63E-05
34	Sump	108883	Toluene	8.08E-01	1.16E-05	9.23E-05	1.16E-05
34	Sump	110543	Hexane	3.23E-01	4.65E-06	3.69E-05	4.65E-06
35	Natural Gas Venting	71432	Benzene	6.12E-02	8.80E-07	4.17E-02	5.26E-03

Table 16: Dispersion Modeling Assumptions and Receptor Grid Spacing
SoCalGas Playa del Rey

Parameter	Assumption
Model Control Options	
• Use Regulatory Default?	Yes
• Urban or Rural?	Urban County: Los Angeles Population: 9,818,605
Source Options	
• Include Building Downwash?	Yes
Meteorology Options	
• Meteorological Data	AERMOD-ready data from SCAQMD KLAX (2010-2016)
Receptor Grid Spacing	
• Fenceline Grid Spacing	10 meters
• Discrete Cartisian Receptors	Distance: / Spacing: 100 meters / 10 meters 250 meters / 25 meters 750 meters / 75 meters

Table 17: Annual Average Concentrations (µg/M3) By Substance For The Cancer PMI, MEIR AND MEIW
SoCalGas Playa del Rey

CAS	Compound	PMI (367297m E, 3758930m N)	MEIR (367400m E, 3759000m N)	MEIW (367290m E, 3758630m N)
50000	Formaldehyde	1.11E-01	9.50E-02	4.38E-03
67561	Methanol	2.51E-02	2.13E-02	9.82E-04
71432	Benzene	7.48E-02	4.01E-02	3.62E-03
75070	Acetaldehyde	6.55E-02	6.32E-02	2.68E-03
91203	Naphthalene	1.82E-03	1.03E-03	5.76E-05
100414	Ethyl benzene	3.33E-02	1.51E-02	1.71E-03
106934	Ethylene dibromide {EDB}	5.59E-04	5.83E-04	2.39E-05
106990	1,3-Butadiene	1.32E-02	8.18E-03	4.34E-04
108883	Toluene	1.15E-01	4.97E-02	5.19E-03
7664417	Ammonia	2.67E-02	2.70E-02	1.54E-03
50328	Benzo[a]pyrene	4.32E-08	4.50E-08	1.84E-09
56553	Benz[a]anthracene	2.55E-06	2.66E-06	1.09E-07
83329	Acenaphthene	1.01E-05	1.05E-05	4.30E-07
85018	Phenanthrene	2.68E-05	2.80E-05	1.14E-06
86737	Fluorene	1.28E-05	1.34E-05	5.46E-07
91576	2-Methyl naphthalene	1.63E-04	1.70E-04	6.92E-06
95636	1,2,4-Trimethylbenzene	2.78E-02	1.27E-02	1.41E-03
110543	Hexane	3.48E-02	1.79E-02	1.99E-03
120127	Anthracene	5.46E-06	5.69E-06	2.32E-07
129000	Pyrene	4.44E-06	4.63E-06	1.89E-07
191242	Benzo[g,h,i]perylene	1.89E-07	1.96E-07	8.02E-09
192972	Benzo[e]pyrene	1.78E-07	1.85E-07	7.56E-09
193395	Indeno[1,2,3-cd]pyrene	7.55E-08	7.87E-08	3.21E-09

Table 17: Annual Average Concentrations (µg/M3) By Substance For The Cancer PMI, MEIR AND MEIW
SoCalGas Playa del Rey

CAS	Compound	PMI (367297m E, 3758930m N)	MEIR (367400m E, 3759000m N)	MEIW (367290m E, 3758630m N)
198550	Perylene	3.78E-08	3.94E-08	1.61E-09
205992	Benzo[b]fluoranthene	6.47E-08	6.74E-08	2.75E-09
206440	Fluoranthene	2.74E-06	2.86E-06	1.17E-07
207089	Benzo[k]fluoranthene	3.24E-08	3.37E-08	1.38E-09
208968	Acenaphthylene	2.41E-05	2.51E-05	1.02E-06
218019	Chrysene	5.10E-06	5.32E-06	2.17E-07
9901	Diesel engine exhaust, particulate matter (Diesel PM)	2.81E-03	9.51E-04	1.40E-04
1151	PAHs, total, w/o individ. components reported [Treated as B(a)P for HRA]	3.12E-06	1.09E-06	1.66E-07
7439921	Lead	6.96E-07	2.36E-07	3.46E-08
7440020	Nickel	2.49E-05	5.88E-06	5.90E-07
18540299	Chromium, hexavalent (& compounds)	8.39E-09	2.84E-09	4.17E-10
7440382	Arsenic	1.34E-07	4.55E-08	6.68E-09
7440439	Cadmium	1.26E-07	4.26E-08	6.26E-09
108383	m-Xylene	1.07E-01	4.83E-02	5.69E-03
7782505	Chlorine	3.44E-03	8.08E-04	8.04E-05
75092	Methylene chloride {Dichloromethane}	2.75E-03	1.54E-03	1.88E-04

Table 18: Maximum One Hour Concentrations (µg/M3) By Substance For The Acute PMI, MEIR AND MEIW
SoCalGas Playa del Rey

CAS	Compound	PMI (367239m E, 3758859m N)	MEIR (367300m E, 3758810m N)	MEIW (367270m E, 3758620m N)
50000	Formaldehyde	1.85E+01	1.03E+01	5.63E+00
67561	Methanol	3.47E+00	1.97E+00	1.06E+00
71432	Benzene	1.09E+01	5.84E+00	2.49E+00
75070	Acetaldehyde	6.56E+00	3.62E+00	1.98E+00
91203	Naphthalene	3.98E-01	2.04E-01	8.10E-02
100414	Ethyl benzene	3.92E+00	2.00E+00	7.37E-01
106934	Ethylene dibromide {EDB}	3.69E-02	2.24E-02	1.48E-02
106990	1,3-Butadiene	2.72E+00	1.39E+00	5.62E-01
108883	Toluene	1.77E+01	8.99E+00	3.25E+00
7664417	Ammonia	3.26E+00	1.73E+00	1.06E+00
50328	Benzo[a]pyrene	2.50E-06	1.49E-06	9.54E-07
56553	Benz[a]anthracene	1.48E-04	8.79E-05	5.64E-05
83329	Acenaphthene	5.86E-04	3.48E-04	2.24E-04
85018	Phenanthrene	1.55E-03	9.23E-04	5.92E-04
86737	Fluorene	7.43E-04	4.41E-04	2.83E-04
91576	2-Methyl naphthalene	9.42E-03	5.60E-03	3.59E-03
95636	1,2,4-Trimethylbenzene	3.28E+00	1.68E+00	6.17E-01
110543	Hexane	3.63E+00	1.88E+00	7.28E-01
120127	Anthracene	3.16E-04	1.88E-04	1.21E-04
129000	Pyrene	2.57E-04	1.53E-04	9.81E-05
191242	Benzo[g,h,i]perylene	1.09E-05	6.48E-06	4.16E-06
192972	Benzo[e]pyrene	1.03E-05	6.12E-06	3.93E-06
193395	Indeno[1,2,3-cd]pyrene	4.37E-06	2.60E-06	1.67E-06

Table 18: Maximum One Hour Concentrations (µg/M3) By Substance For The Acute PMI, MEIR AND MEIW
SoCalGas Playa del Rey

CAS	Compound	PMI (367239m E, 3758859m N)	MEIR (367300m E, 3758810m N)	MEIW (367270m E, 3758620m N)
198550	Perylene	2.19E-06	1.30E-06	8.34E-07
205992	Benzo[b]fluoranthene	3.74E-06	2.22E-06	1.43E-06
206440	Fluoranthene	1.59E-04	9.44E-05	6.06E-05
207089	Benzo[k]fluoranthene	1.87E-06	1.11E-06	7.15E-07
208968	Acenaphthylene	1.40E-03	8.29E-04	5.33E-04
218019	Chrysene	2.96E-04	1.76E-04	1.13E-04
9901	Diesel engine exhaust, particulate matter (Diesel PM)	3.00E+01	1.06E+01	1.90E+00
1151	PAHs, total, w/o individ. components reported [Treated as B(a)P for HRA]	3.24E-02	1.14E-02	2.05E-03
7439921	Lead	7.44E-03	2.62E-03	4.70E-04
7440020	Nickel	1.06E-02	4.79E-03	1.40E-03
18540299	Chromium, hexavalent (& compounds)	8.97E-05	3.16E-05	5.67E-06
7440382	Arsenic	1.43E-03	5.05E-04	9.07E-05
7440439	Cadmium	1.34E-03	4.74E-04	8.50E-05
108383	m-Xylene	1.15E+01	5.92E+00	2.18E+00
7782505	Chlorine	1.00E+00	4.99E-01	1.65E-01
75092	Methylene chloride {Dichloromethane}	2.68E-02	2.00E-02	1.55E-02

Table 19: Chronic 8 Hour Concentrations (µg/M3) By Substance For The 8-Hour Chronic PMI, MEIR AND MEIW SoCalGas Playa del Rey

CAS	Compound	PMI (367046m E, 3759154m N)	MEIR (367400m E, 3758950m N)	MEIW (366450m E, 3758850m N)
50000	Formaldehyde	5.62E-03	8.17E-02	1.62E-03
71432	Benzene	1.15E-01	4.11E-02	5.85E-03
75070	Acetaldehyde	3.32E-03	5.07E-02	9.57E-04
106990	1,3-Butadiene	5.81E-04	8.64E-03	1.64E-04
7440020	Nickel	8.90E-07	1.29E-05	2.45E-07
7440382	Arsenic	6.55E-09	5.10E-08	2.44E-09

Table 20: PMI Source Contribution to Cancer Risk 30-years
SoCalGas Playa del Rey

Source	Source Description	Inhalation	Soil Ingestion	Dermal	Mother's Milk	Homegrown Produce	Total Cancer Risk	% of Total
S30	ICE Air Compressor 12HP Gasoline E29	4.55E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.55E-06	29.33%
S7	Emergency ICE 99HP Diesel	2.15E-06	2.71E-08	5.53E-09	5.01E-08	1.09E-07	2.35E-06	15.11%
S33	Organic Solvents/Fugitive Emissions	2.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.22E-06	14.28%
S4	ICE Main Unit 6 2000HP NG	2.16E-06	1.02E-09	2.54E-10	2.43E-09	5.00E-09	2.17E-06	13.97%
S6	ICE Main Unit 9 2000HP NG	1.66E-06	7.82E-10	1.95E-10	1.86E-09	3.83E-09	1.66E-06	10.71%
S5	ICE Main Unit 8 2000HP NG	1.57E-06	7.42E-10	1.85E-10	1.76E-09	3.64E-09	1.58E-06	10.15%
S31	ICE Air Compressor 12HP Gasoline E30	9.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.07E-07	5.84%
S34	Sump	2.34E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.34E-08	0.15%
S29	Air Compressor 120	2.21E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.21E-08	0.14%
S27	TK-12	6.68E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.68E-09	0.04%
S25	TK-1A	6.08E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.08E-09	0.04%
S24	TK-1B	6.03E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.03E-09	0.04%
S21	TK-4C	4.46E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.46E-09	0.03%
S20	TK-4B	4.28E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.28E-09	0.03%
S28	Air Compressor 400	4.20E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.20E-09	0.03%
S19	TK-4A	4.10E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.10E-09	0.03%
S18	TK-3	2.17E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.17E-09	0.01%
S26	TK-2	1.28E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.28E-09	0.01%
S8	Glycol Reboiler	1.77E-10	1.12E-10	2.78E-11	2.66E-10	5.47E-10	1.13E-09	0.01%
S13	Building AC & Heat V3	1.71E-10	1.08E-10	2.69E-11	2.57E-10	5.29E-10	1.09E-09	0.01%
S23	TK-5	1.09E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.09E-09	0.01%
S2	Emergency ICE 110HP NG	1.07E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.07E-09	0.01%

Table 20: PMI Source Contribution to Cancer Risk 30-years
SoCalGas Playa del Rey

Source	Source Description	Inhalation	Soil Ingestion	Dermal	Mother's Milk	Homegrown Produce	Total Cancer Risk	% of Total
S1	Emergency ICE 348HP NG	7.85E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.85E-10	0.01%
S12	Building AC & Heat V2	1.22E-10	7.67E-11	1.91E-11	1.82E-10	3.76E-10	7.76E-10	0.00%
S14	Building AC & Heat V4	9.52E-11	5.99E-11	1.49E-11	1.43E-10	2.94E-10	6.06E-10	0.00%
S15	Building AC & Heat V5	8.96E-11	5.64E-11	1.41E-11	1.34E-10	2.76E-10	5.71E-10	0.00%
S11	Building AC & Heat V1	8.79E-11	5.54E-11	1.38E-11	1.32E-10	2.71E-10	5.60E-10	0.00%
S17	Dehy Hot Oil Heater	8.09E-11	5.10E-11	1.27E-11	1.21E-10	2.50E-10	5.16E-10	0.00%
S16	Building AC & Heat V6	7.58E-11	4.77E-11	1.19E-11	1.14E-10	2.34E-10	4.83E-10	0.00%
S22	TK-6	4.73E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.73E-10	0.00%
S35	Natural Gas Venting	2.14E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.14E-10	0.00%
S10	Loading Arm	1.30E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E-10	0.00%
S3	Emergency ICE Fire Pump 93HP NG	5.79E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.79E-11	0.00%
S9	Thermal Oxidizer	3.38E-12	2.13E-12	5.30E-13	5.06E-12	1.04E-11	2.15E-11	0.00%

Table 21: PMI Pollutant Contribution to Cancer Risk 30-years
SoCalGas Playa del Rey

CAS	Pollutant	Inhalation	Soil Ingestion	Dermal	Mother's Milk	Homegrown Produce	Total Cancer Risk	% of Total
106990	1,3-Butadiene	5.37E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.37E-06	35.25%
71432	Benzene	5.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.06E-06	33.22%
9901	DieselExhPM	2.09E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.09E-06	13.73%
50000	Formaldehyde	1.58E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.58E-06	10.36%
75070	Acetaldehyde	4.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.43E-07	2.91%
100414	Ethyl Benzene	1.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.96E-07	1.29%
1151	PAHs-w/o	5.80E-09	2.16E-08	5.39E-09	5.14E-08	1.06E-07	1.90E-07	1.25%
91203	Naphthalene	1.48E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.48E-07	0.97%
106934	EDB	9.46E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.46E-08	0.62%
56553	B[a]anthracene	4.76E-10	1.77E-09	4.41E-10	4.21E-09	8.68E-09	1.56E-08	0.10%
7440020	Nickel	1.53E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.53E-08	0.10%
7440382	Arsenic	7.69E-10	5.80E-09	2.82E-10	0.00E+00	3.73E-09	1.06E-08	0.07%
75092	Methylene Chlor	6.50E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.50E-09	0.04%
18540299	Cr(VI)	2.89E-09	5.11E-11	1.96E-12	0.00E+00	1.67E-09	4.62E-09	0.03%
218019	Chrysene	9.50E-11	3.54E-10	8.82E-11	8.42E-10	1.73E-09	3.11E-09	0.02%
50328	B[a]P	8.04E-11	2.99E-10	7.46E-11	7.12E-10	1.47E-09	2.63E-09	0.02%
7440439	Cadmium	1.28E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.28E-09	0.01%
193395	In[1,2,3-cd]pyr	1.41E-11	5.24E-11	1.30E-11	1.25E-10	2.57E-10	4.61E-10	0.00%
205992	B[b]fluoranthen	1.20E-11	4.49E-11	1.12E-11	1.07E-10	2.20E-10	3.95E-10	0.00%
7439921	Lead	1.40E-11	1.70E-10	4.15E-12	3.09E-12	3.42E-11	2.26E-10	0.00%
207089	B[k]fluoranthen	6.03E-12	2.25E-11	5.60E-12	5.34E-11	1.10E-10	1.98E-10	0.00%
67561	Methanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
108883	Toluene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7664417	NH3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
83329	Acenaphthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
85018	Phenanthrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
86737	Fluorene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
91576	2MeNaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
95636	1,2,4TriMeBenze	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
110543	Hexane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
120127	Anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
129000	Pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
191242	B[g,h,i]perylen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
192972	B[e]pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
198550	Perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
206440	Fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
208968	Acenaphthylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
108383	m-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7782505	Chlorine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%

Table 22: MEIR Source Contribution to Cancer Risk 30-years
SoCalGas Playa del Rey

Source	Source Description	Inhalation	Soil Ingestion	Dermal	Mother's Milk	Homegrown Produce	Total Cancer Risk	% of Total
S4	ICE Main Unit 6 2000HP NG	2.36E-06	1.12E-09	2.78E-10	2.65E-09	5.47E-09	2.37E-06	26.15%
S6	ICE Main Unit 9 2000HP NG	1.63E-06	7.72E-10	1.92E-10	1.84E-09	3.78E-09	1.64E-06	18.09%
S5	ICE Main Unit 8 2000HP NG	1.62E-06	7.64E-10	1.90E-10	1.82E-09	3.74E-09	1.62E-06	17.91%
S33	Organic Solvents/Fugitive Emissions	1.25E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-06	13.73%
S30	ICE Air Compressor 12HP Gasoline E29	8.91E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.91E-07	9.83%
S7	Emergency ICE 99HP Diesel	7.30E-07	9.17E-09	1.87E-09	1.70E-08	3.68E-08	7.95E-07	8.77%
S31	ICE Air Compressor 12HP Gasoline E30	3.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.93E-07	4.33%
S29	Air Compressor 120	3.67E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.67E-08	0.41%
S34	Sump	2.37E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.37E-08	0.26%
S28	Air Compressor 400	6.80E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.80E-09	0.07%
S27	TK-12	6.37E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.37E-09	0.07%
S25	TK-1A	5.30E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.30E-09	0.06%
S24	TK-1B	5.23E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.23E-09	0.06%
S21	TK-4C	4.10E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.10E-09	0.05%
S20	TK-4B	3.98E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.98E-09	0.04%
S19	TK-4A	3.68E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.68E-09	0.04%
S8	Glycol Reboiler	3.66E-10	2.30E-10	5.74E-11	5.48E-10	1.13E-09	2.33E-09	0.03%
S18	TK-3	1.94E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E-09	0.02%
S2	Emergency ICE 110HP NG	1.91E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.91E-09	0.02%
S26	TK-2	1.11E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-09	0.01%
S17	Dehy Hot Oil Heater	1.64E-10	1.03E-10	2.58E-11	2.46E-10	5.07E-10	1.05E-09	0.01%
S23	TK-5	9.36E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.36E-10	0.01%
S1	Emergency ICE 348HP NG	7.16E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.16E-10	0.01%
S22	TK-6	3.94E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.94E-10	0.00%
S13	Building AC & Heat V3	3.57E-11	2.25E-11	5.60E-12	5.35E-11	1.10E-10	2.27E-10	0.00%
S12	Building AC & Heat V2	2.95E-11	1.86E-11	4.63E-12	4.42E-11	9.10E-11	1.88E-10	0.00%
S35	Natural Gas Venting	1.74E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-10	0.00%

Table 22: MEIR Source Contribution to Cancer Risk 30-years
SoCalGas Playa del Rey

Source	Source Description	Inhalation	Soil Ingestion	Dermal	Mother's Milk	Homegrown Produce	Total Cancer Risk	% of Total
S11	Building AC & Heat V1	2.46E-11	1.55E-11	3.87E-12	3.69E-11	7.60E-11	1.57E-10	0.00%
S10	Loading Arm	1.20E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-10	0.00%
S14	Building AC & Heat V4	1.71E-11	1.08E-11	2.69E-12	2.57E-11	5.29E-11	1.09E-10	0.00%
S15	Building AC & Heat V5	1.60E-11	1.01E-11	2.51E-12	2.39E-11	4.93E-11	1.02E-10	0.00%
S16	Building AC & Heat V6	1.47E-11	9.27E-12	2.31E-12	2.20E-11	4.54E-11	9.37E-11	0.00%
S3	Emergency ICE Fire Pump 93HP NG	9.30E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.30E-11	0.00%
S9	Thermal Oxidizer	3.21E-12	2.02E-12	5.03E-13	4.80E-12	9.89E-12	2.04E-11	0.00%

Table 23: MEIR Pollutant Contribution to Cancer Risk 30-years
SoCalGas Playa del Rey

CAS	Pollutant	Inhalation	Soil Ingestion	Dermal	Mother's Milk	Homegrown Produce	Total Cancer Risk	% of Total
106990	1,3-Butadiene	3.32E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.32E-06	37.34%
71432	Benzene	2.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.71E-06	30.50%
50000	Formaldehyde	1.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.35E-06	15.18%
9901	DieselExhPM	7.08E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.08E-07	7.97%
75070	Acetaldehyde	4.27E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.27E-07	4.81%
106934	EDB	9.87E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.87E-08	1.11%
100414	Ethyl Benzene	8.90E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.90E-08	1.00%
91203	Naphthalene	8.33E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.33E-08	0.94%
1151	PAHs-w/o	2.03E-09	7.55E-09	1.88E-09	1.80E-08	3.70E-08	6.64E-08	0.75%
56553	B[a]anthracene	4.96E-10	1.85E-09	4.60E-10	4.39E-09	9.05E-09	1.62E-08	0.18%
75092	Methylene Chlor	3.65E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.65E-09	0.04%
7440020	Nickel	3.62E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.62E-09	0.04%
7440382	Arsenic	2.60E-10	1.96E-09	9.56E-11	0.00E+00	1.26E-09	3.58E-09	0.04%
218019	Chrysene	9.90E-11	3.69E-10	9.19E-11	8.77E-10	1.81E-09	3.24E-09	0.04%
50328	B[a]P	8.38E-11	3.12E-10	7.77E-11	7.42E-10	1.53E-09	2.74E-09	0.03%
18540299	Cr(VI)	9.80E-10	1.73E-11	6.64E-13	0.00E+00	5.67E-10	1.57E-09	0.02%
193395	In[1,2,3-cd]pyr	1.46E-11	5.46E-11	1.36E-11	1.30E-10	2.67E-10	4.80E-10	0.01%
7440439	Cadmium	4.32E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.32E-10	0.00%
205992	B[b]fluoranthen	1.26E-11	4.68E-11	1.16E-11	1.11E-10	2.29E-10	4.11E-10	0.00%
207089	B[k]fluoranthen	6.28E-12	2.34E-11	5.83E-12	5.56E-11	1.15E-10	2.06E-10	0.00%
7439921	Lead	4.73E-12	5.77E-11	1.41E-12	1.05E-12	1.16E-11	7.65E-11	0.00%
67561	Methanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
108883	Toluene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7664417	NH3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
83329	Acenaphthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
85018	Phenanthrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
86737	Fluorene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
91576	2MeNaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
95636	1,2,4TriMeBenze	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%

Table 23: MEIR Pollutant Contribution to Cancer Risk 30-years
SoCalGas Playa del Rey

CAS	Pollutant	Inhalation	Soil Ingestion	Dermal	Mother's Milk	Homegrown Produce	Total Cancer Risk	% of Total
110543	Hexane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
120127	Anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
129000	Pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
191242	B[g,h,i]perylen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
192972	B[e]pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
198550	Perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
206440	Fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
208968	Acenaphthylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
108383	m-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7782505	Chlorine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%

Table 24: MEIW Source Contribution to Cancer Risk
SoCalGas Playa del Rey

Source	Source Description	Inhalation	Soil Ingestion	Dermal	Mother's Milk	Homegrown Produce	Total Cancer Risk	% of Total
S33	Organic Solvents/Fugitive Emissions	1.24E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-08	23.68%
S7	Emergency ICE 99HP Diesel	8.74E-09	1.17E-10	9.54E-11	0.00E+00	0.00E+00	8.95E-09	17.11%
S30	ICE Air Compressor 12HP Gasoline E29	8.69E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.69E-09	16.61%
S4	ICE Main Unit 6 2000HP NG	7.91E-09	4.57E-12	3.96E-12	0.00E+00	0.00E+00	7.91E-09	15.13%
S6	ICE Main Unit 9 2000HP NG	5.44E-09	3.14E-12	2.72E-12	0.00E+00	0.00E+00	5.44E-09	10.40%
S5	ICE Main Unit 8 2000HP NG	5.33E-09	3.08E-12	2.67E-12	0.00E+00	0.00E+00	5.33E-09	10.19%
S31	ICE Air Compressor 12HP Gasoline E30	1.71E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.71E-09	3.28%
S29	Air Compressor 120	3.98E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.98E-10	0.76%
S27	TK-12	2.26E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.26E-10	0.43%
S25	TK-1A	1.64E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.64E-10	0.31%
S24	TK-1B	1.61E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E-10	0.31%
S21	TK-4C	1.53E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.53E-10	0.29%
S20	TK-4B	1.51E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.51E-10	0.29%
S34	Sump	1.46E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.46E-10	0.28%
S19	TK-4A	1.45E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.45E-10	0.28%
S18	TK-3	7.42E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.42E-11	0.14%
S28	Air Compressor 400	7.21E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.21E-11	0.14%
S26	TK-2	4.04E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.04E-11	0.08%
S1	Emergency ICE 348HP NG	3.53E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.53E-11	0.07%
S23	TK-5	2.83E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.83E-11	0.05%
S2	Emergency ICE 110HP NG	2.76E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.76E-11	0.05%

Table 24: MEIW Source Contribution to Cancer Risk
SoCalGas Playa del Rey

Source	Source Description	Inhalation	Soil Ingestion	Dermal	Mother's Milk	Homegrown Produce	Total Cancer Risk	% of Total
S8	Glycol Reboiler	7.05E-12	5.39E-12	4.67E-12	0.00E+00	0.00E+00	1.71E-11	0.03%
S22	TK-6	1.29E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-11	0.02%
S17	Dehy Hot Oil Heater	2.87E-12	2.20E-12	1.90E-12	0.00E+00	0.00E+00	6.97E-12	0.01%
S35	Natural Gas Venting	5.32E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.32E-12	0.01%
S10	Loading Arm	3.68E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.68E-12	0.01%
S3	Emergency ICE Fire Pump 93HP NG	3.48E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.48E-12	0.01%
S11	Building AC & Heat V1	8.88E-13	6.79E-13	5.88E-13	0.00E+00	0.00E+00	2.16E-12	0.00%
S12	Building AC & Heat V2	8.34E-13	6.38E-13	5.53E-13	0.00E+00	0.00E+00	2.02E-12	0.00%
S13	Building AC & Heat V3	7.80E-13	5.96E-13	5.17E-13	0.00E+00	0.00E+00	1.89E-12	0.00%
S16	Building AC & Heat V6	4.35E-13	3.33E-13	2.88E-13	0.00E+00	0.00E+00	1.06E-12	0.00%
S15	Building AC & Heat V5	4.08E-13	3.12E-13	2.70E-13	0.00E+00	0.00E+00	9.90E-13	0.00%
S14	Building AC & Heat V4	3.83E-13	2.93E-13	2.54E-13	0.00E+00	0.00E+00	9.29E-13	0.00%
S9	Thermal Oxidizer	1.83E-13	1.39E-13	1.21E-13	0.00E+00	0.00E+00	4.43E-13	0.00%

Table 25: MEIW Pollutant Contribution to Cancer Risk
SoCalGas Playa del Rey

CAS	Pollutant	Inhalation	Soil Ingestion	Dermal	Mother's Milk	Homegrown Produce	Total Cancer Risk	% of Total
71432	Benzene	2.04E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.04E-08	38.98%
106990	1,3-Butadiene	1.47E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.47E-08	28.03%
9901	DieselExhPM	8.65E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.65E-09	16.53%
50000	Formaldehyde	5.17E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.17E-09	9.89%
75070	Acetaldehyde	1.51E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.51E-09	2.89%
100414	Ethyl Benzene	8.36E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.36E-10	1.60%
91203	Naphthalene	3.89E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.89E-10	0.74%
106934	EDB	3.37E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.37E-10	0.64%
1151	PAHs-w/o	2.70E-11	1.15E-10	9.96E-11	0.00E+00	0.00E+00	2.42E-10	0.46%
75092	Methylene Chlor	3.71E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.71E-11	0.07%
7440020	Nickel	3.02E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.02E-11	0.06%
7440382	Arsenic	3.33E-12	1.22E-11	4.87E-12	0.00E+00	0.00E+00	2.04E-11	0.04%
56553	B[a]anthracene	1.76E-12	7.51E-12	6.51E-12	0.00E+00	0.00E+00	1.58E-11	0.03%
18540299	Cr(VI)	1.20E-11	2.53E-13	1.76E-14	0.00E+00	0.00E+00	1.22E-11	0.02%
7440439	Cadmium	5.28E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.28E-12	0.01%
218019	Chrysene	3.52E-13	1.50E-12	1.30E-12	0.00E+00	0.00E+00	3.15E-12	0.01%
50328	B[a]P	2.98E-13	1.27E-12	1.10E-12	0.00E+00	0.00E+00	2.67E-12	0.01%
7439921	Lead	8.18E-14	3.58E-13	3.72E-14	0.00E+00	0.00E+00	4.77E-13	0.00%
193395	In[1,2,3-cd]pyr	5.21E-14	2.22E-13	1.92E-13	0.00E+00	0.00E+00	4.66E-13	0.00%
205992	B[b]fluoranthen	4.46E-14	1.90E-13	1.65E-13	0.00E+00	0.00E+00	3.99E-13	0.00%
207089	B[k]fluoranthen	2.23E-14	9.51E-14	8.25E-14	0.00E+00	0.00E+00	2.00E-13	0.00%
67561	Methanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
108883	Toluene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7664417	NH3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
83329	Acenaphthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%

Table 25: MEIW Pollutant Contribution to Cancer Risk
SoCalGas Playa del Rey

CAS	Pollutant	Inhalation	Soil Ingestion	Dermal	Mother's Milk	Homegrown Produce	Total Cancer Risk	% of Total
85018	Phenanthrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
86737	Fluorene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
91576	2MeNaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
95636	1,2,4TriMeBenze	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
110543	Hexane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
120127	Anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
129000	Pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
191242	B[g,h,i]perylen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
192972	B[e]pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
198550	Perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
206440	Fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
208968	Acenaphthylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
108383	m-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7782505	Chlorine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%

Table 26: PMI Source Contribution to Chronic Hazard Index (HI)
SoCalGas Playa del Rey

Source	Source Description	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
S33	Organic Solvents/Fugitive Emissions	2.37E-05	9.44E-04	0.00E+00	3.40E-05	3.40E-05	6.05E-04	9.11E-04	0.00E+00	3.40E-04	3.40E-05	3.49E-02	3.49E-02	88.85%
S30	ICE Air Compressor 12HP Gasoline E29	0.00E+00	7.34E-06	0.00E+00	1.89E-07	1.89E-07	1.11E-04	6.69E-04	0.00E+00	1.60E-06	1.89E-07	3.41E-04	6.69E-04	1.71%
S19	TK-4A	0.00E+00	2.61E-06	0.00E+00	4.14E-08	4.14E-08	2.10E-06	2.41E-06	0.00E+00	3.46E-07	4.14E-08	4.31E-04	4.31E-04	1.10%
S27	TK-12	0.00E+00	2.52E-06	0.00E+00	3.99E-08	3.99E-08	2.03E-06	2.33E-06	0.00E+00	3.34E-07	3.99E-08	4.16E-04	4.16E-04	1.06%
S25	TK-1A	0.00E+00	2.51E-06	0.00E+00	3.97E-08	3.97E-08	2.02E-06	2.31E-06	0.00E+00	3.32E-07	3.97E-08	4.14E-04	4.14E-04	1.05%
S20	TK-4B	0.00E+00	2.48E-06	0.00E+00	3.92E-08	3.92E-08	2.00E-06	2.29E-06	0.00E+00	3.29E-07	3.92E-08	4.10E-04	4.10E-04	1.05%
S24	TK-1B	0.00E+00	2.40E-06	0.00E+00	3.80E-08	3.80E-08	1.94E-06	2.22E-06	0.00E+00	3.18E-07	3.80E-08	3.97E-04	3.97E-04	1.01%
S21	TK-4C	0.00E+00	2.19E-06	0.00E+00	3.46E-08	3.46E-08	1.76E-06	2.02E-06	0.00E+00	2.90E-07	3.46E-08	3.61E-04	3.61E-04	0.92%
S4	ICE Main Unit 6 2000HP NG	0.00E+00	4.86E-07	0.00E+00	8.02E-09	8.02E-09	7.51E-05	1.95E-04	0.00E+00	0.00E+00	8.02E-09	9.61E-05	1.95E-04	0.50%
S18	TK-3	0.00E+00	1.16E-06	0.00E+00	1.84E-08	1.84E-08	9.38E-07	1.07E-06	0.00E+00	1.54E-07	1.84E-08	1.92E-04	1.92E-04	0.49%
S6	ICE Main Unit 9 2000HP NG	0.00E+00	4.27E-07	0.00E+00	7.04E-09	7.04E-09	6.59E-05	1.71E-04	0.00E+00	0.00E+00	7.04E-09	8.43E-05	1.71E-04	0.44%
S26	TK-2	0.00E+00	9.48E-07	0.00E+00	1.49E-08	1.49E-08	7.64E-07	8.75E-07	0.00E+00	1.26E-07	1.49E-08	1.56E-04	1.56E-04	0.40%
S5	ICE Main Unit 8 2000HP NG	0.00E+00	3.72E-07	0.00E+00	6.14E-09	6.14E-09	5.75E-05	1.49E-04	0.00E+00	0.00E+00	6.14E-09	7.36E-05	1.49E-04	0.38%
S31	ICE Air Compressor 12HP Gasoline E30	0.00E+00	1.35E-06	0.00E+00	3.46E-08	3.46E-08	2.04E-05	1.23E-04	0.00E+00	2.93E-07	3.46E-08	6.25E-05	1.23E-04	0.31%
S23	TK-5	0.00E+00	4.49E-07	0.00E+00	7.07E-09	7.07E-09	3.62E-07	4.14E-07	0.00E+00	5.92E-08	7.07E-09	7.43E-05	7.43E-05	0.19%
S7	Emergency ICE 99HP Diesel	3.84E-05	3.84E-05	0.00E+00	6.06E-07	2.23E-11	3.89E-05	6.81E-05	3.84E-05	0.00E+00	2.23E-11	1.40E-06	6.81E-05	0.17%
S22	TK-6	0.00E+00	3.18E-07	0.00E+00	4.87E-09	4.87E-09	2.56E-07	2.93E-07	0.00E+00	4.18E-08	4.87E-09	5.28E-05	5.28E-05	0.13%
S29	Air Compressor 120	0.00E+00	1.64E-08	0.00E+00	1.09E-10	1.09E-10	3.19E-06	2.05E-05	0.00E+00	0.00E+00	1.09E-10	4.65E-06	2.05E-05	0.05%
S35	Natural Gas Venting	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.87E-05	1.87E-05	0.05%
S34	Sump	0.00E+00	4.06E-07	0.00E+00	1.51E-08	1.51E-08	2.66E-07	4.02E-07	0.00E+00	1.51E-07	1.51E-08	1.51E-05	1.51E-05	0.04%
S10	Loading Arm	0.00E+00	2.89E-07	0.00E+00	1.07E-08	1.07E-08	1.89E-07	2.86E-07	0.00E+00	1.07E-07	1.07E-08	1.07E-05	1.07E-05	0.03%
S1	Emergency ICE 348HP NG	0.00E+00	7.84E-09	0.00E+00	5.23E-11	5.23E-11	1.52E-06	9.81E-06	0.00E+00	0.00E+00	5.23E-11	2.22E-06	9.81E-06	0.03%

Table 26: PMI Source Contribution to Chronic Hazard Index (HI)
SoCalGas Playa del Rey

Source	Source Description	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
S8	Glycol Reboiler	0.00E+00	5.62E-08	0.00E+00	2.17E-09	2.17E-09	5.79E-08	8.26E-06	0.00E+00	0.00E+00	2.17E-09	1.22E-06	8.26E-06	0.02%
S28	Air Compressor 400	0.00E+00	3.04E-09	0.00E+00	2.03E-11	2.03E-11	5.89E-07	3.80E-06	0.00E+00	0.00E+00	2.03E-11	8.60E-07	3.80E-06	0.01%
S17	Dehy Hot Oil Heater	0.00E+00	2.03E-08	0.00E+00	7.87E-10	7.87E-10	2.10E-08	2.99E-06	0.00E+00	0.00E+00	7.87E-10	4.42E-07	2.99E-06	0.01%
S3	Emergency ICE Fire Pump 93HP NG	0.00E+00	1.99E-09	0.00E+00	1.33E-11	1.33E-11	3.86E-07	2.49E-06	0.00E+00	0.00E+00	1.33E-11	5.64E-07	2.49E-06	0.01%
S2	Emergency ICE 110HP NG	0.00E+00	9.90E-10	0.00E+00	6.60E-12	6.60E-12	1.92E-07	1.24E-06	0.00E+00	0.00E+00	6.60E-12	2.80E-07	1.24E-06	0.00%
S9	Thermal Oxidizer	0.00E+00	4.40E-09	0.00E+00	1.70E-10	1.70E-10	4.54E-09	6.47E-07	0.00E+00	0.00E+00	1.70E-10	9.54E-08	6.47E-07	0.00%
S13	Building AC & Heat V3	0.00E+00	7.76E-10	0.00E+00	3.00E-11	3.00E-11	8.01E-10	1.14E-07	0.00E+00	0.00E+00	3.00E-11	1.68E-08	1.14E-07	0.00%
S12	Building AC & Heat V2	0.00E+00	7.42E-10	0.00E+00	2.87E-11	2.87E-11	7.65E-10	1.09E-07	0.00E+00	0.00E+00	2.87E-11	1.61E-08	1.09E-07	0.00%
S11	Building AC & Heat V1	0.00E+00	7.06E-10	0.00E+00	2.73E-11	2.73E-11	7.28E-10	1.04E-07	0.00E+00	0.00E+00	2.73E-11	1.53E-08	1.04E-07	0.00%
S14	Building AC & Heat V4	0.00E+00	3.48E-10	0.00E+00	1.35E-11	1.35E-11	3.59E-10	5.12E-08	0.00E+00	0.00E+00	1.35E-11	7.56E-09	5.12E-08	0.00%
S15	Building AC & Heat V5	0.00E+00	3.27E-10	0.00E+00	1.26E-11	1.26E-11	3.37E-10	4.81E-08	0.00E+00	0.00E+00	1.26E-11	7.09E-09	4.81E-08	0.00%
S16	Building AC & Heat V6	0.00E+00	3.09E-10	0.00E+00	1.19E-11	1.19E-11	3.18E-10	4.52E-08	0.00E+00	0.00E+00	1.19E-11	6.67E-09	4.52E-08	0.00%

Table 27: PMI Pollutant Contribution to Chronic Hazard Index (HI)
SoCalGas Playa del Rey

CAS	Pollutant	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
108383	m-Xylene	0.00E+00	3.44E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.44E-04	0.00E+00	3.44E-04	0.00E+00	0.00E+00	2.41E-01	31.56%
108883	Toluene	0.00E+00	5.94E-04	0.00E+00	0.00E+00	0.00E+00	5.94E-04	5.94E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.78E-01	23.34%
71432	Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.84E-02	1.15E-01	15.10%
110543	Hexane	0.00E+00	1.11E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.80E-02	10.22%
100414	Ethyl Benzene	0.00E+00	0.00E+00	0.00E+00	3.45E-05	3.45E-05	3.45E-05	0.00E+00	0.00E+00	0.00E+00	3.45E-05	0.00E+00	6.90E-02	9.04%
95636	1,2,4TriMeBenze	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.66E-02	7.41%
75092	Methylene Chlor	2.37E-05	2.37E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.48E-03	1.24%
50000	Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.24E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.62E-03	0.74%
7664417	NH3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.48E-03	0.46%
75070	Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.37E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.32E-03	0.44%
67561	Methanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.05E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.02E-03	0.26%
7782505	Chlorine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.12E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.12E-04	0.08%
106990	1,3-Butadiene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.90E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.81E-04	0.08%
9901	DieselExhPM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.74E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-04	0.02%
91203	Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.84E-05	0.01%
7440020	Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-06	6.36E-05	0.00E+00	0.00E+00	0.00E+00	6.36E-05	6.36E-05	0.01%
7440382	Arsenic	3.84E-05	3.84E-05	0.00E+00	0.00E+00	0.00E+00	3.84E-05	3.84E-05	3.84E-05	0.00E+00	0.00E+00	0.00E+00	3.84E-05	0.01%
106934	EDB	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.65E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.65E-05	0.00%
91576	2MeNaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.40E-06	0.00%
85018	Phenanthrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.39E-06	0.00%
208968	Acenaphthylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-06	0.00%
86737	Fluorene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.64E-07	0.00%
7440439	Cadmium	0.00E+00	0.00E+00	0.00E+00	6.06E-07	0.00E+00	0.00E+00	3.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.06E-07	0.00%
83329	Acenaphthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.22E-07	0.00%
120127	Anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.82E-07	0.00%
218019	Chrysene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.64E-07	0.00%
129000	Pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.29E-07	0.00%
1151	PAHs-w/o	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.17E-07	0.00%
206440	Fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E-07	0.00%

Table 27: PMI Pollutant Contribution to Chronic Hazard Index (HI)
SoCalGas Playa del Rey

CAS	Pollutant	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
56553	B[a]anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.32E-07	0.00%
7439921	Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.40E-08	0.00%
191242	B[g,h,i]perylen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.74E-09	0.00%
192972	B[e]pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.19E-09	0.00%
18540299	Cr(VI)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.05E-09	0.00E+00	0.00E+00	0.00E+00	4.98E-09	4.98E-09	0.00%
193395	In[1,2,3-cd]pyr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.90E-09	0.00%
205992	B[b]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.34E-09	0.00%
50328	B[a]P	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.23E-09	0.00%
198550	Perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.95E-09	0.00%
207089	B[k]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.67E-09	0.00%

Table 28: MEIR Source Contribution to Chronic Hazard Index (HI)
SoCalGas Playa del Rey

Source	Source Description	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
S30	ICE Air Compressor 12HP Gasoline E29	0.00E+00	1.06E-04	0.00E+00	2.72E-06	2.72E-06	1.60E-03	9.65E-03	0.00E+00	2.30E-05	2.72E-06	4.92E-03	9.65E-03	38.68%
S33	Organic Solvents/Fugitive Emissions	3.07E-06	1.22E-04	0.00E+00	4.41E-06	4.41E-06	7.85E-05	1.18E-04	0.00E+00	4.41E-05	4.41E-06	4.52E-03	4.52E-03	18.13%
S4	ICE Main Unit 6 2000HP NG	0.00E+00	8.15E-06	0.00E+00	1.34E-07	1.34E-07	1.26E-03	3.27E-03	0.00E+00	0.00E+00	1.34E-07	1.61E-03	3.27E-03	13.10%
S6	ICE Main Unit 9 2000HP NG	0.00E+00	6.01E-06	0.00E+00	9.92E-08	9.92E-08	9.29E-04	2.41E-03	0.00E+00	0.00E+00	9.92E-08	1.19E-03	2.41E-03	9.66%
S5	ICE Main Unit 8 2000HP NG	0.00E+00	5.77E-06	0.00E+00	9.52E-08	9.52E-08	8.92E-04	2.31E-03	0.00E+00	0.00E+00	9.52E-08	1.14E-03	2.31E-03	9.27%
S31	ICE Air Compressor 12HP Gasoline E30	0.00E+00	2.13E-05	0.00E+00	5.48E-07	5.48E-07	3.23E-04	1.94E-03	0.00E+00	4.64E-06	5.48E-07	9.91E-04	1.94E-03	7.80%
S7	Emergency ICE 99HP Diesel	2.99E-04	2.99E-04	0.00E+00	4.72E-06	1.74E-10	3.03E-04	5.31E-04	2.99E-04	0.00E+00	1.74E-10	1.09E-05	5.31E-04	2.13%
S34	Sump	0.00E+00	1.98E-06	0.00E+00	7.34E-08	7.34E-08	1.30E-06	1.96E-06	0.00E+00	7.34E-07	7.34E-08	7.34E-05	7.34E-05	0.29%
S29	Air Compressor 120	0.00E+00	5.67E-08	0.00E+00	3.78E-10	3.78E-10	1.10E-05	7.09E-05	0.00E+00	0.00E+00	3.78E-10	1.61E-05	7.09E-05	0.28%
S27	TK-12	0.00E+00	1.67E-07	0.00E+00	2.65E-09	2.65E-09	1.35E-07	1.54E-07	0.00E+00	2.22E-08	2.65E-09	2.76E-05	2.76E-05	0.11%
S24	TK-1B	0.00E+00	1.26E-07	0.00E+00	2.00E-09	2.00E-09	1.02E-07	1.17E-07	0.00E+00	1.67E-08	2.00E-09	2.08E-05	2.08E-05	0.08%
S25	TK-1A	0.00E+00	1.26E-07	0.00E+00	2.00E-09	2.00E-09	1.02E-07	1.16E-07	0.00E+00	1.67E-08	2.00E-09	2.08E-05	2.08E-05	0.08%
S21	TK-4C	0.00E+00	9.96E-08	0.00E+00	1.57E-09	1.57E-09	8.03E-08	9.19E-08	0.00E+00	1.32E-08	1.57E-09	1.65E-05	1.65E-05	0.07%
S20	TK-4B	0.00E+00	9.60E-08	0.00E+00	1.52E-09	1.52E-09	7.74E-08	8.86E-08	0.00E+00	1.27E-08	1.52E-09	1.59E-05	1.59E-05	0.06%
S19	TK-4A	0.00E+00	9.24E-08	0.00E+00	1.47E-09	1.47E-09	7.45E-08	8.53E-08	0.00E+00	1.22E-08	1.47E-09	1.53E-05	1.53E-05	0.06%
S28	Air Compressor 400	0.00E+00	1.06E-08	0.00E+00	7.07E-11	7.07E-11	2.06E-06	1.33E-05	0.00E+00	0.00E+00	7.07E-11	3.00E-06	1.33E-05	0.05%
S18	TK-3	0.00E+00	4.90E-08	0.00E+00	7.74E-10	7.74E-10	3.95E-08	4.53E-08	0.00E+00	6.50E-09	7.74E-10	8.09E-06	8.09E-06	0.03%
S26	TK-2	0.00E+00	2.82E-08	0.00E+00	4.43E-10	4.43E-10	2.27E-08	2.60E-08	0.00E+00	3.74E-09	4.43E-10	4.66E-06	4.66E-06	0.02%
S2	Emergency ICE 110HP NG	0.00E+00	3.40E-09	0.00E+00	2.27E-11	2.27E-11	6.60E-07	4.26E-06	0.00E+00	0.00E+00	2.27E-11	9.64E-07	4.26E-06	0.02%

Table 28: MEIR Source Contribution to Chronic Hazard Index (HI)
SoCalGas Playa del Rey

Source	Source Description	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
S8	Glycol Reboiler	0.00E+00	2.66E-08	0.00E+00	1.03E-09	1.03E-09	2.74E-08	3.91E-06	0.00E+00	0.00E+00	1.03E-09	5.77E-07	3.91E-06	0.02%
S23	TK-5	0.00E+00	2.29E-08	0.00E+00	3.61E-10	3.61E-10	1.85E-08	2.11E-08	0.00E+00	3.02E-09	3.61E-10	3.79E-06	3.79E-06	0.02%
S1	Emergency ICE 348HP NG	0.00E+00	1.79E-09	0.00E+00	1.19E-11	1.19E-11	3.48E-07	2.24E-06	0.00E+00	0.00E+00	1.19E-11	5.07E-07	2.24E-06	0.01%
S17	Dehy Hot Oil Heater	0.00E+00	1.19E-08	0.00E+00	4.60E-10	4.60E-10	1.23E-08	1.75E-06	0.00E+00	0.00E+00	4.60E-10	2.58E-07	1.75E-06	0.01%
S22	TK-6	0.00E+00	9.74E-09	0.00E+00	1.49E-10	1.49E-10	7.86E-09	8.99E-09	0.00E+00	1.28E-09	1.49E-10	1.62E-06	1.62E-06	0.01%
S13	Building AC & Heat V3	0.00E+00	5.67E-09	0.00E+00	2.19E-10	2.19E-10	5.85E-09	8.34E-07	0.00E+00	0.00E+00	2.19E-10	1.23E-07	8.34E-07	0.00%
S12	Building AC & Heat V2	0.00E+00	4.90E-09	0.00E+00	1.90E-10	1.90E-10	5.06E-09	7.21E-07	0.00E+00	0.00E+00	1.90E-10	1.06E-07	7.21E-07	0.00%
S35	Natural Gas Venting	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.12E-07	7.12E-07	0.00%
S11	Building AC & Heat V1	0.00E+00	4.21E-09	0.00E+00	1.63E-10	1.63E-10	4.35E-09	6.20E-07	0.00E+00	0.00E+00	1.63E-10	9.14E-08	6.20E-07	0.00%
S15	Building AC & Heat V5	0.00E+00	3.00E-09	0.00E+00	1.16E-10	1.16E-10	3.10E-09	4.42E-07	0.00E+00	0.00E+00	1.16E-10	6.52E-08	4.42E-07	0.00%
S16	Building AC & Heat V6	0.00E+00	3.00E-09	0.00E+00	1.15E-10	1.15E-10	3.09E-09	4.39E-07	0.00E+00	0.00E+00	1.15E-10	6.48E-08	4.39E-07	0.00%
S14	Building AC & Heat V4	0.00E+00	2.94E-09	0.00E+00	1.13E-10	1.13E-10	3.03E-09	4.32E-07	0.00E+00	0.00E+00	1.13E-10	6.37E-08	4.32E-07	0.00%
S10	Loading Arm	0.00E+00	1.14E-08	0.00E+00	4.24E-10	4.24E-10	7.49E-09	1.13E-08	0.00E+00	4.24E-09	4.24E-10	4.24E-07	4.24E-07	0.00%
S3	Emergency ICE Fire Pump 93HP NG	0.00E+00	1.66E-10	0.00E+00	1.10E-12	1.10E-12	3.21E-08	2.07E-07	0.00E+00	0.00E+00	1.10E-12	4.69E-08	2.07E-07	0.00%
S9	Thermal Oxidizer	0.00E+00	3.64E-10	0.00E+00	1.41E-11	1.41E-11	3.76E-10	5.36E-08	0.00E+00	0.00E+00	1.41E-11	7.90E-09	5.36E-08	0.00%

Table 29: MEIR Pollutant Contribution to Chronic Hazard Index (HI)
SoCalGas Playa del Rey

CAS	Pollutant	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
50000	Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.08E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.17E-02	20.82%
108883	Toluene	0.00E+00	1.94E-04	0.00E+00	0.00E+00	0.00E+00	1.94E-04	1.94E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.83E-02	14.85%
108383	m-Xylene	0.00E+00	7.26E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.26E-05	0.00E+00	7.26E-05	0.00E+00	0.00E+00	5.08E-02	12.95%
75070	Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.62E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.07E-02	12.91%
71432	Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	4.11E-02	10.47%
7664417	NH3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.04E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.09E-02	5.32%
67561	Methanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.59E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.84E-02	4.68%
110543	Hexane	0.00E+00	2.55E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.78E-02	4.54%
100414	Ethyl Benzene	0.00E+00	0.00E+00	0.00E+00	8.09E-06	8.09E-06	8.09E-06	0.00E+00	0.00E+00	0.00E+00	8.09E-06	0.00E+00	1.62E-02	4.12%
95636	1,2,4TriMeBenze	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.36E-02	3.46%
7782505	Chlorine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.95E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.95E-03	2.28%
106990	1,3-Butadiene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.32E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.64E-03	2.20%
75092	Methylene Chlor	3.07E-06	3.07E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.23E-03	0.31%
91203	Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-03	0.29%
9901	DieselExhPM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.13E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.07E-03	0.27%
7440020	Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.72E-05	9.23E-04	0.00E+00	0.00E+00	0.00E+00	9.23E-04	9.23E-04	0.24%
106934	EDB	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.60E-04	0.14%
7440382	Arsenic	2.99E-04	2.99E-04	0.00E+00	0.00E+00	0.00E+00	2.99E-04	2.99E-04	2.99E-04	0.00E+00	0.00E+00	0.00E+00	2.99E-04	0.08%
91576	2MeNaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E-04	0.03%
85018	Phenanthrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.15E-05	0.01%
208968	Acenaphthylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.93E-05	0.00%
86737	Fluorene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.03E-05	0.00%

Table 29: MEIR Pollutant Contribution to Chronic Hazard Index (HI)
SoCalGas Playa del Rey

CAS	Pollutant	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
83329	Acenaphthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.10E-06	0.00%
7440439	Cadmium	0.00E+00	0.00E+00	0.00E+00	4.72E-06	0.00E+00	0.00E+00	2.39E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.72E-06	0.00%
120127	Anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.37E-06	0.00%
218019	Chrysene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.09E-06	0.00%
129000	Pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.56E-06	0.00%
206440	Fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.20E-06	0.00%
56553	B[a]anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.05E-06	0.00%
1151	PAHs-w/o	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-06	0.00%
7439921	Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.64E-07	0.00%
191242	B[g,h,i]perylen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.51E-07	0.00%
192972	B[e]pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-07	0.00%
193395	In[1,2,3-cd]pyr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.05E-08	0.00%
205992	B[b]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.18E-08	0.00%
18540299	Cr(VI)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.59E-08	0.00E+00	0.00E+00	0.00E+00	3.88E-08	3.88E-08	0.00%
50328	B[a]P	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.46E-08	0.00%
198550	Perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.03E-08	0.00%
207089	B[k]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.59E-08	0.00%

Table 30: MEIW Source Contribution to Chronic Hazard Index (HI)
SoCalGas Playa del Rey

Source	Source Description	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
S33	Organic Solvents/Fugitive Emissions	1.11E-06	4.42E-05	0.00E+00	1.59E-06	1.59E-06	2.83E-05	4.26E-05	0.00E+00	1.59E-05	1.59E-06	1.63E-03	1.63E-03	74.82%
S30	ICE Air Compressor 12HP Gasoline E29	0.00E+00	2.01E-06	0.00E+00	5.16E-08	5.16E-08	3.03E-05	1.83E-04	0.00E+00	4.38E-07	5.16E-08	9.34E-05	1.83E-04	8.41%
S4	ICE Main Unit 6 2000HP NG	0.00E+00	1.43E-07	0.00E+00	2.36E-09	2.36E-09	2.21E-05	5.74E-05	0.00E+00	0.00E+00	2.36E-09	2.83E-05	5.74E-05	2.63%
S6	ICE Main Unit 9 2000HP NG	0.00E+00	1.21E-07	0.00E+00	1.99E-09	1.99E-09	1.87E-05	4.84E-05	0.00E+00	0.00E+00	1.99E-09	2.39E-05	4.84E-05	2.22%
S5	ICE Main Unit 8 2000HP NG	0.00E+00	1.07E-07	0.00E+00	1.76E-09	1.76E-09	1.65E-05	4.28E-05	0.00E+00	0.00E+00	1.76E-09	2.11E-05	4.28E-05	1.96%
S31	ICE Air Compressor 12HP Gasoline E30	0.00E+00	3.60E-07	0.00E+00	9.27E-09	9.27E-09	5.44E-06	3.29E-05	0.00E+00	7.85E-08	9.27E-09	1.68E-05	3.29E-05	1.51%
S27	TK-12	0.00E+00	1.72E-07	0.00E+00	2.73E-09	2.73E-09	1.39E-07	1.59E-07	0.00E+00	2.28E-08	2.73E-09	2.84E-05	2.84E-05	1.31%
S20	TK-4B	0.00E+00	1.21E-07	0.00E+00	1.91E-09	1.91E-09	9.76E-08	1.12E-07	0.00E+00	1.60E-08	1.91E-09	2.00E-05	2.00E-05	0.92%
S19	TK-4A	0.00E+00	1.19E-07	0.00E+00	1.89E-09	1.89E-09	9.61E-08	1.10E-07	0.00E+00	1.58E-08	1.89E-09	1.97E-05	1.97E-05	0.90%
S21	TK-4C	0.00E+00	1.18E-07	0.00E+00	1.87E-09	1.87E-09	9.53E-08	1.09E-07	0.00E+00	1.56E-08	1.87E-09	1.95E-05	1.95E-05	0.90%
S25	TK-1A	0.00E+00	1.03E-07	0.00E+00	1.64E-09	1.64E-09	8.34E-08	9.54E-08	0.00E+00	1.37E-08	1.64E-09	1.71E-05	1.71E-05	0.78%
S24	TK-1B	0.00E+00	1.03E-07	0.00E+00	1.62E-09	1.62E-09	8.28E-08	9.47E-08	0.00E+00	1.36E-08	1.62E-09	1.69E-05	1.69E-05	0.78%
S7	Emergency ICE 99HP Diesel	4.62E-06	4.62E-06	0.00E+00	1.37E-07	8.32E-12	4.79E-06	1.57E-05	4.62E-06	0.00E+00	8.32E-12	5.19E-07	1.57E-05	0.72%
S18	TK-3	0.00E+00	5.95E-08	0.00E+00	9.40E-10	9.40E-10	4.80E-08	5.49E-08	0.00E+00	7.89E-09	9.40E-10	9.82E-06	9.82E-06	0.45%
S34	Sump	0.00E+00	1.91E-07	0.00E+00	7.09E-09	7.09E-09	1.25E-07	1.89E-07	0.00E+00	7.09E-08	7.09E-09	7.09E-06	7.09E-06	0.33%
S29	Air Compressor 120	0.00E+00	4.76E-09	0.00E+00	3.17E-11	3.17E-11	9.23E-07	5.95E-06	0.00E+00	0.00E+00	3.17E-11	1.35E-06	5.95E-06	0.27%
S8	Glycol Reboiler	0.00E+00	3.90E-08	0.00E+00	1.51E-09	1.51E-09	4.03E-08	5.74E-06	0.00E+00	0.00E+00	1.51E-09	8.47E-07	5.74E-06	0.26%
S26	TK-2	0.00E+00	3.03E-08	0.00E+00	4.75E-10	4.75E-10	2.44E-08	2.79E-08	0.00E+00	4.01E-09	4.75E-10	4.99E-06	4.99E-06	0.23%
S1	Emergency ICE 348HP NG	0.00E+00	2.90E-09	0.00E+00	1.93E-11	1.93E-11	5.62E-07	3.62E-06	0.00E+00	0.00E+00	1.93E-11	8.20E-07	3.62E-06	0.17%
S23	TK-5	0.00E+00	1.75E-08	0.00E+00	2.76E-10	2.76E-10	1.41E-08	1.62E-08	0.00E+00	2.31E-09	2.76E-10	2.90E-06	2.90E-06	0.13%
S17	Dehy Hot Oil Heater	0.00E+00	1.43E-08	0.00E+00	5.52E-10	5.52E-10	1.47E-08	2.10E-06	0.00E+00	0.00E+00	5.52E-10	3.10E-07	2.10E-06	0.10%
S22	TK-6	0.00E+00	8.17E-09	0.00E+00	1.25E-10	1.25E-10	6.59E-09	7.54E-09	0.00E+00	1.07E-09	1.25E-10	1.36E-06	1.36E-06	0.06%
S28	Air Compressor 400	0.00E+00	8.75E-10	0.00E+00	5.83E-12	5.83E-12	1.70E-07	1.09E-06	0.00E+00	0.00E+00	5.83E-12	2.48E-07	1.09E-06	0.05%

Table 30: MEIW Source Contribution to Chronic Hazard Index (HI)
SoCalGas Playa del Rey

Source	Source Description	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
S2	Emergency ICE 110HP NG	0.00E+00	5.11E-10	0.00E+00	3.41E-12	3.41E-12	9.91E-08	6.39E-07	0.00E+00	0.00E+00	3.41E-12	1.45E-07	6.39E-07	0.03%
S35	Natural Gas Venting	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.29E-07	5.29E-07	0.02%
S3	Emergency ICE Fire Pump 93HP NG	0.00E+00	3.47E-10	0.00E+00	2.31E-12	2.31E-12	6.72E-08	4.34E-07	0.00E+00	0.00E+00	2.31E-12	9.82E-08	4.34E-07	0.02%
S10	Loading Arm	0.00E+00	1.00E-08	0.00E+00	3.73E-10	3.73E-10	6.58E-09	9.93E-09	0.00E+00	3.73E-09	3.73E-10	3.73E-07	3.73E-07	0.02%
S9	Thermal Oxidizer	0.00E+00	7.10E-10	0.00E+00	2.75E-11	2.75E-11	7.33E-10	1.04E-07	0.00E+00	0.00E+00	2.75E-11	1.54E-08	1.04E-07	0.00%
S11	Building AC & Heat V1	0.00E+00	2.29E-10	0.00E+00	8.86E-12	8.86E-12	2.37E-10	3.37E-08	0.00E+00	0.00E+00	8.86E-12	4.98E-09	3.37E-08	0.00%
S12	Building AC & Heat V2	0.00E+00	2.22E-10	0.00E+00	8.57E-12	8.57E-12	2.29E-10	3.26E-08	0.00E+00	0.00E+00	8.57E-12	4.81E-09	3.26E-08	0.00%
S13	Building AC & Heat V3	0.00E+00	2.14E-10	0.00E+00	8.28E-12	8.28E-12	2.21E-10	3.15E-08	0.00E+00	0.00E+00	8.28E-12	4.65E-09	3.15E-08	0.00%
S14	Building AC & Heat V4	0.00E+00	9.85E-11	0.00E+00	3.81E-12	3.81E-12	1.02E-10	1.45E-08	0.00E+00	0.00E+00	3.81E-12	2.14E-09	1.45E-08	0.00%
S15	Building AC & Heat V5	0.00E+00	9.70E-11	0.00E+00	3.75E-12	3.75E-12	1.00E-10	1.43E-08	0.00E+00	0.00E+00	3.75E-12	2.10E-09	1.43E-08	0.00%
S16	Building AC & Heat V6	0.00E+00	9.58E-11	0.00E+00	3.69E-12	3.69E-12	9.88E-11	1.40E-08	0.00E+00	0.00E+00	3.69E-12	2.07E-09	1.40E-08	0.00%

Table 31: MEIW Pollutant Contribution to Chronic Hazard Index (HI)
SoCalGas Playa del Rey

CAS	Pollutant	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
108383	m-Xylene	0.00E+00	1.66E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.66E-05	0.00E+00	1.66E-05	0.00E+00	0.00E+00	1.16E-02	27.67%
108883	Toluene	0.00E+00	2.98E-05	0.00E+00	0.00E+00	0.00E+00	2.98E-05	2.98E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.94E-03	21.29%
71432	Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.95E-03	5.85E-03	13.94%
110543	Hexane	0.00E+00	5.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.81E-03	9.07%
100414	Ethyl Benzene	0.00E+00	0.00E+00	0.00E+00	1.68E-06	1.68E-06	1.68E-06	0.00E+00	0.00E+00	0.00E+00	1.68E-06	0.00E+00	3.36E-03	8.00%
95636	1,2,4TriMeBenze	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.75E-03	6.56%
7664417	NH3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.80E-03	4.30%
50000	Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.80E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.62E-03	3.85%
75070	Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.84E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.57E-04	2.28%
75092	Methylene Chlor	1.11E-06	1.11E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.43E-04	1.06%
67561	Methanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.75E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.90E-04	0.93%
7782505	Chlorine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.67E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.67E-04	0.40%
106990	1,3-Butadiene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.20E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.64E-04	0.39%
9901	DieselExhPM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.11E-05	0.12%
91203	Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.46E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.21E-05	0.05%
7440020	Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-07	1.75E-05	0.00E+00	0.00E+00	0.00E+00	1.75E-05	1.75E-05	0.04%
106934	EDB	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-05	0.03%
7440382	Arsenic	4.62E-06	4.62E-06	0.00E+00	0.00E+00	0.00E+00	4.62E-06	4.62E-06	4.62E-06	0.00E+00	0.00E+00	0.00E+00	4.62E-06	0.01%
91576	2MeNaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.01%
85018	Phenanthrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.00E-07	0.00%
208968	Acenaphthylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.59E-07	0.00%
86737	Fluorene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.91E-07	0.00%

Table 31: MEIW Pollutant Contribution to Chronic Hazard Index (HI)
SoCalGas Playa del Rey

CAS	Pollutant	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
83329	Acenaphthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.51E-07	0.00%
7440439	Cadmium	0.00E+00	0.00E+00	0.00E+00	1.37E-07	0.00E+00	0.00E+00	1.14E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-07	0.00%
1151	PAHs-w/o	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-07	0.00%
120127	Anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.13E-08	0.00%
218019	Chrysene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.60E-08	0.00%
129000	Pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.61E-08	0.00%
206440	Fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.09E-08	0.00%
56553	B[a]anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.81E-08	0.00%
7439921	Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E-08	0.00%
191242	B[g,h,i]perylen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.81E-09	0.00%
192972	B[e]pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.65E-09	0.00%
193395	In[1,2,3-cd]pyr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.12E-09	0.00%
205992	B[b]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.64E-10	0.00%
18540299	Cr(VI)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.63E-10	0.00E+00	0.00E+00	0.00E+00	4.15E-11	7.63E-10	0.00%
50328	B[a]P	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.43E-10	0.00%
198550	Perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.63E-10	0.00%
207089	B[k]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.82E-10	0.00%

Table 32: PMI Source Contribution to 8-Hour Chronic Hazard Index (HI)
SoCalGas Playa del Rey

Source	Source Description	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
S33	Organic Solvents/Fugitive Emissions	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.49E-02	3.49E-02	90.12%
S19	TK-4A	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.31E-04	4.31E-04	1.11%
S27	TK-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.16E-04	4.16E-04	1.08%
S25	TK-1A	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.14E-04	4.14E-04	1.07%
S20	TK-4B	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.10E-04	4.10E-04	1.06%
S24	TK-1B	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.97E-04	3.97E-04	1.03%
S21	TK-4C	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.61E-04	3.61E-04	0.93%
S30	ICE Air Compressor 12HP Gasoline E29	0.00E+00	0.00E+00	1.23E-05	0.00E+00	0.00E+00	2.32E-05	1.00E-04	0.00E+00	0.00E+00	0.00E+00	2.88E-04	2.88E-04	0.75%
S18	TK-3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-04	1.92E-04	0.50%
S4	ICE Main Unit 6 2000HP NG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.35E-05	1.86E-04	0.00E+00	0.00E+00	0.00E+00	9.61E-05	1.86E-04	0.48%
S6	ICE Main Unit 9 2000HP NG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-05	1.63E-04	0.00E+00	0.00E+00	0.00E+00	8.43E-05	1.63E-04	0.42%
S26	TK-2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.56E-04	1.56E-04	0.40%
S5	ICE Main Unit 8 2000HP NG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.04E-05	1.43E-04	0.00E+00	0.00E+00	0.00E+00	7.36E-05	1.43E-04	0.37%
S23	TK-5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.43E-05	7.43E-05	0.19%
S31	ICE Air Compressor 12HP Gasoline E30	0.00E+00	0.00E+00	2.26E-06	0.00E+00	0.00E+00	4.25E-06	1.84E-05	0.00E+00	0.00E+00	0.00E+00	5.29E-05	5.29E-05	0.14%
S22	TK-6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.28E-05	5.28E-05	0.14%
S29	Air Compressor 120	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.50E-07	2.02E-05	0.00E+00	0.00E+00	0.00E+00	4.65E-06	2.02E-05	0.05%
S35	Natural Gas Venting	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.87E-05	1.87E-05	0.05%
S34	Sump	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.51E-05	1.51E-05	0.04%
S10	Loading Arm	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.07E-05	1.07E-05	0.03%
S1	Emergency ICE 348HP NG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.11E-07	9.65E-06	0.00E+00	0.00E+00	0.00E+00	2.22E-06	9.65E-06	0.02%
S28	Air Compressor 400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-07	3.74E-06	0.00E+00	0.00E+00	0.00E+00	8.60E-07	3.74E-06	0.01%
S3	Emergency ICE Fire Pump 93HP NG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.89E-08	2.45E-06	0.00E+00	0.00E+00	0.00E+00	5.64E-07	2.45E-06	0.01%
S7	Emergency ICE 99HP Diesel	4.37E-07	4.37E-07	2.66E-07	0.00E+00	0.00E+00	5.35E-07	1.50E-06	4.37E-07	0.00E+00	0.00E+00	2.54E-07	1.50E-06	0.00%

Table 32: PMI Source Contribution to 8-Hour Chronic Hazard Index (HI)
SoCalGas Playa del Rey

Source	Source Description	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
S8	Glycol Reboiler	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.70E-07	0.00E+00	0.00E+00	0.00E+00	1.22E-06	1.22E-06	0.00%
S2	Emergency ICE 110HP NG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.92E-08	1.22E-06	0.00E+00	0.00E+00	0.00E+00	2.80E-07	1.22E-06	0.00%
S17	Dehy Hot Oil Heater	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.15E-07	0.00E+00	0.00E+00	0.00E+00	4.42E-07	4.42E-07	0.00%
S9	Thermal Oxidizer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.81E-08	0.00E+00	0.00E+00	0.00E+00	9.54E-08	9.54E-08	0.00%
S13	Building AC & Heat V3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	0.00E+00	0.00E+00	0.00E+00	1.68E-08	1.68E-08	0.00%
S12	Building AC & Heat V2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.15E-08	0.00E+00	0.00E+00	0.00E+00	1.61E-08	1.61E-08	0.00%
S11	Building AC & Heat V1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.09E-08	0.00E+00	0.00E+00	0.00E+00	1.53E-08	1.53E-08	0.00%
S14	Building AC & Heat V4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.39E-09	0.00E+00	0.00E+00	0.00E+00	7.56E-09	7.56E-09	0.00%
S15	Building AC & Heat V5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.06E-09	0.00E+00	0.00E+00	0.00E+00	7.09E-09	7.09E-09	0.00%
S16	Building AC & Heat V6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.76E-09	0.00E+00	0.00E+00	0.00E+00	6.67E-09	6.67E-09	0.00%

Table 33: PMI Pollutant Contribution to 8-Hour Chronic Hazard Index (HI)
SoCalGas Playa del Rey

CAS	Pollutant	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
71432	Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.84E-02	3.84E-02	98.17%
50000	Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.24E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.24E-04	1.59%
106990	1,3-Butadiene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.45E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.45E-05	0.16%
7440020	Nickel	0.00E+00	0.00E+00	1.48E-05	0.00E+00	0.00E+00	0.00E+00	1.48E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.48E-05	0.04%
75070	Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-05	0.03%
7440382	Arsenic	4.37E-07	4.37E-07	0.00E+00	0.00E+00	0.00E+00	4.37E-07	4.37E-07	4.37E-07	0.00E+00	0.00E+00	0.00E+00	4.37E-07	0.00%
67561	Methanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
91203	Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
100414	Ethyl Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
106934	EDB	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
108883	Toluene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7664417	NH3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
50328	B[a]P	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
56553	B[a]anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
83329	Acenaphthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
85018	Phenanthrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
86737	Fluorene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
91576	2MeNaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
95636	1,2,4TriMeBenze	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
110543	Hexane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
120127	Anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
129000	Pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
191242	B[g,h,i]perylen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
192972	B[e]pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
193395	In[1,2,3-cd]pyr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
198550	Perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
205992	B[b]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
206440	Fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
207089	B[k]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%

Table 33: PMI Pollutant Contribution to 8-Hour Chronic Hazard Index (HI)
SoCalGas Playa del Rey

CAS	Pollutant	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
208968	Acenaphthylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
218019	Chrysene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
9901	DieselExhPM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
1151	PAHs-w/o	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7439921	Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
18540299	Cr(VI)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7440439	Cadmium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
108383	m-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7782505	Chlorine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
75092	Methylene Chlor	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%

Table 34: MEIR Source Contribution to 8-Hour Chronic Hazard Index (HI)
SoCalGas Playa del Rey

Source	Source Description	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
S33	Organic Solvents/Fugitive Emissions	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.52E-03	4.52E-03	25.91%
S30	ICE Air Compressor 12HP Gasoline E29	0.00E+00	0.00E+00	1.77E-04	0.00E+00	0.00E+00	3.34E-04	1.44E-03	0.00E+00	0.00E+00	0.00E+00	4.16E-03	4.16E-03	23.81%
S4	ICE Main Unit 6 2000HP NG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.27E-04	3.12E-03	0.00E+00	0.00E+00	0.00E+00	1.61E-03	3.12E-03	17.87%
S6	ICE Main Unit 9 2000HP NG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.67E-04	2.30E-03	0.00E+00	0.00E+00	0.00E+00	1.19E-03	2.30E-03	13.18%
S5	ICE Main Unit 8 2000HP NG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E-04	2.21E-03	0.00E+00	0.00E+00	0.00E+00	1.14E-03	2.21E-03	12.65%
S31	ICE Air Compressor 12HP Gasoline E30	0.00E+00	0.00E+00	3.58E-05	0.00E+00	0.00E+00	6.74E-05	2.91E-04	0.00E+00	0.00E+00	0.00E+00	8.38E-04	8.38E-04	4.80%
S34	Sump	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.34E-05	7.34E-05	0.42%
S29	Air Compressor 120	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.25E-06	6.97E-05	0.00E+00	0.00E+00	0.00E+00	1.61E-05	6.97E-05	0.40%
S27	TK-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.76E-05	2.76E-05	0.16%
S24	TK-1B	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.08E-05	2.08E-05	0.12%
S25	TK-1A	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.08E-05	2.08E-05	0.12%
S21	TK-4C	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.65E-05	1.65E-05	0.09%
S20	TK-4B	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.59E-05	1.59E-05	0.09%
S19	TK-4A	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.53E-05	1.53E-05	0.09%
S28	Air Compressor 400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.20E-07	1.30E-05	0.00E+00	0.00E+00	0.00E+00	3.00E-06	1.30E-05	0.07%
S7	Emergency ICE 99HP Diesel	3.40E-06	3.40E-06	2.07E-06	0.00E+00	0.00E+00	4.17E-06	1.17E-05	3.40E-06	0.00E+00	0.00E+00	1.98E-06	1.17E-05	0.07%
S18	TK-3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.09E-06	8.09E-06	0.05%
S26	TK-2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.66E-06	4.66E-06	0.03%
S2	Emergency ICE 110HP NG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.35E-07	4.18E-06	0.00E+00	0.00E+00	0.00E+00	9.64E-07	4.18E-06	0.02%
S23	TK-5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.79E-06	3.79E-06	0.02%
S1	Emergency ICE 348HP NG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.10E-08	2.20E-06	0.00E+00	0.00E+00	0.00E+00	5.07E-07	2.20E-06	0.01%
S22	TK-6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.62E-06	1.62E-06	0.01%
S35	Natural Gas Venting	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.12E-07	7.12E-07	0.00%

Table 34: MEIR Source Contribution to 8-Hour Chronic Hazard Index (HI)
SoCalGas Playa del Rey

Source	Source Description	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
S8	Glycol Reboiler	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.11E-07	0.00E+00	0.00E+00	0.00E+00	5.77E-07	5.77E-07	0.00%
S10	Loading Arm	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.24E-07	4.24E-07	0.00%
S17	Dehy Hot Oil Heater	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.84E-07	0.00E+00	0.00E+00	0.00E+00	2.58E-07	2.58E-07	0.00%
S3	Emergency ICE Fire Pump 93HP NG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.56E-09	2.04E-07	0.00E+00	0.00E+00	0.00E+00	4.69E-08	2.04E-07	0.00%
S13	Building AC & Heat V3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.78E-08	0.00E+00	0.00E+00	0.00E+00	1.23E-07	1.23E-07	0.00%
S12	Building AC & Heat V2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.59E-08	0.00E+00	0.00E+00	0.00E+00	1.06E-07	1.06E-07	0.00%
S11	Building AC & Heat V1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.52E-08	0.00E+00	0.00E+00	0.00E+00	9.14E-08	9.14E-08	0.00%
S15	Building AC & Heat V5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.65E-08	0.00E+00	0.00E+00	0.00E+00	6.52E-08	6.52E-08	0.00%
S16	Building AC & Heat V6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.63E-08	0.00E+00	0.00E+00	0.00E+00	6.48E-08	6.48E-08	0.00%
S14	Building AC & Heat V4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.55E-08	0.00E+00	0.00E+00	0.00E+00	6.37E-08	6.37E-08	0.00%
S9	Thermal Oxidizer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.64E-09	0.00E+00	0.00E+00	0.00E+00	7.90E-09	7.90E-09	0.00%

Table 35: MEIR Pollutant Contribution to 8-Hour Chronic Hazard Index (HI)
SoCalGas Playa del Rey

CAS	Pollutant	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
71432	Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	1.37E-02	56.77%
50000	Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.08E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.08E-03	37.64%
106990	1,3-Butadiene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.60E-04	3.98%
7440020	Nickel	0.00E+00	0.00E+00	2.15E-04	0.00E+00	0.00E+00	0.00E+00	2.15E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.15E-04	0.89%
75070	Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.69E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.69E-04	0.70%
7440382	Arsenic	3.40E-06	3.40E-06	0.00E+00	0.00E+00	0.00E+00	3.40E-06	3.40E-06	3.40E-06	0.00E+00	0.00E+00	0.00E+00	3.40E-06	0.01%
67561	Methanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
91203	Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
100414	Ethyl Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
106934	EDB	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
108883	Toluene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7664417	NH3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
50328	B[a]P	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
56553	B[a]anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
83329	Acenaphthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
85018	Phenanthrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
86737	Fluorene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
91576	2MeNaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
95636	1,2,4TriMeBenze	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
110543	Hexane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
120127	Anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
129000	Pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
191242	B[g,h,i]perylen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
192972	B[e]pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
193395	In[1,2,3-cd]pyr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
198550	Perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
205992	B[b]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%

Table 35: MEIR Pollutant Contribution to 8-Hour Chronic Hazard Index (HI)
SoCalGas Playa del Rey

CAS	Pollutant	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
206440	Fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
207089	B[k]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
208968	Acenaphthylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
218019	Chrysene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
9901	DieselExhPM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
1151	PAHs-w/o	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7439921	Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
18540299	Cr(VI)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7440439	Cadmium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
108383	m-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7782505	Chlorine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
75092	Methylene Chlor	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%

Table 36: MEIW Source Contribution to 8-Hour Chronic Hazard Index (HI)
SoCalGas Playa del Rey

Source	Source Description	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
S33	Organic Solvents/Fugitive Emissions	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.63E-03	1.63E-03	80.42%
S30	ICE Air Compressor 12HP Gasoline E29	0.00E+00	0.00E+00	3.37E-06	0.00E+00	0.00E+00	6.35E-06	2.74E-05	0.00E+00	0.00E+00	0.00E+00	7.90E-05	7.90E-05	3.89%
S4	ICE Main Unit 6 2000HP NG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.99E-06	5.48E-05	0.00E+00	0.00E+00	0.00E+00	2.83E-05	5.48E-05	2.70%
S6	ICE Main Unit 9 2000HP NG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.36E-06	4.62E-05	0.00E+00	0.00E+00	0.00E+00	2.39E-05	4.62E-05	2.28%
S5	ICE Main Unit 8 2000HP NG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.97E-06	4.09E-05	0.00E+00	0.00E+00	0.00E+00	2.11E-05	4.09E-05	2.01%
S27	TK-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.84E-05	2.84E-05	1.40%
S20	TK-4B	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.00E-05	2.00E-05	0.99%
S19	TK-4A	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.97E-05	1.97E-05	0.97%
S21	TK-4C	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.95E-05	1.95E-05	0.96%
S25	TK-1A	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.71E-05	1.71E-05	0.84%
S24	TK-1B	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.69E-05	1.69E-05	0.84%
S31	ICE Air Compressor 12HP Gasoline E30	0.00E+00	0.00E+00	6.05E-07	0.00E+00	0.00E+00	1.14E-06	4.92E-06	0.00E+00	0.00E+00	0.00E+00	1.42E-05	1.42E-05	0.70%
S18	TK-3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.82E-06	9.82E-06	0.48%
S34	Sump	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.09E-06	7.09E-06	0.35%
S29	Air Compressor 120	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.88E-07	5.85E-06	0.00E+00	0.00E+00	0.00E+00	1.35E-06	5.85E-06	0.29%
S26	TK-2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.99E-06	4.99E-06	0.25%
S1	Emergency ICE 348HP NG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.15E-07	3.56E-06	0.00E+00	0.00E+00	0.00E+00	8.20E-07	3.56E-06	0.18%
S23	TK-5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.90E-06	2.90E-06	0.14%
S22	TK-6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.36E-06	1.36E-06	0.07%
S28	Air Compressor 400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.46E-08	1.08E-06	0.00E+00	0.00E+00	0.00E+00	2.48E-07	1.08E-06	0.05%
S8	Glycol Reboiler	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.05E-07	0.00E+00	0.00E+00	0.00E+00	8.47E-07	8.47E-07	0.04%
S2	Emergency ICE 110HP NG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.02E-08	6.28E-07	0.00E+00	0.00E+00	0.00E+00	1.45E-07	6.28E-07	0.03%
S7	Emergency ICE 99HP Diesel	1.63E-07	1.63E-07	9.90E-08	0.00E+00	0.00E+00	2.00E-07	5.59E-07	1.63E-07	0.00E+00	0.00E+00	9.48E-08	5.59E-07	0.03%
S35	Natural Gas Venting	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.29E-07	5.29E-07	0.03%
S3	Emergency ICE Fire Pump 93HP NG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-08	4.26E-07	0.00E+00	0.00E+00	0.00E+00	9.82E-08	4.26E-07	0.02%
S10	Loading Arm	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.73E-07	3.73E-07	0.02%
S17	Dehy Hot Oil Heater	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.21E-07	0.00E+00	0.00E+00	0.00E+00	3.10E-07	3.10E-07	0.02%

Table 36: MEIW Source Contribution to 8-Hour Chronic Hazard Index (HI)
SoCalGas Playa del Rey

Source	Source Description	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
S9	Thermal Oxidizer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.10E-08	0.00E+00	0.00E+00	0.00E+00	1.54E-08	1.54E-08	0.00%
S11	Building AC & Heat V1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.55E-09	0.00E+00	0.00E+00	0.00E+00	4.98E-09	4.98E-09	0.00%
S12	Building AC & Heat V2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.44E-09	0.00E+00	0.00E+00	0.00E+00	4.81E-09	4.81E-09	0.00%
S13	Building AC & Heat V3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.32E-09	0.00E+00	0.00E+00	0.00E+00	4.65E-09	4.65E-09	0.00%
S14	Building AC & Heat V4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.53E-09	0.00E+00	0.00E+00	0.00E+00	2.14E-09	2.14E-09	0.00%
S15	Building AC & Heat V5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E-09	0.00E+00	0.00E+00	0.00E+00	2.10E-09	2.10E-09	0.00%
S16	Building AC & Heat V6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.48E-09	0.00E+00	0.00E+00	0.00E+00	2.07E-09	2.07E-09	0.00%

Table 37: MEIW Pollutant Contribution to 8-Hour Chronic Hazard Index (HI)
SoCalGas Playa del Rey

CAS	Pollutant	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
71432	Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.95E-03	1.95E-03	90.47%
50000	Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.80E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.80E-04	8.34%
106990	1,3-Butadiene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.82E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.82E-05	0.85%
7440020	Nickel	0.00E+00	0.00E+00	4.08E-06	0.00E+00	0.00E+00	0.00E+00	4.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.08E-06	0.19%
75070	Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.19E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.19E-06	0.15%
7440382	Arsenic	1.63E-07	1.63E-07	0.00E+00	0.00E+00	0.00E+00	1.63E-07	1.63E-07	1.63E-07	0.00E+00	0.00E+00	0.00E+00	1.63E-07	0.01%
67561	Methanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
91203	Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
100414	Ethyl Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
106934	EDB	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
108883	Toluene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7664417	NH3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
50328	B[a]P	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
56553	B[a]anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
83329	Acenaphthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
85018	Phenanthrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
86737	Fluorene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
91576	2MeNaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
95636	1,2,4TriMeBenze	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
110543	Hexane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
120127	Anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
129000	Pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%

Table 37: MEIW Pollutant Contribution to 8-Hour Chronic Hazard Index (HI)
SoCalGas Playa del Rey

CAS	Pollutant	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
191242	B[g,h,i]perylen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
192972	B[e]pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
193395	In[1,2,3-cd]pyr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
198550	Perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
205992	B[b]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
206440	Fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
207089	B[k]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
208968	Acenaphthylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
218019	Chrysene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
9901	DieselExhPM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
1151	PAHs-w/o	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7439921	Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
18540299	Cr(VI)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7440439	Cadmium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
108383	m-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7782505	Chlorine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
75092	Methylene Chlor	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%

Table 38: PMI Source Contribution to Acute Hazard Index (HI)
SoCalGas Playa del Rey

Source	Source Description	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
S30	ICE Air Compressor 12HP Gasoline E29	0.00E+00	7.70E-04	2.66E-01	0.00E+00	0.00E+00	2.42E-01	7.38E-03	0.00E+00	1.14E-01	0.00E+00	2.39E-01	2.66E-01	44.58%
S31	ICE Air Compressor 12HP Gasoline E30	0.00E+00	2.31E-04	8.00E-02	0.00E+00	0.00E+00	7.26E-02	2.22E-03	0.00E+00	3.42E-02	0.00E+00	7.17E-02	8.00E-02	13.39%
S4	ICE Main Unit 6 2000HP NG	0.00E+00	1.76E-05	1.10E-02	0.00E+00	0.00E+00	1.12E-02	2.68E-03	0.00E+00	3.34E-02	0.00E+00	1.10E-02	3.34E-02	5.60%
S6	ICE Main Unit 9 2000HP NG	0.00E+00	1.67E-05	1.05E-02	0.00E+00	0.00E+00	1.06E-02	2.56E-03	0.00E+00	3.16E-02	0.00E+00	1.05E-02	3.16E-02	5.30%
S5	ICE Main Unit 8 2000HP NG	0.00E+00	1.62E-05	1.02E-02	0.00E+00	0.00E+00	1.03E-02	2.48E-03	0.00E+00	3.09E-02	0.00E+00	1.02E-02	3.09E-02	5.17%
S29	Air Compressor 120	0.00E+00	9.92E-06	4.67E-03	0.00E+00	0.00E+00	4.75E-03	5.53E-04	0.00E+00	3.03E-02	0.00E+00	4.67E-03	3.03E-02	5.07%
S28	Air Compressor 400	0.00E+00	9.88E-06	4.65E-03	0.00E+00	0.00E+00	4.73E-03	5.51E-04	0.00E+00	3.02E-02	0.00E+00	4.65E-03	3.02E-02	5.05%
S7	Emergency ICE 99HP Diesel	7.17E-03	7.17E-03	2.36E-02	0.00E+00	0.00E+00	1.37E-02	1.72E-03	0.00E+00	2.99E-02	0.00E+00	6.18E-03	2.99E-02	5.00%
S35	Natural Gas Venting	0.00E+00	0.00E+00	2.98E-02	0.00E+00	0.00E+00	2.98E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.98E-02	2.98E-02	4.99%
S2	Emergency ICE 110HP NG	0.00E+00	5.06E-06	2.37E-03	0.00E+00	0.00E+00	2.42E-03	2.82E-04	0.00E+00	1.54E-02	0.00E+00	2.37E-03	1.54E-02	2.58%
S33	Organic Solvents/Fugitive Emissions	1.91E-06	4.56E-05	1.09E-02	0.00E+00	0.00E+00	1.10E-02	4.36E-05	0.00E+00	4.36E-05	0.00E+00	1.09E-02	1.10E-02	1.84%
S1	Emergency ICE 348HP NG	0.00E+00	1.87E-06	8.79E-04	0.00E+00	0.00E+00	8.95E-04	1.04E-04	0.00E+00	5.70E-03	0.00E+00	8.79E-04	5.70E-03	0.95%
S3	Emergency ICE Fire Pump 93HP NG	0.00E+00	4.97E-07	2.34E-04	0.00E+00	0.00E+00	2.38E-04	2.77E-05	0.00E+00	1.52E-03	0.00E+00	2.34E-04	1.52E-03	0.25%
S34	Sump	0.00E+00	1.19E-06	2.91E-04	0.00E+00	0.00E+00	2.91E-04	1.19E-06	0.00E+00	1.19E-06	0.00E+00	2.91E-04	2.91E-04	0.05%
S27	TK-12	0.00E+00	8.46E-08	1.46E-04	0.00E+00	0.00E+00	1.46E-04	8.46E-08	0.00E+00	8.46E-08	0.00E+00	1.46E-04	1.46E-04	0.02%
S25	TK-1A	0.00E+00	6.98E-08	1.20E-04	0.00E+00	0.00E+00	1.21E-04	6.98E-08	0.00E+00	6.98E-08	0.00E+00	1.20E-04	1.21E-04	0.02%
S24	TK-1B	0.00E+00	6.91E-08	1.19E-04	0.00E+00	0.00E+00	1.19E-04	6.91E-08	0.00E+00	6.91E-08	0.00E+00	1.19E-04	1.19E-04	0.02%
S21	TK-4C	0.00E+00	5.80E-08	1.00E-04	0.00E+00	0.00E+00	1.00E-04	5.80E-08	0.00E+00	5.80E-08	0.00E+00	1.00E-04	1.00E-04	0.02%
S20	TK-4B	0.00E+00	5.65E-08	9.76E-05	0.00E+00	0.00E+00	9.76E-05	5.65E-08	0.00E+00	5.65E-08	0.00E+00	9.76E-05	9.76E-05	0.02%
S19	TK-4A	0.00E+00	5.45E-08	9.41E-05	0.00E+00	0.00E+00	9.42E-05	5.45E-08	0.00E+00	5.45E-08	0.00E+00	9.41E-05	9.42E-05	0.02%
S18	TK-3	0.00E+00	2.82E-08	4.88E-05	0.00E+00	0.00E+00	4.88E-05	2.82E-08	0.00E+00	2.82E-08	0.00E+00	4.88E-05	4.88E-05	0.01%
S16	Building AC & Heat V6	0.00E+00	2.81E-08	8.42E-06	0.00E+00	0.00E+00	8.45E-06	2.88E-05	0.00E+00	3.76E-05	0.00E+00	8.42E-06	3.76E-05	0.01%
S8	Glycol Reboiler	0.00E+00	2.65E-08	7.94E-06	0.00E+00	0.00E+00	7.97E-06	2.71E-05	0.00E+00	3.54E-05	0.00E+00	7.94E-06	3.54E-05	0.01%
S26	TK-2	0.00E+00	1.59E-08	2.74E-05	0.00E+00	0.00E+00	2.74E-05	1.59E-08	0.00E+00	1.59E-08	0.00E+00	2.74E-05	2.74E-05	0.00%
S13	Building AC & Heat V3	0.00E+00	1.88E-08	5.64E-06	0.00E+00	0.00E+00	5.66E-06	1.92E-05	0.00E+00	2.51E-05	0.00E+00	5.64E-06	2.51E-05	0.00%
S15	Building AC & Heat V5	0.00E+00	1.81E-08	5.42E-06	0.00E+00	0.00E+00	5.44E-06	1.86E-05	0.00E+00	2.42E-05	0.00E+00	5.42E-06	2.42E-05	0.00%
S12	Building AC & Heat V2	0.00E+00	1.67E-08	5.01E-06	0.00E+00	0.00E+00	5.03E-06	1.71E-05	0.00E+00	2.23E-05	0.00E+00	5.01E-06	2.23E-05	0.00%
S23	TK-5	0.00E+00	1.24E-08	2.15E-05	0.00E+00	0.00E+00	2.15E-05	1.24E-08	0.00E+00	1.24E-08	0.00E+00	2.15E-05	2.15E-05	0.00%
S11	Building AC & Heat V1	0.00E+00	1.30E-08	3.91E-06	0.00E+00	0.00E+00	3.92E-06	1.33E-05	0.00E+00	1.74E-05	0.00E+00	3.91E-06	1.74E-05	0.00%

Table 38: PMI Source Contribution to Acute Hazard Index (HI)
SoCalGas Playa del Rey

Source	Source Description	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
S14	Building AC & Heat V4	0.00E+00	1.24E-08	3.73E-06	0.00E+00	0.00E+00	3.74E-06	1.27E-05	0.00E+00	1.66E-05	0.00E+00	3.73E-06	1.66E-05	0.00%
S10	Loading Arm	0.00E+00	5.03E-08	1.23E-05	0.00E+00	0.00E+00	1.23E-05	5.03E-08	0.00E+00	5.03E-08	0.00E+00	1.23E-05	1.23E-05	0.00%
S22	TK-6	0.00E+00	6.07E-09	1.06E-05	0.00E+00	0.00E+00	1.06E-05	6.07E-09	0.00E+00	6.07E-09	0.00E+00	1.06E-05	1.06E-05	0.00%
S17	Dehy Hot Oil Heater	0.00E+00	7.09E-09	2.13E-06	0.00E+00	0.00E+00	2.14E-06	7.24E-06	0.00E+00	9.46E-06	0.00E+00	2.13E-06	9.46E-06	0.00%
S9	Thermal Oxidizer	0.00E+00	5.03E-09	1.51E-06	0.00E+00	0.00E+00	1.51E-06	5.14E-06	0.00E+00	6.71E-06	0.00E+00	1.51E-06	6.71E-06	0.00%

Table 39: PMI Pollutant Contribution to Acute Hazard Index (HI)
SoCalGas Playa del Rey

CAS	Pollutant	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
71432	Benzene	0.00E+00	0.00E+00	4.03E-01	0.00E+00	0.00E+00	4.03E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.03E-01	4.03E-01	48.87%
50000	Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.36E-01	0.00E+00	0.00E+00	3.36E-01	40.78%
7440020	Nickel	0.00E+00	0.00E+00	5.32E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.32E-02	6.45%
75070	Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.40E-02	0.00E+00	1.40E-02	0.00E+00	0.00E+00	1.40E-02	1.69%
7440382	Arsenic	7.17E-03	7.17E-03	0.00E+00	0.00E+00	0.00E+00	7.17E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.17E-03	0.87%
7782505	Chlorine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.77E-03	0.00E+00	4.77E-03	0.00E+00	0.00E+00	4.77E-03	0.58%
106990	1,3-Butadiene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.13E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.13E-03	0.50%
7664417	NH3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-03	0.00E+00	1.02E-03	0.00E+00	0.00E+00	1.02E-03	0.12%
108383	m-Xylene	0.00E+00	5.25E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.25E-04	0.00E+00	5.25E-04	0.00E+00	0.00E+00	5.25E-04	0.06%
108883	Toluene	0.00E+00	4.78E-04	0.00E+00	0.00E+00	0.00E+00	4.78E-04	4.78E-04	0.00E+00	4.78E-04	0.00E+00	0.00E+00	4.78E-04	0.06%
67561	Methanol	0.00E+00	1.24E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-04	0.02%
75092	Methylene Chlor	1.91E-06	1.91E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.91E-06	0.00%
91203	Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
100414	Ethyl Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
106934	EDB	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
50328	B[a]P	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
56553	B[a]anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
83329	Acenaphthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
85018	Phenanthrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
86737	Fluorene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
91576	2MeNaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
95636	1,2,4TriMeBenze	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%

Table 39: PMI Pollutant Contribution to Acute Hazard Index (HI)
SoCalGas Playa del Rey

CAS	Pollutant	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
110543	Hexane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
120127	Anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
129000	Pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
191242	B[g,h,i]perylen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
192972	B[e]pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
193395	In[1,2,3-cd]pyr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
198550	Perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
205992	B[b]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
206440	Fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
207089	B[k]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
208968	Acenaphthylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
218019	Chrysene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
9901	DieselExhPM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
1151	PAHs-w/o	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7439921	Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
18540299	Cr(VI)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7440439	Cadmium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%

Table 40: MEIR Source Contribution to Acute Hazard Index (HI)
SoCalGas Playa del Rey

Source	Source Description	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
S30	ICE Air Compressor 12HP Gasoline E29	0.00E+00	3.72E-04	1.29E-01	0.00E+00	0.00E+00	1.17E-01	3.57E-03	0.00E+00	5.49E-02	0.00E+00	1.15E-01	1.29E-01	39.00%
S31	ICE Air Compressor 12HP Gasoline E30	0.00E+00	1.27E-04	4.38E-02	0.00E+00	0.00E+00	3.98E-02	1.22E-03	0.00E+00	1.87E-02	0.00E+00	3.93E-02	4.38E-02	13.30%
S35	Natural Gas Venting	0.00E+00	0.00E+00	2.26E-02	0.00E+00	0.00E+00	2.26E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.26E-02	2.26E-02	6.86%
S29	Air Compressor 120	0.00E+00	7.29E-06	3.43E-03	0.00E+00	0.00E+00	3.49E-03	4.06E-04	0.00E+00	2.22E-02	0.00E+00	3.43E-03	2.22E-02	6.75%
S28	Air Compressor 400	0.00E+00	7.23E-06	3.40E-03	0.00E+00	0.00E+00	3.46E-03	4.03E-04	0.00E+00	2.21E-02	0.00E+00	3.40E-03	2.21E-02	6.70%
S4	ICE Main Unit 6 2000HP NG	0.00E+00	1.04E-05	6.53E-03	0.00E+00	0.00E+00	6.65E-03	1.59E-03	0.00E+00	1.99E-02	0.00E+00	6.53E-03	1.99E-02	6.02%
S6	ICE Main Unit 9 2000HP NG	0.00E+00	9.84E-06	6.17E-03	0.00E+00	0.00E+00	6.28E-03	1.51E-03	0.00E+00	1.87E-02	0.00E+00	6.17E-03	1.87E-02	5.67%
S5	ICE Main Unit 8 2000HP NG	0.00E+00	9.70E-06	6.09E-03	0.00E+00	0.00E+00	6.19E-03	1.48E-03	0.00E+00	1.85E-02	0.00E+00	6.09E-03	1.85E-02	5.61%
S7	Emergency ICE 99HP Diesel	2.53E-03	2.53E-03	8.32E-03	0.00E+00	0.00E+00	4.81E-03	6.07E-04	0.00E+00	1.05E-02	0.00E+00	2.18E-03	1.05E-02	3.19%
S33	Organic Solvents/Fugitive Emissions	1.43E-06	3.41E-05	8.19E-03	0.00E+00	0.00E+00	8.20E-03	3.27E-05	0.00E+00	3.27E-05	0.00E+00	8.19E-03	8.20E-03	2.49%
S2	Emergency ICE 110HP NG	0.00E+00	2.46E-06	1.15E-03	0.00E+00	0.00E+00	1.17E-03	1.37E-04	0.00E+00	7.50E-03	0.00E+00	1.15E-03	7.50E-03	2.27%
S1	Emergency ICE 348HP NG	0.00E+00	1.56E-06	7.35E-04	0.00E+00	0.00E+00	7.48E-04	8.70E-05	0.00E+00	4.77E-03	0.00E+00	7.35E-04	4.77E-03	1.45%
S3	Emergency ICE Fire Pump 93HP NG	0.00E+00	4.73E-07	2.23E-04	0.00E+00	0.00E+00	2.27E-04	2.63E-05	0.00E+00	1.44E-03	0.00E+00	2.23E-04	1.44E-03	0.44%
S34	Sump	0.00E+00	6.18E-07	1.52E-04	0.00E+00	0.00E+00	1.52E-04	6.18E-07	0.00E+00	6.18E-07	0.00E+00	1.52E-04	1.52E-04	0.05%
S27	TK-12	0.00E+00	7.32E-08	1.26E-04	0.00E+00	0.00E+00	1.26E-04	7.32E-08	0.00E+00	7.32E-08	0.00E+00	1.26E-04	1.26E-04	0.04%
S25	TK-1A	0.00E+00	5.39E-08	9.30E-05	0.00E+00	0.00E+00	9.31E-05	5.39E-08	0.00E+00	5.39E-08	0.00E+00	9.30E-05	9.31E-05	0.03%
S24	TK-1B	0.00E+00	5.35E-08	9.24E-05	0.00E+00	0.00E+00	9.25E-05	5.35E-08	0.00E+00	5.35E-08	0.00E+00	9.24E-05	9.25E-05	0.03%
S21	TK-4C	0.00E+00	4.68E-08	8.08E-05	0.00E+00	0.00E+00	8.09E-05	4.68E-08	0.00E+00	4.68E-08	0.00E+00	8.08E-05	8.09E-05	0.02%
S20	TK-4B	0.00E+00	4.63E-08	7.99E-05	0.00E+00	0.00E+00	8.00E-05	4.63E-08	0.00E+00	4.63E-08	0.00E+00	7.99E-05	8.00E-05	0.02%
S19	TK-4A	0.00E+00	4.44E-08	7.67E-05	0.00E+00	0.00E+00	7.68E-05	4.44E-08	0.00E+00	4.44E-08	0.00E+00	7.67E-05	7.68E-05	0.02%
S18	TK-3	0.00E+00	2.33E-08	4.04E-05	0.00E+00	0.00E+00	4.04E-05	2.33E-08	0.00E+00	2.33E-08	0.00E+00	4.04E-05	4.04E-05	0.01%
S8	Glycol Reboiler	0.00E+00	2.46E-08	7.38E-06	0.00E+00	0.00E+00	7.40E-06	2.52E-05	0.00E+00	3.29E-05	0.00E+00	7.38E-06	3.29E-05	0.01%
S26	TK-2	0.00E+00	1.28E-08	2.21E-05	0.00E+00	0.00E+00	2.21E-05	1.28E-08	0.00E+00	1.28E-08	0.00E+00	2.21E-05	2.21E-05	0.01%
S23	TK-5	0.00E+00	9.65E-09	1.67E-05	0.00E+00	0.00E+00	1.67E-05	9.65E-09	0.00E+00	9.65E-09	0.00E+00	1.67E-05	1.67E-05	0.01%
S10	Loading Arm	0.00E+00	3.84E-08	9.42E-06	0.00E+00	0.00E+00	9.44E-06	3.84E-08	0.00E+00	3.84E-08	0.00E+00	9.42E-06	9.44E-06	0.00%
S22	TK-6	0.00E+00	4.72E-09	8.21E-06	0.00E+00	0.00E+00	8.21E-06	4.72E-09	0.00E+00	4.72E-09	0.00E+00	8.21E-06	8.21E-06	0.00%
S17	Dehy Hot Oil Heater	0.00E+00	5.94E-09	1.78E-06	0.00E+00	0.00E+00	1.79E-06	6.06E-06	0.00E+00	7.92E-06	0.00E+00	1.78E-06	7.92E-06	0.00%

Table 40: MEIR Source Contribution to Acute Hazard Index (HI)
SoCalGas Playa del Rey

Source	Source Description	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
S9	Thermal Oxidizer	0.00E+00	4.82E-09	1.44E-06	0.00E+00	0.00E+00	1.45E-06	4.93E-06	0.00E+00	6.43E-06	0.00E+00	1.44E-06	6.43E-06	0.00%
S11	Building AC & Heat V1	0.00E+00	4.10E-09	1.23E-06	0.00E+00	0.00E+00	1.23E-06	4.18E-06	0.00E+00	5.46E-06	0.00E+00	1.23E-06	5.46E-06	0.00%
S12	Building AC & Heat V2	0.00E+00	4.08E-09	1.22E-06	0.00E+00	0.00E+00	1.23E-06	4.16E-06	0.00E+00	5.43E-06	0.00E+00	1.22E-06	5.43E-06	0.00%
S13	Building AC & Heat V3	0.00E+00	4.03E-09	1.21E-06	0.00E+00	0.00E+00	1.21E-06	4.11E-06	0.00E+00	5.37E-06	0.00E+00	1.21E-06	5.37E-06	0.00%
S16	Building AC & Heat V6	0.00E+00	3.39E-09	1.02E-06	0.00E+00	0.00E+00	1.02E-06	3.48E-06	0.00E+00	4.54E-06	0.00E+00	1.02E-06	4.54E-06	0.00%
S15	Building AC & Heat V5	0.00E+00	2.74E-09	8.24E-07	0.00E+00	0.00E+00	8.26E-07	2.82E-06	0.00E+00	3.68E-06	0.00E+00	8.24E-07	3.68E-06	0.00%
S14	Building AC & Heat V4	0.00E+00	2.26E-09	6.78E-07	0.00E+00	0.00E+00	6.80E-07	2.32E-06	0.00E+00	3.03E-06	0.00E+00	6.78E-07	3.03E-06	0.00%

Table 41: MEIR Pollutant Contribution to Acute Hazard Index (HI)
SoCalGas Playa del Rey

CAS	Pollutant	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
71432	Benzene	0.00E+00	0.00E+00	2.16E-01	0.00E+00	0.00E+00	2.16E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.16E-01	2.16E-01	48.67%
50000	Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.88E-01	0.00E+00	0.00E+00	1.88E-01	42.37%
7440020	Nickel	0.00E+00	0.00E+00	2.39E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.39E-02	5.39%
75070	Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.69E-03	0.00E+00	7.69E-03	0.00E+00	0.00E+00	7.69E-03	1.73%
7440382	Arsenic	2.53E-03	2.53E-03	0.00E+00	0.00E+00	0.00E+00	2.53E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.53E-03	0.57%
7782505	Chlorine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.38E-03	0.00E+00	2.38E-03	0.00E+00	0.00E+00	2.38E-03	0.54%
106990	1,3-Butadiene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.11E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.11E-03	0.47%
7664417	NH3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.42E-04	0.00E+00	5.42E-04	0.00E+00	0.00E+00	5.42E-04	0.12%
108383	m-Xylene	0.00E+00	2.69E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.69E-04	0.00E+00	2.69E-04	0.00E+00	0.00E+00	2.69E-04	0.06%
108883	Toluene	0.00E+00	2.43E-04	0.00E+00	0.00E+00	0.00E+00	2.43E-04	2.43E-04	0.00E+00	2.43E-04	0.00E+00	0.00E+00	2.43E-04	0.05%
67561	Methanol	0.00E+00	7.03E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.03E-05	0.02%
75092	Methylene Chlor	1.43E-06	1.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-06	0.00%
91203	Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
100414	Ethyl Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
106934	EDB	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
50328	B[a]P	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
56553	B[a]anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
83329	Acenaphthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
85018	Phenanthrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
86737	Fluorene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
91576	2MeNaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
95636	1,2,4TriMeBenze	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
110543	Hexane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
120127	Anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
129000	Pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
191242	B[g,h,i]perylen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
192972	B[e]pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
193395	In[1,2,3-cd]pyr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
198550	Perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
205992	B[b]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
206440	Fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%

Table 41: MEIR Pollutant Contribution to Acute Hazard Index (HI)
SoCalGas Playa del Rey

CAS	Pollutant	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
207089	B[k]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
208968	Acenaphthylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
218019	Chrysene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
9901	DieselExhPM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
1151	PAHs-w/o	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7439921	Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
18540299	Cr(VI)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7440439	Cadmium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%

Table 42: MEIW Source Contribution to Acute Hazard Index (HI)
SoCalGas Playa del Rey

Source	Source Description	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
S30	ICE Air Compressor 12HP Gasoline E29	0.00E+00	8.33E-05	2.88E-02	0.00E+00	0.00E+00	2.61E-02	7.99E-04	0.00E+00	1.23E-02	0.00E+00	2.58E-02	2.88E-02	17.76%
S31	ICE Air Compressor 12HP Gasoline E30	0.00E+00	8.16E-05	2.82E-02	0.00E+00	0.00E+00	2.56E-02	7.83E-04	0.00E+00	1.21E-02	0.00E+00	2.53E-02	2.82E-02	17.40%
S28	Air Compressor 400	0.00E+00	4.96E-06	2.33E-03	0.00E+00	0.00E+00	2.37E-03	2.76E-04	0.00E+00	1.51E-02	0.00E+00	2.33E-03	1.51E-02	9.32%
S29	Air Compressor 120	0.00E+00	4.95E-06	2.33E-03	0.00E+00	0.00E+00	2.37E-03	2.76E-04	0.00E+00	1.51E-02	0.00E+00	2.33E-03	1.51E-02	9.31%
S35	Natural Gas Venting	0.00E+00	0.00E+00	1.49E-02	0.00E+00	0.00E+00	1.49E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E-02	1.49E-02	9.15%
S4	ICE Main Unit 6 2000HP NG	0.00E+00	6.67E-06	4.18E-03	0.00E+00	0.00E+00	4.25E-03	1.02E-03	0.00E+00	1.27E-02	0.00E+00	4.18E-03	1.27E-02	7.83%
S6	ICE Main Unit 9 2000HP NG	0.00E+00	6.35E-06	3.98E-03	0.00E+00	0.00E+00	4.05E-03	9.74E-04	0.00E+00	1.21E-02	0.00E+00	3.98E-03	1.21E-02	7.43%
S5	ICE Main Unit 8 2000HP NG	0.00E+00	6.22E-06	3.90E-03	0.00E+00	0.00E+00	3.97E-03	9.52E-04	0.00E+00	1.19E-02	0.00E+00	3.90E-03	1.19E-02	7.31%
S2	Emergency ICE 110HP NG	0.00E+00	3.33E-06	1.56E-03	0.00E+00	0.00E+00	1.59E-03	1.85E-04	0.00E+00	1.02E-02	0.00E+00	1.56E-03	1.02E-02	6.26%
S33	Organic Solvents/Fugitive Emissions	1.11E-06	2.64E-05	6.33E-03	0.00E+00	0.00E+00	6.34E-03	2.52E-05	0.00E+00	2.52E-05	0.00E+00	6.33E-03	6.34E-03	3.91%
S1	Emergency ICE 348HP NG	0.00E+00	1.10E-06	5.19E-04	0.00E+00	0.00E+00	5.28E-04	6.14E-05	0.00E+00	3.36E-03	0.00E+00	5.19E-04	3.36E-03	2.07%
S7	Emergency ICE 99HP Diesel	4.53E-04	4.54E-04	1.49E-03	0.00E+00	0.00E+00	8.63E-04	1.09E-04	0.00E+00	1.89E-03	0.00E+00	3.91E-04	1.89E-03	1.16%
S3	Emergency ICE Fire Pump 93HP NG	0.00E+00	4.00E-07	1.88E-04	0.00E+00	0.00E+00	1.91E-04	2.22E-05	0.00E+00	1.22E-03	0.00E+00	1.88E-04	1.22E-03	0.75%
S27	TK-12	0.00E+00	5.13E-08	8.85E-05	0.00E+00	0.00E+00	8.85E-05	5.13E-08	0.00E+00	5.13E-08	0.00E+00	8.85E-05	8.85E-05	0.05%
S34	Sump	0.00E+00	2.71E-07	6.66E-05	0.00E+00	0.00E+00	6.66E-05	2.71E-07	0.00E+00	2.71E-07	0.00E+00	6.66E-05	6.66E-05	0.04%
S25	TK-1A	0.00E+00	3.62E-08	6.24E-05	0.00E+00	0.00E+00	6.25E-05	3.62E-08	0.00E+00	3.62E-08	0.00E+00	6.24E-05	6.25E-05	0.04%
S24	TK-1B	0.00E+00	3.58E-08	6.18E-05	0.00E+00	0.00E+00	6.18E-05	3.58E-08	0.00E+00	3.58E-08	0.00E+00	6.18E-05	6.18E-05	0.04%
S21	TK-4C	0.00E+00	3.32E-08	5.73E-05	0.00E+00	0.00E+00	5.73E-05	3.32E-08	0.00E+00	3.32E-08	0.00E+00	5.73E-05	5.73E-05	0.04%
S20	TK-4B	0.00E+00	3.27E-08	5.66E-05	0.00E+00	0.00E+00	5.66E-05	3.27E-08	0.00E+00	3.27E-08	0.00E+00	5.66E-05	5.66E-05	0.03%
S19	TK-4A	0.00E+00	3.18E-08	5.49E-05	0.00E+00	0.00E+00	5.50E-05	3.18E-08	0.00E+00	3.18E-08	0.00E+00	5.49E-05	5.50E-05	0.03%
S8	Glycol Reboiler	0.00E+00	2.15E-08	6.46E-06	0.00E+00	0.00E+00	6.48E-06	2.20E-05	0.00E+00	2.88E-05	0.00E+00	6.46E-06	2.88E-05	0.02%
S18	TK-3	0.00E+00	1.65E-08	2.86E-05	0.00E+00	0.00E+00	2.86E-05	1.65E-08	0.00E+00	1.65E-08	0.00E+00	2.86E-05	2.86E-05	0.02%
S26	TK-2	0.00E+00	9.01E-09	1.55E-05	0.00E+00	0.00E+00	1.56E-05	9.01E-09	0.00E+00	9.01E-09	0.00E+00	1.55E-05	1.56E-05	0.01%
S23	TK-5	0.00E+00	6.36E-09	1.10E-05	0.00E+00	0.00E+00	1.10E-05	6.36E-09	0.00E+00	6.36E-09	0.00E+00	1.10E-05	1.10E-05	0.01%
S17	Dehy Hot Oil Heater	0.00E+00	5.01E-09	1.50E-06	0.00E+00	0.00E+00	1.51E-06	5.12E-06	0.00E+00	6.68E-06	0.00E+00	1.50E-06	6.68E-06	0.00%

Table 42: MEIW Source Contribution to Acute Hazard Index (HI)
SoCalGas Playa del Rey

Source	Source Description	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
S10	Loading Arm	0.00E+00	2.57E-08	6.30E-06	0.00E+00	0.00E+00	6.31E-06	2.57E-08	0.00E+00	2.57E-08	0.00E+00	6.30E-06	6.31E-06	0.00%
S22	TK-6	0.00E+00	3.19E-09	5.55E-06	0.00E+00	0.00E+00	5.55E-06	3.19E-09	0.00E+00	3.19E-09	0.00E+00	5.55E-06	5.55E-06	0.00%
S9	Thermal Oxidizer	0.00E+00	3.97E-09	1.19E-06	0.00E+00	0.00E+00	1.19E-06	4.05E-06	0.00E+00	5.29E-06	0.00E+00	1.19E-06	5.29E-06	0.00%
S11	Building AC & Heat V1	0.00E+00	1.47E-09	4.42E-07	0.00E+00	0.00E+00	4.43E-07	1.50E-06	0.00E+00	1.96E-06	0.00E+00	4.42E-07	1.96E-06	0.00%
S12	Building AC & Heat V2	0.00E+00	1.39E-09	4.15E-07	0.00E+00	0.00E+00	4.17E-07	1.41E-06	0.00E+00	1.85E-06	0.00E+00	4.15E-07	1.85E-06	0.00%
S13	Building AC & Heat V3	0.00E+00	1.29E-09	3.87E-07	0.00E+00	0.00E+00	3.88E-07	1.32E-06	0.00E+00	1.72E-06	0.00E+00	3.87E-07	1.72E-06	0.00%
S16	Building AC & Heat V6	0.00E+00	6.98E-10	2.09E-07	0.00E+00	0.00E+00	2.10E-07	7.17E-07	0.00E+00	9.36E-07	0.00E+00	2.09E-07	9.36E-07	0.00%
S15	Building AC & Heat V5	0.00E+00	6.66E-10	2.00E-07	0.00E+00	0.00E+00	2.01E-07	6.84E-07	0.00E+00	8.93E-07	0.00E+00	2.00E-07	8.93E-07	0.00%
S14	Building AC & Heat V4	0.00E+00	6.27E-10	1.88E-07	0.00E+00	0.00E+00	1.89E-07	6.44E-07	0.00E+00	8.40E-07	0.00E+00	1.88E-07	8.40E-07	0.00%

Table 43: MEIW Pollutant Contribution to Acute Hazard Index (HI)
SoCalGas Playa del Rey

CAS	Pollutant	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
50000	Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-01	0.00E+00	0.00E+00	1.02E-01	49.11%
71432	Benzene	0.00E+00	0.00E+00	9.23E-02	0.00E+00	0.00E+00	9.23E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.23E-02	9.23E-02	44.25%
7440020	Nickel	0.00E+00	0.00E+00	6.99E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.99E-03	3.35%
75070	Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.22E-03	0.00E+00	4.22E-03	0.00E+00	0.00E+00	4.22E-03	2.02%
106990	1,3-Butadiene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.51E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.51E-04	0.41%
7782505	Chlorine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.86E-04	0.00E+00	7.86E-04	0.00E+00	0.00E+00	7.86E-04	0.38%
7440382	Arsenic	4.53E-04	4.53E-04	0.00E+00	0.00E+00	0.00E+00	4.53E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.53E-04	0.22%
7664417	NH3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.32E-04	0.00E+00	3.32E-04	0.00E+00	0.00E+00	3.32E-04	0.16%
108383	m-Xylene	0.00E+00	9.92E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.92E-05	0.00E+00	9.92E-05	0.00E+00	0.00E+00	9.92E-05	0.05%
108883	Toluene	0.00E+00	8.79E-05	0.00E+00	0.00E+00	0.00E+00	8.79E-05	8.79E-05	0.00E+00	8.79E-05	0.00E+00	0.00E+00	8.79E-05	0.04%
67561	Methanol	0.00E+00	3.79E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.79E-05	0.02%
75092	Methylene Chlor	1.11E-06	1.11E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-06	0.00%
91203	Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
100414	Ethyl Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
106934	EDB	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
50328	B[a]P	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
56553	B[a]anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
83329	Acenaphthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
85018	Phenanthrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
86737	Fluorene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
91576	2MeNaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
95636	1,2,4TriMeBenze	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
110543	Hexane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
120127	Anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
129000	Pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
191242	B[g,h,i]perylen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
192972	B[e]pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%

Table 43: MEIW Pollutant Contribution to Acute Hazard Index (HI)
SoCalGas Playa del Rey

CAS	Pollutant	Cardiovascular (CV)	Central Nervous System (CNS)	Immune System	Kidney	Alimentary System	Reproductive/ Developmental	Respiratory	Skin	Eyes	Endocrine System	Hematologic System	Max HI	% of Total
193395	In[1,2,3-cd]pyr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
198550	Perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
205992	B[b]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
206440	Fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
207089	B[k]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
208968	Acenaphthylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
218019	Chrysene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
9901	DieselExhPM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
1151	PAHs-w/o	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7439921	Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
18540299	Cr(VI)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
7440439	Cadmium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%

Table 44: Population Exposure Estimates
SoCalGas Playa del Rey

Health Impact Analysis	Census Tract	Maximum Cancer Risk or Non-cancer HI	X-UTM (m)	Y-UTM (m)	Census Tract Population[1]	Estimated Percentage of Census Tract Within ZOI[2]	Zone of Impact Population
Cancer Risks	2766.01	8.9 in one million	367,400	3,759,000	3838	0.40	1535

(1) Population from 2010 Census data

(2) Percentage of risk in census tract estimated from 2010 Census data

Appendix B

Figures

N

Universal Transverse Mercator Coordinate System

0 500 1000 1500 2000

ERM 03/2018

Legend

Property Boundary

Figure 1
Facility Location Map
SoCalGas Playa Del Rey
8141 Gulana Avenue
Playa Del Rey, CA

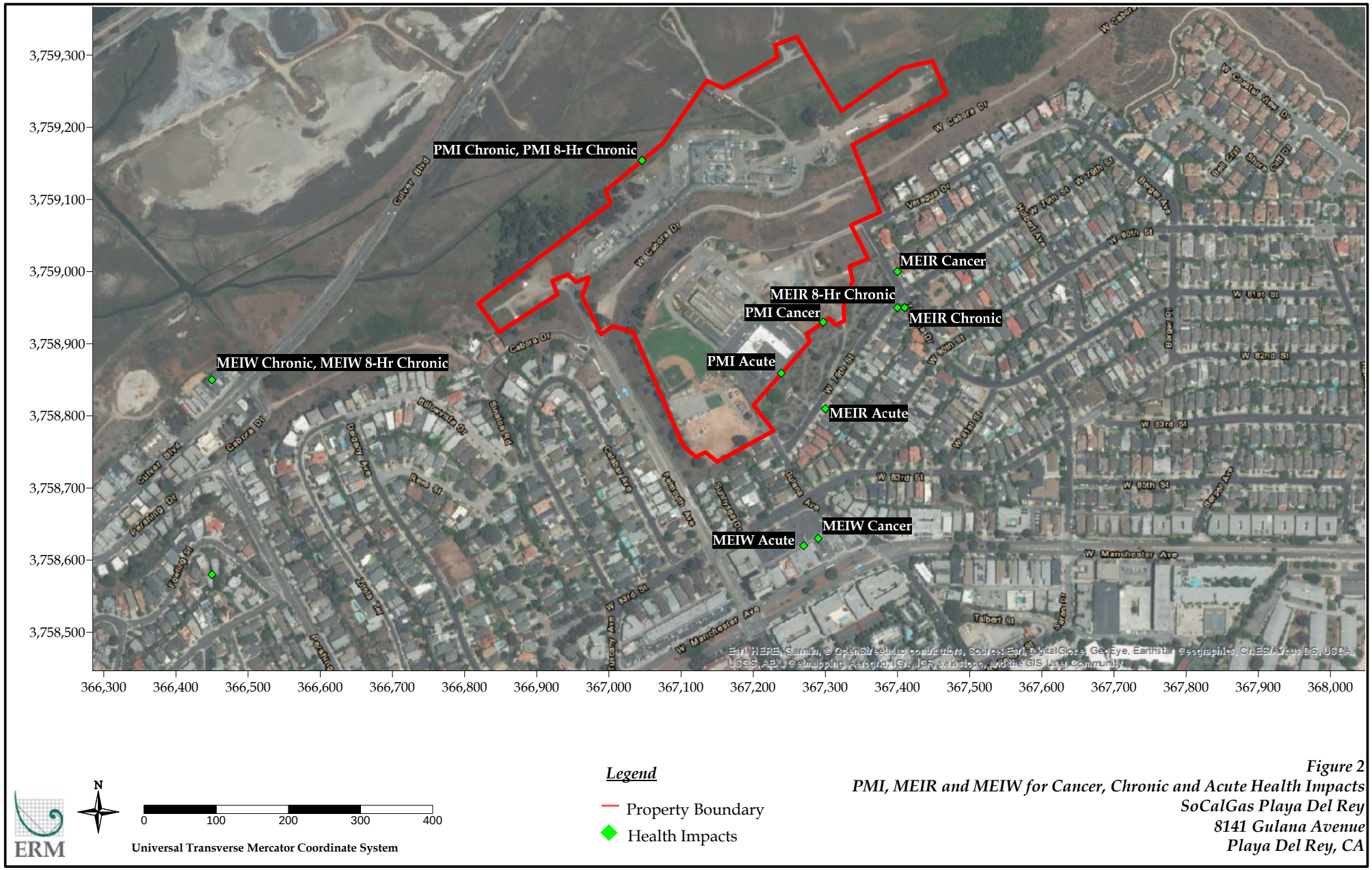


Figure 2
PMI, MEIR and MEIW for Cancer, Chronic and Acute Health Impacts
SoCalGas Playa Del Rey
8141 Gulana Avenue
Playa Del Rey, CA

Legend

Property Boundary

Point Sources

N

0 250 500 750

Universal Transverse Mercator Coordinate System

ERM

Figure 3
Point Sources
SoCalGas Playa Del Rey
8141 Gulana Avenue
Playa Del Rey, CA

Figure 4
Area Sources
SoCalGas Playa Del Rey
8141 Gulana Avenue
Playa Del Rey, CA

Legend

Property Boundary

Southwest Volume Source Location

Volume Source Location

N

Universal Transverse Mercator Coordinate System

0 100 200 300

ERM 03/2018

Figure 5
Volume Sources
SoCalGas Playa Del Rey
8141 Gulana Avenue
Playa Del Rey, CA

Universal Transverse Mercator Coordinate System

0 250 500 750

N

ERM 03/2018

Legend

- Property Boundary
- Buildings

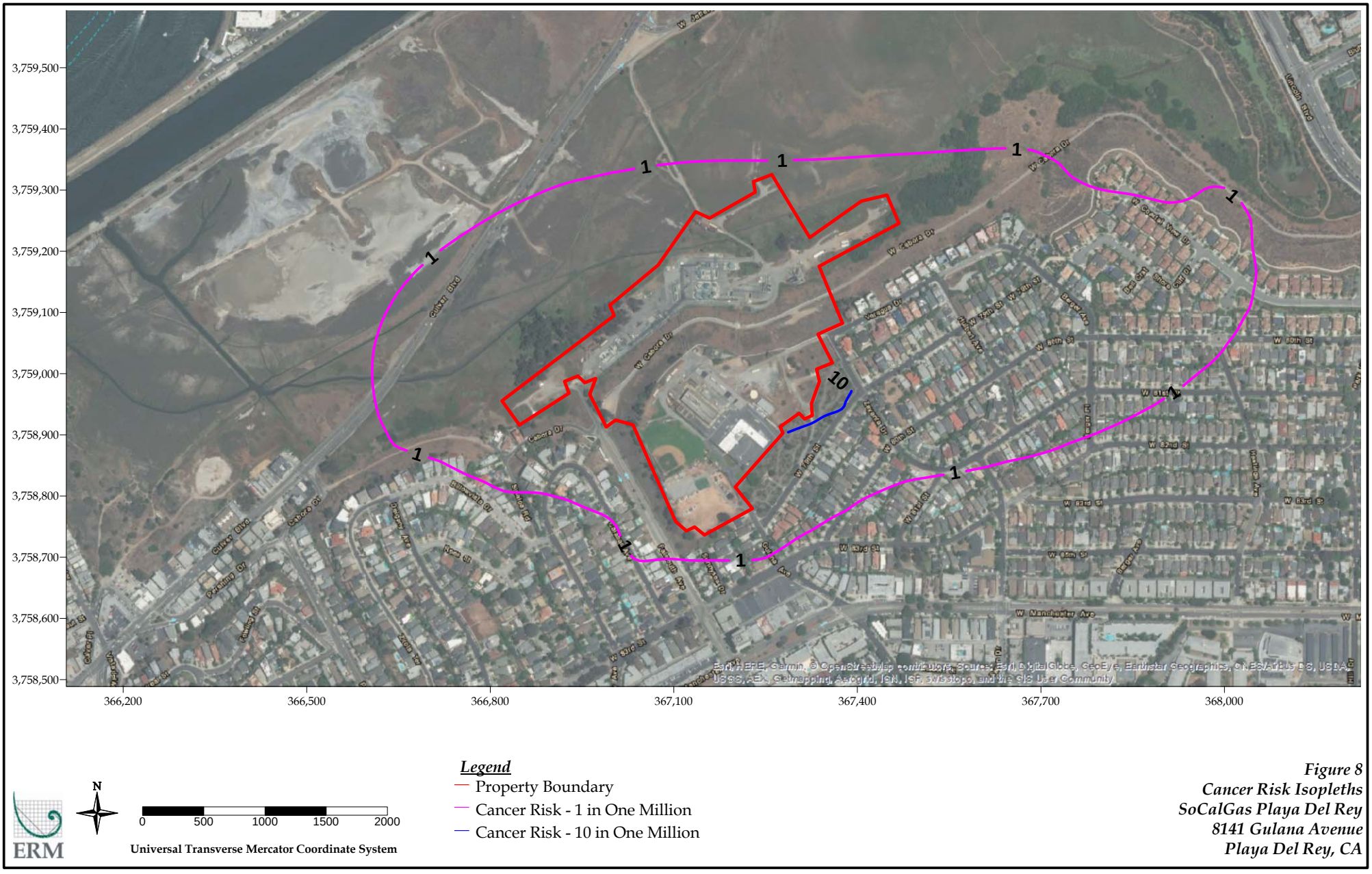
Notes:

Building Dimensions (Length x Width x Height):
Building 1: 189 x 192 x 47 x125 x144 x 66 x 12 (H) ft
Building 2: 216 (L) x 87 (W) x 32 (H) ft
Building 3: 32 (L) x 30 (W) x12 (H) ft
Building 4: 51 x 21 x 31x 18 x 14 (H) ft

All dimensions are in feet (ft)

Figure 6
Building Dimensions
SoCalGas Playa Del Rey
8141 Gulana Avenue
Playa Del Rey, CA

Figure 7
Sensitive Receptors
SoCalGas Playa Del Rey
8141 Gulana Avenue
Playa Del Rey, CA



Legend

- Property Boundary
- Cancer Risk - 1 in One Million
- Cancer Risk - 10 in One Million

N

0 500 1000 1500 2000

Universal Transverse Mercator Coordinate System

ERM

Figure 8
Cancer Risk Isopleths
SoCalGas Playa Del Rey
8141 Gulana Avenue
Playa Del Rey, CA

Appendix C

Supporting Documentation

Table 2-1
Summary of Results
Southern California Gas Company- Playa Del Rey
Unit No. 6 D14
August 12, 2013

Run		Max (15 Min)		Normal (30 min)		Min (15 Min)	Emission Limit
Oxygen, %		14.63		14.62		14.73	
Carbon Dioxide, %		3.99		4.01		3.96	
Flow Rate, dscfm		7,573		7,572		7,527	
Carbon Monoxide,							
ppm	<	10.0	<	10.0	<	10.0	
ppm @ 15% O_2	<	9.41	<	9.39	<	9.56	89
lb/hr	<	0.335	<	0.335	<	0.333	
g/bHp-hr	<	0.0769	<	0.0769	<	0.0798	
lbs/MMscf	<	23.2	<	23.2	<	23.6	
Total Non-Methane/Non-Ethane Hydrocarbons,							
ppm				15.9			
ppm @ 15% O_2				14.9			56
lb/hr				0.305			
g/bHp-hr				0.0698			
lbs/MMscf				21.1			
Operating Parameters,							
Engine Load, %		98.9		99.0		94.7	
Fuel Flow, scfh		14,441		14,452		14,114	
Heat Rate, MMbtu/hr		14.09		14.10		13.77	
Horsepower, bHp		1,979		1,980		1,894	
RPM		330		330		330	
Comp. Suction Press., psi		389		389		387	
Comp. Discharge Press., psi		1,459		1,459		1,474	
Catalyst Temp. Inlet, °F		613		614		612	
Catalyst Temp. Outlet, °F		NR		NR		NR	
Timing, °BTDC		0.3		0.3		0.3	
Engine Operating Hours		77,263		77,263		77,263	
AFRC Faults / Alarms		None		None		None	
Engine Operating Hours (since last emission test)		1,403		1,403		1,403	

NR - Not Required

HORIZON

AIR MEASUREMENT SERVICES, INC.

Horizon Test #: S03-210-FRA
Date Tested: May 1 and 2, 2012
Report Date: June 12, 2012
Revision Number: 0

DESTRUCTION EFFICIENCY OF AN OXIDIZER CONTROLLING ORGANIC VAPOR EMISSIONS FROM A BULK LIQUIDS LOADING FACILITY

Facility ID No.: 8582
Source ID No.: C131

Facility:

Southern California Gas Company
8141 Gulena Avenue
Playa Del Rey, California 90293

Prepared for:

Southern California Gas Company
Post Office Box 3249
Los Angeles, California 90051-1249

Prepared by:

Horizon Air Measurement Services, Inc.
310 Cortez Circle
Camarillo, California 93012

Regulatory Agency:

South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765

Edward S. Swede
Edward S. Swede
Sr. Project Manager

Richard J. Vacherot
Technical Director

2. SUMMARY OF RESULTS

The results of the test program are summarized in Table 2-1. The reported values are the average of four, 90-minute test runs for a total run time of 6 hours as required by SCAQMD Method 501.1. The total VOC destruction efficiency of the oxidizer was 99.7%. The controlled emission rate of VOC was 0.0033 pounds per thousand gallons (lbs/1000 gallons) of fuel transferred which is well within the Permit to Operate limit of 0.08 lbs/1000 gallons.

During the loading of each truck, every component of the entire waste gas vapor line, including the couplings to the trucks, was surveyed using an Organic Vapor Analyzer (OVA) in accordance with EPA Method 21. No leaks were detected as defined in SCAQMD Rule 462 (75 ppm, as methane, above the local ambient concentration).

Table 2-1
Summary of Results
Southern California Gas Company
Playa Del Rey
Thermal Oxidizer

	Average (Runs 1-4)	Emissions Limit
Flow Rate,		
Waste Gas Vapors, dscfm	26.0	
Oxidizer Exhaust, dscfm	362	
Volatile Organic Compounds,		
Inlet Gas Vapors,		
ppm, C_1	146,875	
lb/hr, C_1	7.26	
Oxidizer Exhaust.		
ppm, C_1	36.9	
lb/hr, C_1	0.0250	
lb/hr, VOC	0.0304	
lb VOC/1000 gal fuel transferred	0.0033	0.08
Oxidizer Destruction Efficiency, %	99.7	90
Operating Parameters,		
Oxidizer Temperature Set Point,°F	1,530	>1400
Fuel Transferred, gallons	55,328	
Duration, hrs	6.00	
Fuel Transfer Rate, gph	9,221	

Table 2-2
Summary of Results
Souther California Gas Company- Playa Del Rey
Unit No. 8 D16
August 12, 2013

Run		Max (15 Min)		Normal (30 min)		Min (15 Min)	Emission Limit
Oxygen, %		14.70		14.69		14.73	
Carbon Dioxide, %		3.93		3.93		3.90	
Flow Rate, dscfm		7,823		7,795		7,674	
Carbon Monoxide,							
ppm	<	10.0	<	10.0	<	10.0	
ppm @ 15% O_2	<	9.51	<	9.51	<	9.57	89
lb/hr	<	0.346	<	0.345	<	0.340	
g/bHp-hr	<	0.0796	<	0.0793	<	0.0817	
lbs/MMscf	<	23.4	<	23.4	<	23.5	
Total Non-Methane/Non-Ethane Hydrocarbons,							
ppm				17.2			
ppm @ 15% O_2				16.4			56
lb/hr				0.340			
g/bHp-hr				0.0782			
lbs/MMscf				23.1			
Operating Parameters,							
Engine Load, %		98.8		98.7		94.4	
Fuel Flow, scfh		14,795		14,747		14,468	
Heat Rate, MMbtu/hr		14.44		14.39		14.12	
Horsepower, bHp		1,975		1,974		1,888	
RPM		329		329		330	
Comp. Suction Press., psi		386		385		386	
Comp. Discharge Press., psi		1,457		1,458		1,458	
Catalyst Temp. Inlet, °F		615		624		632	
Catalyst Temp. Outlet, °F		NR		NR		NR	
Timing, °BTDC		0.6		0.6		0.6	
Engine Operating Hours		80,533		80,533		80,533	
AFRC Faults / Alarms		None		None		None	
Engine Operating Hours (since last emission test)		1,423		1,423		1,423	

NR - Not Required

Table 2-3
Summary of Results
Southern California Gas Company- Playa Del Rey
Unit No. 9 D17
August 13, 2013

Run		Max (15 Min)		Normal (30 min)		Min (15 Min)	Emission Limit
Oxygen, %		14.56		14.58		14.58	
Carbon Dioxide, %		4.01		4.04		4.03	
Flow Rate, dscfm		7,761		7,808		7,760	
Carbon Monoxide,							
ppm	<	10.0	<	10.0	<	10.0	
ppm @ 15% O_2	<	9.30	<	9.34	<	9.33	89
lb/hr	<	0.344	<	0.346	<	0.344	
g/bHp-hr	<	0.0809	<	0.0812	<	0.0814	
lbs/MMscf	<	23.4	<	23.5	<	23.6	
Total Non-Methane/Non-Ethane Hydrocarbons,							
ppm				13.5			
ppm @ 15% O_2				12.6			56
lb/hr				0.266			
g/bHp-hr				0.062			
lbs/MMscf				18.1			
Operating Parameters,							
Engine Load, %		96.4		96.6		95.8	
Fuel Flow, scfh		14,666		14,701		14,526	
Heat Rate, MMbtu/hr		14.26		14.30		14.13	
Horsepower, bHp		1,928		1,931		1,916	
RPM		330		330		329	
Comp. Suction Press., psi		443		443		442	
Comp. Discharge Press., psi		1,471		1,471		1,465	
Catalyst Temp. Inlet, °F		642		615		641	
Catalyst Temp. Outlet, °F		NR		NR		NR	
Engine Operating Hours		79,473		79,473		79,473	
AFRC Faults / Alarms		None		None		None	
Engine Operating Hours (since last emission test)		1,188		1,188		1,188	

NR - Not Required

Table 2-1
Summary of Results
Southern California Gas Company
Playa Del Rey
Unit 6 - D14
August 4, 2015

Run		Max (15 Min)		Normal (30 min)		Min (15 Min)	Emission Limit
Oxygen, %		14.44		14.50		14.50	
Carbon Dioxide, %		3.59		3.55		3.56	
Flow Rate, dscfm		6,797		6,749		6,386	
Carbon Monoxide,							
ppm	<	10.0	<	10.0	<	10.0	
ppm @ 15% O_2	<	9.14	<	9.23	<	9.21	89
lb/hr	<	0.301	<	0.299	<	0.283	
g/bHp-hr	<	0.07	<	0.07	<	0.067	
lbs/MMscf	<	20.4	<	20.4	<	19.4	
Total Non-Methane/Non-Ethane Hydrocarbons,							
ppm				25.6			
ppm @ 15% O_2				23.6			56
lb/hr				0.437			
g/bHp-hr				0.102			
lbs/MMscf				29.8			
Operating Parameters,							
Engine Load, %		99.3		96.9		96.3	
Fuel Flow, scfh		14,731		14,636		14,600	
Heat Rate, MMbtu/hr		15.05		14.95		14.92	
Horsepower, bHp		1,985		1,938		1,925	
RPM		330		329		330	
Comp. Suction Press., psi		439		438		429	
Comp. Discharge Press., psi		1,455		1,460		1,503	
Catalyst Temp. Inlet, °F		629		633		637	
Catalyst Temp. Outlet, °F		NR		NR		NR	
Timing, °BTDC		0.3		0.3		0.3	
AFRC Target, mV		7.400		7.400		7.400	
Engine Operating Hours		80,313		80,313		80,313	
AFRC Faults / Alarms		None		None		None	
Engine Operating Hours (since last emission test)		3,050		3,050		3,050	

NA - Not Available
NR - Not Required

Table 2-2
Summary of Results
Southern California Gas Company
Playa Del Rey
Unit 8 - D16
August 3, 2015

Run		Max (15 Min)		Normal (30 min)		Min (15 Min)	Emission Limit
Oxygen, %		14.78		14.36		14.95	
Carbon Dioxide, %		3.41		3.28		3.30	
Flow Rate, dscfm		7,453		7,377		6,814	
Carbon Monoxide,							
ppm	<	10.0	<	10.0	<	10.0	
ppm @ 15% O_2	<	9.64	<	9.03	<	9.92	89
lb/hr	<	0.330	<	0.327	<	0.302	
g/bHp-hr	<	0.0776	<	0.0770	<	0.0747	
lbs/MMscf	<	23.9	<	23.7	<	22.6	
Total Non-Methane/Non-Ethane Hydrocarbons,							
ppm				18.2			
ppm @ 15% O_2				16.4			56
lb/hr				0.340			
g/bHp-hr				0.0801			
lbs/MMscf				24.7			
Operating Parameters,							
Engine Load, %		96.5		96.3		91.7	
Fuel Flow, scfh		13,794		13,774		13,317	
Heat Rate, MMbtu/hr		14.21		14.19		13.72	
Horsepower, bHp		1,931		1,925		1,834	
RPM		332		332		331	
Comp. Suction Press., psi		400		396		393	
Comp. Discharge Press., psi		1,453		1,453		1,452	
Catalyst Temp. Inlet, °F		613		615		610	
Catalyst Temp. Outlet, °F		NR		NR		NR	
Timing, °BTDC		0.0		0.0		0.0	
AFRC Target, mV		6.900		6.900		6.900	
Engine Operating Hours		82,263		82,263		82,263	
AFRC Faults / Alarms		None		None		None	
Engine Operating Hours (since last emission test)		1,730		1,730		1,730	

NA - Not Available
NR - Not Required

Table 2-3
Summary of Results
Southern California Gas Company
Playa Del Rey
Unit 9 – D17
August 3, 2015

Run	Max (15 Min)	Normal (30 min)	Min (15 Min)	Emission Limit
Oxygen, %	14.51	14.55	14.60	
Carbon Dioxide, %	3.53	3.53	3.48	
Flow Rate, dscfm	6,592	6,700	6,352	
Carbon Monoxide,				
ppm	15.3	14.7	14.9	
ppm @ 15% O_2	14.1	13.6	14.0	89
lb/hr	0.447	0.435	0.420	
g/bHp-hr	0.105	0.102	0.103	
lbs/MMscf	30.9	30.2	29.9	
Total Non-Methane/Non-Ethane Hydrocarbons,				
ppm		32.3		
ppm @ 15% O_2		30.0		56
lb/hr		0.548		
g/bHp-hr		0.129		
lbs/MMscf		38.0		
Operating Parameters,				
Engine Load, %	96.5	96.4	92.5	
Fuel Flow, scfh	14,449	14,417	14,062	
Heat Rate, MMbtu/hr	14.89	14.85	14.49	
Horsepower, bHp	1,931	1,928	1,850	
RPM	330	329	329	
Comp. Suction Press., psi	409	407	405	
Comp. Discharge Press., psi	1,455	1,455	1,454	
Catalyst Temp. Inlet, °F	619	627	631	
Catalyst Temp. Outlet, °F	NR	NR	NR	
Timing, °BTDC	0.5	0.5	0.5	
AFRC Target, mA	7.5	7.5	7.5	
Engine Operating Hours	82,604	82,604	82,604	
AFRC Faults / Alarms	None	None	None	
Engine Operating Hours (since last emission test)	3,131	3,131	3,131	

NA - Not Available
NR - Not Required

Table 2-1
Summary of Results
Southern California Gas Company
Hot Oil Heater - H670A – D145
August 4, 2015

Run/Load		1	Permit Limit
Oxygen, %		9.26	
Carbon Dioxide, %		6.73	
Flow Rate, dscfm		1215	
Carbon Monoxide,	<	10.0	50
ppm	<	15.4	
ppm @ 3% O_2	<	0.0538	
lb/hr	<	0.0112	
lb/MMBtu	<	11.5	
lb/MMscf			
Operating Parameters,		92	
Load, %		4678	
Fuel Flow, scfh		4.78	
Heat Rate, MMbtu/hr			

RAMCO SPECIALTY PRODUCTS INC

ATTACK II

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard (29CFR 1910.1200)

Made in the USA: RAMCO SPECIALTY PRODUCTS, INC. ◇ 5956 State Road ◇ Bakersfield, CA 93308-3022
Ph: (800) 334-7071 ◇ Fax: (714) 375-1225 ◇ E-Mail: 1wcsramco@ramcospec.com ◇ Web: www.ramcospec.com

SECTION I – PRODUCT IDENTIFICATION

Product Name:	**ATTACK II (Aerosol)**	Proper Shipping Name:	**CONSUMER COMMODITY**
Product Number:	**1671**	Date Prepared:	**03/03/2006**
Product Description:	**Solvent Cleaner & Degreaser**	Prepared By:	**Paul Williams**
Information Phone:	**(800) 334-7071**	24-Hour Emergency Phone:	**(800) 255-3924**

NFPA – HMIS CODES

Health	**1**	Flammability	**2**	Corrosive	**0**	Reactivity	**0**	Personal Protection	**B**

SECTION II – MATERIAL IDENTIFICATION AND INFORMATION

Description	CAS #	313-Chem	Skin	Carcinogen	PEL	TWA/TLV	Wt %
Citrus Terpene	5989-27-5	NO	NO	NO	N/E	N/E	40-50
Nonylphenol Ethoxylate	127087-87-0	NO	NO	NO	N/E	N/E	10-20
Carbon Dioxide Propellant	124-38-9	NO	NO	NO	10,000 ppm	10,000 ppm	01-05

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

***Boiling Point**	~ 323°F	**Evaporation Rate (n-Bu-Ac=1.0)**	N/A
Vapor Pressure of Can (psig @ 70°F)	78	***Water Solubility**	Emulsifies
***Vapor Density (Air=1.0 @ 77°F)**	>1	**Molecular Weight, Avg.**	N/A
***Specific Gravity (H2O=1 @ 75°F)**	0.874	**Viscosity, Typical (cp)**	N/A
VOC (Grams/Liter @ 25°C – EPA Method 24)	N/A	***Appearance**	Clear Orange Liquid
% Volatile by Volume	N/A	***Odor**	Citrus Fragrance
Total VOC % (Volatile Organic Compounds)	~78	***pH**	N/A

*Data Based on Aerosol Concentrate Only.

SECTION IV – FIRE & EXPLOSION HAZARD DATA

Flash Point (Of Concentrate Only)	122°F (T.O.C.)
Auto Ignition Temperatures	N/A
Flammability Limits in Air	
Lower Explosive Limit Estimated	N/A
Upper Explosive Limit Estimated	N/A
Extinguishing Media	Foam, CO2, Dry Media
Unusual Fire Fighting Procedures	Exposure to temperatures above 120°F may cause bursting.
Special Fire Fighting Procedures	Wear self-contained breathing apparatus and protective clothing. Cool fire-exposed containers to prevent rupturing.
Flammability (as per USA Flame Projection Test)	Extremely-Flammable Spray

SECTION V – HEALTH HAZARD DATA & EMERGENCY FIRST AID PROCEDURES

ENTRY ROUTES	ADVERSE/CHRONIC EFFECTS	FIRST AID PROCEDURES
EYES	May cause slight irritation but does not injure eye tissue.	Flush with large amounts of cool running water for at least 15 minutes while holding upper and lower lids open. If irritation persists, get medical attention immediately.
INGESTION	Can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis.	DO NOT INDUCE VOMITING. Seek medical attention immediately.
INHALATION	Inhalation of mist can cause irritation of nasal and respiratory passages. Abusive or excessive inhalation can cause irritation to the upper respiratory tract, dizziness, nausea and other central nervous system effects.	Remove to fresh air. Seek medical attention immediately. If breathing stops, give artificial respiration.
SKIN	Frequent or prolonged contact may cause irritation.	Wash with soap and water. If irritation persists, seek medical attention.
MEDICAL CONDITIONS TO AVOID	None Known.	

SECTION VI – REACTIVITY DATA

STABILITY	Stable – Avoid open flames and exposure to high temperatures.
HAZARDOUS POLYMERIZATION	Will not occur – No conditions known.
INCOMPATIBILITY	Strong oxidizing agents.
HAZARDOUS DECOMPOSITION	Carbon Dioxide, Carbon Monoxide.

SECTION VII – PRECAUTIONS FOR SAFE HANDLING & USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED – Allow propellant to evaporate. Maintain local exhaust and adequate ventilation. No smoking. Keep sparks, heat sources and open flame far away from spill or leak. Cover with absorbent material and sweep up. Wash area to prevent slipping. Dispose of soaked absorbent material in accordance with Federal, State and local laws.	
WASTE DISPOSAL	Aerosol cans, when emptied and depressurized through normal use, pose no disposal hazard and should be recycled. Consult Federal, State and local authorities for approved procedures.
HANDLING & STORAGE	Store in a cool, dry area away from heat or open flame. Do not store at temperatures above 120°F.
NFPA Code 30B Rating	Level 3 Aerosol
OTHER PRECAUTIONS	KEEP OUT OF REACH OF CHILDREN – For Industrial/Institutional Use Only. Read and follow label directions.

SECTION VIII – CONTROL MEASURES

RESPIRATORY PROTECTION	None needed for proper use in accordance with label directions.
VENTILATION	Provide local exhaust to keep air concentration of ingredients listed in Section II below established exposure limits.
PROTECTIVE GLOVES	None needed for proper use in accordance with label directions. Use chemical resistant gloves if skin contact will be made.
EYE PROTECTION	None needed unless it is anticipated that a splash or spray back will occur, then wear safety glasses or chemical proof goggles.
OTHER PROTECTIVE CLOTHING/EQUIPMENT	None needed for proper use in accordance with label directions.
WORK HYGIENIC PRACTICES	Employees must practice good personal hygiene; washing exposed areas of skin several times daily and before eating, drinking, smoking, using restroom and at end of work period. Remove contaminated clothing and launder before reuse.

SECTION IX – TRANSPORTATION DATA

PROPER SHIPPING NAME	CONSUMER COMMODITY
DOT ID NUMBER	N/A
DOT HAZARD CLASS	ORM-D

The information and recommendations set forth herein are presented in good faith and believed to be correct and reliable. RAMCO Specialty Products, Inc. makes no representation as to the completeness or accuracy thereof and supplies information upon the condition that the persons receiving same will make their own determination as to its suitability for their purpose prior to use.

MSDS 2006

N/D = Not Determined N/E = Not Established N/A = Not Applicable < = Less Than > - Greater Than

TOOL COOL

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard (29CFR 1910.1200)

Made in the USA: RAMCO SPECIALTY PRODUCTS, INC. ◊ 5956 State Road ◊ Bakersfield, CA 93308-3022
Ph: (800) 334-7071 ◊ Fax: (714) 375-1225 ◊ E-Mail: 1wcsramco@ramcospec.com ◊ Web: www.ramcospec.com

SECTION I – PRODUCT IDENTIFICATION

Product Name:	**TOOL COOL (Aerosol)**	Proper Shipping Name:	**CONSUMER COMMODITY**
Product Number:	**10491**	Date Prepared:	**01/14/2010**
Product Description:	**Cutting and Tapping Fluid**	Prepared By:	**Warren Squyres**
Information Phone:	**(800) 334-7071**	24-Hour Emergency Phone:	**(800) 255-3924**

HMIS RATING

(Based on Aerosol Concentrate)

0 – Minimal 1 – Slight 2 – Moderate 3 – Serious 4 – Extreme

HEALTH	**1**	FLAMMABILITY	**3**	PHYSICAL HAZARD	**0**	Personal Protection	**B**

SECTION II – MATERIAL IDENTIFICATION AND INFORMATION

Description	CAS #	313-Chem	Skin	Carcinogen	PEL	TWA/TLV	Wt %
Ethyl Alcohol	64-17-5	NO	NO	NO	1000 ppm	1000 ppm	40-60
Polyalkylene Glycol Monobutyl Ether	9038-95-3	NO	NO	NO	N/E	N/E	10-20
Amine containing alcohol	Trade Secret*	NO	NO	NO	N/E	N/E	01-10
Liquified Petroleum Gas	68476-86-8	NO	NO	NO	1000 ppm	1000ppm	20-40

*Massachusetts Trade Secret Code No. = 99-206-098

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

AEROSOL CONCENTRATE ONLY		TOTAL CONTENTS	
Boiling Point	170°F	**Total VOC %**	78.36%
Water Solubility	Complete	**Vapor Pressure** (can, psig @ 72°F)	50
Vapor Density (Air=1)	>1		
Specific Gravity (H2O=1 @ 70°F)	0.862		
Appearance	Clear Liquid		
Odor	Alcohol Odor		
pH	N/A		

SECTION IV – FIRE & EXPLOSION HAZARD DATA

Flash Point (Of Concentrate Only)	41°F (T.C.C.)
Auto Ignition Temperatures	N/A
Flammability Limits in Air	
Lower Explosive Limit Estimated	N/A
Upper Explosive Limit Estimated	N/A
Extinguishing Media	Water Fog, Foam, CO2, Dry Media
Unusual Fire Fighting Procedures	Exposure to temperatures above 120°F may cause bursting.
Special Fire Fighting Procedures	Wear self-contained breathing apparatus and protective clothing. Cool fire-exposed containers to prevent rupturing.
Flammability (as per CSMA Flame Projection Test)	Extremely-Flammable Spray

SECTION V – HEALTH HAZARD DATA & EMERGENCY FIRST AID PROCEDURES

PRIMARY ROUTES OF ENTRY & EFFECTS OF OVEREXPOSURE		FIRST AID PROCEDURES
EYES	May cause irritation and corneal inflammation.	Flush with large amounts of cool running water for at least 15 minutes while holding upper and lower lids open. If irritation persists, get medical attention immediately.
INGESTION	Can cause gastrointestinal irritation, nausea, vomiting, diarrhea, and depression of the central nervous system. Prolonged ingestion may cause liver damage, "fetal alcohol syndrome" in pregnant females, and neuronal degeneration. Aspiration of material into the lungs can cause severe pulmonary injury.	DO NOT INDUCE VOMITING. Seek medical attention immediately.
INHALATION	Inhalation of vapors or mist can cause irritation of nasal and respiratory passages, dizziness, and headache. Repeated or prolonged inhalation of mist can produce delayed lung damage, possibly progressing to death.	Remove to fresh air. Seek medical attention immediately. If breathing stops, give artificial respiration.
SKIN	Frequent or prolonged contact may cause irritation and/or dermatitis. May aggravate existing skin conditions.	Wash with soap and water. If irritation persists, seek medical attention.

SECTION VI – REACTIVITY DATA

STABILITY	Material Stable
HAZARDOUS POLYMERIZATION	Will not occur
INCOMPATIBILITY	Avoid contact with halogens, strong acids, strong bases, and strong oxidizing agents.
HAZARDOUS DECOMPOSITION	Material decomposed by fire may produce oxides of carbon, nitrogen, and phosphorous.

SECTION VII – PRECAUTIONS FOR SAFE HANDLING & USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED – Allow propellant to evaporate. Maintain local exhaust and adequate ventilation. No smoking. Keep sparks, heat sources and open flame far away from spill or leak. Cover with absorbent material and sweep up. Wash area to prevent slipping. Dispose of soaked absorbent material in accordance with Federal, State and local laws.	
WASTE DISPOSAL	Aerosol cans, when emptied and depressurized through normal use, pose no disposal hazard and should be recycled. Consult Federal, State and local authorities for approved procedures.
HANDLING & STORAGE	Store in a cool, dry area away from heat or open flame. Do not store at temperatures above 120°F.
NFPA Code 30B Rating	Level 3 Aerosol
OTHER PRECAUTIONS	KEEP OUT OF REACH OF CHILDREN – For Industrial/Institutional Use Only. Read and follow label directions.

SECTION VIII – CONTROL MEASURES

RESPIRATORY PROTECTION	None needed for proper use in accordance with label directions.
VENTILATION	Provide local exhaust.
PROTECTIVE GLOVES	Wear solvent resistant gloves to prevent skin contact.
EYE PROTECTION	Always wear safety glasses or chemical proof goggles when working with chemicals.
OTHER PROTECTIVE CLOTHING/EQUIPMENT	None needed for proper use in accordance with label directions.
WORK HYGIENIC PRACTICES	Employees must practice good personal hygiene; washing exposed areas of skin several times daily and before eating, drinking, smoking, using restroom and at end of work period. Remove contaminated clothing and launder before reuse.

SECTION IX – TRANSPORTATION DATA

PROPER SHIPPING NAME	CONSUMER COMMODITY
DOT ID NUMBER	N/A
DOT HAZARD CLASS	ORM-D

The information and recommendations set forth herein are presented in good faith and believed to be correct and reliable. RAMCO Specialty Products, Inc. makes no representation as to the completeness or accuracy thereof and supplies information upon the condition that the persons receiving same will make their own determination as to its suitability for their purpose prior to use.

MSDS 2009

N/D = Not Determined N/E = Not Established N/A = Not Applicable < = Less Than > - Greater Than

RAMCO SPECIALTY PRODUCTS INC

Z-WAY

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard (29CFR 1910.1200)

Made in the USA: RAMCO SPECIALTY PRODUCTS, INC. ◇ 5956 State Road ◇ Bakersfield, CA 93308-3022
Ph: (800) 334-7071 ◇ Fax: (714) 375-1225 ◇ E-Mail: 1wcsramco@ramcospec.com ◇ Web: www.ramcospec.com

SECTION I – PRODUCT IDENTIFICATION

Product Name:	**Z-WAY (Aerosol)**	Proper Shipping Name:	**CONSUMER COMMODITY**
Product Number:	**101010**	Date Prepared:	**03/03/2006**
Product Description:	**Penetrating Lubricant**	Prepared By:	**Paul Williams**
Information Phone:	**(800) 334-7071**	24-Hour Emergency Phone:	**(800) 255-3924**

NFPA – HMIS CODES

Health	**1**	Flammability	**1**	Corrosive	**0**	Reactivity	**0**	Personal Protection	**B**

SECTION II – MATERIAL IDENTIFICATION AND INFORMATION

Description	CAS #	313-Chem	Skin	Carcinogen	PEL	TWA/TLV	Wt %
Mineral Oil	8042-47-5	NO	NO	NO	5mg/m^3	5mg/m^3	10-20
Dipropylene Glycol Monomethyl Ether	34590-94-8	NO	NO	NO	100 ppm	100 ppm	01-10
Octamethylcyclotetrasiloxane	556-67-2	NO	NO	NO	N/E	10 ppm*	01-05
Decamethylcyclopentasiloxane	541-02-6	NO	NO	NO	N/E	10 ppm*	01-05
Carbon Dioxide Propellant	124-38-9	NO	NO	NO	10,000 ppm	10,000 ppm	01-05

* Manufacturer's recommended TWA exposure limit.

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

***Boiling Point**	>300°F	**Evaporation Rate (n-Bu-Ac=1.0)**	N/A
Vapor Pressure of Can (psig @ 70°F)	90	***Water Solubility**	Slight
***Vapor Density (Air=1.0 @ 77°F)**	>1	**Molecular Weight, Avg.**	N/A
***Specific Gravity (H2O=1 @ 75°F)**	0.83	**Viscosity, Typical (cp)**	N/A
VOC (Grams/Liter @ 25°C – EPA Method 24)	N/A	***Appearance**	Clear Yellowish Liquid
% Volatile by Volume	N/A	***Odor**	Banana Scent
Total VOC % (Volatile Organic Compounds)	~6.5	***pH**	N/A

*Data Based on Aerosol Concentrate Only.

SECTION IV – FIRE & EXPLOSION HAZARD DATA

Flash Point (Of Concentrate Only)	>200°F (T.O.C.)
Auto Ignition Temperatures	N/A
Flammability Limits in Air	
Lower Explosive Limit Estimated	N/A
Upper Explosive Limit Estimated	N/A
Extinguishing Media	Foam, CO2, Dry Media
Unusual Fire Fighting Procedures	Exposure to temperatures above 120°F may cause bursting.
Special Fire Fighting Procedures	Wear self-contained breathing apparatus and protective clothing. Cool fire-exposed containers to prevent rupturing.
Flammability (as per USA Flame Projection Test)	Non-Flammable Spray

SECTION V – HEALTH HAZARD DATA & EMERGENCY FIRST AID PROCEDURES

ENTRY ROUTES	ADVERSE/CHRONIC EFFECTS	FIRST AID PROCEDURES
EYES	May cause slight irritation.	Flush with large amounts of cool running water for at least 15 minutes while holding upper and lower lids open. If irritation persists, get medical attention.
INGESTION	Can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis.	DO NOT INDUCE VOMITING. Seek medical attention immediately.
INHALATION	Inhalation of mist can cause irritation of nasal and respiratory passages. Abusive or excessive inhalation can cause irritation to the upper respiratory tract, dizziness, nausea and other central nervous system effects. Prolonged exposure may affect the liver.	Remove to fresh air. Seek medical attention immediately. If breathing stops, give artificial respiration.
SKIN	Frequent or prolonged contact may cause irritation.	Wash with soap and water. If irritation persists, seek medical attention.
MEDICAL CONDITIONS TO AVOID	None Known.	

SECTION VI – REACTIVITY DATA

STABILITY	Stable – Avoid open flames and exposure to high temperatures.
HAZARDOUS POLYMERIZATION	Will not occur – No conditions known.
INCOMPATIBILITY	Strong oxidizing agents.
HAZARDOUS DECOMPOSITION	Carbon Dioxide, Carbon Monoxide.

SECTION VII – PRECAUTIONS FOR SAFE HANDLING & USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED – Allow propellant to evaporate. Maintain local exhaust and adequate ventilation. No smoking. Keep sparks, heat sources and open flame far away from spill or leak. Cover with absorbent material and sweep up. Wash area to prevent slipping. Dispose of soaked absorbent material in accordance with Federal, State and local laws.	
WASTE DISPOSAL	Aerosol cans, when emptied and depressurized through normal use, pose no disposal hazard and should be recycled. Consult Federal, State and local authorities for approved procedures.
HANDLING & STORAGE	Store in a cool, dry area away from heat or open flame. Do not store at temperatures above 120°F.
NFPA Code 30B Rating	Level 1 Aerosol
OTHER PRECAUTIONS	KEEP OUT OF REACH OF CHILDREN – For Industrial/Institutional Use Only. Read and follow label directions.

SECTION VIII – CONTROL MEASURES

RESPIRATORY PROTECTION	None needed for proper use in accordance with label directions.
VENTILATION	Provide local exhaust to keep air concentration of ingredients listed in Section II below established exposure limits.
PROTECTIVE GLOVES	Use chemical resistant gloves if skin contact will be made.
EYE PROTECTION	Always wear safety glasses or chemical proof goggles when working with chemicals.
OTHER PROTECTIVE CLOTHING/EQUIPMENT	None needed for proper use in accordance with label directions.
WORK HYGIENIC PRACTICES	Employees must practice good personal hygiene; washing exposed areas of skin several times daily and before eating, drinking, smoking, using restroom and at end of work period. Remove contaminated clothing and launder before reuse.

SECTION IX – TRANSPORTATION DATA

PROPER SHIPPING NAME	CONSUMER COMMODITY
DOT ID NUMBER	N/A
DOT HAZARD CLASS	ORM-D

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MSDS 2006

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NEXGEN 95

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard (29CFR 1910.1200)

Made in the USA: RAMCO SPECIALTY PRODUCTS, INC. ◊ 853 W. 17th Street Unit B ◊ Costa Mesa, CA 92627
Ph: (800) 334-7071 ◊ Fax: (714) 949-646-4649 ◊ E-Mail: 1wcsramco@ramcospec.com ◊ Web: www.ramcospec.com

SECTION I – PRODUCT IDENTIFICATION

Product Name:	**NEXGEN 95 (Aerosol)**	Proper Shipping Name:	**CONSUMER COMMODITY**
Product Number:	**101211**	Date Prepared:	**03/14/2010**
Product Description:	**Safety Solvent Degreaser**	Prepared By:	**Warren Squyres**
Information Phone:	**(800) 334-7071**	24-Hour Emergency Phone:	**(800) 255-3924**

HMIS RATING

(Based on Aerosol Concentrate)

0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Extreme

Health	**2**	Flammability	**0**	Reactivity	**1**	Personal Protection	**G**

SECTION II – MATERIAL IDENTIFICATION AND INFORMATION

Description	CAS #	313-Chem	Skin	Carcinogen	PEL	TWA/TLV	Wt %
1-bromopropane	106-94-5	NO	NO	NO	25 ppm	25 ppm	80-100
1,3-Dioxolane	646-06-0	NO	NO	NO	N/A	N/A	01-05
1,2 Butylene Oxide	106-88-7	NO	NO	YES	N/A	N/A	00-01
Carbon Dioxide Propellant	124-38-9	NO	NO	NO	10,000 ppm	10,000 ppm	01-10

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

***Boiling Point**	160°F	**Evaporation Rate (n-Bu-Ac=1.0)**	N/A
Vapor Pressure of Can (psig @ 70°F)	90	***Water Solubility**	Slight
***Vapor Density (Air=1.0 @ 77°F)**	4.25	***Appearance**	Clear Colorless Liquid
***Specific Gravity (H2O=1 @ 75°F)**	1.33	***Odor**	Strong Odor
Total VOC % (Volatile Organic Compounds)	96	***pH**	N/A

*Data Based on Aerosol Concentrate Only.

SECTION IV – FIRE & EXPLOSION HAZARD DATA

Flash Point (Of Concentrate Only)	None
Auto Ignition Temperatures	N/A
Flammability Limits in Air	
Lower Explosive Limit Estimated	N/A
Upper Explosive Limit Estimated	N/A
Extinguishing Media	Foam, CO2, Dry Media
Unusual Fire Fighting Procedures	Exposure to temperatures above 120°F may cause bursting.
Special Fire Fighting Procedures	Wear self-contained breathing apparatus and protective clothing. Cool fire-exposed containers to prevent rupturing.
Flammability (as per USA Flame Projection Test)	Non-Flammable Spray

SECTION V – HEALTH HAZARD DATA & EMERGENCY FIRST AID PROCEDURES

ENTRY ROUTES	ADVERSE/CHRONIC EFFECTS	FIRST AID PROCEDURES
EYES	May cause slight irritation but does not injure eye tissue.	Flush with large amounts of cool running water for at least 15 minutes while holding upper and lower lids open. If irritation persists, get medical attention immediately.
INGESTION	Can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis.	DO NOT INDUCE VOMITING. Seek medical attention immediately.
INHALATION	Inhalation of mist can cause irritation of nasal and respiratory passages. Abusive or excessive inhalation can cause irritation to the upper respiratory tract, dizziness, nausea and other central nervous system effects.	Remove to fresh air. Seek medical attention immediately. If breathing stops, give artificial respiration.
SKIN	Frequent or prolonged contact may cause irritation.	Wash with soap and water. If irritation persists, seek medical attention.

SECTION VI – REACTIVITY DATA

STABILITY	Material stable
HAZARDOUS POLYMERIZATION	Will not occur
INCOMPATIBILITY	No materials identified
HAZARDOUS DECOMPOSITION	Hydrogen Bromide, bromine, oxides of carbon and oxides of nitrogen

SECTION VII – PRECAUTIONS FOR SAFE HANDLING & USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED – Allow propellant to evaporate. Maintain local exhaust and adequate ventilation. No smoking. Keep sparks, heat sources and open flame far away from spill or leak. Cover with absorbent material and sweep up. Wash area to prevent slipping. Dispose of soaked absorbent material in accordance with Federal, State and local laws.	
WASTE DISPOSAL	Aerosol cans, when emptied and depressurized through normal use, pose no disposal hazard and should be recycled. Consult Federal, State and local authorities for approved procedures.
HANDLING & STORAGE	Store in a cool, dry area away from heat or open flame. Do not store at temperatures above 120°F.
NFPA Code 30B Rating	Level 1 Aerosol
OTHER PRECAUTIONS	KEEP OUT OF REACH OF CHILDREN – For Industrial/Institutional Use Only. Read and follow label directions.

SECTION VIII – CONTROL MEASURES

RESPIRATORY PROTECTION	None needed for normal use in accordance with label directions.
VENTILATION	Provide local exhaust to keep air concentration of ingredients listed in Section II below established exposure limits.
PROTECTIVE GLOVES	Use chemical resistant gloves to help prevent skin contact.
EYE PROTECTION	Always wear safety glasses or chemical proof goggles when working with chemicals.
OTHER PROTECTIVE CLOTHING/EQUIPMENT	None
WORK HYGIENIC PRACTICES	Employees must practice good personal hygiene; washing exposed areas of skin several times daily and before eating, drinking, smoking, using restroom and at end of work period. Remove contaminated clothing and launder before reuse.

SECTION IX – TRANSPORTATION DATA

PROPER SHIPPING NAME	CONSUMER COMMODITY
DOT ID NUMBER	N/A
DOT HAZARD CLASS	ORM-D

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MSDS 2009

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RAM STRIP

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard (29CFR 1910.1200)

Made in the USA: RAMCO SPECIALTY PRODUCTS, INC. ◇ 5956 State Road ◇ Bakersfield, CA 93308-3022
Ph: (800) 334-7071 ◇ Fax: (714) 375-1225 ◇ E-Mail: 1wcsramco@ramcospec.com ◇ Web: www.ramcospec.com

SECTION I – PRODUCT IDENTIFICATION

Product Name:	**RAM STRIP (Aerosol)**	Proper Shipping Name:	**CONSUMER COMMODITY**
Product Number:	**1014**	Date Prepared:	**03/01/2006**
Product Description:	**Paint & Varnish Remover**	Prepared By:	**Paul Williams**
Information Phone:	**(800) 334-7071**	24-Hour Emergency Phone:	**(800) 255-3924**

NFPA – HMIS CODES

Health	**3**	Flammability	**3**	Corrosive	**0**	Reactivity	**1**	Personal Protection	**H**

SECTION II – MATERIAL IDENTIFICATION AND INFORMATION

Description	CAS #	313-Chem	Skin	Carcinogen	PEL	TWA/TLV	Wt %
*Methylene Chloride	75-09-2	YES	NO	YES	25 ppm	25 ppm	50-60
*Toluene	108-88-3	YES	YES	NO	100 ppm	100 ppm	01-10
Ethanol	64-17-5	NO	NO	NO	400 ppm	400 ppm	01-10
Methanol	67-56-1	YES	YES	NO	200 ppm	200 ppm	01-05
Liquified Petroleum Gas	68476-85-7	NO	NO	NO	1000 ppm	1000 ppm	10-20

*WARNING – This chemical known to the State of California to cause cancer.
*WARNING – This chemical known to the State of California to cause birth defects or other reproductive harm.

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

***Boiling Point**	104°F	**Evaporation Rate (n-Bu-Ac=1.0)**	N/A
Vapor Pressure of Can (psig @ 70°F)	50	***Water Solubility**	Slight
***Vapor Density (Air=1.0 @ 77°F)**	>1	**Molecular Weight, Avg.**	N/A
***Specific Gravity (H2O=1 @ 75°F)**	1.130	**Viscosity, Typical (cp)**	N/A
VOC (Grams/Liter @ 25°C – EPA Method 24)	N/A	***Appearance**	Clear to Opaque Liquid
% Volatile by Volume	N/A	***Odor**	Mild Sweet Solvent Odor
Total VOC % (Volatile Organic Compounds)	39.8	***pH**	N/A

*Data Based on Aerosol Concentrate Only.

SECTION IV – FIRE & EXPLOSION HAZARD DATA

Flash Point (Of Concentrate Only)	~ 75°F (T.O.C.)
Auto Ignition Temperatures	N/A
Flammability Limits in Air	
Lower Explosive Limit Estimated	N/A
Upper Explosive Limit Estimated	N/A
Extinguishing Media	Foam, CO2, Dry Media
Unusual Fire Fighting Procedures	Exposure to temperatures above 120°F may cause bursting.
Special Fire Fighting Procedures	Wear self-contained breathing apparatus and protective clothing. Cool fire-exposed containers to prevent rupturing.
Flammability (as per USA Flame Projection Test)	Extremely-Flammable Spray

SECTION V – HEALTH HAZARD DATA & EMERGENCY FIRST AID PROCEDURES

ENTRY ROUTES	ADVERSE/CHRONIC EFFECTS	FIRST AID PROCEDURES
EYES	May cause pain. May cause moderate eye irritation. May cause slight corneal injury. Vapors may irritate eyes.	Flush with large amounts of cool running water for at least 15 minutes while holding upper and lower lids open. If irritation persists, get medical attention immediately.
INGESTION	Can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis.	DO NOT INDUCE VOMITING. Seek medical attention immediately.
INHALATION	Inhalation of mist can cause irritation of nasal and respiratory passages. Abusive or excessive inhalation can cause irritation to the upper respiratory tract, dizziness, nausea and other central nervous system effects.	Remove to fresh air. Seek medical attention immediately. If breathing stops, give artificial respiration.
SKIN	Frequent or prolonged contact may cause irritation.	Wash with soap and water. If irritation persists, seek medical attention.
MEDICAL CONDITIONS TO AVOID	None Known.	

SECTION VI – REACTIVITY DATA

STABILITY	Stable – Avoid open flames and exposure to high temperatures.
HAZARDOUS POLYMERIZATION	Will not occur – No conditions known.
INCOMPATIBILITY	Strong oxidizing agents.
HAZARDOUS DECOMPOSITION	Carbon Dioxide, Carbon Monoxide.

SECTION VII – PRECAUTIONS FOR SAFE HANDLING & USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED – Allow propellant to evaporate. Maintain local exhaust and adequate ventilation. No smoking. Keep sparks, heat sources and open flame far away from spill or leak. Cover with absorbent material and sweep up. Wash area to prevent slipping. Dispose of soaked absorbent material in accordance with Federal, State and local laws.	
WASTE DISPOSAL	Aerosol cans, when emptied and depressurized through normal use, pose no disposal hazard and should be recycled. Consult Federal, State and local authorities for approved procedures.
HANDLING & STORAGE	Store in a cool, dry area away from heat or open flame. Do not store at temperatures above 120°F.
NFPA Code 30B Rating	Level 1 Aerosol
OTHER PRECAUTIONS	KEEP OUT OF REACH OF CHILDREN – For Industrial/Institutional Use Only. Read and follow label directions.

SECTION VIII – CONTROL MEASURES

RESPIRATORY PROTECTION	None needed for proper use in accordance with label directions. If ventilation is not adequate to reduce vapors below Threshold Limit Value (TLV) levels, use a NIOSH/MSHA approved air-purifying respirator equipped with an organic vapor cartridge for short-term exposures. For long-term exposure, use supplied air respirator.
VENTILATION	Provide local exhaust to keep air concentration of ingredients listed in Section II below established exposure limits.
PROTECTIVE GLOVES	Use chemical resistant gloves if hand contact will be made.
EYE PROTECTION	Safety glasses or chemical proof goggles.
OTHER PROTECTIVE CLOTHING/EQUIPMENT	None needed for proper use in accordance with label directions.
WORK HYGIENIC PRACTICES	Employees must practice good personal hygiene; washing exposed areas of skin several times daily and before eating, drinking, smoking, using restroom and at end of work period. Remove contaminated clothing and launder before reuse.

SECTION IX – TRANSPORTATION DATA

PROPER SHIPPING NAME	CONSUMER COMMODITY
DOT ID NUMBER	N/A
DOT HAZARD CLASS	ORM-D

The information and recommendations set forth herein are presented in good faith and believed to be correct and reliable. RAMCO Specialty Products, Inc. makes no representation as to the completeness or accuracy thereof and supplies information upon the condition that the persons receiving same will make their own determination as to its suitability for their purpose prior to use.

MSDS 2006

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Material Safety Data Sheet

OMB No. 1218-0072 (Non-Mandatory Form) From U.S. Department of Labor/OSHA

IDENTITY: Natural Gas	

Section I

Manufacturer's Name: Southern California Gas Company	Emergency Telephone Number: Residential (800) 427-2200 Commercial/Industrial (800) 427-2000
Address: 555 West 5th Street, GT 16C0 Los Angeles, CA 90013-1044	Telephone Number for Information: (213) 244 – 2740 (Safety & Health Department - general information)
	Date Prepared: UPDATED – 1/2009, 4/2010, 2/2012

Section II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	%*(optional)*
Methane CAS number 74-82-8	Cal/OSHA PEL none listed	Simple asphyxiant ACGIH TLV 1,000 ppm		approx. 93%
Ethane CAS number 74-84-0	Cal/OSHA PEL none listed	Simple asphyxiant ACGIH TLV 1,000 ppm		approx. 4%
Propane CAS number 74-98-6	Cal/OSHA PEL 1,000 ppm	Simple asphyxiant ACGIH TLV 1,000 ppm		approx. 1%
Butane CAS number 106-97-8	Cal/OSHA PEL 800 ppm	Simple asphyxiant ACGIH TLV 1,000 ppm		approx. 0.5%
Carbon Dioxide CAS number 124-38-9	Cal/OSHA PEL 5,000 ppm	Simple asphyxiant ACGIH TLV 5,000 ppm		approx. 1%

Section III - Physical/Chemical Characteristics

Boiling Point	-259 F (methane)	Specific Gravity (H_2O = 1)	* N/A
Vapor Pressure (mm Hg)	* N/A	Melting Point	*N/A
Vapor Density (AIR = 1)	0.58 - 0.63	Evaporation Rate (Butyl Acetate = 1)	*N/A
Solubility in Water: 3.5 ml/ 100 ml water at 17 C			

SoCalGas vents natural gas during the course of routine operation and maintenance of equipment.

The VOC emission factor is calculated as follows:

Specific Gravity = 0.58-0.63 (Air = 1)

Air Density = 1.23 kg/m3 at 60 deg F

Nat Gas Density = (0.63) * (1.23 kg/m3) * (1000 g/kg) * (1 lb/453.6g) * (0.3048^3 m3/ft3)
= 0.0484 lb natural gas/scf
= 48,400 lb natural gas/mmscf

Natural gas composition is approximately (per SoCalGas MSDS):

Gas Component	Molecular Formula	MSDS Vol. Concentration (%)	Molecular Weight (g/mole)	NG Density at 60 deg F (g/l)	Constant at 60 deg F (l/mole)	Weight Percent (%)
Methane	CH4	93.00%	16.04	0.7749	23.68	81.29%
Ethane	C2H6	4.00%	30.07	0.7749	23.68	6.55%
Propane	***C3H8***	***1.00%***	***44.1***	***0.7749***	***23.68***	***2.40%***
Butane	***C4H10***	***0.50%***	***58.12***	***0.7749***	***23.68***	***1.58%***
CO2	CO2	1.00%	44.01	0.7749	23.68	2.40%
Other		0.50%				5.77%

VOC composition (excluding methane, ethane, carbon dioxide, and other) = 3.98% by weight

VOC emission factor = (48,400 lb natural gas/mmscf) * (0.0398 lb VOC/lb natural gas)
= 1930 lb VOC/mmscf

Benzene Laboratory Analyses Summary

Northern Transmission System

North Needles, Lines 4000 and 235 (Transwestern)

Line 4000	Brn & Cldwl	Rep #09-088-5	15 ppm - 2.99 lb/mmcf
Line 4000	Mntgmry Labs	Rep #H99939	19 ppm - 1.19 lb/mmcf
Nwbry Spg	Brn & Cldwl	Rep #08-218-3	20 ppm - 3.99 lb/mmcf
Vctrvlle	Mntgmry Labs	Rep #H99940	7.3 ppm - 1.46 lb/mmcf

South Needles, Line 3000 (El Paso)

Nwbry Spg	Brn & Cldwl	Rep #08-218-4	14 ppm - 2.79 lb/mmcf

Southern Transmission System

Blythe, Lines 2001 & 2002 (El Paso)

Pnte Sta	Brn & Cldwl	Rep #09-088-4	3.3 ppm - 0.66 lb/mmcf
Pnte Sta	Brn & Cldwl	Rep #08-218-1	22 ppm - 4.39 lb/mmcf
Pnte Sta	Mntgmry Labs	Rep #H99938	11 ppm - 0.69 lb/mmcf

System Average Benzene Concentration = 2.27 lb/mmcf

Benzene Emission Factor = 4.69E-05 lb benzene / lb natural gas

(2.27 lb benzene / mmscf) * (mmscf / 48,400 lb natural gas)

See Attached Tanks Output Excel file

(8582-TANKS-2015.xls)

Appendix D

Document Certification

ATTACHMENT

FORM A	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AB2588 SECTION, 21865 E. COPLEY DR., DIAMOND BAR CA 91765-0949	INVENTORY YEAR 20 15

AB2588 AIR TOXICS DOCUMENT CERTIFICATION & SUBMITTAL FORM

Please check the appropriate boxes for purpose of submittal:

	INITIAL INFORMATION for ATIR		*EARLY ACTION REDUCTION PLAN (EARP)*		*INITIAL*
	AIR TOXICS INVENTORY REPORT (ATIR)		*VOLUNTARY RISK REDUCTION PLAN (VRRP)*		*REVISION*
X	*HEALTH RISK ASSESSMENT (HRA)*		*IMPLEMENTATION PROGRESS REPORT for VRRP/RRP*		*FINAL*
	RISK REDUCTION PLAN (RRP)		*OTHER:*		

Does your facility participate or wish to participate in VRRP program pursuant to Rule 1402(h)? *YES* [ ] *NO* [X]

Please provide the following information:

Facility name	SCAQMD ID	Facility SIC/NAICS CODE
Playa del Rey Storage Field	8582	4922

Facility address	Mailing address
8141 Gulana Avenue	8141 Gulana Avenue
Playa del Rey, CA 90293	Playa del Rey, CA 90293

Contact Person (Company Official)

Name: John A. Thompson	Title: Storage Manager
Telephone: 310-578-2689	eMail:

Preparer (if different from above)

Name: Karin Fickerson	Title: Air Quality Team Lead, Environmental Services
Company: SoCalGas	
Telephone: 805-681-8013	eMail: kfickerson@semprautilities.com

FAILURE TO SUBMIT REQUIRED INFORMATION OR KNOWINGLY SUPPLYING FALSE INFORMATION IS PUNISHABLE TO THE EXTENT DEFINED IN HEALTH AND SAFETY CODE SECTIONS 44381(a) AND 44381(b), WHICH INCLUDES MINIMUM FINES OF NOT LESS THAN FIVE HUNDRED DOLLARS.

Signature Of Responsible Company Official	Date
John A. Thompson	6/1/18
Name Of Responsible Company Official	**Title**
John A. Thompson	Storage Manager

ATTACHMENT 3
SIGNED CERTIFICATION

FORM A	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AB 2588 Program, 21865 COPLEY DR., DIAMOND BAR CA 91765-0949	INVENTORY YEAR 2015

AB 2588 AIR TOXICS DOCUMENT CERTIFICATION & SUBMITTAL FORM

Please check the appropriate boxes for purpose of submittal:

☐ *INITIAL INFORMATION for ATIR*	☐ *EARLY ACTION REDUCTION PLAN (EARP)*	☐ *INITIAL*
☐ *AIR TOXICS INVENTORY REPORT (ATIR)*	☐ *VOLUNTARY RISK REDUCTION PLAN (VRRP)*	☐ *REVISION*
☐ *HEALTH RISK ASSESSMENT (HRA)*	☐ *IMPLEMENTATION PROGRESS REPORT for VRRP/RRP*	☐ *FINAL*
☑ *RISK REDUCTION PLAN (RRP)*	☐ *OTHER:*	

Does your facility participate or wish to participate in VRRP program pursuant to Rule 1402(h)? *YES* ☐ ☒

Please provide the following information:

Facility name	South Coast AQMD ID	Facility SIC/NAICS CODE
Playa del Rey Storage Field	8582	4922

Facility Location Address	Mailing Address
8141 Gulana Avenue	8141 Gulana Avenue
Playa del Rey, CA 90293	Playa del Rey, CA 90293

Contact Person (Company Official)

Name: John A. Thompson	Title: Storage Manager
Telephone: 310-578-2689	eMail: jothompson@semprautilities.com

Preparer (if different from above)

Name: Karin Fickerson	Title: Air Quality Team Lead
Company: SoCalGas	
Telephone: 805-681-8013	eMail: kfickerson@semprautilities.com

FAILURE TO SUBMIT REQUIRED INFORMATION OR KNOWINGLY SUPPLYING FALSE INFORMATION IS PUNISHABLE TO THE EXTENT DEFINED IN HEALTH AND SAFETY CODE SECTIONS 44381(a) AND 44381(b), WHICH INCLUDES MINIMUM FINES OF NOT LESS THAN FIVE HUNDRED DOLLARS.

Signature Of Responsible Company Official	Date
John A Thompson	4/23/19
Name Of Responsible Company Official	**Title**
John A. Thompson	Storage Manager