Bay Area Air Quality Management District

375 Beale Street, Suite 600
San Francisco, CA 94105-2097
(415) 771-6000

Permit Evaluation
and
Statement of Basis
for the

MAJOR FACILITY REVIEW PERMIT

for

Air Liquide Large Industries, US LP
Facility #B7419

Facility Address:
1380 San Pablo Avenue
Rodeo, CA 94572

Mailing Address:
1391 San Pablo Avenue
Rodeo, CA 94572

July 2016

Site Engineer: Brian Lusher

Application: 26564

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Title V Statement of Basis

A. Background

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Title 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a major facility as defined by BAAQMD Regulation 2-6-212. It is a major facility because it has the "potential to emit," as defined by BAAQMD Regulation 2-6-218, of more than 100 tons per year of a regulated air pollutant.

Major Facility Operating permits (Title V permits) must meet specifications contained in 40 CFR Part 70 as contained in BAAQMD Regulation 2, Rule 6. The permits must contain all applicable requirements (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

A facility may be made up of several sites. Each site in the Bay Area is assigned a site identifier that consists of a letter and a 4-digit number. This identifier is also considered to be the identifier for the permit. The identifier for this site is B7419.

Air Liquide Large Industries, US LP submitted Application 13678 for an Authority to Construct on October 28, 2005. The Authority to Construct was granted on October 5, 2007. Air Liquide submitted Application 14738 for a Title V permit on June 5, 2006. The initial Title V permit was issued on March 4, 2010 under Application 14738.

On July 12, 2011 the facility submitted a Title V administrative amendment Application 23561. The purpose of this application was to make the ammonia monitoring in Conditions 23178, 23179, and 23181 for the following equipment consistent:
S1, Hydrogen Plant
S2, Hydrogen Plant Furnace
S3, Flare

The change in conditions did not change the ammonia emissions. The change in conditions was an administrative amendment to the Title V permit because the changes were solely to non-federally enforceable permit conditions as allowed by BAAQMD Regulation 2-6-201.

On September 3, 2014 the facility submitted the Title V Renewal Application 26564. This is the Permit Evaluation/Statement of Basis for Application 26564.

The Air Liquide hydrogen plant is located on property owned by Phillips 66 (A0016). The hydrogen plant is independently owned, operated and maintained by Air Liquide. The District issued a separate permit to the hydrogen plant and Air Liquide continues to be responsible for

certifying compliance with all permit conditions. The hydrogen plant provides hydrogen, steam and power to the refinery but retains the option to contract commercial sales of hydrogen to third parties. The production of hydrogen will be under the direction of Air Liquide personnel.

The hydrogen plant receives raw materials from the refinery and produces hydrogen, steam, and electricity for the refinery. The District has determined that the hydrogen plant and associated equipment are part of the refinery. However, the District issued a separate permit to the hydrogen plant and a separate responsible official continues to certify compliance because different personnel will be in charge of the hydrogen plant operations. The hydrogen plant is considered to be under Phillips 66's control because the refinery directs how much hydrogen the plant makes at any given time and the hydrogen plant is on refinery property, completely surrounded by the refinery.

The permit potential emissions for criteria pollutants and toxic air contaminants from Application 13678 are shown below.

Pollutant	Amount, tons/year
POC	13.9
NOx	30.9
SO2	5.0
CO	46.2
PM10	13.8
NH3	26.9
H2S04	0.4

Substance	Emissions (lb/yr)					
	S2, Hydrogen Plant Furnace	**S-3 Flare Pilots**	**Deaerator Vent**	**Cooling Tower[a]**	**Hydrogen Plant Fugitives**	**Total Annual Emissions (lb/yr)**
Acenaphthene	2.27E-02					2.27E-02
Acenaphthylene	1.49E-02					1.49E-02
Acetaldehyde	1.47E+02	2.02E-01				**1.48E+02**
Acrolein		4.69E-02				4.69E-02
Ammonia[a]	4.82E+04		5.59E+03		0.00E+00	**5.38E+04**
Antimony	4.98E+00					4.98E+00
Arsenic	8.19E+00					**8.19E+00**
Benzene	6.23E+02	7.46E-01				**6.24E+02**
Benzo(a)anthracene	3.09E-01					3.09E-01
Benzo(a)pyrene	8.63E-01					8.63E-01
Benzo(b)fluoranthene	3.89E-01					3.89E-01
Benzo(k)fluoranthene	2.32E-01					2.32E-01
1,3-Butadiene					4.84	**4.84E+00**
Cadmium	9.52E+00					**9.52E+00**
Chlorine				3.95E-02		3.95E-02

Substance	Emissions (lb/yr)					
	S2, Hydrogen Plant Furnace	S-3 Flare Pilots	Deaerator Vent	Cooling Tower[a]	Hydrogen Plant Fugitives	Total Annual Emissions (lb/yr)
Chloroform				9.94E+00		9.94E+00
Chromium (Total)	1.03E+01					**1.03E+01**
Chrysene	1.57E-02					1.57E-02
Copper[a]	4.06E+01					4.06E+01
Ethylbenzene	2.91E+02	6.78E+00				2.98E+02
Fluoranthene	2.95E-02					2.95E-02
Fluorene	1.04E-01					1.04E-01
Formaldehyde	1.07E+03	5.48E+00				**1.08E+03**
n-Hexane		1.36E-01			7.50E+00	7.63E+00
Indeno(1,2,3-cd)pyrene	9.93E-01					9.93E-01
Lead	4.71E+01					**4.71E+01**
Manganese	6.56E+01					**6.56E+01**
Mercury	1.73E+00					**1.73E+00**
Methanol			2.23+02			1.75E+04
Naphthalene	3.02E+00	6.57E-02				3.08E+00
Nickel	9.08E+01					**9.08E+01**
Phenanthrene	1.41E-01					1.41E-01
Phenol	5.43E+01					5.43E+01
Propylene[a]	2.09E+01	1.14E+01				3.24E+01
Pyrene	2.39E-02					2.39E-02
Selenium	1.89E-01					1.89E-01
Silver[a]	1.55E+01					1.55E+01
Sulfuric Acid Mist	8.6E+02					8.6E+02
Toluene	1.03E+03	2.72E-01				1.03E+03
Xylene (Total)	3.59E+02	1.36E-01				3.60E+02
Zinc[a]	2.00E+02					2.00E+02
Total HAP						2.22E+04

Notes: [a]The substance is not a HAP (Hazardous Air Pollutant).

B. Facility Description

This site is a hydrogen plant. The hydrogen plant consists of the following equipment:

S1, Hydrogen Plant, 120 MMscf/day, including HRSG and steam turbine generator (12 MW)
S2, Hydrogen Plant Furnace, 1,072 MMbtu/hr abated by A1, SCR
S3, Hydrogen Plant Flare, 2200 MMbtu/hr
S4, Cooling Tower, 3,700 gpm
S5, Ammonia Tank, 10,000 gal-19% aqueous ammonia
A1, Selective Catalytic Reduction Unit abating S2, Hydrogen Plant Furnace

The hydrogen plant uses the steam-methane reforming process to take water and hydrocarbons, strip the hydrogen from the water and hydrocarbons, and convert the remaining carbon into carbon monoxide and carbon dioxide. The waste from the process is burned in the hydrogen plant furnace to provide process heat. Most of the carbon monoxide that is generated is burned to form carbon dioxide.

The excess heat is used to make steam in the heat recovery steam generator (HRSG). The steam will be used in the steam turbine generator to generate electricity that will be used by Air Liquide and by Phillips 66 exclusively.

Air Liquide also has a flare so that hydrogen and off-gas can be burned safely in the case of a shutdown or turndown. The flare will burn clean gas from the hydrogen plant, not refinery fuel gas.

The cooling tower will be used to cool the hydrogen process.

The ammonia tank will provide 19% aqueous ammonia for NOx control in A1, Selective Catalytic Reduction Unit.

C. Permit Content

The legal and factual basis for the permit revision follows. The permit sections are described in the order presented in the permit. All changes to the Title V permit are discussed in this section.

Changes to Cover Page

The cover page of the permit was updated to reflect the current responsible official and facility contact (Jared Wittry).

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. If the Title IV (Acid Rain) requirements for certain fossil-fuel fired electrical generating facilities or the accidental release (40 CFR § 68) programs apply, the section will contain a standard condition pertaining to these programs. Many of these conditions derive from 40 CFR § 70.6, Permit Content, which dictates certain standard conditions

that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit.

The standard conditions also contain references to BAAQMD Regulation 1 and Regulation 2. These are the District's General Provisions and Permitting rules.

Changes to Section I

The dates of the Regulatory citations in Section 1.A were updated. The dates in Section 1.B were changed to TBD (To Be Determined) since the final dates will depend on the Title V renewal issuance date. In Section I.F, the sentence discussing the first reporting period for the initial Title V period has been removed and the word "Subsequent" was deleted in the next sentence.

II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S24).

Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302.

Significant sources are those sources that have a potential to emit of more than 2 tons of a "regulated air pollutant," as defined in BAAQMD Rule 2-6-222, per year or 400 pounds of a "hazardous air pollutant," as defined in BAAQMD Rule 2-6-210, per year.

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A24).

The equipment section is considered to be part of the facility description. It contains information that is necessary for applicability determinations, such as fuel types, contents or sizes of tanks, etc. This information is part of the factual basis of the permit.

Each of the permitted sources has previously been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These permits are issued in accordance with state law and the District's regulations. The capacities in the permitted sources table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

Changes to Section II

No changes were made to Section II of the Title V permit.

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound) are placed in this section.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Title V permit if they are considered significant sources pursuant to the definition in BAAQMD Rule 2-6-239.

Changes to Section III

Table III Generally Applicable Requirements had dates of regulatory citations updated and SIP versions of Regulations added where necessary. Regulation 2, Rule 5 was removed from Table III since it is referenced in the Standard Permit Conditions in Section I.A.

IV. Source-Specific Applicable Requirements

This section of the permit lists the applicable requirements that apply to permitted or significant sources. These applicable requirements are contained in tables that pertain to one or more sources that have the same requirements. The order of the requirements is:

- District Rules
- SIP Rules (if any) are listed following the corresponding District rules. SIP rules are District rules that have been approved by EPA for inclusion in the California State Implementation Plan. SIP rules are "federally enforceable" and a "Y" (yes) indication will appear in the "Federally Enforceable" column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the "Federally Enforceable" column will have a "Y" for "yes". If the SIP rule is not the current District rule, the SIP rule or the necessary portion of the SIP rule is cited separately after the District rule. The SIP portion will be federally enforceable; the non-SIP version will not be federally enforceable, unless EPA has approved it through another program.
- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District's or EPA's websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

Most of the complex applicability determinations and applicable requirements were fully discussed in the engineering evaluation for pre-construction Application 13678 and in the engineering evaluation for Application 13424 (Phillip 66 Clean Fuels Expansion Project).

Complex Applicability Determinations

Regulation 11, Rule 10

The facility has a cooling tower that is exempt from District permit requirements since it meets the exemption in Regulation 2, Rule 1, Section 128.4 for water cooling towers. The cooling tower does not emit more than 5 tons of any regulated air pollutant so it does not require a permit under Regulation 2, Rule 1, Section 319. The cooling tower is subject to the hexavalent chromium prohibition in Regulation 11, Rule 10, but is exempt from the new total hydrocarbon emission requirements in accordance with Regulation 11, Rule 10, Section 107. This section provides a limited exemption for cooling towers that service hydrogen production facilities.

Regulation 12, Rule 15

The facility is a support facility to the Phillips 66 San Francisco Refinery in accordance with Regulation 12, Rule 15, Section 212. The facility provides over 50% of its hydrogen production output to the Phillips 66 Refinery. The facility is required to obtain and maintain APCO approval of an Annual Emissions Inventory in accordance with Regulation 12, Rule 15, Section 401. The facility is required to submit the first emissions inventory on or before June 30, 2017 and additional annual inventories every subsequent June 30 thereafter. The facility is required to maintain records in accordance with Regulation 12, Rule 15, Section 502.

40 CFR 63 Subpart CC -- Refinery MACT

The facility is potentially subject to 40 CFR 63 Subpart CC because it is a "petroleum refinery process unit" located at a "plant site" that is a major source per the definitions in Section 63.641 and the applicability provisions in Section 63.640 of Subpart CC:

The "affected source" comprises the emission points listed in 40 CFR 63.640(c) including the following:

1. All miscellaneous process vents from petroleum refining process units that contain or contact HAPs;

2. All storage vessels associated with petroleum refining process units that contain or contact HAPs;
3. All wastewater streams and treatment operations associated with petroleum refining process units that contain or contact HAPs; and
4. All equipment leaks from petroleum refining process units that are in organic HAP service;
5. All gasoline loading racks classified under Standard Industrial Classification code 2911;
6. All marine vessel loading operations located at a petroleum refinery;
7. All storage vessels and equipment leaks associated with a bulk gasoline terminal or pipeline breakout station; and
8. All heat exchange systems in organic HAP service, as defined in this subpart.
9. All releases associated with decoking operations of a delayed coking unit.

The facility does not have emission points described in #5, #6, #7 and #9. Therefore, the standards and monitoring requirements that are potentially applicable to the facility are the following:

§ 63.642 General standards.
§ 63.643 Miscellaneous process vent provisions
§ 63.644 Monitoring provisions for miscellaneous process vents.
§ 63.646 Storage vessel provisions.
§ 63.647 Wastewater provisions.
§ 63.648 Equipment leak standards.
§ 63.654 Heat exchange systems.

Section 63.642 contains the general standards under Subpart CC. The only applicable general standard in Section 63.642 is the requirement to apply for a part 70 or 71 operating permit from the appropriate permitting authority.

The miscellaneous process vent provisions in Section 63.643 do not apply to the hydrogen plant vent. The definition of "miscellaneous process vent" in Section 63.641 excludes hydrogen plant vents as follows:

Miscellaneous process vent means a gas stream containing greater than 20 parts per million by volume organic HAP that is continuously or periodically discharged during normal operation of a petroleum refining process unit meeting the criteria specified in § 63.640(a). . . . Miscellaneous process vents do not include:

. . .

(14) Hydrogen production plant vents through which carbon dioxide is removed from process streams or through which steam condensate produced or treated within the hydrogen plant is degassed or deaerated.

The maintenance vent provisions of Section 63.643(c) apply to the facility. The facility is required to comply with the applicable requirements contained in Section 63.643(c)(1) through (c)(3) of this section for each maintenance vent. The requirements of these paragraphs are shown below:

(1) Prior to venting to the atmosphere, process liquids are removed from the equipment as much as practical and the equipment is depressured to a control device, fuel gas system, or back to the process until one of the following conditions, as applicable, is met.

(i) The vapor in the equipment served by the maintenance vent has a lower explosive limit (LEL) of less than 10 percent.

(ii) If there is no ability to measure the LEL of the vapor in the equipment based on the design of the equipment, the pressure in the equipment served by the maintenance vent is reduced to 5 psig or less. Upon opening the maintenance vent, active purging of the equipment cannot be used until the LEL of the vapors in the maintenance vent (or inside the equipment if the maintenance is a hatch or similar type of opening) equipment is less than 10 percent.

(iii) The equipment served by the maintenance vent contains less than 72 pounds of VOC.

(iv) If the maintenance vent is associated with equipment containing pyrophoric catalyst (e.g., hydrotreaters and hydrocrackers) at refineries that do not have a pure hydrogen supply, the LEL of the vapor in the equipment must be less than 20 percent, except for one event per year not to exceed 35 percent.

(2) Except for maintenance vents complying with the alternative in paragraph (c)(1)(iii) of this section, the owner or operator must determine the LEL or, if applicable, equipment pressure using process instrumentation or portable measurement devices and follow procedures for calibration and maintenance according to manufacturer's specifications.

(3) For maintenance vents complying with the alternative in paragraph (c)(1)(iii) of this section, the owner or operator shall determine mass of VOC in the equipment served by the maintenance vent based on the equipment size and contents after considering any contents drained or purged from the equipment. Equipment size may be determined from equipment design specifications. Equipment contents may be determined using process knowledge.

The storage vessel provisions in Section 63.646 do not apply to the facility. The facility does not include vessels used to store organic liquids that contain or contact HAPs (not including pressure vessels and vessels smaller than 40 cubic meters [10,500 gallons]) as defined in Section 63.641. The only storage vessel in the facility stores ammonia for the SCR abatement device. Since ammonia is not a material listed in Table 1 of Subpart CC and is not an “organic liquid,” the storage vessel is not subject to Subpart CC.

The facility contributes stormwater to the Phillips 66 Refinery stormwater/wastewater system. However, the facility does not include wastewater streams and treatment operations that contain or contact HAPs. Furthermore, any wastewater generated by the

facility will not have a benzene concentration of 10 ppm or greater. Thus, any wastewater potentially subject to Subpart CC is therefore a Group 2 Wastewater Stream as defined in 40 CFR 63.641. There are no standards in 40 CFR 63.647 for Group 2 Wastewater Streams.

The equipment leak standards in Section 63.648 do not apply to the facility. The facility does not have any process streams in organic HAP service (organic HAP >5%) and the requirements of 63.648 do not apply per Section 63.648(a)(1). In addition, Section 63.640(p)(2) states that, "Equipment leaks that are also subject to the provisions of 40 CFR part 60, subpart GGGa, are required to comply only with the provisions specified in 40 CFR part 60, subpart GGGa." The fugitive components at the facility are subject to Subpart GGGa which requires compliance with provisions of 40 CFR Part 60 Subpart VVa as discussed below. There are no equipment leak standards in Subpart CC that apply to the facility.

The facility operates heat exchangers in cooling water service. However, none of these heat exchangers cool fluids that contain at least 5% by weight of organic HAP. Therefore, none of these heat exchangers are "in organic HAP service" as defined in 40 CFR 63.641. Thus, the requirements of 40 CFR 63.654 do not apply because these heat exchangers are not Heat Exchange Systems as defined in 40 CFR 63.641.

40 CFR 64, Compliance Assurance Monitoring

Per 40 CFR 64.2(a), the furnace would be subject to 40 CFR 64, Compliance Assurance Monitoring, if the unit is subject to a federally enforceable requirement for a pollutant, the pollutant is controlled by an abatement device, and the emissions of the pollutant before abatement are more than 100% of the major source thresholds.

The furnace has a control device for NOx, A1, Selective Catalytic Reforming, is subject to federally enforceable NOx limits, and the unabated NOx emissions are greater than 100 tons/year. However, the facility utilizes a NOx CEM to demonstrate compliance with all applicable NOx emission limits and therefore meets the exemption criteria contained in 40 CFR Part 64.2(b)(1)(vi). This section states that the following are exempt from CAM requirements," Emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in §64.1."

40 CFR Part 68, Chemical Accidental Release Provisions

Air Liquide has agreed to permit condition 23181 part A.2 to maintain the ammonia concentration below 20% in S-5 so that the facility is not subject to 40 CFR Part 68, Chemical Accidental Release Provisions. Section 68.130, List of Substances, states that aqueous ammonia with a concentration of 20% or higher is subject if 20,000 pounds or more are stored.

Storage of more than 10,000 lb of hydrogen would also be subject 40 CFR Part 68 requirements. Air Liquide has stated that they do not store more than 10,000 lb of hydrogen at any one time.

40 CFR Part 72 through 78, Acid Rain

Electricity will be generated using excess heat at the hydrogen plant. The hydrogen plant will not be subject to 40 CFR 72-78 because it will not sell electricity. The hydrogen plant or Phillips 66 will consume all electricity that is produced. The standards apply only to "utilities," which are defined in 40 CFR 72.2 as "any person who sells electricity."

S1, Hydrogen Plant

The hydrogen plant has a small vent that emits methanol and ammonia, so the hydrogen plant is subject to BAAQMD Regulation 7, Odorous Substances, and Regulation 8, Rule 2, Miscellaneous Operations.

The vessels in the hydrogen plant are subject to BAAQMD and SIP Regulations 8, Rule 10, Process Vessel Depressurization.

The hydrogen plant is also subject to BAAQMD Condition 23178, which includes throughput limits, mass emission limits, and requirements for control of fugitive emissions of POC.

The source is not subject to 40 CFR Part 61 Subpart FF – National Emissions Standard for Benzene Waste Operations since it only handles waste that is exempt from the requirements of this subpart in accordance with Section 61.340(c) and Section 61.340(d). The only source of benzene in the facility is the refinery fuel gas which is used as a feedstock and or combusted in S-2 hydrogen plant furnace. District staff is not aware of any benzene waste streams present at the facility that would make the facility subject to Subpart FF requirements.

The complex applicability determination for fugitive components at the facility is discussed below in a separate section.

S2, Hydrogen Plant Furnace

All combustion sources are subject to BAAQMD Regulation 6, Rule 1, Particulate Matter-General Requirements and SIP Regulation 6, Particulate Matter and Visible Emissions.

The refinery complies with BAAQMD Regulation 9, Rule 1, Sulfur Dioxide, by monitoring ground-level SO2. Therefore, the furnace is not subject to the general limit of 300 ppm SO2 in Section 9-1-302.

The furnace is not subject to BAAQMD Regulation 9, Rule 7, Nitrogen Oxides And Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam

Generators, And Process Heaters, because Section 9-7-110.3 exempts heaters used at petroleum refineries.

The furnace is not subject to BAAQMD Regulation 9, Rule 10, Nitrogen oxides And Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries, because Sections 9-10-201 and 9-10-220 do not include units that received an authority to construct after January 5, 1994. The reason is that new units are subject to New Source Review and are expected to have NOx and CO limits that are lower than those in the rule. Since the limits in the rule are based on a refinery-wide average, allowing new units into the pool of units controlled by the rule would lower the average without achieving control from the older units.

The Hydrogen Plant Furnace is not subject to NSPS, Subpart D, Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971, because its primary function is not generation of steam.

The furnace is not subject to NSPS, Subpart Da, Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978, because it generates less than 25 MW of electricity.

The furnace is not subject to NSPS, Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, because it excludes process heaters.

The furnace is not subject to NSPS, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, because it excludes process heaters and because its capacity is more than 100 MMbtu/hr.

The unit is subject to the NSPS, Subpart Ja, Standards of Performance for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After May 14, 2007, which was promulgated on June 24, 2008.

For combustion sources, NSPS, Subpart Ja, requires continuous monitoring for H2S in fuel or SO2 in combustion gases, except for "fuel gas streams that are inherently low in sulfur content." Air Liquide has chosen to monitor stack exhaust SO2 with a continuous emission monitor (CEM) to demonstrate compliance with the SO2 standard because not all of the fuel that is burned in the hydrogen plant is inherently low in sulfur.

S2, Hydrogen Plant Furnace, is subject to 40 CFR 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters since S-2 is a process heater that is located at a major source of hazardous air pollutants (HAP) in accordance with Section 63.7485. S-2 is considered an existing process heater since it is not new or reconstructed in accordance with Section 63.7490. The compliance date for existing process heaters is January 31, 2016 per Section 63.7495(b).

Section 63.7500(e) states the emission limits in Tables 1 and 2 or 11 through 13, and the operating limits in Table 4 of the subpart do not apply to the subcategory of process heaters designed to burn gas 1 fuels.

Section 63.7510(e) requires that the annual tune up (Table 3, Item 3) and the one-time energy assessment (Table 3, Item 4) be completed by the initial compliance date contained in Section 63.7495. The annual tune up requirements are contained in Section 63.7540(a)(10)(i) through (vi). The energy assessment requirements are contained in Table 3 additional details of the energy assessment are also defined in Section 63.7575.

S3, Flare

The flare is not subject to BAAQMD Regulation 12, Rules 11, Flare Monitoring at Petroleum Refineries, or 12, Flares at Petroleum Refineries, because the hydrogen plant does not process petroleum and therefore, the flare is not considered to be a refinery flare as defined by the rules. The flare will not burn refinery fuel gas. It will only burn the effluent of the hydrogen plant (PSA gas) under certain circumstances. This gas has no sulfur and very little POC. It is composed mostly of carbon dioxide, methane, carbon monoxide, and hydrogen. Nonetheless, to ensure that the NOx and CO emissions of the flare are within the limits allowed by the permit, the owner/operator will monitor flow to the flare using a flowmeter that complies with BAAQMD Regulation 12, Rule 11.

The existing Title V permit has the flare subject to 40 CFR Part 60.18 General Control Device requirements. During the permitting of the flare it was verified that the design met all of the requirements of Section 60.18 as part of the BACT determination for application 13678. This citation has been removed from the Title V renewal version of the permit. Petroleum refinery flares used only to flare vent gas during a startup, shutdown and malfunction are not considered control devices used to meet the requirements of an NSPS or NESHAPs. In addition, 40 CFR Part 60.8(c) states, "Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard."

EPA promulgated 40 CFR 63, Subpart Ja, Standards of Performance for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After May 14, 2007, on June 24, 2008. Subpart Ja applies to flares for which construction, reconstruction, or modification commenced after June 24 2008. S3 commenced construction on April 15, 2008. S3 is subject to Subpart J requirements since it is a flare for which construction commenced after June 11, 1973 and on or before June 24, 2008. The existing Title V permit has S3 subject to Subpart Ja requirements and this is being corrected in this Title V renewal.

S-3 is potentially subject to the SO2 standard contained in Section 60.104(a)(1). S-3 is exempt from fuel gas H2S limit in Section 60.104(a)(1) if the flare is used only for startup, shutdown, upset, or emergency malfunction gas

Components Facility Wide

The fugitive components at the facility are subject to Regulation 8, Rule 18: Equipment Leaks since the facility is considered to be part of the Phillips 66 Refinery. The components-valves, flanges, pumps, compressors, pressure relief devices-are subject to this rule. The rule has total organic leak limits of 100 ppm for valves and flanges and 500 ppm for pumps, compressors, and pressure relief devices. This is a "work-practice" standard. The facility is obligated to monitor the components for leaks on a periodic basis and repair the leaks. A small percentage of non-repairable leaks are allowed until the next turnaround or five years, whichever is sooner.

The pressure relief devices at the facility are subject to Regulation 8, Rule 28: Episodic Releases from Pressure Relief Devices at Petroleum Refineries and Chemical Plants. The facility meets this requirement by venting all pressure relief devices to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98%.

The fugitive components at the facility are subject to 40 CFR Part 60 Subpart GGGa – Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced after November 7, 2006. The applicability provisions are contained in Section 60.590a. Subpart GGGa standards require compliance with provisions of 40 CFR Part 60 Subpart VVa in accordance with Section 60.592a.

The fugitive components are not subject to 40 CFR 61, Subpart J, National Emission Standard for Equipment Leaks of Benzene because not it is not in benzene service, which is defined in 40 CFR 61.111 as handling streams that contain more than 10% benzene.

The fugitive components are not subject to 40 CFR 61, Subpart V – National Emission Standard for Equipment Leaks (Fugitive Emission Sources) because the hydrogen plant is not in VHAP service, which means handling streams that are not more than 10 % VHAP. VHAP is defined in 40 CFR 61.241 as benzene and vinyl chloride.

The fugitive components are subject to requirements in 40 CFR Part 63 Subpart CC – National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries in accordance with Section 63.640(a)(2). Section 63.648 of Subpart CC requires components in organic HAP service (streams containing >5% organic HAP) to comply with provisions of 40 CFR Part 60 Subpart VV. The facility does not have any streams in organic HAP service (>5% organic HAP). In addition, Section 63.640(p)(2) states, “Equipment leaks that are also subject to the provisions of 40 CFR part 60, subpart GGGa, are required to comply only with the provisions specified in 40 CFR part 60, subpart GGGa.” All of the fugitive components at the facility are subject to Subpart GGGa requirements and there are no additional requirements to comply with Subpart CC.

Wastewater System

Regulation 8, Rule 8 -- Wastewater Collection and Separation Systems

The facility is located within the Phillips 66 Refinery. This portion of the Refinery is served by a refinery wastewater collection system. The facility uses this refinery stormwater system, but does not generate any wastewater streams that are processed by the Phillips 66 Refinery. Wastewater from other refinery units does not enter the hydrogen plant site. The facility does meet the limited exemption in Regulation 8, Rule 8, Section 113 for stormwater system. This limited exemption states that Regulation 8, Rule 8, Sections 301, 302, 306, 308 do not apply to the stormwater system at the facility. The requirements in Regulation 8, Rule 8, Section 303 for Gauging and Sampling Devices, Section 304 for Sludge-dewatering Units, Section 305 for Oil-Water Separator And/Or Air Flotation Unit Slop Oil Vessels and Section 307 for Air Flotation Units do not apply since the facility does not operate any of this equipment in stormwater or wastewater service.

40 CFR 60 Subpart QQQ -- NSPS Petroleum Refinery Wastewater Systems

The facility is located within the Phillips 66 Refinery. This portion of the Refinery is served by a refinery wastewater collection system. The facility uses the refinery stormwater system. Wastewater from other refinery units does not enter the hydrogen plant site. The facility is not subject to 40 CFR 60 Subpart QQQ because the facility meets the exemptions in 40 CFR Part 60.692-1(d)(1) for stormwater systems, ancillary equipment, and non-contact cooling water.

Changes to Section IV

The applicable requirements section of the Title V operating permit has been revised as described in this section.

Table IV-All Sources: Facility-Specific Generally Applicable Requirements

Table IV-All Sources has been revised to change the effectiveness dates of applicable District Rules and Regulations and to add or revise applicable requirements to the facility as shown below.

Action	Title/Description
Added SIP version of Regulation 2, Rule 1, Section 429	Federal Emissions Statement
Added Regulation 12, Rule 15 requirements	Miscellaneous Standards of Performance – Petroleum Refining Emissions Tracking (4/20/16)
Added 40 CFR Part 63 Subpart A requirements	NESHAPs for Source Categories – General Provisions
Added 40 CFR Part 63 Subpart CC requirements	NESHAPs for Petroleum Refineries

Subpart CC General Requirements 63.642(a) requires the facility to apply for a Title V operating permit. No other requirements of Subpart CC apply to the facility (See complex applicability determinations discussion).

Table IV-A: Source-specific Applicable Requirements for S1 – Hydrogen Plant

Table IV-A has been revised to change the effectiveness dates of applicable District Rules and Regulations and to add or revise applicable requirements to the facility as shown below.

Action	Title/Description
Added Regulation 6, Rule 1 and SIP Regulation 6 requirements	Particulate Matter, General Requirements and Particulate Matter and General Emission (SIP Version)
Removed part 16 of condition 23178.	Requirement to provide component counts during construction and after completion of construction.

Regulation 6, Rule 1 and SIP Regulation 6 apply to the deaerator vent at S1. The final component counts have been provided and condition 23178 part 16 is no longer necessary.

Table IV-B: Source-specific Applicable Requirements for S2 – Hydrogen Plant Furnace

Table IV-B has been revised to change the effectiveness dates of applicable District Rules and Regulations and to add or revise applicable requirements to the facility as shown below.

Action	Title/Description
Updated the 40 CFR Part 60 Subpart Ja requirements	NSPS for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After May 14, 2007.
Removed references for NSPS Appendix A	Test Methods
Removed references for NSPS Appendix B	Performance Specifications
Removed references for NSPS Appendix F	Quality Assurance Requirements for Gas Continuous Emission Monitoring Systems Used for Compliance Determination
Added 40 CFR Part 63 Subpart A requirements	NESHAPs for Source Categories – General Provisions
Removed 40 CFR Part 63 Subpart B requirements	Requirements for Control Technology Determinations for Major Source in Accordance With Clean Air Act Sections, Section 112(g) and 112(j)
Added 40 CFR Part 63 Subpart DDDDD	NESHAPs for Industrial, Commercial, and

Action	Title/Description
requirements	Institutional Boilers and Process Heaters
Removed references to part 16 and 16a of District Condition 23179	Startup Testing requirements

The fuel gas combustion device emission limitations contained in Subpart Ja Section 60.102a(g) were previously stayed and are now included in Table IV-B. The citations regarding exempt fuel gas streams under Section 60.107a(a)(3) were removed since the hydrogen plant furnace utilizes an SO2 CEM to demonstrate compliance with the SO2 limits contained in Subpart Ja Section 60.102a(g)(1)(i).

The references to NSPS Appendix A, B, and F were removed from Table IV-B. These are test methods, performance specifications, and quality assurance requirements that are used to demonstrate compliance with a applicable NSPS or other applicable emission limitations. These appendices are not considered to be applicable requirements.

40 CFR Part 63 Subpart B no longer applies since 40 CFR Part 63 Subpart DDDDD is no longer stayed and is applicable to S2 hydrogen plant furnace.

The startup testing requirements in Condition 23179 part 16 and 16a were deleted since this testing has been completed.

Table IV-C: Source-specific Applicable Requirements for S3 – Hydrogen Plant Flare

Table IV-C has been revised to change the effectiveness dates of applicable District Rules and Regulations and to add or revise applicable requirements to the facility as shown below.

Action	Title/Description
Updated the 40 CFR Part 60 Subpart A requirements	NSPS General Provisions
Removed 40 CFR Part 60.18 citation	General control device and work practice requirements
Removed the 40 CFR Part 60 Subpart Ja requirements	NSPS for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After May 14, 2007
Added 40 CFR Part 60 Subpart J requirements	NSPS for Petroleum Refineries

Section 60.18 does not apply since the flare is not considered a control device under the NSPS (see discussion in complex applicability section). The flare only operates during startup, shutdown, and malfunctions. The flare commenced construction on April 15, 2008 and is subject to NSPS Subpart J and not Subpart Ja (see discussion in complex applicability section).

Table IV-D: Source-specific Applicable Requirements for S4 – Cooling Tower

Table IV-C has been revised to change the effectiveness dates of applicable District Rules and Regulations and to add or revise applicable requirement as shown below.

Action	Title/Description
Added District Regulation 11, Rule 10 requirements	Hexavalent Chromium Emissions from All Cooling Towers and Total Hydrocarbon Emissions from Petroleum Refinery Cooling Towers

The hydrocarbon emission portions of Regulation 11, Rule 10 do not apply to S-4 in accordance with the limited exemption in 11-10-107

Table IV-AA: Fugitive Sources: Applicable Requirements

Table IV-AA was updated based on the complex applicability section above. NSPS Subpart VVa applies to S1 Hydrogen Manufacturing Unit and to S2 Hydrogen Plant Furnace. NESHAP Subpart CC does not have requirements that apply to the fugitive components but does have general requirements that apply to the facility. Subpart CC requirements are contained in Table IV-All Sources.

Table IV-AB: Applicable Requirements for Components (Facility-Wide Except As Noted)

Table IV-AB has been revised to change the effectiveness dates of applicable District Rules and Regulations and to add or revise applicable requirements to the facility as shown below.

Action	Title/Description
Added District Regulation 8, Rule 8 requirements	Organic Compounds – Wastewater Collection and Separation Systems
Updated District Regulation 8, Rule 18 and SIP Regulation 8, Rule 18 requirements	Organic Compounds-Equipment Leaks
Updated the 40 CFR Part 60 Subpart A requirements	NSPS General Provisions
Updated the 40 CFR Part 60 Subpart VVa requirements	NSPS for Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006
Added 40 CFR Part 60 Subpart QQQ requirements	NSPS – Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems
Removed reference to part 16 of District	Startup condition that required final

Action	Title/Description
Condition 23178	component counts to be submitted during construction and after the completion of construction

The facility discharges wastewater to the Refinery wastewater system and District Regulation 8, Rule 8 and 40 CFR Part 60 Subpart QQQ apply to the facility.

NSPS Subpart GGGa applies to the components at the facility and requires the components to meet requirements in NSPS Subpart VVa. Subpart GGGa and Subpart VVa are not included in District Regulation 10.

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 which provides that a major facility review permit shall contain the following information and provisions:

"409.10 A schedule of compliance containing the following elements:

10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;

10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and

10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted."

VI. Permit Conditions

The Major Facility Review permit contains conditions that are derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). Permit conditions may also be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 et seq., an order of abatement pursuant to H&SC § 42450 et seq., or as an administrative revision initiated by District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

When necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting has been added to the permit.

Each permit condition is identified with a unique numerical identifier, up to five digits.

All changes to existing permit conditions that are proposed in this action are clearly shown in "strike-out/underline" format in the proposed permit. When the permit is

issued, all 'strike-out" language will be deleted and all "underline" language will be retained, subject to consideration of comments received.

The basis for of the permit conditions is explained in the permit evaluation for Application 13678, attached, which forms part of this statement of basis. Explanations of any changes made after issuance of the Authority to Construct pursuant to Application 13678 are provided in this section.

Hydrogen Plant Condition 23178
Part 16 has been deleted since the the final component counts for the facility have already been provided to the District. This condition was a startup requirement.

Hydrogen Plant Furnace Condition 23179
Part 16 and 16a have been deleted since the initial startup testing has been completed.

VII. Applicable Limits and Compliance Monitoring Requirements

This section of the permit is a summary of numerical limits and related monitoring requirements for each source. The summary includes a citation for each monitoring requirement, frequency of monitoring, and type of monitoring. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

MONITORING ANALYSIS

S1, Hydrogen Plant is subject to an annual throughput limit, cumulative increase limits of 4.35 lb POC/day from the deaerator vent and 8.2 lb fugitive POC/day, an ammonia limit of 0.64 lb/hr from the deaerator vent, and a limit on total sulfur in the feed to the hydrogen plant. The hydrogen plant is also subject to the combined organic compound limit in BAAQMD Regulation 8, Rule 2. The hydrogen plant will be subject to an annual source test to determine compliance with the deaerator vent limits. The owner/operator will determine compliance with the fugitive POC limit by using the methods in BAAQMD Regulation 8, Rule 18, Equipment Leaks. In lieu of monitoring the sulfur content of all streams in the hydrogen plant, the owner/operator has installed an SO2 CEM on S2. The hydrogen plant deaerator vent is subject to Regulation 6, Rule 1, Section 301, 305, and 310 requirements and SIP Regulation 6 Section 301, 305, and 310 requirements for Opacity, Prohibition of Nuisance, and a grain limit of 0.15 grains/dscf, respectively. The District is not imposing any specific monitoring for Regulation 6, Rule 1 requirements and/or SIP Regulation 6 requirements since particulate emissions from the hydrogen plant deaerator vent are expected to be negligible.

S2, Hydrogen Plant Furnace, has limits on hourly and annual heat input, concentration limits on NOx, CO, and NH3, lb/MMbtu limits on POC, SO2, and PM10, hourly and annual mass emission limits on NOx, CO, POC, PM10, and SO2, NH3, and sulfuric acid mist, and sulfur and H2S limits on the fuel. The heater will have a fuel meter to ensure compliance with the heat input limits. Since the heater is abated by SCR, it will have a NOx CEM to ensure that the abatement device is in compliance. A CO CEM is required by 40 CFR 63, Subpart DDDDD. In lieu of monitoring the sulfur content of all streams

in the hydrogen plant, the owner/operator has installed an SO2 CEM on S2, Hydrogen Plant Furnace stack to demonstrate compliance with NSPS Subpart Ja SO2 limits contained in 60.102a(g)(1)(i). The owner/operator will perform an annual test for compliance with the POC, PM10, SO2, sulfuric acid mist, and ammonia limits. Non-compliance with the POC and PM10 limits are not expected at this source. S-2 is subject to Regulation 6, Rule 1, Section 301, 305, and 310.3 requirements and SIP Regulation 6 Section 301, 305, and 310.3 requirements for Opacity, Prohibition of Nuisance, and a grain limit of 0.15 grains/dscf @6%O2, respectively. The District is not imposing any specific monitoring for Regulation 6, Rule 1 requirements and/or SIP Regulation 6 requirements since particulate emissions from S-2 are expected to comply with these requirements as long as PM10 emissions are in compliance with the limits in condition 23179 part 5d and 7a.4.

S3, Hydrogen Plant Flare is subject to annual limits for NOx, CO, POC, PM10, SO2 and a daily limit for NOx. Emissions will be monitored by installing a flow meter at the inlet to the flare and calculating the emissions using District approved methodology for each event.

The flare is subject to the Subpart Ja H2S limit of 162 ppmv determined on a 3-hour rolling average basis. The gas streams sent to the flare are considered to be inherently low in sulfur in accordance with Section 60.107a(a)(3). In accordance with Section 60.107(e)(4) engineering calculations shall be used to calculate SO2 emissions in the event of a discharge that may trigger a root cause analysis under Section 60.103a(c)(1).

In addition, the flare is subject to standard conditions (condition 23180 part 8 through 10) to determine if the 1.0 Ringelmann limit in BAAQMD Regulation 6-1-301 and SIP 6-301 is exceeded during flaring events. S-3 is also subject to Regulation 6, Rule 1, Section 305, and 310.3 requirements and SIP Regulation 6 Section 305, and 310.3 requirements for Prohibition of Nuisance, and a grain limit of 0.15 grains/dscf @6%O2, respectively. The District is not imposing any specific monitoring for Regulation 6, Rule 1 requirements and/or SIP Regulation 6 requirements since particulate emissions from S-3 are expected to be very low due to the properties of the gas that may be sent to the flare (low sulfur content, low particulate content).

S4, Cooling Tower, is subject to monitoring of dissolved solids to ensure that the particulate matter emissions are as described in the permit application. It is also subject to visual monitoring, and chlorine content monitoring to ensure that POC emissions are as described. If POC emissions are found and on a monthly basis, the owner/operator must measure the POC emissions in the inlet line and return line of the cooling tower using EPA Laboratory Method 8015. S-4 is subject to Regulation 6, Rule 1, Section 301, 305, and 310.3 requirements and SIP Regulation 6 Section 301, 305, and 310.3 requirements for Opacity, Prohibition of Nuisance, and a grain limit of 0.15 grains/dscf @6%O2, respectively. The District is not imposing any specific monitoring for Regulation 6, Rule 1 requirements and/or SIP Regulation 6 requirements since particulate emissions from S-4 are expected to comply with these requirements as long as the concentration of total dissolved solids remains in compliance with the 3000 ppm limit in condition 23414 part 2.

S5, Ammonia Tank: The tank is not expected to have emissions, so no monitoring has been imposed.

Overall annual emission limits have been imposed in Condition 23181, parts B.1- B.3, to ensure that the emissions of the project are less than the emissions proposed by the applicant. The reason that this condition has been imposed is to allow the facility to exceed certain limits during startup and shutdown and still comply with the annual limits. Condition 23181 part B.4 contains the monitoring and reporting for these limits.

Changes to Section VII

Table VII-All Sources: Applicable Limits and Compliance Monitoring Requirements

Table VII-All Sources has been revised to add or revise applicable limits and compliance monitoring requirements that apply to the facility as shown below.

Action	Title/Description
Added Regulation 9, Rule 2, Section 301 requirements	Inorganic Gaseous Pollutants - Hydrogen Sulfide: Limitations on ground level H2S
Removed Ammonia Limit in Condition 23181 part 2g	Ammonia limit for S1, S2, S3 combined
Removed 8-2-301 citation	Organic Compounds – Miscellaneous Operations

The ammonia limit in condition 23181 part 2 is contained in each source specific table and does not need to be in the facility-wide table. Regulation 8, Rule 2 applies to the hydrogen plant vent and the cooling tower and does not need to be in the facility-wide table.

Table VII-A: Applicable Limits and Compliance Monitoring Requirements for S1 – Hydrogen Plant

Table VII-A has been revised to add or revise applicable limits and compliance monitoring requirements that apply to the facility as shown below.

Action	Title/Description
Added Regulation 6, Rule 1 and SIP Regulation 6 requirements	Particulate Matter, General Requirements

Table VII-B: Applicable Limits and Compliance Monitoring Requirements for S2 – Hydrogen Plant Furnace

Table VII-B has been revised to add or revise applicable limits and compliance monitoring requirements that apply to the facility as shown below.

Action	Title/Description
Added Regulation 9, Rule 3, Section 303 requirements	Heat Transfer Operations NOx limitation
Removed note that SO2 limit in 40 CFR Part 60 Subpart Ja had been stayed.	Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007

Table VII-C: Applicable Limits and Compliance Monitoring Requirements for S3 – Hydrogen Plant Flare

Table VII-C has been revised to add or revise applicable limits and compliance monitoring requirements that apply to the facility as shown below.

Action	Title/Description
Removed SO2 limit in 40 CFR Part 60 Subpart Ja	Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007
Added H2S limit in 40 CFR Part 60 Subpart Ja Section 60.103a(h).	Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007
Added flow monitoring requirement in 40 CFR Part 60 Subpart Ja Section 60.107a(f).	Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007

Table VII-D: Applicable Limits and Compliance Monitoring Requirements for S4 – Cooling Tower

Table VII-D has been revised to add or revise applicable limits and compliance monitoring requirements that apply to the facility as shown below.

Action	Title/Description
Added 8-2-301 monitoring citation for analysis of VOC at inlet and return of cooling tower using EPA 8015 required in Condition 23414 part 4.	Organic Compounds – Miscellaneous Operations

Table VII-AB: Applicable Limits and Compliance Monitoring Requirements for Components

Table VII-AB was reviewed and no changes were made.

VIII. Test Methods

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not applicable requirements.

Changes to Section VIII

Revised applicable source test methods where necessary and added appropriate source test methods where necessary.

IX. Permit Shield:

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in a major facility review permit explaining that specific federally enforceable regulations and standards do not apply to a source or group of sources, or (2) A provision in a major facility review permit explaining that specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting are subsumed because other applicable requirements for monitoring, recordkeeping, and reporting in the permit will assure compliance with all emission limits.

The second type of permit shield is allowed by EPA's White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program. The District uses the second type of permit shield for all streamlining of monitoring, recordkeeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

No permit shield has been requested for this facility.

X. Revision History

The Revision History section contains a list of all of the instances that the permit is issued, the type of action (initial issuance, renewals, administrative amendments, minor or significant revisions, and reopenings), the application number, and the date of the action.

Changes to Section X

Added reference for Renewal Issuance under application 26564.

XI. Glossary

A glossary of terms has been provided for both the permit and the statement of basis.

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

APPENDIX A

GLOSSARY

ARB
Air Resources Board

BAAQMD
Bay Area Air Quality Management District

BACT
Best Available Control Technology

Basis
The underlying authority that allows the District to impose requirements.

CAA
The federal Clean Air Act

CAAQS
California Ambient Air Quality Standards

CEM
Continuous Emission Monitor

CEQA
California Environmental Quality Act

CFEP
Clean Fuel Expansion Project

CFR
The Code of Federal Regulations 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

CO
Carbon Monoxide

Cumulative Increase
The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Cumulative increase is used to determine whether threshold-based requirements are triggered.

District
The Bay Area Air Quality Management District

dscf
Dry Standard Cubic Feet

EPA
The federal Environmental Protection Agency.

EFRT
External Floating Roof Tank

Federally Enforceable, FE
All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (MACT), and Part 72 (Permits Regulation, Acid Rain), including limitations and conditions contained in operating permits issued under an EPAapproved program that has been incorporated into the SIP.

FP
Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

MOP
The District's Manual of Procedures.

NAAQS
National Ambient Air Quality Standards

NESHAPS
National Emission Standards for Hazardous Air Pollutants. See in 40 CFR Parts 61 and 63.

NH3
Ammonia

NOx
Oxides of nitrogen.

NSPS
Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

NSR
New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

Offset Requirement
A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NOx, PM10, and SO2.

POC
Precursor Organic Compounds

PM
Particulate Matter

PM10
Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

PSD
Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

SCR
Selective Catalytic Reduction

SIP
State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

SO2
Sulfur dioxide

Title V
Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

TRMP
Toxic Risk Management Plan

VOC
Volatile Organic Compounds

Units of Measure:

bhp	=	brake-horsepower
btu	=	British Thermal Unit
cfm	=	cubic feet per minute
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inches
max	=	maximum
m^2	=	square meter
min	=	minute
mm	=	million
MMbtu	=	million btu
MMcf	=	million cubic feet
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scfm	=	standard cubic feet per minute
yr	=	year