Bay Area Air Quality Management District

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Permit Evaluation
and
Statement of Basis
for
RENEWAL of

MAJOR FACILITY REVIEW PERMIT

for

ConocoPhillips – San Francisco Refinery
Facility #A0016

Facility Address:
1380 San Pablo Avenue
Rodeo, CA 94572

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June 2010

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Application: 18231

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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.

Each facility in the Bay Area is assigned a facility 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 facility is A0016.

This facility received its initial Title V permit on December 1, 2003. The permit was reopened and re-issued on December 16, 2004, April 12, 2005, and November 20, 2006. Minor revisions were issued on April 12, 2005, January 5, 2006, March 2, 2006, and October 15, 2007. Significant revisions were issued on January 5, 2006, January 18, 2007 and October 31, 2008. Section X of the permit, Revision History, has a list of these revisions in chronological order.

This application is for the second renewal of the Title V permit. The standard sections of the permit have been upgraded to include new standard language used in all Title V permits. Also, various other corrections have been made to the permit. This statement of basis will include all proposed changes to the permit in ~~strikeout~~/underline format.

The facility has submitted following applications since the last significant revision that was issued under Application 13424 for the Clean Fuels Expansion Project or CFEP:

Application #	Description	Date of Receipt
14601	Title V for NSR Application 14602	05/08/06
14602	Modify permit condition	05/08/06
14856	IERC's for S438, U110 H-1 Heater	07/03/06
14857	Alternative Compliance Plan to use IERC's	07/03/06
14963	Title V modification	07/31/06
15442	Title V modification	11/10/06
18231	Title V Permit Renewal	06/01/07

17052	Alterations to S438, U110 H-1 Furnace	11/28/07
19361	Title V for NSR Application 19360	12/12/08
19360	Modify permit condition	12/12/08
19626	Replace Phase II vapor recovery with an EVR certified Phase II system	01/20/09
20801	Permit to Operate for S507, FPLH Recovery Tank	07/01/09
20802	Title V for NSR Application 20801	07/01/09
21294	Modify permit condition	11/09/09
21295	Title V for NSR Application 21294	11/09/09
21342	Modify permit condition	11/23/09
21343	Title V for NSR Application 21342	11/23/09

Application 14602 was submitted to modify permit condition 21235 to include the NOx Box limits. Condition 21235 applies to the following Heaters and Boilers: S2-S5, S7-S20, S22, S29-S31, S43, S44, S336, S337, S351, S371, and S372. Besides incorporating NOx Box limits, permit condition 21235 was also modified to allow 60 days for source test result submittal instead of current 45. Allowing 60 days provided consistency with other existing Title V Permit Conditions, including condition #21096.5b and 21097.5b. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis. Title V Application 14601 was related to NSR Application 14602 that was submitted to make changes approved in the NSR application to the facility's Title V permit.

Application 14856 was submitted to get Interchangeable Emission Reduction Credits (IERC's) for S438, U110 H-1 Heater, to comply with the District's Regulation 9-10 "bubble". The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Application 14857 was submitted for an Alternative Compliance Plan (ACP) to use IERC's for compliance with BAAQMD Regulation 9, Rule 10 (Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators, and Process Heaters in Petroleum Refineries). The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Application 14963 was submitted to incorporate requirements of EPA Regulation 40 CFR Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations (BWON) per Consent Decree (Civil Action H-05-0258). The BWON regulation requires that refineries that produce 10 Mg/yr or more of benzene as waste treat each benzene containing waste to an approved standard. ConocoPhillips has chosen to comply with the option in 40 CFR 61.342(e)(2), known as the "6BQ" option, to keep the benzene waste quantity as calculated per the BWON requirements equal to or less than 6 Mg/yr. Per the 6BQ option, not all sources are required to be controlled per the BWON regulations, only those that will keep the 6BQ calculation below 6 Mg/yr. Details of the applicability are described later in this document. No NSR application was required for this action.

Application 15442 was submitted to incorporate Regulation 8, Rule 8, Wastewater Collection and Separation Systems, requirements to S1007, U100 Dissolved Air Floatation Unit (DAF) and other waste water plant sources. The entire wastewater collection and treatment system at

ConocoPhillips is regulated by Regulation 8, Rule 8, which has requirements specific to wastewater collection system components, oil water separators, air floatation units, and other secondary wastewater treatment. The same equipment is regulated by Permit Condition 1440, which requires that the DAF be vapor tight, with semiannual instrument monitoring to demonstrate compliance.

Application 18231 is for renewal of the Title V permit, which is the subject of this action.

Application 17052 was submitted under the District's Accelerated Permitting Program to obtain a Permit to Operate for alterations that ConocoPhillips was planning to make at S438, U110 H-1 Furnace. As part of this alteration project, 18 out of a total of 45 burner blocks in S438 were replaced with non-identical burners. The new burners would provide better heat distribution, reduced chronic overheating and improved furnace efficiency. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis. Since the modifications proposed in the NSR application 17052 did not require any changes to the Title V permit, no Title V application was submitted for this project.

Application 19360 was submitted to modify permit condition 1694 to include NOx emission limits to comply with the ConocoPhillips Consent Decree (CD). The sources affected by this application were S10, S13, and S15-S19, heaters. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis. Title V Application 19361 was related to NSR Application 19360 that was submitted to make changes approved in the NSR application to the facility's Title V permit.

Application 19626 was submitted to replace the Phase II vapor recovery on the existing GDF (S294) with an EVR certified Phase II system. Proposed Phase II equipment consisted of the Healy EVR Phase II system with the Clean Air Separator (CAS) pursuant to CARB Executive Order VR-201. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Application 20801 was submitted by ConocoPhillips to obtain a Permit to Operate for S507, FPLH Recovery Tank. S507 is a 450-gallon Ace Bench Top double-walled rectangular tank. The tank is outfitted with an OPW Model 623-V pressure/vacuum vent and an OPW Model 201M emergency vent and will undergo routine inspection and maintenance as required by BAAQMD Regulation 8, Rule 5 – Storage of Organic Liquids. The minimum set pressure for the PV valve is 0.5 psig. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis. Title V Application 20802 was related to NSR Application 20801 that was submitted to make changes approved in the NSR application to the facility's Title V permit.

Application 21294 was submitted to modify permit condition 1440 to allow for a repair period for vapor leaks discovered at wastewater sources. The wastewater sources affected by this application were S324, S381, S382, S383, S384, S385, S386, S387, S390, S392, S400, S401, S1007, S1008, and S1009. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis. Title V Application 21295 was related to NSR Application 21294 that was submitted to make changes approved in the NSR application to the facility's Title V permit.

Application 21342 was submitted to modify permit condition 4336 to combine the throughput limits for crude oil and gas oil. The sources affected by this application were S425 and S426, Marine Loading Berths. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis. Title V Application 21343 was related to NSR Application 21342 that was submitted to make changes approved in the NSR application to the facility's Title V permit.

These applications have resulted in no change in criteria pollutants emissions because there were no emission increases related to the above applications.

B. Facility Description

This facility is a typical full-scale oil refinery, which processes crude oils and other feedstocks into refined petroleum products, primarily fuel products such as gasoline and fuel oils. Feedstocks are received via marine tanker vessels and pipeline, and petroleum products are shipped from the refinery the same way. Refining is a process which takes crude oil and distills it under atmospheric pressure into its primary components: gases (light ends), gasolines, kerosene and diesels (middle distillates), heavy distillates, and heavy bottoms. The heavy bottoms go on to a vacuum distillation unit to be distilled again, this time under a vacuum, to salvage any light ends or middle distillates that did not get separated under atmospheric pressure; the heaviest bottoms are eventually processed into coke. Other product components are processed by downstream units to be cleaned (hydrotreated), "cracked" into smaller molecules (catalytic or hydrocracking), reformed (catalytic reforming), or alkylated (alkylation) to form gasolines and high-octane blending components, or to have sulfur or other impurities removed to make diesel and other fuel oils. Refining byproducts include:

• Wastewater, which is treated and discharged to the San Francisco Bay
• Waste gases, which are collected and burned as fuel for refinery heaters, boilers and turbines
• Sulfur, a salable by-product which is removed from feedstocks and intermediate products in the form of hydrogen sulfide and other sulfur-containing gases, and converted to a pure, solid form which is sold
• Coke, a salable by-product that is the leftover solid material remaining after crude oil has been completely refined

Auxiliary facility operations include:

• a three-turbine power plant that burns refinery waste gases and natural gas, and which produces electrical power for the refinery and steam for various processing operations
• two hydrogen plants which produce pure hydrogen for use in various processing operations

Air emissions include both organic and inorganic gases that are emitted from storage tanks and from leakage from pipes and process vessels, as well as combustion emissions from refinery heaters and other combustion devices, and particulate emissions from operations such as coke and sulfur handling.

A more detailed description of petroleum refinery processes and the resulting air emissions may be found in Chapter 5 of EPA's publication AP-42, Compilation of Air Pollutant Emission Factors. This document may be found at:

http://www.epa.gov/ttn/chief/ap42/ch05/

The principal sources of air emissions from refineries are:

- Combustion units (furnaces, boilers, and cogeneration facilities)
- Storage tanks
- Fugitive emissions from pipe fittings, pumps, and compressors
- Sulfur plants
- Wastewater treatment facilities

Combustion unit emissions are generally controlled through the use of burner technology, steam injection, or selective catalytic reduction. Storage tank emissions are controlled through the use of add on control and or fitting loss control. Fugitive emissions have been controlled through the use of inspection and maintenance frequencies. Sulfur plants are equipped with tail gas units to reduce emissions. Wastewater treatment facilities are controlled by covering units, gasketing covers, and add on controls such as, carbon canisters.

ConocoPhillips also owns the ConocoPhillips Carbon Plant (Plant # A0022). Because the refinery and the carbon plant are so close together, have a common owner, and are in the same industrial grouping, they are considered to be one facility. Because District review of the original permit applications was close to completion at the time of this determination, the carbon plant has been issued a separate Title V permit, which is authorized by Title V regulations.

The District has determined that no refinery source is subject to additional applicable requirements due to the refinery's association with the carbon plant.

BAAQMD Regulation 2-6-412.2 requires a description of the emissions changes in the public notice. The emissions change will be estimated based on the emissions in the District's database for 2003, when the initial permit was issued, and the emissions summary submitted with the renewal Application 18231. Note that because the 2008 emissions are calculated based on throughputs, they are subject to error. The emissions change statement is an estimate only.

The calculated emissions for 2003 are:

Particulate	70 tons per year
Organics	801 tons per year
Oxides of Nitrogen	1725 tons per year
Sulfur Dioxide	760 tons per year
Carbon Monoxide	330 tons per year
Ammonia	56 tons per year
Benzene	3.5 tons per year
Formaldehyde	16.6 tons per year

Methanol	87.6 tons per year
MTBE	6.2 tons per year
Phenol	2.6 tons per year
Toluene	2.4 tons per year
Xylene	7.8 tons per year

The reported emissions in 2008 were:

Particulate	119 tons per year
Organics	329 tons per year
Oxides of Nitrogen	347 tons per year
Sulfur Dioxide	484 tons per year
Carbon Monoxide	347 tons per year
Ammonia	63 tons per year
Benzene	2.6 tons per year
Formaldehyde	19.2 tons per year
Methanol	2.9 tons per year
MTBE	0 tons per year
Phenol	0 tons per year
Toluene	1 tons per year
Xylene	3.8 tons per year

The difference is:

Particulate	49 tons per year
Organics	-472 tons per year
Oxides of Nitrogen	-1,278 tons per year
Sulfur Dioxide	-276 tons per year
Carbon Monoxide	17 tons per year
Ammonia	7 tons per year
Benzene	-1.1 tons per year
Formaldehyde	2.6 tons per year
Methanol	-84.7 tons per year
MTBE	-6.2 tons per year
Phenol	-2.6 tons per year
Toluene	-1.4 tons per year
Xylene	-4 tons per year

The detail for emission changes that are smaller than 1 ton per year can be found in the application folder.

C. Permit Content

The legal and factual basis for the permit follows. The permit sections are described in the order that they are presented in the permit.

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.

<u>Changes to permit</u>

- The adoption dates of the rules in Standard Condition I.A have been updated.
- Reference to Regulation 3 as basis was deleted from Standard Condition I.E as this regulation applies to Fees only and has no concern with Records requirements.
- Section I.J.2 has been modified to clarify that the capacity limits shown in Table II-A are enforceable limits.

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). If a source is also an abatement device, such as when an engine controls VOC emissions, it will also be listed in the abatement device table but will have an "S" number. An abatement device may also be a source (such as a thermal oxidizer that burns fuel) of secondary emissions. If the primary function of a device is to control emissions, it is considered an abatement (or "A") device. If the primary function of a device is a non-control function, the device is considered to be a source (or "S").

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 permit:
Table II A – Permitted Sources

- Moved capacities for sources S50-S59 from "Model" column to "Capacity" column. Deleted operating hours limits for these sources, as they don't belong in this table.
- Removed tanks S117, S121, and S193. These tanks were removed as part of Application 13424. References to them have previously been removed from Sections IV, VI, and VII of the permit.
- Reference to S451, Tank 695, has been deleted, as it was never built. The A/C issued for this source under Application 3449 expired on March 19, 2008.
- Changed capacity of S455, U240 Cooling Tower, from 30,000 gpm to 33,000 gpm as it was captured incorrectly in this table.
- Removed note related to S45 as this source now has District permit.

Table II B – Abatement Devices

- Regulation 6, Particulate Matter and Visible Emissions, was renumbered as Regulation 6, Rule 1, and renamed as Particulate Matter, General Requirements on December 5, 2007. The equivalent rule in the State Implementation Plan (SIP) is Regulation 6, Particulate Matter and Visible Emissions, which was approved in a Federal Register notice of September 4, 1998. This change is reflected in this table for various abatement devices.
- Modified table to show S324, API Oil Wastewater Separator, as being abated by A49, DAF Thermal Oxidizer, and A51, DAF Carbon Bed. S324 is indirectly controlled as vapors from S324 are routed to S1007, Dissolved Air Flotation Unit, which is directly controlled by A49 and/or A51.
- The source controlled by A50, Hydrogen Plant Vent Scrubber, has been corrected to S464, Hydrogen Plant, instead of S307, Unicracking Unit. Formerly, the hydrogen plant was considered to be part of the unicracking unit and did not have a separate source number.
- Removed sources S296 and S398, Refinery Flares, from the table as there is no evidence that the flares at the ConocoPhillips refinery are being used as control devices. Please refer to the write-up titled ""Non-Applicability of Flare Design Requirements NSPS 40 CFR 60.18 and NESHAP 40 CFR 63.11 to the Refinery Flares, S296 and S398" in Section IV of this document for complete explanation.
- Modified table to show that only S173, Tank #280, is not currently abated by A7, Vapor Recovery System. ConocoPhillips plans to get S173 into turnaround and then back into service controlled by A7 by the middle of 2012.

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 permit

- The adoption dates of the rules have been updated.
- Regulation 6, Particulate Matter and Visible Emissions, was renumbered as Regulation 6, Rule 1, and renamed as Particulate Matter, General Requirements on December 5, 2007. The equivalent rule in the State Implementation Plan (SIP) is Regulation 6, Particulate Matter and Visible Emissions, which was approved in a Federal Register notice of September 4, 1998. The BAAQMD rule is technically not federally enforceable, although the requirements are identical. This change is also reflected in the Section IV and VII tables.
- Added BAAQMD Regulation 2-1-429, Federal Emissions Statement, and SIP Regulation 2-1-429 requirements to Section III.

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.

Layout of Section IV:

The order of tables is as follows:

- All sources, General applicable requirements – Table IV
- Combustion equipment such as Heaters, Boilers, and Engines – Tables with "A" designation
- Wastewater sources – Tables "B" through "J"
- Gasoline Dispensing Facility – Table IV-K
- Flares – Tables IV-L.1 and L.2
- Process units – Tables "M" through "P"
- Turbines and Duct Burners – Tables with "Q" designation
- Solvent Cleaning – Table IV-R
- Marine Loading – Table IV-S
- Groundwater Extraction – Table IV-T
- Sulfur Plants – Tables with "U" designation
- Isomerization unit – Table IV-V
- Silos – Tables "W" through "X"
- Fuel gas caustic system – Table IV-Y
- Fugitive requirements – Tables AA-AB
- Tanks – Tables with "BB" designation
- Cooling Towers – Tables with "CC" designation

Complex Applicability Determinations:

<u>Applicability of District Regulation 8, Rule 2</u>

The District has determined that the definition of "miscellaneous operation" in Regulation 8-2-201 excludes sources that are in a source category regulated by another rule in Regulation 8, even if they are exempt from the other rule. This is because such sources are limited by the terms of the exemption. Thus, for example, a hydrocarbon storage tank that stores liquids with a vapor pressure less than 0.5 psia is exempt form Regulation 8, Rule 5, Storage of Organic Liquids (8-5-117), and is not subject to Regulation 8, Rule 2, Miscellaneous Operations.

The policy justification for this determination is that the District considered appropriate controls for the source category when it adopted the rule governing that category. Part of the consideration includes determination of sources and activities that are not subject to controls.

<u>Exemption of Flares from Regulation 8</u>

On page 20 of the Order, EPA states that the District must either conduct a design review of the refinery flares to better demonstrate that the flares consistently meet a 90% control efficiency to qualify for the Regulation 8-1-110.3 exemption from Regulation 8, Rule 2 or include Regulation 8, Rule 2 as an applicable requirement for those sources. The District did not make either of these changes because the District has no authority to do so and because conducting a design review to qualify for an exemption from Regulation 8, Rule 2 would not be a wise use of resources.

First, as previously stated in the District's June 13, 2005 response to EPA's order, which is incorporated herein by reference and set forth in Appendix A, Regulation 8, Rule 2 does not apply to refinery flares because the term miscellaneous operation was never intended to include refinery flares. This applicability determination does not rely on the exemption in Regulation 8-1-110.3. Rather it is based on the general scope of Regulation 8, Rule 2 as supported by a review of the regulatory history and other considerations discussed below.

In its original form the limit now included in Regulation 8, Rule 2 clearly did not apply to refinery flares. The (then) Bay Area Air Pollution Control District adopted Regulation 3 – the predecessor to Regulation 8, Rule 2 and others – on January 4, 1967. In its original form, Regulation 3 set a standard of 300 ppm total carbon for any organic emission from a *source operation* (former § 3101). A "source operation" was defined (former § 2035) as "the last operation preceding the emission of an air contaminant, which operation (a) results in the separation of the air contaminant from the process materials or in the conversion of these process materials into air contaminants, as in the case of combustion of fuel; and (b) is not an air pollution abatement operation." A refinery flare is not an operation that separates or converts process materials into air contaminants rather its function is to reduce or abate the amount of contaminants in gases that would otherwise be emitted directly into the atmosphere. Accordingly, refinery flares were not subject to the limit in Regulation 3, and the limit was never enforced against flares.

Regulation 3 also included the predecessor to the exemption now contained in Regulation 8-1-110.3 (former § 1215). The exemption provided a mechanism for exempting certain *source operations* from the 300 ppm total carbon limit. Specifically, section 1215 included an exemption for any source operation or group of source operations that achieved an 85% reduction in reactive organic gas emissions. Because a refinery flare was not a source operation, however, this exemption had no relevance for these devices.

Subsequent rulemakings did not include any discussion or analysis of expanding the scope of Regulation 8, Rule 2 to include refinery flares. When Regulation 3 was recodified in 1980 into various Regulation 8 provisions including Regulation 8, Rule 2, the applicability language was revised. The term "source operation" and its definition were deleted. In their place, the regulation now refers to *miscellaneous operations*. The term "miscellaneous operations" was very broadly defined to include "[a]ny operation other than those limited by the other Rules of this Regulation 8 and the Rules of Regulation 10." While this amendment provides a basis for an argument that the scope of Regulation 8, Rule 2 was expanded to include flares, there is nothing in the rulemaking record to support this claim. If this had been an intended result of the recodification of Regulation 3 or any subsequent amendments to the provisions affecting the applicability of the limit in 8-2, some analysis of the cost and impact of that regulatory impact would have occurred. That there has been no discussion or analysis of the costs or impacts of expanding the scope of the emissions limit in Regulation 8, Rule 2 or the exemption in Regulation 8-1-110.3 to include refinery flares is a strong indication that this was not intended. Flares are safety devices and any regulation of these devices would have been controversial, as the recent flare control rulemaking demonstrates. Safety and costs are weighty issues, and one would expect them to be addressed in any rulemaking that implicated them.

Further support for the District's determination that Regulation 8, Rule 2 was never intended to apply to refinery flares is that the means of demonstrating compliance with the limit in Regulation 8, Rule 2, as set out in Section 8-2-601, cannot be used for these devices. It can reasonably be assumed that the District would provide a specific means of determining compliance with Regulation 8, Rule 2 for flares if these sources were expected to comply with the rule.

The District adopted the flare control rule, Regulation 12, Rule 12 in 2006. As a part of the rulemaking, the District amended Regulation 8, Rule 2 to clarify that it does not apply to refinery flares. As explained in the Staff Report and other documents for this rulemaking, the amendment to Regulation 8, Rule 2 was intended to reflect existing law. While this clarification was not strictly necessary, the District determined that it would be best to spell out the regulatory structure for refinery flares to avoid the apparent confusion regarding the scope of Regulation 8, Rule 2 as evidenced by the issues raised in the context of the Title V permitting for Bay Area refineries.

Although none of these points is definitive in and of itself, taken together they comprise a compelling case for the District's determination that Regulation 8, Rule 2 was never intended to apply to refinery flares. The District is bound by its purpose in adopting the regulation; the District may not, and EPA cannot order the District to, enforce or apply a regulation – even one approved for inclusion in the State Implementation Plan – inconsistent with its intended purpose. Thus, the District has no authority to include this rule as an applicable requirement or to require a design review to establish qualification for the exemption from the rule under Regulation 8-1-110.3 as directed by EPA.

Second, the flares at this facility are not subject to Regulation 8, Rule 2 because they are subject to a rule in Regulation 10. Regulation 8, Rule 2 applies to miscellaneous operations, which do not include operations limited by any other rule in Regulation 8 or any rule in Regulation 10. Certain refinery flares, including the flares at this facility, are subject to 40 CFR Part 60, which includes Subpart J. This federal regulation has been incorporated by reference in Regulation 10; consequently a flare subject to Subpart J is also subject to a Regulation 10 rule. The flares at this facility will be certified for compliance with Subpart J, which includes an acceptance of Subpart J applicability, in accordance with the provisions of the Consent Decree filed January 27, 2005 in the U.S. District Court, Southern District of Texas in United States et al., v. ConocoPhillips Company, Civil Action No. H-05-0258. Because the flares are limited by a Regulation 10 rule, Regulation 8, Rule 2 does not apply to these devices.

Finally, even if Regulation 8, Rule 2 did apply to refinery flares, the District continues to maintain that these devices are designed and operated so that they would meet the conditions of the exemption under Regulation 8-1-110.3 and that monitoring to ensure these conditions are met is unnecessary. In fact, previously, in issuing the permit, the District determined that on the basis of available information, refinery flares when properly operated easily meet a 90% reduction efficiency. The District explained that the design of the flares has been dictated by requirements of another agency charged with ensuring the protection of refinery workers but that a properly operating flare so designed will consistently meet the 90% reduction efficiency by a significant margin. The District does not believe that there is any benefit to be realized by performing a design review, particularly now that all Bay Area refineries are preparing Flare Minimization Plans to be submitted by August 1, 2006 as required by Regulation 12, Rule 12, Flares at Petroleum Refineries.

The Order further provides that the permit lacks periodic monitoring for compliance with permit conditions added to ensure that flares are properly operated. The District also has no authority to take this action. In response to concerns previously raised by EPA about the need to ensure the flares will meet the conditions for the exemption from Regulation 8, Rule 2 under Regulation 8-1-110.3, the District added permit conditions to ensure the flares are operated in a manner consistent with the operational parameters assumed in determining that they would qualify for the exemption. Although the permit conditions were not necessary to ensure compliance with an applicable requirement, they were identified as federally enforceable; this was in error. If the District had retained these conditions, the permit would have been modified to reflect this conclusion. Because Regulation 8, Rule 2 does not apply to refinery flares and the exemption in Regulation 8-1-110.3 is, therefore, irrelevant for these devices, these conditions are not necessary or authorized and must be deleted. And because the conditions have been deleted, the issue of adding periodic monitoring to ensure compliance with the permit conditions is moot.

Compliance with Regulation 9-1-313.2

The District is proposing deletion of Title V permit conditions in the five Bay Area refinery permits related to monitoring for compliance with 9-1-313.2. Regulation 9-1-313 allows three options for compliance, but is complied with at all Bay Area refineries through section 313.2, which requires operation of a sulfur removal and recovery system that achieves 95% reduction of H2S from refinery fuel gas. Conditions were established in the 2003 issuance of these permits to periodically verify that a 95% reduction is being achieved. Though details vary amongst the five refineries, all permits require some form of compliance demonstration, generally involving inlet-outlet source testing. The refineries have consistently objected to these conditions, noting that source testing for H2S reduction is, on the one hand, costly and a significant safety risk, and on the other, unlikely to yield data useful to determining compliance. Having reconsidered the issue, the District is now proposing deletion of the conditions.

The monitoring in all five refinery permits was established pursuant to 2-6-409.2, which provides that, where the applicable requirement does not contain periodic monitoring or testing, "the permit shall contain periodic monitoring sufficient to yield reliable data from the relevant time periods that is representative of the source's compliance with the permit." This provision was established in 2-6 to satisfy EPA's program approval criteria found in 40 CFR 70.6(a)(1)(iii), commonly known as the periodic monitoring requirement. The District has consistently applied a balancing test to determinations of periodic monitoring, considering, among other things, the likelihood of a violation during normal operation, variability in the operation and in the control device, the technical feasibility and probative value of the monitoring under consideration, and cost. Applying these factors to 9-1-313.2, the District now believes that compliance with 9-1-313.2 is sufficiently assured without the addition of Title V monitoring.

A periodic monitoring determination should take as its starting point the intent of the underlying requirement. While some District regulations impose reduction efficiency with the intent that it be measured on an ongoing basis, other regulations use reduction efficiency to describe the requisite design of equipment to be installed. The latter are sometimes referred to as design standards.

Regarding 9-1-313.2, both the rule language and contemporaneous explanations of the rule suggest that the 95% reduction requirement was intended as a design standard. Furthermore, the target of 95% was aimed at ensuring that no significant fuel gas stream went untreated, rather than acting as a performance standard for treatment systems. Regulation 9-1-313 prohibits operation of a refinery of a certain size unless one of three conditions is met, one of which (§ 313.2) is that "*there is a* sulfur removal and recovery system that removes and recovers, on a refinery wide basis, 95% of H2S from refinery fuel gas" (emphasis added). This phrasing places primacy on the presence of a system capable of achieving a reduction, rather than achievement of the reduction. Moreover, another of the three possible methods of compliance with Section 313 (§ 313.3) allows (prior to a certain date) compliance merely by way of an enforceable commitment to construct such a system. This third compliance option reinforces the inference that the primary intent of Section 313 was to require operation of a sulfur recovery and removal system.

Regulation 9-1-313 was adopted in 1990, at a time when all but one Bay Area gasoline-producing refinery were already operating SRU's. The remaining gasoline-producing refinery, Pacific Refining (which has since closed), was instead using a caustic scrubbing system, and had a history of causing odor problems in the community due, in part, to high H2S levels in fuel gas. The 1990 District staff reports evidence that the primary purpose of the rule was to require installation of an SRU at this facility. This also happens to be the purpose of the Section 313.3 compliance option. The staff reports do not evidence a concern with ensuring a certain level of performance at facilities with existing SRU's. Nor do the staff reports characterize Section 303 as being in any way intended to fulfill a requirement of the federal Clean Air Act. The 1990 staff reports indicate that Bay Area refineries with SRU's were known at the time to be reducing sulfur content in fuel gas to well below applicable regulatory standards.

In 1995 the District revised 9-1-313.2 to add a requirement that a refinery removing more than 16.5 tons of elemental sulfur per day must install a sulfur recovery plant or sulfuric acid plant. The content of the accompanying staff report suggests that, once again, this rulemaking was directed at one facility, Pacific Refining. The caustic scrubbing system in use at Pacific Refining had not resolved the odor problem at the refinery. The rule revision was intended to require Pacific Refining to install a sulfur plant. Most relevant to today's proposal, the staff report includes a statement that while a caustic scrubbing system can be expected to achieve a 95% H2S reduction, reduction at an SRU typically exceeds 99%.

The language of 9-1-313.2 and District staff reports are consistent with the view that the intent of the rule was to require Bay Area refineries to install and operate an SRU. Though there is an expressed assumption that reduction of better than 99% can be achieved by an SRU, there is no mention in the rule or in the staff reports of how a 95% reduction could be verified on an ongoing basis. This is consistent with the characterization of section 313.2 as a design standard that is satisfied by installation and operation of an adequately designed system.

The discussion that follows explains why periodic monitoring would not be appropriate even if the 95% reduction requirement of section 313.2 is characterized as a performance standard. Although the following discussion can stand alone as a justification for not imposing additional monitoring, it can also be viewed as overlapping with discerning the original intent of the rule. The technical considerations weighing against establishing monitoring through Title V today are synonymous with the policy reasons for why monitoring was not included in the rule as adopted in 1990, and why that rule is most accurately viewed as a design standard.

The District believes that monitoring to verify a 95% reduction is not appropriate. The monitoring would be costly and burdensome. To attempt measurement of inlet and outlet concentrations would require that samples be taken from multiple points simultaneously. The refineries have asserted this is not possible. The District acknowledges that doing so is at the least costly, complicated, and, to the District's knowledge, unprecedented. The task is made more difficult due to the risks of exposure to H2S during sampling, particularly at inlet concentrations. Safety precautions would require 2-3 personnel at each sample point, and additional precautions during sample transport and handling. Because the standard is expressed as a refinery-wide standard, samples would need to be taken simultaneously at each fuel gas treatment system in order to determine compliance.

A monitoring regime may be burdensome and yet still justifiable if, among other things, results are accurate and probative regarding compliance with the standard. This is not the case regarding the 95% reduction goal of section 313.2. The accuracy of inlet-outlet source testing would be hampered by the limits of available methods for analyzing H2S samples at these levels of dilution. Moreover, many of the other sulfur species present interfere with measurement of H2S, and as a result routine fluctuation in sulfide species will tend to confound calculations comparing inlet and outlet H2S concentrations. There is no recognized method for quantifying and taking this into account.

Moreover, the District believes the margin of compliance with the 95% reduction goal is likely very large. Of course, due to the considerations discussed above, this cannot be verified with significant accuracy. However, each refinery has regulatory and operational reasons for employing an SRU to maintain H2S concentrations at very low levels. NSPS Subpart J, for instance, requires that fuel gas contain no more than 230 ppm H2S. Concentrations at the Bay Area refineries are typically far below this level in all gas combusted as fuel. While the actual percentage of reduction would depend on the inlet concentrations, the low concentrations found post-SRU fuel gas yields a safe assumption that reductions well in excess of 95% are occurring.

In summary, 9-1-313 was adopted primarily to force installation of an SRU at a single refinery that no longer operates. Though not stated in the staff reports, the expression of a 95% reduction goal was likely inserted in the rule to ensure that any SRU installed would address fuel gas comprehensively, not merely in part. H2S reduction efficiency for an entire fuel gas system can be estimated but cannot be accurately measured. The District believes there is a high degree of certainty that when all fuel gas is processed in an SRU, an H2S reduction efficiency well above 95% will be achieved. However, monitoring for this result would entail high costs and safety risks for measurements insufficiently exact to be relied on as a measurement of compliance.

Such monitoring is therefore not justified for a District regulation that has no historical and no direct functional relationship to a federal Clean Air Act requirement.

The District solicits comment on this proposal and on possible alternative approaches to verifying compliance with the 95% reduction goal of section 313.2. The District knows of no examples in which monitoring for such a standard has been successfully implemented in other jurisdictions. Finally, the District notes that it is considering revision of 9-1-313 that would shift the focus from reduction efficiency to a standard that is both more pertinent to air quality protection and more verifiable.

Facility Tanks

In both Section IV and Section VII, facility tanks have been grouped into several tables such that each table includes a number of tanks that have a common set of requirements. Specific requirements are triggered by various criteria, which include: tank size, tank construction date, vapor pressure of the tank contents, toxicity of the tank contents, tank roof design (floating roof versus fixed roof) and whether or not the tank is vented to a control device. For example, the fewest requirements apply to tanks which are relatively old and therefore are not subject to the federal New Source Performance Standard (NSPS), and which store low-vapor pressure materials and therefore are not subject to District Regulation 8, Rule 5. More requirements apply to newer tanks that store high vapor-pressure materials. All tanks are designated as “BB” in both Sections IV and VII.

Cooling towers

EPA commented in their letter of August 2, 2004, that the permit for ConocoPhillips did not have applicable requirements for their cooling towers. This assertion is not entirely accurate; Regulation 6, Rule 1 and Regulation 8, Rule 2, are in Section III, Generally Applicable Requirements. Section III includes requirements for exempt sources.

All cooling towers will be subject to similar conditions because they are subject to the same regulatory requirements, regardless of their permitting status. Cooling towers are subject to BAAQMD Regulation 6, Rule 1, Particulate Matter, General Requirements. While they may be subject to BAAQMD Regulation 8, Rule 2, Miscellaneous Operations, Section 8-2-114 exempts cooling towers, provided that "best modern practices" are used.

The District has determined that best modern practice for operation of refinery cooling towers is frequent monitoring for potential heat exchanger leaks. The District has reviewed the current practice of Bay Area refineries, and has determined that daily visual inspection, plus water sampling and analysis for indicators of hydrocarbon leaks once per shift, is the best modern practice. A cooling tower that is maintained using best modern practices is exempt from Regulation 8, Rule 2. The facility has the burden of keeping records necessary to demonstrate that it qualifies for the exemption. The District has determined that this facility is using best modern practice to monitor cooling tower water for indications of heat exchanger leaks. Permit conditions 22121 and 22122 ensure that the facility continues to use these practices.

Relationship between ConocoPhillips Carbon Plant (Plant A0022) and ConocoPhillips Refinery (Plant A0016)

The District has determined that the ConocoPhillips Carbon Plant and ConocoPhillips Refinery are the same facility.

Federal Title V regulations allow the District to issue separate Title V permits to distinct operations within a facility. 40 CFR 70.2. Because the plants are separately managed, because processes at the two facilities are very different, and because both draft permits are very close to completion, the District has decided to issue separate permits to these two facilities. Before doing so, however, requirements that arise due to the facilities' association with each other must be added to the draft permits.

The District has determined that no additional requirements apply to sources at the refinery due to the determination that Federal regulations applicable to the Carbon Plant may be applicable to the refinery as well. Any additional requirements that apply to the carbon plant due to its association with the refinery will be addressed in the carbon plant Title V permit.

Discussion

The ConocoPhillips Carbon Plant and ConocoPhillips Refinery are physically separated by a 200 ft-wide strip of property belonging to the railroad. The facilities are therefore not contiguous. They are, however, "adjacent" properties. The Standard Industrial Classification (SIC) code for ConocoPhillips Carbon Plant is 2999 (Products of Petroleum and Coal, Not Elsewhere Classified). The SIC code for ConocoPhillips Refinery is 2911 (Petroleum Refining).

The federal definition of "facility" is the basis for BAAQMD Regulation 2-2-215. Under this definition, the ConocoPhillips Carbon Plant and ConocoPhillips Refinery are the same facility for the following purposes:

- District permits
- Federal New Source Review and Prevention of Significant Deterioration
- Federal National Emission Standards for Hazardous Air Pollutants (NESHAPS) (40 CFR 61 and 63)
- Federal New Source Performance Standards (NSPS) (40 CFR 60)
- Title V operating permits
- District regulation

As a result, the emissions from both plants must be combined to determine whether or not they exceed the Title V applicability thresholds. Also, any requirements under the above programs that are applicable to refineries are also applicable to the ConocoPhillips Carbon Plant. All such requirements are addressed in the ConocoPhillips Carbon Plant Title V permit.

Any requirements under the above programs that are applicable to carbon plants are also applicable to the ConocoPhillips Refinery. There are no such requirements that apply to any sources at the ConocoPhillips refinery.

In addition to the Federal regulations, the District has several regulations that apply to refineries. These District regulations apply to both refinery and carbon plant: Regulation 8-18 (Equipment leaks), 8-28 (Episodic releases from Pressure Relief Devices at Petroleum refineries and Chemical plants), and Regulation 9-10 (NOx and CO emissions from Boilers, Steam generators, and Process heaters in Petroleum refineries).

The applicability of Regulations 8-18 and 8-28 to the carbon plant are discussed in the carbon plant Title V permit.

Regulation 9-10 requires that NOx emissions from refinery boilers, steam generators, and process heaters, on a refinery-wide basis, must be below 0.033 pounds NOx per million BTU of heat input. The District has determined that none of the combustion devices at the ConocoPhillips Carbon Plant are boilers, steam generators, or process heaters. As a result, they are not included in the refinery-wide average for determination of compliance.

A boiler or steam generator is defined in 9-10-202 as "Any combustion equipment used to produce steam or heat water." The rotary kilns at the ConocoPhillips Carbon Plant are used to calcine coke; off-gases from calcining are sent to the pyroscrubbers, where organics and sulfur compounds are oxidized fully. Until 1983, the hot gases from the pyroscrubbers were vented directly to the atmosphere. The kilns and pyroscrubbers were not designed with any intention to generate produce steam or heat water.

In 1983, the facility installed heat recovery equipment. The hot stack gases were used to make steam, which generates electricity in a steam turbine.

The District has determined that the addition of equipment to produce steam by recovering waste heat does not mean that the original combustion equipment is used to produce steam. The equipment in this case, is used to calcine coke. As a result, the rotary kilns and pyroscrubbers are not steam generators, and are therefore not subject to Regulation 9-10.

Clean Air Act 112(j)

The 1990 Amendments to section 112 of the Clean Air Act included a new section 112(j), which is entitled "Equivalent Emission Limitation by Permit." Section 112(j)(2) provides that the provisions of section 112(j) apply eighteen months after the EPA misses a deadline for promulgation of a standard under section 112(d) established in the source category schedule for standards. The EPA missed the deadline for the following standards to which this facility was possibly subject on November 15, 2000:

- Boilers and Process Heaters

On May 20, 1994, EPA issued a final rule (40 CFR 63, Subpart B) for implementing section 112(j). That rule requires major source owners or operators to submit a permit application 18 months after a missed date on a regulatory schedule. 40 CFR 63, Subpart B also establishes requirements for the content of the permit applications and contains provisions governing the establishment of the maximum achievable control technology (MACT) equivalent emission limitations by the permitting authority.

Non-Applicability of Flare Design Requirements NSPS 40 CFR 60.18 and NESHAP 40 CFR 63.11to the Refinery Flares, S296 and S398

NSPS 40 CFR 60.18 Discussion

The District has reviewed the applicability of the flare design requirements in 40 CFR 60.18 as part of the analysis required for renewal of the ConocoPhillips Title V permit and has come to the conclusion that Section 60.18 does not apply to the flares, S296 and S398.

Section 60.18 contains "requirements for control devices used to comply with applicable subparts of 40 CFR parts 60 and 61." It applies "only to facilities covered by subparts referring to this section." The section imposes both design and operating standards for flares and includes the following requirements: (1) flares must be designed for and operated with no visible emissions, (2) flares must be operated with a flame present at all times, (3) steam-assisted flares must be used only when the net heating value of gas being combusted exceeds 300 Btu/scf, and (4) steam-assisted flares must be designed and operated so that the exit velocity is less than 60 ft/sec or less than 400 ft/sec if gas heating value exceeds 1000 Btu/scf or less than a velocity determined by an equation.

The text of Section 60.18 indicates that it is not independently applicable and applies only if the ConocoPhillips flares are "control devices used to comply with applicable subparts of 40 CFR parts 60 and 61." This is a two-part test: (1) if a particular flare was constructed after the effective date of such a subpart or is otherwise subject to the subpart, and (2) the flare is being used as a "control device," then the requirements would appear to apply.

There is no evidence that the flares at the ConocoPhillips refinery are being used as control devices. BAAQMD Regulation 12, Rule 12, Flares at Petroleum Refineries, requires the use of all feasible measures to minimize the frequency and magnitude of flaring. The rule also requires reporting and causal analysis for flaring events. The flaring reports from this refinery covering the period from 2004 to the present show no instances of "routine" flaring. The best available data, therefore, do not support the idea that flares are being used as control devices and, as a result, § 60.18 does not apply.

The BAAQMD has also concluded that even if application of 40 CFR § 60.18 were somehow directed through "applicable subparts of 40 CFR parts 60 and 61," the section would not apply to the ConocoPhillips refinery flares because the regulatory history of the section indicates that it is intended to apply to industrial flares that operate continuously. Although the language of the section is sufficiently broad and vague as to allow an argument that it applies to refinery emergency relief flares (because it refers simply to "flares"), application to these flares would be contrary to the regulatory history, to the technical justification for the primary operative provisions - which set minimum Btu content standards for flared gases and limit flare exit velocity, and to practical considerations related to enforceability. In addition, both the BAAQMD and EPA have adopted or proposed alternative requirements that would address concerns about flaring of "routine" gases in these flares.

The requirements in § 60.18 were originally found in Subparts VV, NNN and Kb of 40 CFR Part 60 and Subparts L and V of Part 61. EPA consolidated and revised the requirements in 1986 in response to a petition from the Chemical Manufacturers Association asking EPA to reconsider the exit velocity limitations on flares used as control devices to comply with Subpart VV of 40 CFR Part 60. (See 51 Fed. Reg. 2699, January 21, 1986.) That petition was prompted by an EPA study on flare efficiency (*Evaluation of the Efficiency of Industrial Flares: Test Results*, EPA-600/2-84-095, May 1984). (See 50 Fed. Reg. 14941, April 16, 1985.) According to the study:

> This study was limited to measuring the combustion efficiencies of pipe flares burning propane-nitrogen mixtures <u>at steady operating conditions</u> with and without steam injection, in the absence of wind.

The study concluded that with stable flames, high combustion efficiencies were achieved in the pilot-scale flares. According to the study, stable flames could be achieved at low velocities with a gas heating value as low as 300 Btu/ft^3. At higher velocities, higher heating value was required for a stable flame. The study therefore supports the idea that steady-state flare operation can result in high destruction efficiencies for flares used as control devices. It also provides the basis for the minimum Btu content and exit velocity requirements of § 60.18. For a flare serving a gas flow of relatively stable volume and composition, these design and operating requirements ensure high combustion efficiency.

The ConocoPhillips refinery, like the other four San Francisco Bay Area refineries, employs a refinery fuel gas system to capture gases from process vents and relief valves and route them to the refinery fuel gas system for use in refinery process heaters and furnaces. This fuel gas system operates as a control device. Flares serve the refinery fuel gas systems to prevent direct release of these gases when the refinery fuel gas system cannot control them during periods of startup, shutdown, or malfunction. The ConocoPhillips flares primarily serve a safety function and must handle intermittent flows that could involve extremely large volumes, high flow rates, and uncertain composition, particularly in the case of a major power outage, unit or plant shutdown, or catastrophic failure. The design and operating requirements for such a flare are different than those for a flare with steady operating conditions and predictable flows and gas composition.

There might be a concern that the refinery flares could be used to burn "routine" gases.[1] With a refinery fuel gas system served by a flare, it is certainly physically possible to send gases that are generated by routine processes to the flare by shutting down compressors or otherwise limiting the capacity of the fuel gas system to capture gases and send them to refinery combustion units. Under these circumstances, the flare could be said to be operating as a "control device" without meeting requirements that ensure efficient combustion. But § 60.18 was never intended to address this situation, and its application in this context would create several problems.

[1] One argument advanced for § 60.18 applicability is that commingling of "routine" and "upset" gases during flaring of upset gases means that relief flares are acting as control devices for the routine gases and are therefore subject to § 60.18. It is certainly true that during refinery upsets leading to flaring, some routine gases that would otherwise go into the fuel gas system might be

flared, particularly if the fuel gas system is affected by the upset. However, the routine gases would not be flared <u>but for</u> the upset and are therefore upset gases.

The first problem is that § 60.18 imposes <u>design</u> and operation requirements. Design must necessarily precede the construction of a flare. In this case, design of the Bay Area refinery flares occurred long before EPA thought to apply § 60.18 to the ConocoPhillips flares. There is nothing in the regulatory history of § 60.18 that suggests that the section's requirements were intended to apply to flares associated with refinery fuel gas systems. Instead, as discussed, the requirements appear to have been intended to apply to "steady state" operation.

The second problem is that there is no easy way to know if § 60.18 would be a reasonable standard for existing refinery flares associated with fuel gas systems. EPA has not undertaken rulemaking to determine whether the standard should be clarified and applied to relief flares serving refinery fuel gas systems. Without rulemaking and the fact finding that would be part of such an effort, it can't be known whether the gas heating value requirements and exit velocity limits of § 60.18 are reasonable requirements for refinery relief flares.

A third problem is that, if applied to flares on refinery fuel gas systems, applicability of § 60.18 would be intermittent and would turn on the nature and origin of the gases being sent to the flare at a given moment. This raises enforceability questions that can only be resolved through a mechanism that requires examination of the cause of each flaring event. However, both the BAAQMD and EPA have recognized this problem and undertaken regulatory efforts to address the issue. The BAAQMD adopted Regulation 12, Rule 12, Flares at Petroleum Refineries on July 20, 2005. The rule requires the use of all feasible measures to minimize the frequency and magnitude of flaring and requires causal analysis of flaring events. EPA has undertaken a similar effort with 40 CFR Part 60, Subpart Ja.

In light of the reasons mentioned above, BAAQMD is deleting § 60.18 from the flare requirements in the permit.

<u>NESHAP 40 CFR 63.11 Discussion</u>

Sources S306 (U-231 Platforming Unit) and S308 (U-244 Reforming Unit) are not subject to 40 CFR § 63 Subpart CC because § 63.640(d)(4) of Subpart CC specifically exempts catalytic reformer catalyst generation from the rule.

Sources S306 and S308 are subject to 40 CFR § 63 Subpart UUU, and routine emissions from this source during cyclic catalytic regeneration are vented to the refinery fuel gas system via the flare gas recovery system. Routine emissions from catalytic regenerations are not large enough by themselves to cause a flaring event and could only reach S296 or S398 during a flaring event that occurs concurrently with S306 or S308's catalytic regeneration.

The only section that refers to 63.11(b) is Section 63.1566(a)(1)(i) Option 1, when the flare is used as a control device. In Conoco's case, the catalytic regeneration emissions in Subpart UUU are controlled by the fuel gas system per Subpart 63.1566(a)(1)(ii) Option 2, not by the flare.

Any events that lead to flaring of the catalytic regeneration gases would be qualified as an extraordinary, infrequent process upset or equipment malfunction, and they would not be subject to 63.11(b) for the combustion of these gases.

Therefore, BAAQMD is deleting § 63.11 from the flare and reforming units requirements in the permit.

Applicability of NSPS Subpart J and Fuel Gas Combustion Devices

The A420 marine terminal thermal oxidizer meets the definition of a fuel gas combustion device in NSPS Subpart J. A420 abates displaced vapors from marine vessel loading at marine berths S425 and S426. The vapors generated by marine loading operations are a fuel gas, which is subsequently combusted as specified in 60.101(d). A420 was put into service in 1990, after the NSPS applicability date of June 11, 1973 in 60.100(b). Therefore, the gas combusted at A420 is subject to the H_2S limit of 230 mg/dscm (0.10 gr/dscf) in 60.104(a)(1), and continuous monitoring is required in accordance with 60.105(a)(3) or (a)(4).

This facility has two flares, the S296 C-1 flare and the S398 MP-30 flare. Flares are used only during process upsets and not during routine operations. S296 was put into service in 1969 and serves as the main refinery flare, potentially flaring gas from several units in the MP-30 Complex: the S304 and S305 naphtha hydrotreaters and the S306 Platforming Unit. The S398 was put into service in 2000 and serves as a back-up to S296, potentially flaring emissions from the same process units. Both flares are elevated, steam-assisted flares with water seals. Only S398 is subject to Subpart J because it was constructed after June 11, 1973. However, because S398 is required to meet the exemption criteria in 60.104(a)(1), it is not subject to the H_2S concentration limit or monitoring requirement. This is typical of situations at oil refineries where the refinery has stated that a flare is used only for upsets and emergencies, and where there is not information to the contrary. The District then proceeds on the assumption that the flare is exempt from the H_2S limit of Subpart J. The District's continuing efforts to monitor the applicability of Subpart J to flares should be significantly aided in the future by information generated pursuant to BAAQMD Regulation 12, Rule 11.

Other facility combustion devices were previously determined to be subject or not subject to NSPS Subpart J based on their initial date of operation.

Applicability of 40 CFR 63, Subpart A to S398, Flare

S398, Flare, was built after 1973 and is therefore subject to 40 CFR 63, Subpart J. On page 18 of EPA's Order, EPA notes that the requirements of NSPS Subpart A have been excluded for S398, Flare. The requirements of Subpart A have been added to the table except for the following sections, which do not apply:

- 60.11(b) Compliance with opacity standards in this part…: (applies only to opacity standards)
- 60.11(c) The opacity standards set forth in this part…: (applies only to opacity standards)

- 60.11(e) For the purpose of demonstrating initial compliance, opacity observations…: (applies only to opacity standards)
- 60.13 Monitoring: (applies only to continuous monitoring systems, which are not required on this flare)

Applicability of 40 CFR 60 Subpart J to S296, Flare

The C-1, or main refinery flare (S296), was first permitted with a nominal capacity of 692 tons/hr on 1977. In 1996, ConocoPhillips replaced the flare tip with a new one of a different make. The new flare tip has a nominal capacity of 845 tons/hr. On page 17 of its Order, EPA states that the "BAAQMD must reopen the Permit to address the changes that have occurred at Flare S-296."

The District has invited the facility to provide additional information to support its position that the flare has not been modified. ConocoPhillips has indicated that while they disagree that the replacement of the flare tip for S296 was a modification, the issue is (or soon will be) moot in light of certain provisions of the national Consent Decree between EPA and the company (United States of America, et al. v. ConocoPhillips Company, H-05-0258, S.D. Texas, entered December 5, 2005). Under this agreement, ConocoPhillips has or will accept Subpart J applicability to both flares (paragraphs 142 and 143) at this refinery. Consequently the company did not provide any information to support its contention that the flare tip replacement does not constitute a modification. Based on the record currently before it, the District has determined that the increased capacity is a modification that increases the flare's hourly potential to emit. Such a modification makes the source subject to NSPS. Therefore, the requirements of Subpart J and Subpart A (as described above for S398, Flare) have been added to Section IV of the permit for S296.

With regard to the description of this requirement in Table IV-L.1 of the permit as proposed, ConocoPhillips commented that the language in that table describing the refinery fuel gas H_2S limit in 40 C.F.R. section 60.104(a)(1) for both flares should be identical to the language in paragraph 139(a) of the Consent Decree. The District understands that ConocoPhillips has elected to comply with Subpart J by the method set out in paragraph 139(a) of the Consent Decree. Substitution of the language of paragraph 139(a) is not necessary, however, because the language of the permit as proposed by the District is consistent with the compliance method described in the provision of the Consent Decree.

Furthermore, substitution of the language of paragraph 139(a) regarding Subpart J compliance would be premature. The deadline for certifying compliance with Subpart J as set out in paragraph 142 of the Consent Decree is December 31, 2007 for fifty percent of the flares identified in the agreement and December 31, 2011 for all of the flares. To date, ConocoPhillips has not designated the flares at the Rodeo refinery as immediately subject to these provisions by submitting a compliance plan as required by paragraph 141 and has not applied to include these requirements in the Title V permit.

Moreover, the language in paragraph 139(a) does not stand alone. There are a number of related requirements in the Consent Decree. For example:

- Paragraph 146 requires "good pollution control practices" in accordance with 40 CFR 60.11(d);

- Paragraph 148 requires implementation of all reasonable measures to minimize emissions while periodic maintenance is being performed on refinery flare gas recovery systems.

- Paragraph 152 requires root cause analysis and corrective action for flaring of acid gas (gas that contains H_2S and is generated by the regeneration of an amine solution) or tail gas (exhaust gas from the Claus units and the tail gas unit of the sulfur recovery units) that results in the emissions of more than 500 pounds of SO_2 in a 24-hour period;

- Paragraph 167 requires root cause analysis and corrective action for flaring of refinery gas that is not acid gas or tail gas and that results in the emissions of more than 500 pounds of SO_2 in a 24-hour period.

Without these additional requirements (and perhaps others), the substitution of the language in paragraph 139(a) would be an incomplete description of the requirements of the Consent Decree.

ConocoPhillips suggests that under the language of paragraph 139(a) of the Consent Decree, operation and maintenance of a flare gas recovery system constitutes compliance with the Subpart J. In subsequent discussions with EPA and ConocoPhillips, EPA has stated its view that with use of a properly designed and sized flare gas recovery system, gases that are released to the flare are expected to be startup, shutdown or malfunction gases that are exempt from the fuel gas H_2S limit, and that on that basis continuous monitoring of the fuel gas H_2S content is not required. Nevertheless, it remains possible that flaring of non-exempt gas subject to the H_2S limit could occur.

To assure compliance with the fuel gas H_2S limit when non-exempt gas is flared, the Consent Decree requires ConocoPhillips to conduct a root cause analysis and calculate vent gas H_2S concentration for significant flaring events. Under the Consent Decree these analyses are required for any flaring that results in SO_2 emissions of 500 pounds or more per day (i.e., a "Reportable Flaring Event"). Paragraphs 146, 148, 152, and 167 of the Consent Decree apply to incidents that occur after the date of entry, January 27, 2005; therefore, ConocoPhillips is already complying with the requirement to send RCA reports to EPA for these events. Accordingly, as explained by an EPA representative involved in the drafting of the Consent Decree, ConocoPhillips' use and maintenance of the flare gas recovery system at its San Francisco Refinery will be considered compliance with the 40 C.F.R. section 60.104(a)(1) refinery fuel gas H_2S limit for non-exempt gas except where analysis of a "Reportable Flaring Event" shows that the fuel gas H_2S concentration exceeded the limit. Similarly, the District will use the causal analyses that must be submitted under section BAAQMD Regulation 12-12-406, where more than 500,000 standard cubic feet per day is flared or where flaring results in SO_2 emissions of more than 500 pounds per day to determination compliance.

EPA Region 9 has not objected to the language in the permit and the District is issuing the permit as proposed. The language is consistent with EPA's and District's expectation that a well-designed fuel gas recovery system will prevent routine flaring. The District will be able to use the causal analyses submitted pursuant to 12-12 to determine compliance with this requirement.

Applicability of 40 CFR Part 60, Subpart QQQ, Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems

The ConocoPhillips permit cites 40 CFR 60, Subpart QQQ for the following sources: S324, U100_API Oil Wastewater Separator (with outlet channel cover); S400 and S401, Sumps; and S434, U246 High Pressure Reactor Train. Source S324 is controlled with covers, not control devices. Therefore it is not subject to 40 CFR 60.692-5(a), which concerns enclosed combustion devices. In case of Sources S400 and S401, Subpart QQQ applies only to J-boxes downstream of them.

Applicability of 40 CFR Part 60, Subpart VV, Standards of Performance for Equipment Leaks (Fugitive Emission Sources)

The ConocoPhillips permit cites 40 CFR 60, Subpart VV for the following sources: S350, U267 Crude Distillation Unit; S370, U228 Isomerization Unit; and S437, Hydrogen Manufacturing Unit. Sources S350, S370, and S437 are subject because they were built after 1983 and therefore are subject to 40 CFR 60, Subpart GGG. Any equipment that is subject to Subpart GGG is subject to Subpart VV. The affected facility is "equipment," which is defined in 60.481 as "each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service and any devices or systems required by this subpart."

However, the standard in the NESHAPS 40 CFR 63, Subpart CC supersedes the standard in Subpart VV. Section 640(p) states that "After the compliance dates … equipment leaks that are also subject to the provisions of 40 CFR parts 60 and 61 are required to comply only with the provisions specified in this subpart." In Section 640(d)(5), Subpart CC states that emission points routed to a fuel gas system are not subject to the standards. Section 648 does require the refineries to comply with the other leak standards in 40 CFR 60, Subpart VV-- Sections 60.482-1 through 60.482.9.

Applicability of 40 CFR Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations (BWON)

The BWON regulation requires that refineries that produce 10 Mg/yr or more of benzene as waste treat each benzene containing waste to an approved standard. This facility has chosen to comply with the option in 40 CFR 61.342(e)(2), know as the “6BQ” option, to keep the benzene waste quantity as calculated per the BWON requirements equal to or less than 6 Mg/yr.

Per the 6BQ option, not all sources are required to be controlled per the BWON regulations, only those that will keep the 6BQ calculation below 6 Mg/yr. Details of the applicability are described below.

Generally Applicable Requirements (Table IV – All Sources)

As described above, ConocoPhillips complies with the 6BQ option in 61.342(e)(2) and related citations. The control requirements for containers, individual drain systems and oil-water separators are listed as generally applicable because they can be controlled or uncontrolled as long as the 6BQ calculation accurately accounts for the control. In general, these types of sources can change control status with respect to BWON each year or even within a given year. These changes are reflected in the annual Total Annual Benzene (TAB) report, which includes the 6BQ calculation.

Storage Tanks (Tables IV-BB.8, BB.13, BB.15a, BB.16)

Only the storage tanks that are used to manage benzene-containing waste and considered controlled per BWON are included. All other tanks either do not contain benzene waste or are not considered controlled with respect to BWON.

The following tanks were included in the Title V permit as controlled per BWON:

Tank	**Source No.**	**TV Table**	**Control Type**	**Benzene Containing Waste**
150	107	BB.13	EFR meeting NSPS Kb	Recovered Oil
193	133	BB.16	EFR meeting NSPS Kb	Recovered Oil
204	139	BB.15a	CVS, CD	Phenolic Water
205	140	BB.15a	CVS, CD	Phenolic Water
294	182	BB.15a	CVS, CD	Sour Water
104	101	BB.8	EFR meeting NSPS Kb	Sour Water
105	102	BB.8	EFR meeting NSPS Kb	Sour water
130	105	BB.8	EFR meeting NSPS Kb	Sour water
269	168	BB.15a/21	CVS, CD	Sour water

CVS = closed vent system; CD = control device; EFR = external floating roof

API Oil-Water Separator

The API Oil-Water Separator (API OWS, S324) is included because it is considered controlled and subject to the requirements of 61.347.

Other Sources Previously Included in the Title V Permit

The Dissolved Air Flotation Unit (DAF, S1007) requirements were included in the Title V permit as part of Application #13427. See the SOB for that application for applicability details.

Applicability of 40 CFR Part 63, Subpart CC, National Emissions Standards for Hazardous Air Pollutants from Petroleum Refineries

Subpart CC is generally applicable to this facility, as shown in Table IV-All Sources. 63.640(c)(2) is specifically applicable to storage tanks as shown in the tank tables.

New requirements for heat exchangers were added to Subpart CC on October 28, 2009. The deadline for compliance is October 2012, so the requirements will be the subject of a future application.

Applicability of 40 CFR 63, Subpart R, National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)

On page 25 of EPA's Order, EPA states that: "the Permit fails to comply with the requirements of 40 C.F.R. § 70.7(a)(5) by excluding a discussion of the applicability of 40 C.F.R. 63, Part 63, subpart R, and potentially fails to comply with 40 C.F.R. § 70.6(a)(1), which requires that a title V permit include operational requirements and limitations that assure compliance with all applicable requirements."

Sources affected by NESHAPS Subpart R, Section 63.420 are either bulk gasoline terminals or pipeline breakout stations. "Bulk gasoline terminal" means any gasoline facility that receives gasoline by pipeline, ship or barge. "Pipeline breakout station" means a facility along a pipeline containing storage vessels used to relieve surges or receive and store gasoline from the pipeline for reinjection and continued transportation by pipeline or to other facilities. Conoco has no bulk gasoline terminals and no pipeline breakout stations. Therefore, it is not subject to Subpart R.

Applicability of 40 CFR Part 63, Subpart UUU (Subpart UUU)

40 CFR 63, Subpart UUU (Subpart UUU) was proposed by EPA on September 11, 1998, and promulgated on April 11, 2002. It was substantially amended on February 9, 2005.

Subpart UUU applies to catalytic crackers, catalytic reformers, sulfur recovery units (SRUs) and bypass lines for this equipment. The purpose is to reduce emissions of organic and inorganic HAP from catalytic reformers and crackers and emissions of reduced sulfur compounds from SRUs.

ConocoPhillips does not have any catalytic crackers. The facility has a thermal cracker, S307, which is not subject to the standard. The facility has stated that there are no bypass lines, so the requirements for bypass lines do not apply.
The standard requires control of any emissions from catalyst regeneration at catalytic reformers by either control at a flare or control at another control device or a concentration limit. Conoco expects that any emissions will enter the fuel gas system and be recovered. In the case that emissions cannot be recovered, ConocoPhillips would use their flares to comply with the standard. The standard would place new requirements on flares that are used for compliance with this standard. When a flare is used to comply with Subpart UUU, it is subject to 40 CFR 63.11. If a flare that is subject to 40 CFR 60, Subpart J, were used to abate the regeneration emissions, it would be subject to the H2S limits in Section 60.104(a), because regeneration of catalyst is not a startup, shutdown, malfunction, or upset. The requirement for H2S monitoring has not been added to the flare table because use of the flare is not expected during regeneration.

The flares are exempt from the H2S standard in 40 CFR 60.104(a) when burning startup, shutdown, and malfunction gas in addition to upset gas because the standard does not apply to "process upset gas," which is defined as "any gas generated by a petroleum refinery process unit as a result of start-up, shut-down, upset or malfunction."

40 CFR 63.11(b)(8) does not apply because the flare is not air-assisted.

Applicability of 40 CFR 63, Subpart YYYY, National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines

The facility has 3 stationary combustion turbines (S352, S353, S354). The turbines were installed before January 14, 2003, and are therefore considered to be existing turbines as defined by Section 63.6090(a)(i). Section 63.6090(b)(4) exempts existing turbines from the standard, the requirements of 40 CFR 63, Subpart A, General Requirements, and from notification requirements.

Applicability of 40 CFR 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

The facility has 10 compression ignition diesel-fueled engines (S50-S59). S50-S52 are used to start up the turbines (S352, S353, S354). The remaining engines are for emergency use. All engines are below 500 hp and were installed before June 12, 2006, and are therefore considered to be existing engines as defined by Section 63.6590(a)(ii). Section 63.6590(b)(3) exempts existing engines and emergency engines from the standard, the requirements of 40 CFR 63, Subpart A, General Requirements, and from notification requirements.

Applicability of 40 CFR 63, Subpart GGGGG, National Emission Standards for Hazardous Air Pollutants: Site Remediation

The site remediation activities at the facility are exempt from 40 CFR 63, Subpart GGGGG, because section 63.7881(b)(3) exempts activities that are performed under a Resource Conservation and Recovery Act (RCRA) corrective action conducted at a treatment, storage and disposal facility (TSDF) that is required by a permit issued a State program authorized by the EPA under RCRA section 3006. The facility is subject to a RCRA corrective action that is required by its permit issued by the Regional Water Quality Control Board.

Applicability of 40 CFR 64, Compliance Assurance Monitoring (CAM)

The Compliance Assurance Monitoring (CAM) regulation in 40 CFR 64 was developed to provide assurance that facilities comply with applicable emissions limitations by adequately monitoring control devices. The CAM rule was effective on November 21, 1997. However, most facilities are not affected by CAM requirements until they submit applications for Title V permit renewal. As required, ConocoPhillips has conducted an applicability analysis for CAM for the ConocoPhillips – San Francisco Refinery as part of this renewal application.

CAM applies to a source of criteria pollutant or hazardous air pollutant (HAP) emissions if all the following requirements are met:

- The source is located at a major source for which a Title V permit is required; and

- The source is subject to a federally enforceable emission limitation or standard for a criteria pollutant or HAP; and
- The source uses a control device to comply with the federally enforceable emission limitation or standard; and
- The source has potential pre-control emissions of the regulated pollutant that are equal to or greater than the major source threshold for the pollutant (in BAAQMD, the major source thresholds are 100 tons per year for each criteria pollutant, 10 tons per year for a single HAP, and 25 tons per year for two or more HAPs); and
- The source is not otherwise exempt from CAM.

CAM exemptions are specified in 40 CFR 64.2(b)(1) – Exempt Emission Limitations or Standards. Exemptions that could reasonably apply to emission sources at the ConocoPhillips Refinery are:

- 40 CFR 62(b)(1)(i) – Emission limitations or standards proposed by the Administrator after November 15, 1990, pursuant to section 111 or 112 of the ACT; or
- 40 CFR 62(b)(1)(vi) – Emission limitations or standards for which a Title V Permit specifies a continuous compliance determination method (a method, specified by the applicable standard or an applicable permit condition, which: (1) is used to determine compliance on a continuous basis, consistent with the averaging period established for the emission limitation or standard; and (2) Provides data either in units of the standard or correlated directly with the compliance limit).

Emission sources at the ConocoPhillips Refinery were first evaluated by the following criteria to identify sources requiring further analysis for CAM applicability:

- The source is listed in the existing Title V Permit; and
- The source uses a control device to routinely control the emissions of a regulated pollutant (criteria pollutant or listed HAP).

Appendix D contains a summary of the CAM requirements analysis for the emission sources that met these criteria. Based on this analysis, it was determined that no existing source is subject to CAM requirements. The only source that is subject to CAM requirements is S1010, Sulfur Recovery Unit that is currently being built under an A/C 13424. Please refer to pages 54 through 58 of the Statement of Basis of Application 13427 for detailed CAM discussion related to S1010.

<u>Changes to permit:</u>

- Regulation 6, Particulate Matter and Visible Emissions, was renumbered as Regulation 6, Rule 1, and renamed as Particulate Matter, General Requirements on December 5, 2007. The equivalent rule in the State Implementation Plan (SIP) is Regulation 6, Particulate Matter and Visible Emissions, which was approved in a Federal Register notice of September 4, 1998. The BAAQMD rule is technically not federally enforceable, although the requirements are identical. This change is reflected in all tables, where applicable, in Section IV.
- The adoption dates of the rules have been updated in all tables, where applicable, in Section IV.

Table IV-Facility

- Included requirements per SIP Regulation 2, Rule 1, Section 429, Federal Emissions Statement.
- Included new requirements that apply to various tanks per BAAQMD Regulation 8, Rule 5 and SIP Regulation 8, Rule 5.
- Minor typo related to BAAQMD Regulation 11-2-503 was corrected.
- Added EPA Regulation 40 CFR Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations (BWON), as the facility is no longer exempt from this rule. NESHAP FF requires that when the total annual benzene quantity from the facility waste is equal to or greater than 10 Mg/yr (11 ton/yr), the facility must manage and treat both aqueous and non-aqueous waste streams in accordance with the requirements of Section 61.342(c). As an alternative to complying with the requirements of Section 61.342(c), NESHAP FF allows facilities to manage and treat the facility waste pursuant to the requirements in Section 61.342(e) that ConocoPhillips has elected. Under Section 61.342(e), ConocoPhillips must manage and treat the non-aqueous and aqueous waste per the requirements in Sections 61.342(e)(1) and 61.342(e)(2), respectively.
- EPA Regulation 40 CFR Part 63, Subpart B, applicability has been updated to show that Turbines, Reciprocating Internal Combustion Engines, Boilers/Heaters, and Site Remediation MACT were found not to be applicable.
- Removed NSPS 40 CFR 60.18 and NESHAP 40 CFR 63.11 requirements as they don't apply to the refinery flares (S296 and S398). Please refer to the write-up "Non-Applicability of Flare Design Requirements NSPS 40 CFR 60.18 and NESHAP 40 CFR 63.11 to the Refinery Flares, S296 and S398" on pages 21-24 of this document.

Tables IV-A.1 to IV-A.5, IV-A.7 to IV-A.18, IV-A.20 to IV-A.23, IV-A.25, IV-A.26, IV-A.29 to IV-A.33

- BAAQMD Section 9-10-502.1 is federally enforceable. Amended the tables accordingly to show the federal applicability of this section.
- Included SIP Regulation 9, Rule 10 requirements, that were adopted on 4/2/08.
- IV-A.12. The monitoring is contained in BAAQMD Condition 21235. The parameters are oxygen content and fuel input.
- Corrected "basis" of Part F.3 of permit condition 1694 from "Recordkeeping" to "Cumulative Increase".
- Parts 1 thru 10 of permit condition 21235 are federally enforceable. Amended the tables accordingly to show federal applicability of these requirements.
- Included Alternative Compliance Plan (ACP) requirements (i.e., parts 11 thru 15 of permit condition 21235).

Tables IV- A.1-A.5, IV-A.7, IV-A.9, IV-A.10, IV-A.18, IV-A.20-A.23, IV-A.29, and IV-A.30.

- The owner/operators uses parametric monitoring to monitor NOx from Sources S2-S5, S7, S9, S11, S12, S20, S22, S29-S31, S336, and S337, therefore the parametric monitoring provisions in BAAQMD and SIP Regulations 1-523 have been added to

Tables IV- A.1-A.5, IV-A.7, IV-A.9, IV-A.10, IV-A.18, IV-A.20-A.23, IV-A.29, and IV-A.30.

Table IV-A.6

- Deleted table because S8 has been deleted from the permit to provide offsets for the "CFEP" project permitted through Application 13424.

Tables IV-A.7, IV-A.8, IV-A.9, IV-A.10, IV-A.11, and IV-A.12

- Deleted mention of S8 in Condition 1694, part F.1 because S8 has been deleted from the permit to provide offsets for the "CFEP" project permitted through Application 13424.

Table IV-A.8

- Included part F.4a to permit condition 1694 per Application 19360 that was submitted to include NOx emission limits to comply with the ConocoPhillips Consent Decree. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Table IV-A.11

- Included part F.4b to permit condition 1694 per Application 19360 that was submitted to include NOx emission limits to comply with the ConocoPhillips CD. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Table IV-A.13

- BAAQMD Section 9-10-502.1 is federally enforceable. Amended the table accordingly to show the federal applicability of this section to S15, B-501 Heater.
- Included SIP Regulation 9, Rule 10 requirements, that were adopted on 4/2/08.
- Minor typo related to Part A of the BAAQMD permit condition 20989 was corrected.
- Included part F.4c to permit condition 1694 per Application 19360 that was submitted to include NOx emission limits to comply with the ConocoPhillips CD. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Tables IV-A.14, IV-A.15, IV-A.16, IV-A.17, IV-A.18, IV-A.20, IV-A.21, IV-A.22, IV-A.23, IV-A.25, IV-A.26, IV-A.29, IV-A.30, IV-A.31, IV-A.32 and IV-A.33,

- BAAQMD Section 9-10-502.1 is federally enforceable. Amended the tables accordingly to show the federal applicability of this section.
- Included SIP Regulation 9, Rule 10 requirements, that were adopted on 4/2/08.

Table IV-A.14

- Included part F.4c to permit condition 1694 per Application 19360 that was submitted to include NOx emission limits to comply with the ConocoPhillips CD. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Table IV-A.15

- Included part F.4c to permit condition 1694 per Application 19360 that was submitted to include NOx emission limits to comply with the ConocoPhillips CD. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Table IV-A.16

- Included part F.4c to permit condition 1694 per Application 19360 that was submitted to include NOx emission limits to comply with the ConocoPhillips CD. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Table IV-A.17

- Included part F.4c to permit condition 1694 per Application 19360 that was submitted to include NOx emission limits to comply with the ConocoPhillips CD. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Table IV- A.19

- BAAQMD Sections 9-10-504, 504.2, 505, and 605 are federally enforceable. Amended the table accordingly to show the federal applicability of these sections to S21, B-507 Heater.

Table IV-A.27

Sources S50, S51 and S52 are in-use prime engines that are used to start-up the combustion turbines S352, S353, and S354 respectively.

On November 8, 2004, the California Air Resources Board (CARB or ARB) adopted an Air Toxics Control Measure (ATCM) for stationary diesel engines, which was effective on January 1, 2005. The measure restricted the hours of operation for older standby engines and required controls and/or lower emission rates for prime and new standby engines. Since the ATCM is a state standard, it is not federally enforceable.

The CARB's ATCM applicable requirements for S50 through S52 have been incorporated into the renewed permit. In addition, applicable requirements contained in Regulation 6, and Regulation 9, Rule 8 were also incorporated into Table IV-A.27.

ConocoPhillips requested a combined 60 hours per year operating limit for the three turbine starters rather than 20 hours each. Section 93115.3(j) of the ATCM gives discretion to the district APCO to use a different number of hours if the diesel-fueled CI engine is used solely to start a combustion gas turbine engine, provided the number of hours used for this exemption is justified by the district, on a case-by-case basis. The District agrees with the ConocoPhillips request of 60 hours combined for the three turbine starters because if one turbine was experiencing issues and requiring multiple starts, it could utilize additional hours in this scenario. Part 1 of the permit condition # 19488 was amended to reflect new operating hours for S50 through S52. Part 3 of the permit condition # 19488 was also amended to show new basis for "Operating hour records".

Table IV-A.28

S53 is an in-use emergency standby diesel engine. Sources S54 through S59 are in-use emergency firewater pump engines.

BAAQMD Regulation 9, Rule 8, as adopted on January 20, 1993, did not apply to engines under 250-hp, liquid-fueled engines, or emergency standby engines. On August 1, 2001, the rule was amended to include hours of operation limits for emergency standby engines. On July 25, 2007, the rule was amended to include limits for non-emergency liquid fueled engines and engines under 250-hp. These new limits will be effective on January 1, 2012. Since these engines are emergency standby engines, they will only be subject to the following sections of the rule: 9-8-330, 9-8-502.1, and 9-8-530, which essentially restrict the hours of operation for standby engines. These provisions are not federally enforceable because the SIP rule is the 1993 rule.

On November 8, 2004, the California Air Resources Board (CARB or ARB) adopted an Air Toxics Control Measure (ATCM) for stationary diesel engines, which was effective on January 1, 2005. The measure restricted the hours of operation for older standby engines and required controls and/or lower emission rates for prime and new standby engines. Since the ATCM is a state standard, it is not federally enforceable.

The CARB's ATCM applicable requirements for S53 through S59 have been incorporated into the renewed permit. In addition, applicable requirements contained in Regulation 6, and Regulation 9, Rule 8 were also incorporated into Table IV-A.28.

ConocoPhillips requested 50 hours per year operating limit for maintenance and testing for each firewater pump engine. Section 93115.3(n) of the ATCM exempts these fire pump assemblies from the requirements of section 93115.6(b)(3) that contains operating requirements and emission standards for in-use emergency standby diesel engines. Instead, operating limits for the fire pump assemblies need to comply with the testing requirements of National Fire Protection Association (NFPA) 25 "Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems," 2002 edition, which is incorporated in the ATCM by reference. NFPA 25, Chapter 8 Fire Pumps, Section 3 Testing states:

8.3.1 "A weekly test of fire pump assemblies shall be conducted without flowing water" and
8.3.1.3 "The diesel pumps shall run a minimum of 30 minutes."

Per ConocoPhillips Emergency Responder Coordinator, NFPA 25 is a minimum guideline as stated in Section 1.1 Scope. The minimum run time for testing would be 52 weeks/yr x 30 min = 26 hrs. It could even be very reasonable to run the engines up to 1 hr/week for 52 hrs/yr. It is important that the engines not be run for too short a period of time. If the engines and the oil do not get up to proper operating temperature, moisture and carbon will build-up and serious/rapid engine damage may occur.

In light of the above explanation, the District agrees with the ConocoPhillips request of 50 hours operating limit for each fire pump assembly. Part 7 of the permit condition # 19488 was amended to reflect new operating hours for S54 through S59 in Table IV-A.28.

Following is a discussion of the requirements of the ATCM that apply to S53, emergency standby diesel engine.

Section 93115.5 requires the use of CARB diesel or several alternatives. The owner/operator will comply by burning CARB diesel.

The operating requirements and emissions standards are contained in Section 93115.6.

The engine is not subject to Section 93115.6(a) because it is not new as defined by the ATCM.

The engine is not subject to Section 93115.6(b)(1) of the ATCM because the BAAQMD permit does not allow operation in anticipation of a rotating outage.

The engine is not subject to Section 93115.6(b)(2) of the ATCM because the engine is not located within 1000 feet of a school.

Section 93115.6(b)(3)(A) allows the owner/operator to choose 20 hours of operation for maintenance and testing, to show that the engine has particulate emissions below 0.15 g/bhp, or to control the particulate emissions of the engine by 85%. The owner/operator has chosen to operate the engine for less than 20 hours/yr for maintenance and testing. An unlimited number of hours are allowed during emergencies.

Section 93115.6(b)(3)(A)(2), which allows more hours for maintenance and testing in certain cases is not cited because the owner/operator will comply by not operating the engine for more than 20 hr/yr for maintenance and testing.

The engine is not subject to Section 93115.6(b)(3)(B) because the owner/operator is not using an emission control strategy that is not verified through CARB's Verification Procedure.

The engine is not subject to Section 93115.6(b)(3)(C) because the District has not established more stringent standards for this engine.

The engine is not subject to Section 93115.6(c) because the engine is not being used in a demand response program.

The requirements of 93115.7 are not cited because these requirements are for prime engines.

The requirements of 93115.8 are not cited because these requirements are for agricultural engines.

The requirements of 93115.9 are not cited because these requirements are for new engines under 50-hp.

The notification requirements of Section 93115.10(a) are not cited because the requirements have already been met.

The requirements of Section 93115.10(b) have not been cited because they apply only to sellers of engines.

The requirements of Section 93115.10(c)(1) have not been cited because they apply only to new engines as defined by the ATCM.

The requirements of Section 93115.10(c)(2) have not been cited because the reporting requirements have already been met.

The notification requirements of Section 93115.10(d) are not cited because the engine is not exempt from requirements pursuant to Sections 93115.3 or 93115.8(a)(2).

The engine is subject to the requirement in Section 93115.10(e)(1) to have a non-resettable hour meter.

Section 93115.10(e)(2) is not cited because the engine does not have diesel particulate filter.

Section 93115.10(e)(3) is not cited because the District has not required additional monitoring.

Section 93115.10(f) is not cited because the engine is exempted by the ATCM.

The requirement for monthly recordkeeping in Section 93115.10(g) applies to this engine.

The requirement in Section 93115.10(h) applies only to the San Diego Gas and Electric Company.

The requirement in Section 93115.10(i) applies only to engines that are used to fulfill the requirements of an Interruptible Service Contract as defined by the ATCM.

Section 93115.12(b) is not cited because the owner/operator has chosen to comply with Section 93115.12(a).

Section 93115.13 is not cited because the owner/operator will comply by reducing the hours of operation, not by testing or installing diesel particulate filters.

Section 93115.14 is not cited because the owner/operator is not required to test the engine.

Section 93115.15, Severability, is cited because invalidation of one part of the ATCM does not invalidate the remaining parts.

<u>Table IV-A.34</u>

- S438 is now in compliance with 40 CFR Part 60.105(a)(4) per the exemption from monitoring in 60.105(a)(4)(iv)(C). The fuel for S438 is produced in a hydrogen plant process that is intolerant to sulfur contamination and is inherently low in total sulfur content. These requirements have been included in Table IV-A.34.

- The UK Sweet Gas combusted at S438 is now in compliance with 40 CFR Part 60.105(a)(4) per the exemption from monitoring in 60.105(a)(4)(iv)(B). This stream meets the commercial grade product specification for sulfur content less than 30 ppmv per 60.105(a)(4)(iv)(B). These requirements have been included in Table IV-A.34.

Table IV-A.36

- S45 has started up, so the future effective date has been deleted.

Table IV-B

- Introduced BAAQMD Regulation 8, Rule 8 and SIP Regulation 8,Rule 8 requirements for sources S400, Wet Weather Wastewater Sump and S401, Dry Weather Wastewater Sump.
- Modified parts 4b and 5 of permit condition 1440 per Application 21294 that was submitted to allow for a repair period for vapor leaks discovered at wastewater sources. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Table IV-C

- BAAQMD Sections 8-8-302 and 8-8-501 are not federally enforceable. Amended the table accordingly to show the non-federal enforceability of these sections to S324, API Oil/Wastewater Separator.
- Included applicable citations per SIP Regulation 8, Rule 8.
- Included requirements per EPA Regulation 40 CFR Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations, as S324 is no longer exempt from this rule.
- Modified parts 4a and 5 of permit condition 1440 per Application 21294 that was submitted to allow for a repair period for vapor leaks discovered at wastewater sources including S324, API Oil/Wastewater Separator. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Table IV-D

- Modified parts 4b and 5 of permit condition 1440 per Application 21294 that was submitted to allow for a repair period for vapor leaks discovered at wastewater sources including S1007, Dissolved Air Flotation Unit. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Table IV-E

- Modified parts 4c and 5 of permit condition 1440 per Application 21294 that was submitted to allow for a repair period for vapor leaks discovered at wastewater sources. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Table IV-F

- Corrected the title of BAAQMD Regulation 8, Rule 8.

- Included SIP Regulation 8, Rule 8 requirements, that were adopted on 8/29/94.

Table IV-G

- Modified parts 4c and 5 of permit condition 1440 per Application 21294 that was submitted to allow for a repair period for vapor leaks discovered at wastewater sources. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Table IV-H

- Corrected the title of BAAQMD Regulation 8, Rule 8.

Table IV-I

- Introduced BAAQMD Regulation 8, Rule 8 and corresponding SIP monitoring requirements for wastewater sewer components. As part of the regulatory updates, Table IV-I was renamed to clarify that the new sewer requirements apply to all sewers and not just those associated with S324, Oil/Water Separator.

Table IV-J

- Included SIP Regulation 8, Rule 8 requirements, that were adopted on 8/29/94.

Table IV-K

- Minor typo related to BAAQMD section 8-7-302.12 was corrected.
- Regulation 8-7-302.13 is federally enforceable. Corrected it accordingly.

Tables IV-L1 and IV-L.2

- Removed reference to Regulation 12-12-407, Annual Reports, as it was deleted on April 5, 2006.
- Removed NSPS 40 CFR 60.18 and NESHAP 40 CFR 63.11 requirements as they don't apply to the refinery flares (S296 and S398). Please refer to the write-up "Non-Applicability of Flare Design Requirements NSPS 40 CFR 60.18 and NESHAP 40 CFR 63.11 to the Refinery Flares, S296 and S398" on pages 21-24 of this document for complete explanation.

Table IV-Nb

- Removed NESHAP 40 CFR 63.11 requirements as they don't apply to the refinery flares (S296 and S398). Please refer to the write-up "Non-Applicability of Flare Design Requirements NSPS 40 CFR 60.18 and NESHAP 40 CFR 63.11 to the Refinery Flares, S296 and S398" on pages 21-24 of this document for complete explanation.

Tables IV-Q.1 and IV-Q.2

- The UK Sweet Gas combusted at S352-357 is now in compliance with 40 CFR Part 60.105(a)(4) per the exemption from monitoring in 60.105(a)(4)(iv)(B). This stream meets the commercial grade product specification for sulfur content less than 30 ppmv per 60.105(a)(4)(iv)(B). These requirements have been included in Tables IV-Q.1 and IV-Q.2.

Table IV-R

- BAAQMD Regulation 8, Rule 16 was SIP approved on 8/26/03. Deleted SIP citations in the table.

Table IV-S

- Removed references to BAAQMD Regulation 8, Rule 44 requirements that are no longer applicable as of 1/1/2007.
- Modified part 7 of permit condition 4336 per Application 21342 that was submitted to combine the throughput limits for crude oil and gas oil at S425 and S426, Marine Loading Berths. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Table IV-Ua

- S1010 has started up, so 40 CFR 60, Subpart J, no longer applies to S1001-S1003; Subpart Ja applies.
- Removed NESHAP 40 CFR 63.11 requirements as they don't apply to the refinery flares (S296 and S398). Please refer to the write-up "Non-Applicability of Flare Design Requirements NSPS 40 CFR 60.18 and NESHAP 40 CFR 63.11 to the Refinery Flares, S296 and S398" on pages 21-24 of this document for complete explanation.

Table IV-Ub

- Removed NESHAP 40 CFR 63.11 requirements as they don't apply to the refinery flares (S296 and S398). Please refer to the write-up "Non-Applicability of Flare Design Requirements NSPS 40 CFR 60.18 and NESHAP 40 CFR 63.11 to the Refinery Flares, S296 and S398" on pages 21-24 of this document for complete explanation.

Table IV-Y

- Removed future effective dates for different parts of the permit condition # 21099 as S462 and S463 already have been issued P/O's per Application numbers 5814 and 12995 respectively.

Table IV-AA

- Made changes to show sources S324 and S1007 are subject to requirements per EPA Regulation 40 CFR Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations.

Table IV-AB

- Included requirements per EPA Regulation 40 CFR Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations.
- Corrected basis for Condition 23725, part 1b, from Regulation 8, Rule 8, to Regulation 8, Rule 18. The condition in Section VI is correct.

Table IV-BB.1

- Corrected title and federal enforceability of section 8-5-117.
- Included SIP Regulation 8, Rule 8 requirements, that were adopted on 8/29/94.

- Included Section 60.110b(b) of EPA Regulation 40 CFR Part 60, Subpart Kb that is related to low vapor pressure exemption.

Table IV-BB.5

- Corrected title and federal enforceability of section 8-5-117.
- Included SIP Regulation 8, Rule 5 requirements that were adopted on 6/5/2003.
- Included SIP Regulation 8, Rule 8 requirements, that were adopted on 8/29/94.
- Included Section 60.110b(b) of EPA Regulation 40 CFR Part 60, Subpart Kb that is related to low vapor pressure exemption.
- Included Group 2 storage vessel requirements per EPA Regulation 40 CFR Part 63, Subpart CC.

Table IV-BB.7

- Removed references to S451, as it was never built as mentioned previously in Section II of this document. Deleted permit condition # 19476 that applied to S451.
- Included new requirements that apply to external floating roof tanks per BAAQMD Regulation 8, Rule 5 and SIP Regulation 8, Rule 5.

Table IV-BB.8

- Included new requirements that apply to external floating roof tanks per BAAQMD Regulation 8, Rule 5 and SIP Regulation 8, Rule 5.
- Included SIP Regulation 8, Rule 8 requirements, that were adopted on 8/29/94.
- Included requirements for external floating roof tanks per EPA Regulation 40 CFR Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations.

Tables IV-BB.9 and IV-BB.10

- Included new requirements that apply to internal floating roof tanks per BAAQMD Regulation 8, Rule 5 and SIP Regulation 8, Rule 5.

Table BB.11

- Removed future effective dates that are past.

Table IV-BB.12

- Included new requirements that apply to fixed roof tanks per BAAQMD Regulation 8, Rule 5 and SIP Regulation 8, Rule 5.

Table IV-BB.13

- Introduced EPA Regulation 40 CFR Part 60, Subpart Kb requirements for S107.
- Included requirements per EPA Regulation 40 CFR Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations for S107, which is an external floating roof tank.

Table IV-BB.15a

- Included requirements for closed vent systems per EPA Regulation 40 CFR Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations.

Table IV-BB.16

- Included new requirements that apply to external floating roof tanks per BAAQMD Regulation 8, Rule 5 and SIP Regulation 8, Rule 5.
- Included SIP Regulation 8, Rule 8 requirements, that were adopted on 8/29/94.
- Included requirements per EPA Regulation 40 CFR Part 60, Subpart Kb. These requirements pertain to standards of performance for storage vessels for volatile organic liquid storage vessels for which construction, reconstruction, or modification commenced after July 23, 1984.
- Included requirements for external floating roof tanks per EPA Regulation 40 CFR Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations.

Tables IV-BB.17, IV-BB.18, IV-BB.19 and IV-BB.23B

- Included new requirements that apply to external floating roof tanks per BAAQMD Regulation 8, Rule 5 and SIP Regulation 8, Rule 5.

Table IV-BB.20

- Included new requirements that apply to external floating roof tanks per BAAQMD Regulation 8, Rule 5 and SIP Regulation 8, Rule 5.
- Included SIP Regulation 8, Rule 8 requirements, that were adopted on 8/29/94.

Tables IV-BB.23A, IV-BB.24, IV-BB.27 and IV-BB.30

- Corrected title and federal enforceability of section 8-5-117.
- Introduced SIP Regulation 8, Rule 5, Section 117 as these tanks store materials whose true vapor pressure is less than or equal to 0.5 psia.

Table IV-BB.25

- Included new requirements that apply to pressure tanks per BAAQMD Regulation 8, Rule 5 and SIP Regulation 8, Rule 5.

Table IV-BB.26

- Added the table for new source S507, FPLH Recovery Tank, per Application 20802. Table contains all Federal and District requirements that apply to S507. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Tables IV-BB.28 and IV-BB.29,

- Corrected title and federal enforceability of section 8-5-117.
- Included SIP Regulation 8, Rule 5 requirements that were adopted on 6/5/2003.
- Included Section 60.110b(b) of EPA Regulation 40 CFR Part 60, Subpart Kb that is related to low vapor pressure exemption.
- Included Group 2 storage vessel requirements per EPA Regulation 40 CFR Part 63, Subpart CC.

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."

Since the District has not determined that the facility is out of compliance with an applicable requirement, the schedule of compliance for this permit contains only sections 2-6-409.10.1 and 2-6-409.10.2.

<u>Changes to permit:</u>

- Deleted Custom Schedule of Compliance Part C related to 40 CFR 61, Subpart FF, National Standard for Benzene Waste Operations (BWON), as these requirements have now been included in the facility's Title V permit.

  The BWON regulation requires that refineries that produce 10 Mg/yr or more of benzene as waste treat each benzene containing waste to an approved standard. This facility has chosen to comply with the option in 40 CFR 61.342(e)(2), know as the "6BQ" option, to keep the benzene waste quantity as calculated per the BWON requirements equal to or less than 6 Mg/yr.

  Per the 6BQ option, not all sources are required to be controlled per the BWON regulations, only those that will keep the 6BQ calculation below 6 Mg/yr. Details of the applicability are described in different sections of this document where these requirements have been included.

- Deleted Custom Schedule of Compliance Part D as an H_2S Alternative Monitoring Plan (AMP) per EPA Regulation 40 CFR Part 60, Subpart A for S438 has been included in Tables IV-A.34 and VII-A.34. This AMP is approved for H_2S sampling three times per week instead of H_2S CEMS monitoring. These AMP requirements were approved by the CFEP and therefore have already been included in permit condition 1694.

- Deleted Custom Schedule of Compliance Part E as an H_2S Alternative Monitoring Plan per EPA Regulation 40 CFR Part 60, Subpart A for natural gas has been included in Tables IV- Q.1 and IV- Q.2. This AMP is for combustion turbines and associated duct burners. EPA AMP approval letter was included in the CFEP Title V revision that was issued under Application number 13427.

VI. Permit Conditions

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

All changes to existing permit conditions are clearly shown in "strike-out/underline" format in the proposed permit. When the permit is issued, all 'strike-out" language will be deleted; all "underline" language will be retained, subject to consideration of comments received.

The existing permit conditions are derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). It is also possible for permit conditions to 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.

The regulatory basis is listed following each condition. The regulatory basis may be a rule or regulation. The District is also using the following terms for regulatory basis:

- BACT: This term is used for a condition imposed by the Air Pollution Control Officer (APCO) to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.
- Cumulative Increase: This term is used for a condition imposed by the APCO that limits a source's operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- Offsets: This term is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.
- PSD: This term is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit pursuant to Regulation 2, Rule 2.
- TRMP: This term is used for a condition imposed by the APCO to ensure compliance with limits that arise from the District's Toxic Risk Management Policy.

Changes to permit:

Condition # 1440

As a result of Application # 21294, Condition # 1440 was amended to include a repair period for vapor leaks discovered at wastewater sources. Besides repair period, monthly and quarterly VOC leak inspections in accordance with District Regulation 8-8-603 were also included in the permit condition. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Condition # 1694

As a result of Application # 19360, Condition # 1694 was amended to include the NOx emission limits for S10, S13, S15-S19, heaters. Application # 19360 was submitted to modify permit condition 1694 to include NOx emission limits to comply with the ConocoPhillips Consent Decree (CD). The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Parts 1b, F.1, and G.1 of the condition were amended to delete S8 because it has been deleted from the permit to provide offsets for the "CFEP" project permitted through Application 13424.

Condition # 4336
As a result of Application # 21342, Condition # 4336 part 7 was amended to combine the throughput limits of crude oil and gas oil delivered by tanker, barge or ship at the Marine Terminal (S425 and S426) on a 12-month rolling average basis.

Condition # 12122
Part 16 of the permit condition related to Alternative Monitoring Plan for U240 Sweet Unicracker Gas was deleted as the UK Sweet Gas combusted at sources S352-S357 is now in compliance with 40 CFR Part 60.105(a)(4) per the exemption from monitoring in 60.105(a)(4)(iv)(B). This stream meets the commercial grade product specification for sulfur content less than 30 ppmv per 60.105(a)(4)(iv)(B).

Condition # 18255
Regulation 6, Particulate Matter and Visible Emissions, was renumbered as Regulation 6, Rule 1, and renamed as Particulate Matter, General Requirements on December 5, 2007. To reflect this change, parts 4, 5 and 6 of the permit condition were modified to change the bases of these conditions from BAAQMD Regulation 6-301 to BAAQMD Regulation 6-1-301.

Condition # 18680
As a result of Application # 19626, Condition # 18680 part 2 related to Rotatable Adaptor Torque Test (CARB Test Procedure TP201.1B) was amended.

Condition # 19476
Deleted this permit condition, as S451 to which this condition applies was never built. The A/C issued for S451 under NSR Application 3449 expired on March 19, 2008.

Condition # 19488
As a result of adoption of an Air Toxics Control Measure (ATCM) for stationary diesel engines by the California Air Resources Board (CARB or ARB) on November 8, 2004, Condition # 19488 was modified to include this ATCM for sources S50-S52, Turbine Startup Diesel Engines, S53, Emergency Standby Diesel Engine and sources S54-S59, Firewater Pump Diesel Engines. The ATCM restricted the hours of operation for older standby engines and required controls and/or lower emission rates for prime and new standby engines. ATCM is discussed in detail in Section IV of this document.

Condition # 21235

As a result of Application # 14602, Condition # 21235 was amended to include the NOx Box limits for various heaters and boilers.

Regulation 9-10-502 requires the installation of a NOx, CO and O_2 continuous emission monitoring systems (CEMs) to demonstrate compliance with Regulation 9-10-301. Regulation 9-10-502 also allows a CEM equivalent verification system to determine compliance with Regulation 9-10-301. This CEM equivalent verification system is called the "NOx Box". The NOx Box is an operation window for the affected unit, expressed in terms of fired duty and oxygen content in the flue gas. The operating window is established by source tests for various operating conditions. The engineering evaluation of Application # 14602 is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Part 1 of the condition was amended to delete S8 because it has been deleted from the permit to provide offsets for the "CFEP" project permitted through Application 13424.

Condition # 22951
This is a new permit condition that was created for Healy EVR Phase II System per Application 19626. The engineering evaluation of Application # 19626 is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Condition # 23724
Part 4 of the permit condition was amended to include minimum set pressures of the pressure/vacuum (PV) valves for the following sources: S135, S137, S168, S173, S174, S175, Tank 235, and Tank 236. The minimum set pressures for these PV valves were required to be included within 21 months of the issuance of the A/C 13424 which was issued on 10/05/07.

Condition # 24532
This is a new permit condition that was created for S507, FPLH Recovery Tank, per Application 20801. The engineering evaluation of Application # 20801 is contained in Appendix B and forms part of this permit evaluation/statement of basis.

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.

The District has reviewed all monitoring and has determined the existing monitoring is adequate to provide a reasonable assurance of compliance.

Monitoring decisions are typically the result of a balancing of several different factors including: 1) the likelihood of a violation given the characteristics of normal operation, 2) degree of variability in the operation and in the control device, if there is one, 3) the potential severity of impact of an undetected violation, 4) the technical feasibility and probative value of indicator monitoring, 5) the economic feasibility of indicator monitoring, and 6) whether there is some other factor, such as a different regulatory restriction applicable to the same operation, that also provides some assurance of compliance with the limit in question.

These factors are the same as those historically applied by the District in developing monitoring for applicable requirements. It follows that, although Title V calls for a re-examination of all monitoring, there is a presumption that these factors have been appropriately balanced and incorporated in the District's prior rule development and/or permit issuance. It is possible that, where a rule or permit requirement has historically had no monitoring associated with it, no monitoring may still be appropriate in the Title V permit if, for instance, there is little likelihood of a violation. Compliance behavior and associated costs of compliance are determined in part by the frequency and nature of associated monitoring requirements. As a result, the District will generally revise the nature or frequency of monitoring only when it can support a conclusion that existing monitoring is inadequate.

Changes to permit:

- Regulation 6, Particulate Matter and Visible Emissions, was renumbered as Regulation 6, Rule 1, and renamed as Particulate Matter, General Requirements on December 5, 2007. The equivalent rule in the State Implementation Plan (SIP) is Regulation 6, Particulate Matter and Visible Emissions, which was approved in a Federal Register notice of September 4, 1998. This change is reflected in all tables, where applicable, in Section VII.

Table VII-Facility

- Added EPA Regulation 40 CFR Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations, as the facility is no longer exempt from this rule. NESHAP FF requires that when the total annual benzene quantity from the facility waste is equal to or greater than 10 Mg/yr (11 ton/yr), the facility must manage and treat both aqueous and non-aqueous waste streams in accordance with the requirements of Section 61.342(c). As an alternative to complying with the requirements of Section 61.342(c), NESHAP FF allows facilities to manage and treat the facility waste pursuant to the requirements in Section 61.342(e) that ConocoPhillips has elected. Under Section 61.342(e), ConocoPhillips must manage and treat the non-aqueous and aqueous waste per the requirements in Sections 61.342(e)(1) and 61.342(e)(2), respectively.
- Introduced new monitoring requirements that apply to various tanks per BAAQMD Regulation 8, Rule 5.

Table VII-A.6

- Deleted table because S8 has been deleted from the permit to provide offsets for the "CFEP" project permitted through Application 13424.

Tables IV-A.7, IV-A.8, IV-A.9, IV-A.10, IV-A.11, and IV-A.12

- Deleted mention of S8 in Condition 1694, part F.1 because S8 has been deleted from the permit to provide offsets for the "CFEP" project permitted through Application 13424.

- Lowered heat input from 993.7 MMbtu/hr to 877.3 MMbtu/hr for sources S9-S14 in Condition 1694, part F.1 because the heat input for S8 has been removed from the total. This contingency was already in the permit condition.

<u>Table VII-A.8</u>

- Introduced new NOx limit of 0.015 lb NOx/MMBtu for S10 per Application 19360. The application was submitted to modify permit condition 1694 to include NOx limits for various heaters to comply with the ConocoPhillips CD. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

<u>Table VII-A.11</u>

- Introduced new NOx limit of 0.015 lb NOx/MMBtu for S13 per Application 19360. The application was submitted to modify permit condition 1694 to include NOx limits for various heaters to comply with the ConocoPhillips CD. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

<u>Tables VII-A.13, VII-A.14, VII-A.15, VII-A.16 and VII-A.17</u>

- Introduced new NOx limit of 0.015 lb NOx/MMBtu combined for S15, S16, S17, S18 and S19 per Application 19360. The application was submitted to modify permit condition 1694 to include NOx limits for various heaters to comply with the ConocoPhillips CD. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

<u>Table VII-A.27</u>

- Included new operating limit of 60 hours per year combined for S50, S51, and S52 Turbine Startup Engines per Stationary Diesel Engine ATCM section 93115.3(j).

<u>Table VII-A.28</u>

- Included new operating limit of 20 hours per year for maintenance and testing for S53, Emergency Standby Engine, per Stationary Diesel Engine ATCM section 93115.6(b)(3)(A)(1)(a).
- Introduced recordkeeping requirement for S53 per Stationary Diesel Engine ATCM section 93115.10(g).
- Included new operating limit of 50 hours per year per engine for maintenance and testing for S54-S59, Firewater Pump Engines, per Stationary Diesel Engine ATCM section 93115.3(n).

<u>Table VII-A.34</u>

- Corrected CO limit average period from “per 24 hour” to “per calendar day” so that it matches Permit Condition 1694 Part E.4. Also, S438 now has CO CEM. Accordingly, type of monitoring was changed from “none” to “CEM”.
- Corrected TRS limit for the blended fuel from 50 ppmv to 14 ppmv. The TRS limit of 14 ppmv was correctly listed in permit condition 1694 part E.5.

- Introduced H2S limits and monitoring requirements for PSA Off gas and Sweet Unicracker gas per 40 CFR 60.104(a)(1) and 40 CFR 60.105(a)(4) (iv) respectively.

Table VII-B

- Changed monitoring frequency for VOC leak detections at S400 and S401 from semi-annual to monthly and quarterly per Application 21294. The application was submitted to modify permit condition 1440 to allow for a repair period for vapor leaks discovered at wastewater sources and also to include leak inspection schedule per District Regulation 8, Rule, 8, Wastewater Collection and Separation Systems. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Table VII-C

- Changed monitoring frequency for VOC leak detections at S324, API Oil/Wastewater Separator, from semi-annual to monthly and quarterly per Application 21294. The application was submitted to modify permit condition 1440 to allow for a repair period for vapor leaks discovered at wastewater sources and also to include leak inspection schedule per District Regulation 8, Rule, 8, Wastewater Collection and Separation Systems. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.
- Introduced fixed roof VOC emission limit per 40 CFR 61.347(a)(1)(i)(A) for S324, API Oil/Wastewater Separator.

Table VII-D

- Changed monitoring frequency for VOC leak detections at S1007, Dissolved Air Flotation Unit, from semi-annual to monthly and quarterly per Application 21294. The application was submitted to modify permit condition 1440 to allow for a repair period for vapor leaks discovered at wastewater sources and also to include leak inspection schedule per District Regulation 8, Rule, 8, Wastewater Collection and Separation Systems. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Table VII-E

- Changed monitoring frequency for VOC leak detections at sources S381 and S382, Aeration Tanks, and sources S383 and S384, Clarifiers, from semi-annual to monthly and quarterly per Application 21294. The application was submitted to modify permit condition 1440 to allow for a repair period for vapor leaks discovered at wastewater sources and also to include leak inspection schedule per District Regulation 8, Rule, 8, Wastewater Collection and Separation Systems. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Table VII-G

- Changed monitoring frequency for VOC leak detections at sources S385, S386, S387, S390, and S392 from semi-annual to monthly and quarterly per Application 21294. The application was submitted to modify permit condition 1440 to allow for a repair period for vapor leaks discovered at wastewater sources and also to include leak inspection schedule per District Regulation 8, Rule, 8, Wastewater Collection and Separation Systems. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Table VII-K

- Introduced new VOC limits and monitoring requirements per CARB Executive Order VR-101.

Table VII-L

- Removed NSPS 40 CFR 60.18 and NESHAP 40 CFR 63.11 requirements as they don't apply to the refinery flares (S296 and S398). Please refer to the write-up "Non-Applicability of Flare Design Requirements NSPS 40 CFR 60.18 and NESHAP 40 CFR 63.11 to the Refinery Flares, S296 and S398" on pages 21-24 of this document for complete explanation.

Table VII-Nb

- Removed NESHAP 40 CFR 63.11 requirements as they don't apply to the refinery flares (S296 and S398). Please refer to the write-up "Non-Applicability of Flare Design Requirements NSPS 40 CFR 60.18 and NESHAP 40 CFR 63.11 to the Refinery Flares, S296 and S398" on pages 21-24 of this document for complete explanation.

Table VII-S

- Combined throughput limits of crude oil and gas oil at S425 and S426, Marine Loading Berths, per Application 21342.

Table VII-Q.1 and VII-Q.2

- The UK Sweet Gas combusted at S352-357 is now in compliance with 40 CFR Part 60.105(a)(4) per the exemption from monitoring in 60.105(a)(4)(iv)(B). This stream meets the commercial grade product specification for sulfur content less than 30 ppmv per 60.105(a)(4)(iv)(B). These requirements have been included in Tables VII-Q.1 and VII-Q.2.

Table VII-AB

- Introduced new Benzene limits and monitoring requirements per EPA Regulation 40 CFR Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations.

Table VII-BB.4

- The pressure limits on S173 and S174 pursuant to BAAQMD Condition 23724, part 4a, were inserted.

Table VII-BB.7

- Removed references to S451, as it was never built as previously mentioned in Section IV of this document. Deleted permit condition # 19476 that applied to S451.
- Introduced new VOC limits and monitoring requirements for external floating roof tanks per BAAQMD Regulation 8, Rule 5 and SIP Regulation 8, Rule 5.

Table VII-BB.8

- Introduced new VOC limits and monitoring requirements for external floating roof tanks per BAAQMD Regulation 8, Rule 5 and SIP Regulation 8, Rule 5.
- Included requirements for external floating roof tanks per EPA Regulations 40 CFR Part 60, Subparts Kb and QQQ and 40 CFR Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations.

Tables VII-BB.9 and VII-BB.10

- Introduced new VOC limits and monitoring requirements for internal floating roof tanks per BAAQMD Regulation 8, Rule 5 and SIP Regulation 8, Rule 5.

Table VII-BB11

- The pressure limit on S135 pursuant to BAAQMD Condition 23724, part 4a, was inserted.

Table VII-BB.12

- Introduced new VOC limits and monitoring requirements for CVS and Control Devices per BAAQMD Regulation 8, Rule 5 and SIP Regulation 8, Rule 5.

Table VII-BB.13

- Included new VOC limits and monitoring requirements for S107 per EPA Regulations 40 CFR Part 60, Subpart Kb and 40 CFR Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations.

Table VII-BB.15a

- Included new VOC limits and monitoring requirements for fixed roof tanks with vapor recovery to fuel gas per EPA Regulation 40 CFR Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations.
- The pressure limit on S137 pursuant to BAAQMD Condition 23724, part 4a, was inserted.

Table VII-BB.15a

- The pressure limit on S168 pursuant to BAAQMD Condition 23724, part 4a, was inserted.

Table VII-BB.16

- Introduced new VOC limits and monitoring requirements for external floating roof tanks per BAAQMD Regulation 8, Rule 5 and SIP Regulation 8, Rule 5.
- Included new VOC limits and monitoring requirements for S133 per EPA Regulations 40 CFR Part 60, Subpart Kb and 40 CFR Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations.

Tables VII-BB.17, VII-BB.18, VII-BB.19, VII-BB.20 and VII-BB.23B

- Introduced new VOC limits and monitoring requirements for external floating roof tanks per BAAQMD Regulation 8, Rule 5 and SIP Regulation 8, Rule 5.

Table VII-BB.22

- The pressure limit on S175 pursuant to BAAQMD Condition 23724, part 4a, was inserted.

Table VII-BB.25

- Introduced new monitoring requirements that apply to pressure tanks per BAAQMD Regulation 8, Rule 5 and SIP Regulation 8,Rule 5.

Table VII-BB.26

- Added the table for new source S507, FPLH Recovery Tank that was issued Permit to Operate per Application 20801. Table contains all Federal and District monitoring requirements that apply to S507. The engineering evaluation of this application is contained in Appendix B and forms part of this permit evaluation/statement of basis.

Table VII-BB.27

- The pressure limits on tank 235 and tank 236 pursuant to BAAQMD Condition 23724, part 4a, were inserted.

Table VII-BB.28 and VII-BB.29

- Included Group 2 storage vessel recordkeeping requirements per EPA Regulation 40 CFR Part 63, Subpart CC.

Table VII-L

- Removed NSPS 40 CFR 60.18 and NESHAP 40 CFR 63.11 requirements as they don't apply to the refinery flares (S296 and S398). Please refer to write-up "Non-Applicability of Flare Design Requirements NSPS 40 CFR 60.18 and NESHAP 40 CFR 63.11 to the Refinery Flares, S296 and S398" on pages 20-22 of this document.

Following is a summary of the limits and monitoring, organized by pollutant.

NOx Sources

S# & Description	Enforceable Limit Citation	Federally Enforceable Emission Limit	Monitoring

NOx Sources

S# & Description	Enforceable Limit Citation	Federally Enforceable Emission Limit	Monitoring
All combustion sources in Tables designated as "A" (except A.19, A.24, A.27, A.28, A.34, A.35 and A.36)	BAAQMD 9-10-303	This "interim" NOx limit, while still in force, is subsumed by more restrictive limits in this regulation.	None. Monitoring of more restrictive NOx limits is required.
S352 – S357	BAAQMD Condition 12122, Parts 9a and 9b. Note: Part 9b will apply after NOx emissions at S352-S357 are reduced to provide offsets for Application 13424	Combined NOx emissions from S- 352 - S-357 shall not exceed 66 lb/hr (averaged over any 3 hour period), nor 167 tons in any consecutive 365-day period. NOx emissions from each turbine/duct burner set shall not exceed 528 lb/day.	BAAQMD Condition 12122, Part 9c is a requirement for a NOx CEM.

NOx Discussion:

Every source at the refinery that is subject to a NOx limit is also subject to NOx monitoring. These monitoring requirements come either from Regulation 9-10, existing permit conditions, or both. For more detailed information on this matter, see Table VII. Sources that are subject to this rule are found in the tables in Section VII Applicable Limits and Compliance Monitoring Requirements of the permit.

BAAQMD Regulation 9, Rule 10 "Inorganic Gaseous Pollutants: NOx and CO from Boilers, Steam Generators and Process heaters in Petroleum Refineries"

Regulation 9-10-502 requires the installation of a NOx, CO and O_2 continuous emission monitoring systems (CEMs) to demonstrate compliance with Regulation 9, Rule 10. Regulation 9-10-502 also allows a CEM equivalent verification system to determine compliance with Regulation 9-10-301. This CEM equivalent verification system is called the "NOx Box". The NOx Box is an operation window for the affected unit, expressed in terms of fired duty and oxygen content in the flue gas. The operating window is established by source tests for various operating conditions. The source tests demonstrate if the NOx emissions are equal to or less than a specified emission factor. As long as the fired unit duty and oxygen content are in this NOx Box operating window, the specified emission factor is used to determine compliance with 0.033

lb/MMBtu limit of Regulation 9-10-301. The Permit Condition that contains details of the NOx Box is #21235.

The NOx box must be established in accordance with the BAAQMD's Policy Memo of April 10, 2003, which is included in Appendix C of this document. The policy requires units that are controlled by SCR to have NOx CEMs. The following sources have SCR and CEMs: S43, S351, S371, and S372. Units with a capacity over 200 MMbtu/hr also require CEMs. Units S8, S10, S14, and S44 are over 200 MMbtu/hr and have CEMs. Units S15 through S19 have a combined capacity of about 240 MMbtu/hr and exhaust through a common stack, which has a CEM. S13 has a capacity of 194 MMbtu/hr, but has a CEM.

The remaining sources are allowed to use equivalent verification systems. Units between 25 MMbtu/hr and 200 MMbtu/hr are required to establish NOx boxes by testing at low and high fire and low and high O2 concentrations. Facilities may establish a lower and higher NOx box for each unit. When the NOx box is established, operation within the NOx box corresponds to the emission factor established for the operating range in lb/MMbtu.

Sources under 25 MMbtu/hr do not have NOx boxes. The NOx emission factor is established by source test. The emission factor is verified by annual source tests.

CO Sources

S# & Description	Enforceable Limit Citation	Federally Enforceable Emission Limit	Monitoring
S352 – S357	BAAQMD Condition 12122, Part 7	CO emissions from each turbine/duct burner set shall not exceed 39 ppmv at 15% oxygen, averaged over any consecutive 30-day period. Emissions during startup periods, which shall not exceed four hours, and shutdown periods, which shall not exceed two hours, may be excluded when averaging emissions	BAAQMD Condition 12122, Part 10b is a requirement for a CO CEM.
S352 – S357	BAAQMD Condition 12122, Part 10a	The combined CO emissions from S352, S353, S354, S355, S356 and S357 shall not exceed 200 tons in any consecutive 365 day period	BAAQMD Condition 12122, Part 10b is a requirement for a CO CEM.

CO Sources

S# & Description	Enforceable Limit Citation	Federally Enforceable Emission Limit	Monitoring
S438 and A46 SCR system	BAAQMD Condition 1694, Part E.4	CO emission concentration 32 ppmv @ 3% oxygen, averaged over any calendar day	S438 was source-tested on March 09, 2006 and was found to have a negligible CO emission concentration.

CO Discussion:

Every source at the refinery that is subject to a CO limit is also subject to CO monitoring. These monitoring requirements come either from Regulation 9-10, existing permit conditions, or both. For more detailed information on this matter, see Table VII. Sources that are subject to this rule are found in the tables in Section VII Applicable Limits and Compliance Monitoring Requirements of the permit.

BAAQMD Regulation 9, Rule 10 "Inorganic Gaseous Pollutants: NOx and CO from Boilers, Steam Generators and Process heaters in Petroleum Refineries"

Regulation 9-10-502 requires the installation of a NOx, CO and O_2 continuous emission monitoring systems (CEMs) to demonstrate compliance with Regulation 9, Rule 10. Regulation 9-10-502 also allows a CEM equivalent verification system to determine compliance with Regulation 9-10-301.

Per the BAAQMD's Policy Memo of April 10, 2003, Regulation 9, Rule 10, is the Best Available Retrofit Control Technology (BARCT) rule that limits the emissions of NOx and CO from boilers, steam generators, and process heaters in petroleum refineries. Section 9-10-502 requires NOx, CO, and O_2 CEMs or "equivalent" verification on affected combustion units. Regulation 9-10 was not intended to obtain CO emission reductions. The 400 ppmv CO limit in the rule was included only to prevent sources from emitting higher CO emissions as a result of implementing NOx controls. Thus, the CO CEM equivalence verification standard does not need to be as stringent as that for NOx monitoring equivalency. Permit Condition 21235 contains details of the CO emission limits and monitoring requirements for different affected units.

<u>SO2 Sources</u>

S# & Description	Enforceable Limit Citation	Federally Enforceable Emission Limit	Monitoring
S301, S302, S303, S465 Sulfur Pits, S1001, S1002, S1003, S1010 Sulfur Plants	BAAQMD Regulation 9-1-313.2	Operation of a sulfur removal and recovery system that removes and recovers: 95% of H2S from refinery fuel gas, 95% of H2S and ammonia from process water streams (sulfur recovery is required when a facility removes 16.5 ton/day or more of elemental sulfur)	None. (Note 1)
S301, S302, S303, S465 Sulfur Pits, S1001, S1002, S1003, S1010 Sulfur Plants	BAAQMD Regulation 6-1-330	0.08 grain/dscf exhaust concentration of SO3 and H2SO4, expressed as 100% H2SO4	Condition 19278, Part 3 and Condition 23125, Part 20: Annual source test requirements. (Note 2)
S301, S302, S303, S465 Sulfur Pits, S1001, S1002, S1003, S1010 Sulfur Plants	40 CFR 60.104(a)(2) [Note: Applies upon startup of S1010]	250 ppm at 0% excess air, 12-hr rolling average	CEM on thermal oxidizer stack.
S301, S302, S303, S465 Sulfur Pits, S1001, S1002, S1003, S1010 Sulfur Plants	40 CFR 60.102a(f)(1) [Note: Applies upon startup of S1010]	250 ppm at 0% excess air, dry, 12-hr rolling average	CEM on thermal oxidizer stack.
S45, Heater, S434, High Pressure Reactor Train and S1010, Sulfur Plant	BAAQMD Condition 22970, Part A.2.b	34.4 tons per any consecutive 12 months for S45, S434, and S1010 combined	CEMS, source tests, and calculations
S1010, Sulfur Plant	BAAQMD Condition 23125, part 7a	50 ppmvd @ 0% O2, 24-hr average	CEM
S350 Crude Unit	BAAQMD Condition 383, Part 1a	Sulfur content of crude processed in Crude Unit #267 (S350) shall not exceed 1.5 weight%	BAAQMD Condition 383, Part 1b is a requirement for daily sampling to determine the sulfur content of crude feedstock blends.
S438 Furnace	BAAQMD Condition 1694, Part E.3	1 ppmw TRS by wt in PSA offgas used as fuel at S438	None. (Note 3)
All combustion sources	BAAQMD 9-1-302	300 ppm (dry) SO2 in any combustion exhaust stream	None. (Note 4)
Combustion sources permitted for liquid fuel use	BAAQMD 9-1-304	Sulfur content of liquid fuel <0.5%, by weight	Low-Sulfur Fuel Certification by Supplier for each lot (Note 5)

SO_2 Discussion:

Note 1: Sulfur plants (S1001, S1002, S1003 and S1010) will not require annual source testing to demonstrate compliance with 9-1-313.2. This H2S and ammonia removal standard is more of a design standard than a performance standard. The entire removal system is designed to achieve the required removal. Please refer to discussion on "*Compliance with Regulation 9-1-313.2"* in Section IV of this document for more details.

Note 2: Sulfur plants (S1001, S1002, S1003 and S1010) will require annual source testing to demonstrate compliance with 6-1-330. More frequent monitoring is not required, because the system will exceed the standard only under upset conditions. The monitors and alarms that alert the operator to abnormal conditions are adequate to ensure that upsets are detected and corrected. The cost of more frequent tests is not justified by the incremental improvement in compliance assurance.

Note 3: The PSA offgas normally operates well below a 1 ppmv TRS level, and the offgas is only a portion of the fuel used at S438. As a result, a violation of the standard is unlikely.

Note 4: All facility combustion sources are subject to the SO_2 emission limitations in District Regulation 9, Rule 1 (ground-level concentration and emission point concentration). Area monitoring to demonstrate compliance with the ground level SO_2 concentration requirements of Regulation 9-1-301 has been required by the District (per BAAQMD Regulation 9-1-501). No monitoring is required for BAAQMD regulation 9-1-302 because it only applies when the ground level monitors (GLMs) are not operating, which is infrequent.

Note 5: Per CAPCOA/ARB/EPA Agreement, certification by fuel supplier for each fuel delivery. California Diesel Fuel shall not exceed sulfur content of 0.05 %, by weight. Certification may be provided once for each purchase lot, if records are also kept of the purchase lot number of each delivery.

PM Sources

S# & Description	Enforceable Limit Citation	Federally Enforceable Emission Limit	Monitoring
Gaseous-fired combustion sources: S2, S4, S5, S8 through S-22, S29, S30, S31, S36, S43, S44, S45, S296, S336, S337, S351, S352-S357, S371, S372, S398, S438, S461	BAAQMD 6-1-301	Ringelmann 1 for no more than 3 minutes in any hour	N/A (Note 1)

PM Sources

S# & Description	Enforceable Limit Citation	Federally Enforceable Emission Limit	Monitoring
Combustion sources permitted for discretionary liquid fuel use: S3, S7	BAAQMD 6-1-301	Ringelmann 1 for no more than 3 minutes in any hour	Condition 1694, Part A.2c is a requirement for visible emissions inspection after every 1 million gallons of diesel combusted. (Note 2) Condition 1694, Part A.2b is a requirement for monitoring of visible emissions during tube cleaning. (Note 5)
Diesel engines: S50 through S59	BAAQMD 6-1-303.1	Ringelmann 2 for no more than 3 minutes in any hour	None. (Note 7)
Combustion sources permitted for discretionary liquid fuel use and rated over 140 MM BTU/hr (with tubes): none	BAAQMD 6-1-304	During tube cleaning, Ringelmann No. 2 for 3 min/hr and 6 min/billion BTU in 24 hours	N/A
All sources with particulate emissions	BAAQMD 6-1-305	No nuisance particulate fallout	None. (Note 6)
Diesel engines: S50 through S59	BAAQMD 6-1-310	0.15 grain/dscf @ 6% O2	None. (Note 7)

PM Sources

S# & Description	Enforceable Limit Citation	Federally Enforceable Emission Limit	Monitoring
Gaseous-fired combustion sources: S2, S4, S5, S8 through S22, S29, S30, S31, S36, S43, S44, S45, S296, S336, S337, S351, S352-S357, S371, S372, S398, S438, S461	BAAQMD 6-1-310.3	0.15 grain/dscf @ 6% O2	None. (Note 1)
Combustion sources permitted for discretionary liquid fuel use: S3, S7	BAAQMD 6-1-310.3	0.15 grain/dscf @ 6% O2	Visible emissions inspection after every 1 million gallons of diesel combusted. (Note 2)
S380, S389 (A20 and A21) baghouses	BAAQMD 6-1-301, 6-1-310 and 6-1-311	6-1-301: Ringelmann 1 for no more than 3 minutes in any hour 6-1-310: 0.15 grain/dscf @ 6% O2; 6-1-311: as specified in rule table	Condition 18251, Part 2 is a requirement to monitor differential pressure on baghouses. (Note 3)
S296, S398 flares	BAAQMD 6-1-301	Ringelmann 1 for no more than 3 minutes in any hour	Condition 18255, Part 4 is a requirement to perform video monitoring or visible inspection of operating flares. (Note 4)

PM Discussion:

Note 1: Gaseous Fuels: BAAQMD Regulation 6-1-301 limits visible emissions to no darker than 1.0 on the Ringelmann Chart (except for periods or aggregate periods less than 3 minutes in any hour). Visible emissions are normally not associated with combustion of gaseous fuels, such as natural gas. No monitoring is required for sources that burn gaseous fuels exclusively, per the EPA's June 24, 1999 agreement with CAPCOA and ARB titled "Summary of Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP".

Note 2: Liquid Fuels: Per CAPCOA/ARB/EPA Agreement, adequate monitoring for combustion of liquid fuels is a visible emissions inspection after every 1 million gallons diesel combusted, to be counted cumulatively over a 5 year period. Since S3 and S7 may burn naphtha, not diesel, the 5-year cumulative basis is not used. If a visible emissions inspection documents opacity, a method 9 evaluation shall be completed within 3 working days, or during the next scheduled operating period if the unit ceases firing on diesel fuel within the 3 working day time frame. Condition 1694, Part A.2c is a requirement to monitor visible emissions before every 1 million gallon of fuel is combusted. This frequency was selected by balancing the likelihood of undetected significant non-compliance with the expense of more frequent inspections. The cost of more frequent monitoring is not justified for sources with liquid fuel usage that is infrequent or small. The cost of conducting method 9 evaluations is not justified unless a less formal inspection indicates that the source is emitting smoke.

Note 3: Condition 18251, Part 2a is a requirement for differential pressure gauges on these baghouses to detect either clogged or broken filter bags; Part 2b requires a quarterly gauge check and Part 3 requires records of quarterly readings. A properly functioning baghouse (all bags intact) cannot exceed the standard, and the differential pressure gauges allow such malfunctions to be detected.

Note 4: Condition 18255, Part 4 is a requirement to perform video monitoring or visual inspection of flares as soon as possible after a release begins. Flare S296 is only allowed to be used for upset and emergency conditions by Condition 18255.

Note 5: Tube cleaning is periodically performed on furnaces that burn liquid fuels, to remove built-up soot from the outside of furnace tubes. If improperly performed, it can result in visible emissions. Hourly observation of the stack during tube cleaning will ensure that improper tube cleaning performance is detected and corrected.

Note 6: Regulation 6-1-305 is for prohibition of nuisance. By definition, this regulation is not violated unless the source is a nuisance. No monitoring is necessary since a violation can only occur if, among other things, the particles emitted cause annoyance to another person.

Note 7: Particulate emissions from standby generators and turbine startup engines are not monitored because these engines are in intermittent use, for very limited periods of time.

POC Sources

S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
S324 Oil/Water Separator	BAAQMD Condition 1440, Part 6	Maximum design throughput	None for maximum design throughput. Average throughput is monitored through the annual throughput records required by Section VI of this permit
S294 Gasoline Dispensing Facility	BAAQMD Regulation 8-7-301.10	98% or highest vapor recovery rate specified by CARB	**None (see discussion below)**
S294 Gasoline Dispensing Facility	BAAQMD Regulation 8-7-313.1	Fugitives $\leq$ 0.42 lb/1000 gallon	**None (see discussion below)**
S294 Gasoline Dispensing Facility	BAAQMD Regulation 8-7-313.2	Spillage $\leq$ 0.42 lb/1000 gallon	**None (see discussion below)**

POC Sources

S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
S294 Gasoline Dispensing Facility	BAAQMD Regulation 8-7-313.3	Liquid Retain + Spitting ≤ 0.42 lb/1000 gallon	**None (see discussion below)**
S294 Gasoline Dispensing Facility	SIP Regulation 8-7-301.2	95% recovery of gasoline vapors	**None (see discussion below)**
S294 Gasoline Dispensing Facility	BAAQMD Condition 7523	400,000 gal/yr gasoline throughput	Annual records required by District permit renewal program as allowed by BAAQMD Regulation 1-441
Low vapor pressure tanks (exempt from permits)	BAAQMD 8-5-117	No more than 0.5 psia true vapor pressure	Condition 20773, Part 1 is a requirement to determine true vapor pressure of tank contents whenever contents are changed.
S352, S353, S354 Turbines, S355, S356, S357 Duct Burners	BAAQMD Condition 12122, Part 8	POC emissions from each turbine/duct burner set shall not exceed 6 ppmv at 15% oxygen averaged over any consecutive 30 day period, except during startup periods, which shall not exceed four hours, and shutdown periods, which shall not exceed two hours.	Condition 12122, Part 14 is an annual POC source test requirement to verify compliance with Part 8 of the same permit condition.
S352, S353, S354 Turbines, S355, S356, S357 Duct Burners	BAAQMD Condition 12122, Part 11	The combined POC emissions S-352, S-353, S-354, S-355, S-356 and S-357 shall not exceed 8.3 lb/hr nor 30.5 tons in any consecutive 365-day period.	Condition 12122, Part 14 is an annual POC source test requirement to verify compliance with Part 11 of the same permit condition.

POC Discussion:

Source S324, Oil / Water Separator:

The maximum throughput is fixed by the source design and construction and is not normally subject to monitoring. Modification of S324 to increase maximum throughput, as at any permitted sources, would require prior District evaluation and approval.

Source S294, Gasoline Dispensing Facility:

The standard District POC emission factor for uncontrolled aboveground tanks is 1.52 lb/1000 gallon pumped. Based on this emission factor, the maximum estimated POC emissions from this source are:

(400,000 gallon/year) x (1.52 lb/1000 gallon) = 608 lb POC/year = 0.3 ton POC/yr

The potential to emit is low. Therefore, additional monitoring of this source is not required. Regulation 8, Rule 7, Gasoline Dispensing Facilities requires records of throughput. Regulation 8, Rule 7, Section 313 requirements are requirements to install CARB-certified equipment; the standards are not performance standards.

Sources S352, 353, 354, Turbines:

Annual source tests are required to ensure that VOC emissions do not increase above design levels. Compliance with the CO (which is continuously monitored) limit is a good indicator of good combustion, and therefore that VOC emissions are not excessive.

Discussion of Other Pollutants:

Sulfuric Acid Mist (H_2SO_4) Sources

S# & Description	Enforceable Limit Citation	Federally Enforceable Emission Limit	Monitoring
S1001, S1002, S1003, S1010, Sulfur Plants	SIP 6-330	0.08 grain/dscf exhaust concentration of SO3 and H2SO4, expressed as 100% H2SO4	Source test on thermal oxidizer stack
S45, Heater, S434, High Pressure Reactor Train and S1010, Sulfur Plant	BAAQMD Condition 22970, Part A.2.f	6.01 tons per any consecutive 12 months for S45, S434, and S1010 combined	Source tests, and calculations
S45, Heater, S434, High Pressure Reactor Train and S1010, Sulfur Plant	BAAQMD Condition 22970, Part A.3	38 lb/day for S45, S434, and S1010 at Facility A0016 and S2 at Facility B7419 combined	Source tests and calculations
S1010, Sulfur Plant	BAAQMD Condition 23125, part 10a	31 lb/day	Source test
S1010, Sulfur Plant	BAAQMD Condition 23125, part 11g	5.65 tons per any consecutive 12 months	Source test

As can be seen from the above table, source test requirements at respective thermal oxidizer stacks for S1001, S1002, S1003, and S1010, Sulfur Plants will ensure compliance with H_2SO_4 emission limits.

Ammonia (NH_3) Sources

S# & Description	Enforceable Limit Citation	Federally Enforceable Emission Limit	Monitoring
S1001, S1002, S1003, S1010, Sulfur Plants	SIP 9-1-313.2	95% of H2S in refinery fuel gas is removed and recovered on a refinery-wide basis AND 95% of H2S in process water streams is removed and recovered on a refinery-wide basis AND 95% of ammonia in process water streams is removed	None (see discussion on "Compliance with 9-1-313.2" in Section IV of this document)

Additional HAPs: There is no need for additional monitoring of HAPs. All HAP limits contain adequate monitoring requirements. For more information on HAP monitoring see Section VII of the Title V permit.

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. If a rule or permit condition requires ongoing testing, the requirement will also appear in Section IV of the permit.

Changes to permit

- Added various citations and corresponding test methods per BAAQMD Regulation 8, Rule 5 and SIP Regulation 8, Rule 5.
- Minor typos related to citations for Regulations 9-9-301 and 9-10-303 were corrected.
- Deleted test methods related to NSPS 40 CFR 60.18 and NESHAP 40 CFR 63.11 as these requirements do not apply to the refinery flares (S296 and S396) anymore.

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 that identifies and justifies specific federally enforceable regulations and standards which the APCO has confirmed are not applicable to a source or group of sources, or (2) A provision in a major facility review permit that identifies and justifies specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting which 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.

This facility has both types of permit shields.

Changes to permit:
This action proposes no changes to permit shields.

X. Revision History

The revision history will be updated when the revision is issued.

XI. Glossary

Changes to the glossary:

NPOC
Non-precursor organic compounds

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

There is no change in this section for this Title V renewal.

E. Compliance Status:

A September 27, 2010 office memorandum from the Director of Compliance and Enforcement to the Director of Engineering presents a review of the compliance record of the facility, which is attached in Appendix E. The Compliance and Enforcement Division staff has reviewed ConocoPhillips Annual Compliance Certifications for December 1, 2003 to December 1, 2009 and found no ongoing non-compliance and no recurring pattern of violations, which have not already been corrected. This review was initiated as part of the District evaluation of the application for a Title V permit renewal. During the period subject to review, activities known to the District include:

- The District issued 145 Notices of Violation (NOVs) to ConocoPhillips from December 1, 2003 to December 1, 2009. While the petroleum refining facility received a number of violations over this 6-year period, for facilities as large, complex, and heavily regulated as a petroleum refining facility within the BAAQMD's jurisdiction, violations are likely to occur. It is important to note that all of the violations associated with the NOVs were in compliance at the time of this review. Furthermore, the District's analysis of the NOVs for the 6-year period indicated that there are no ongoing violations or pattern of recurring violations that would currently require a compliance schedule.

- The District received three hundred eighty-four (384) air pollution complaints alleging ConocoPhillips as the source. Ninety-six (96) of these complaints were confirmed.
- The District received three hundred ten (310) notifications for Reportable Compliance Activities (RCAs): forty-four (44) breakdown requests, one hundred sixty-three (163) indicated monitor excesses, one (1) pressure relief device release, and one hundred two (102) in-operative monitor reports. Forty-nine (49) of the RCAs resulted in NOVs.
- The District entered into one (1) Enforcement Agreement with ConocoPhillips.
- The District received seven (7) Dockets for Variances, Emergency Variances, and Title V Permit Appeals from ConocoPhillips. The seven (7) Dockets were withdrawn or cancelled.

The Compliance and Enforcement Division has made a determination that for the review period ConocoPhillips was in intermittent compliance. There is no evidence of on-going non-compliance and no recurring pattern of violations that would warrant consideration of a Title V permit compliance schedule or additional permit terms. The Division does not have any recommendations for any additional permit conditions and limitations and to improve compliance beyond what is already contained in the Title V Permit under consideration.

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APPENDIX A

GLOSSARY

ACT
Federal Clean Air Act

APCO
Air Pollution Control Officer

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 Fuels 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.

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 EPA approved program that has been incorporated into the SIP.

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

H_2SO_4
Sulfuric Acid

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.

SAM
Sulfuric Acid Mist

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

APPENDIX B

BAAQMD ENGINEERING EVALUATION REPORTS

ENGINEERING EVALUATION
CONOCOPHILLIPS - SAN FRANCISCO REFINERY; PLANT 16
APPLICATION 14602

1.0 BACKGROUND

ConocoPhillips – San Francisco Refinery (ConocoPhillips) has submitted this application to request changes to Permit Condition 21235 to include the NOx Box limits. Condition 21235 applies to the following Heaters and Boilers: S2-S5, S7-S20, S22, S29-S31, S43, S44, S336, S337, S351, S371, and S372.

Besides incorporating NOx Box limits, ConocoPhillips is also requesting following change to Permit Condition 21235:

- **Allow 60 days for source test result submittal instead of current 45. Allowing 60 days will provide consistency with other existing Title V Permit Conditions, including condition #21096.5b, 21097.5b and 1694E.8.**

ConocoPhillips operates several heaters and boilers that are subject to Regulation 9-10-301 that limits the refinery-wide NOx emissions related to these affected units to 0.033 lbs/MMBtu of heat input, based on an operating-day average.

Regulation 9-10-502 requires the installation of a NOx, CO and O_2 continuous emission monitoring systems (CEMs) to demonstrate compliance with Regulation 9-10-301. Regulation 9-10-502 also allows a CEM equivalent verification system to determine compliance with Regulation 9-10-301. This CEM equivalent verification system is called the “NOx Box”. The NOx Box is an operation window for the affected unit, expressed in terms of fired duty and oxygen content in the flue gas. The operating window is established by source tests for various operating conditions. The source tests demonstrate if the NOx emissions are equal to or less than a specified emission factor. As long as the fired unit duty and oxygen content are in this NOx Box operating window, the specified emission factor is used to determine compliance with 0.033 lb/MMBtu limit of Regulation 9-10-301. The Permit Condition that contains details of the NOx Box is #21235.

The NOx box must be established in accordance with Bill deBoisblanc’s Policy Memo of April 10, 2003, which is included in Attachment A. The policy requires units that are controlled by SCR to have NOx CEMs. The following sources have SCR and CEMs: S43, S351, S371, and S372. Units with a capacity over 200 MMbtu/hr also require CEMs. Units S8, S10, S14, and S44 are over 200 MMbtu/hr and have CEMs. Units S15 through S19 have a combined capacity of about 240 MMbtu/hr and exhaust through a common stack, which has a CEM. S13 has a capacity of 194 MMbtu/hr, but has a CEM.
The remaining sources are allowed to use equivalent verification systems. Units between 25 MMbtu/hr and 200 MMbtu/hr are required to establish NOx boxes by testing

at low and high fire and low and high O2 concentrations. Facilities may establish a lower and higher NOx box for each unit. When the NOx box is established, operation within the NOx box corresponds to the emission factor established for the operating range in lb/MMbtu.

Sources under 25 MMbtu/hr do not have NOx boxes. The NOx emission factor is established by source test. The emission factor is verified by annual source tests.

Per Bill deBoisblanc's Policy Memo of April 10, 2003, Regulation 9, Rule 10, is the Best Available Retrofit Control Technology (BARCT) rule that limits the emissions of NOx and CO from boilers, steam generators, and process heaters in petroleum refineries. Section 9-10-502 requires NOx, CO, and O_2 CEMs or "equivalent" verification on affected combustion units. Regulation 9-10 was not intended to obtain CO emission reductions. The 400 ppmv CO limit in the rule was included only to prevent sources from emitting higher CO emissions as a result of implementing NOx controls. Thus, the CO CEM equivalence verification standard does not need to be as stringent as that for NOx monitoring equivalency. Permit Condition 21235 contains details of the CO emission limits and monitoring requirements for different affected units.

ConocoPhillips has proposed two operating ranges (i.e. two NOx Boxes) for each source based on firing rates and/or O_2 levels. Also, ConocoPhillips is proposing a low firing rate limit of 20% of maximum permitted firing rate for each source. This low firing rate limit will be utilized to be consistent with NOx Box guidance documents and ConocoPhillips permit condition 21235, part 5b. As directed in this permit condition, when a heater is firing less than 20% of its permitted limit, the means for determining compliance with the refinery-wide limit shall be accomplished using the method described in Regulation 9-10-301.2 (i.e. units out of service and 30-day averaging data). In addition, ConocoPhillips has submitted data showing that emission factors were much lower when source testing was done at low firing rates. So, use of high emission factors at high or mid-firing that ConocoPhillips is proposing to do is very conservative when running at lower rates, down to 20% of the permitted limit and is consistent with the intent of 21235 part 4 d ii.

The NOx Box ranges that will be included in permit condition 21235 part 5a are listed in the following table:

Source No.	Emission Factor (lb/MMBtu)	Min O_2 at Low Firing (O_2%, MMBtu/hr)	Max O_2 at Low Firing (O_2%, MMBtu/hr)	Min O_2 at High Firing (O_2%, MMBtu/hr)	Mid O_2 at Mid/High Firing (polygon) (O_2%, MMBtu/hr)	Max O_2 at High Firing (O_2%, MMBtu/hr)
2	0.025	N/A, 4.4	N/A, 4.4	N/A, 22	N/A	N/A, 22
3	0.109	1.81, 12.4	1.81, 14.5	2.4, 31.1	7.0, 16.5	7.0, 12.4
3	0.144	2.4, 31.1	5.6, 33.2	9.0, 23.7	7.0, 16.5	

4	0.0404	1.6, 19.2	1.6, 66	2.0, 81.5	2.5, 74	2.5, 19.2
4	0.0495	2.5, 19.2	2.5, 74	3.8, 74	3.8, 19.2	
5	0.0464	1.6, 20.8	1.6, 69.5	1.7, 74.4	2.5, 74.4	2.5, 20.8
5	0.0558	2.5, 20.8	2.5, 74.4	4.3, 71.2	4.3, 20.8	
7	0.11	2.9, 13.3	2.54, 29.1	13.0, 19.6	11.25, 10.71	3.7, 11.2
7	0.125	2,54, 29.1	3.4, 53.4	4.4, 53.4	13.0, 19.6	
9	0.021	1.2, 12.2	1.2, 54	2.8, 54	3.3, 42.7	3.3, 12.2
9	0.0248	3.3, 12.2	3.3, 42.7	4.2, 54	4.2, 12.2	
11	0.058	1.3, 21.6	1.3, 98.8	2.06, 100.4	3.0, 95.2	3.0, 21.6
11	0.061	3.0, 21.6	3.0, 95.2	5.0, 85.2	5.0, 21.6	
12	0.023	1.6, 8.4	1.6, 21	2.15, 30.8	2.6, 30.8	2.6, 8.4
12	0.0282	2.6, 8.4	2.6, 30.8	5.0, 30.8	5.0, 8.4	
20	0.036	N/A, 4.6	N/A, 4.6	N/A, 23	N/A	N/A, 23
22	0.025	1.37, 6.2	1.37, 20.8	4.44, 17.8	5.24, 14.22	5.24, 6.2
22	0.037	5.24, 6.2	5.24, 14.22	4.44, 17.8	7.2, 15.6	7.2, 6.2
29	0.031	1.5, 20.8	1.5, 93	2.9, 95.5	3.1, 93	3.1, 20.8
29	0.0366	3.1, 20.8	3.1, 93	4.3, 95.5	4.3, 20.8	
30	0.043	1.8, 10	1.8, 38.3	2.8, 38.3	3.1, 24	3.1, 10
30	0.052	3.1, 10	3.1, 24	2.8, 38.3	4.5, 38.3	4.5, 10
31	0.0269	N/A, 4	N/A, 4	N/A, 20	N/A	N/A, 20
336	0.048	2.0, 22.2	2.0, 83.3	2.65, 86.1	4.4, 73.7	4.4, 22.2
336	0.0527	4.4, 22.2	4.4, 73.7	2.65, 86.1	5.42, 94.4	5.42, 22.2
337	0.048	1.8, 6.8	1.8, 31.8	2.68, 31.8	4.3, 25	4.3, 6.8
337	0.065	4.3, 6.8	4.3, 25	2.68, 31.8	6.2, 31.8	6.2, 6.8

The ranges are supported by source tests reviewed by the Source Test Section. See Attachment B for graphical representations of the NOx boxes and related source test results.
The proposed changes would not cause an increase in existing emission levels. Also, the changes do not relax any existing emission limitations.

2.0 EMISSIONS SUMMARY

As mentioned in Background section above, the proposed changes would not increase emissions. Also, the changes do not relax any existing emission limitations.

2.1 PLANT CUMULATIVE INCREASE

The cumulative emission increase is zero for all the criteria pollutants because annual emissions for this plant are not increasing due to this application.

2.2 BEST AVAILABLE CONTROL TECHNOLOGY

In accordance with BAAQMD Regulation 2, Rule 2, Section 301, a modified source with the potential to emit 10 pounds or more per highest day of POC, NPOC, NOx, CO, SO_2 or PM_{10} that has an increase in emissions must use BACT. For this application, BACT is not triggered because the proposed changes would not result in an increase in any emissions as mentioned in Emissions Summary section above.

2.3 TOXICS

New Source Review of Toxic Air Contaminants (BAAQMD Rule 2-5) requires the Best Available Control Technology for Toxics (TBACT) for sources that result in cancer risk greater than 1.0 in one million and/or chronic hazard index greater than 0.20. The proposed changes would not result in an increase in toxic emissions, thus the New Source Review of Toxic Air Contaminants does not apply.

2.4 OFFSETS

Since there is no increase in emissions at this plant as mentioned in Section 2.0 above, offsets are not required for this application.

3.0 STATEMENT OF COMPLIANCE

BAAQMD REGULATIONS

The following Heaters and Boilers (S2-S5, S7-S20, S22, S29-S31, S43, S44, S336, S337, S351, S371, and S372) are subject to BAAQMD Regulation 6 (Particulate Matter and Visible Emissions) and Regulation 9, Rule 10 (Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries). After the proposed changes, the affected units listed above will continue to satisfy the applicable requirements.

EPA is finalizing approval of revisions to the BAAQMD portion of the California State Implementation Plan (SIP). These revisions were proposed in the Federal Register on December 20, 2007, and concern NOx and CO emissions from boilers, steam generators and process heaters at petroleum refineries. EPA is approving local rules that regulate these emission sources under the Clean Air Act as amended in 1990. The final rule will be effective on May 2, 2008. Hence, portions of the permit condition will not be designated as non-federally enforceable in the District permit or in the revised Title V permit.

MAJOR FACILITY REVIEW

ConocoPhillips has a Major Facility Review permit as required by BAAQMD Regulation 2, Rule 2, since it is considered a major source of emissions. The changes proposed in this application will require changes to the existing Title V permit and Statement of Basis. These changes will be handled in Title V Minor Revision Application Number 14601.

This is a minor revision of the Major Facility Review permit for the following reasons:

- The change is not considered a major modification under 40 CFR Parts 51 (NSR) or 52 (PSD).
- The change is not considered a modification under 40 CFR Parts 60 (NSPS), 61 (NESHAPS), or Section 112 of the Clean Air Act (HAP).
- There is no significant change or relaxation of monitoring.
- No term is established to allow the facility to avoid an applicable requirement.
- No case-by case determination has been made.
- No facility-specific determination for ambient impacts, visibility analysis, or increment analysis on portable sources has been made.

PUBLIC NOTICE

The facility is not located within 1,000 feet of any school. Therefore, it is not subject to public notification requirements of Regulation 2-1-412.

PSD, NSPS, NESHAPS, and CEQA do not apply.

4.0 PERMIT CONDITIONS

COND# 21235 -------------------------------------

This condition was amended by Application 14602 in May, 2008

Regulation 9-10 Refinery-Wide Compliance

CONDITIONS FOR SOURCES S2, S3, S4, S5, S7, S8, S9, S10, S11, S12, S13, S14, S15, S16, S17, S18, S19, S20, S22, S29, S30, S31, S43, S44, S336, S337, S351, S371, S372

1. The following sources are subject to the refinery-wide NOx emission rate and CO concentration limits in Regulation 9-10: [Regulation 9-10-301 and 305]

S#	Description	NOx CEM
2	U229, B-301 Heater	No
3	U230, B-201 Heater	No
4	U231, B-101 Heater	No
5	U231, B-102 Heater	No
7	U231, B-103 Heater	No
8	U240, B-1 Boiler	Yes

S8 will be removed from service within 90 days of the date that the NOx offsets pursuant to Application 13424 must be supplied pursuant to BAAQMD Regulation 2-2-410.

S#	Description	NOx CEM
9	U240, B-2 Boiler	No
10	U240, B-101 Heater	Yes
11	U240, B-201 Heater	No
12	U240, B-202 Heater	No
13	U240, B-301 Heater	Yes
14	U240, B-401 Heater	Yes
15	U244, B-501 Heater	Yes
16	U244, B-502 Heater	Yes
17	U244, B-503 Heater	Yes

18	U244, B-504 Heater	Yes
19	U244, B-505 Heater	Yes
20	U244, B-506 Heater	No
22	U248, B-606 Heater	No
29	U200, B-5 Heater	No
30	U200, B-101 Heater	No
31	U200, B-501 Heater	No
43	U200, B-202 Heater	Yes
44	U200, B-201 PCT Reboil Furnace	Yes
336	U231 B-104 Heater	No
337	U231 B-105 Heater	No
351	U267 B-601/602 Tower Pre-Heaters	Yes
371	U228 B-520 (Adsorber Feed) Furnace	Yes
372	U228 B-521 (Hydrogen Plant) Furnace	Yes

2. The owner/operator of each source listed in Part 1 shall properly install, properly maintain, and properly operate an O2 monitor and recorder. [Regulation 9-10-502]

3. The owner/operator shall operate each source listed in Part 1 that does not have a NOx CEM within specified ranges of operating conditions (firing rate and oxygen content) as detailed in Part 5. The ranges shall be established by utilizing data from district-approved source tests.

   a. The NOx Box for units with a maximum firing rate of 25 MMBtu/hr or more shall be established using the procedures in Part 4.
   b. The NOx Box for units with a maximum firing rate less than 25 MMBtu/hr shall be established as follows: High-fire shall be the maximum rated capacity. Low-fire shall be 20% of the maximum rated capacity. There shall be no maximum or minimum O2.

[Regulation 9-10-502]

4. The owner/operator shall establish the initial NOx box for each source subject to Part 3. The NOx Box may consist of two operating ranges in order to allow for operating flexibility and to encourage emission minimization during standard operation. The procedure for establishing the NOx box is as follows:

   a. Conduct district approved source tests for NOx and CO, while varying the oxygen concentration and firing rate over the desired operating ranges for the furnace;
   b. Determine the minimum and maximum oxygen concentrations and firing rates for the desired operating ranges (Note that the minimum O2 at low-fire may be different than the minimum O2 at high-fire. The same is true for the maximum O2). The owner/operator shall also verify the accuracy of the O2 monitor on an annual basis.
   c. Determine the highest NOx emission factor

(lb/Mmbtu) over the preferred operating ranges while maintaining CO concentration below 200 ppm; the owner/operator may choose to use a higher NOx emission factor than tested.

d. Plot the points representing the desired operating ranges on a graph. The resulting polygon(s) is the NOx Box, which represents the allowable operating range(s) for the furnace under which the NOx emission factor from part 5a is deemed to be valid.

i. The NOx Box can represent/utilize either one or two emission factors.

ii. The NOx Box for each emission factor can be represented either as a 4 or 5-sided polygon.The NOx box is the area within the 4- or 5-sided polygon formed by connecting the source test parameters that lie about the perimeter of successful approved source tests. The source test parameters forming the corners of the NOx box are listed in Part 5.

e. Upon establishment of each NOx Box, the owner/operator shall prepare a graphical representation of the box. The representation shall be made available on-site for APCO review upon request. The box shall also be submitted to the BAAQMD with permit amendments.

5. Except as provided in Part 5b and 5c, the owner/operator shall operate each source within the NOx Box ranges listed below at all times of operation. This part shall not apply to any source which has a properly operated and properly installed NOx CEM.

a. NOx Box ranges

Source No.	Emission Factor (lb/MMBtu)	Min O2 at Low Firing (O2%, MMBtu/hr)	Max O2 at Low Firing (O2%, MMBtu/hr)	Min O2 at High Firing (O2%, MMBtu/hr)	Mid O2 at Mid/High Firing (polygon) (O2%, MMBtu/hr)	Max O2 at High Firing (O2%, MMBtu/hr)
2	0.025	N/A, 4.4	N/A, 4.4	N/A, 22	N/A	N/A, 22
3	0.109	1.81, 12.4	1.81, 14.5	2.4, 31.1	7.0, 16.5	7.0, 12.4
3	0.144	2.4, 31.1	5.6, 33.2	9.0, 23.7	7.0, 16.5	
4	0.0404	1.6, 19.2	1.6, 66	2.0, 81.5	2.5, 74	2.5, 19.2
4	0.0495	2.5, 19.2	2.5, 74	3.8, 74	3.8, 19.2	
5	0.0464	1.6, 20.8	1.6, 69.5	1.7, 74.4	2.5, 74.4	2.5, 20.8
5	0.0558	2.5, 20.8	2.5, 74.4	4.3, 71.2	4.3, 20.8	

7	0.11	2.9, 13.3	2.54, 29.1	13.0, 19.6	11.25, 10.71	3.7, 11.2
7	0.125	2,54, 29.1	3.4, 53.4	4.4, 53.4	13.0, 19.6	
9	0.021	1.2, 12.2	1.2, 54	2.8, 54	3.3, 42.7	3.3, 12.2
9	0.0248	3.3, 12.2	3.3, 42.7	4.2, 54	4.2, 12.2	
11	0.058	1.3, 21.6	1.3, 98.8	2.06, 100.4	3.0, 95.2	3.0, 21.6
11	0.061	3.0, 21.6	3.0, 95.2	5.0, 85.2	5.0, 21.6	
12	0.023	1.6, 8.4	1.6, 21	2.15, 30.8	2.6, 30.8	2.6, 8.4
12	0.0282	2.6, 8.4	2.6, 30.8	5.0, 30.8	5.0, 8.4	
20	0.036	N/A, 4.6	N/A, 4.6	N/A, 23	N/A	N/A, 23
22	0.025	1.37, 6.2	1.37, 20.8	4.44, 17.8	5.24, 14.22	5.24, 6.2
22	0.037	5.24, 6.2	5.24, 14.22	4.44, 17.8	7.2, 15.6	7.2, 6.2
29	0.031	1.5, 20.8	1.5, 93	2.9, 95.5	3.1, 93	3.1, 20.8
29	0.0366	3.1, 20.8	3.1, 93	4.3, 95.5	4.3, 20.8	
30	0.043	1.8, 10	1.8, 38.3	2.8, 38.3	3.1, 24	3.1, 10
30	0.052	3.1, 10	3.1, 24	2.8, 38.3	4.5, 38.3	4.5, 10
31	0.0269	N/A, 4	N/A, 4	N/A, 20	N/A	N/A, 20
336	0.048	2.0, 22.2	2.0, 83.3	2.65, 86.1	4.4, 73.7	4.4, 22.2
336	0.0527	4.4, 22.2	4.4, 73.7	2.65, 86.1	5.42, 94.4	5.42, 22.2
337	0.048	1.8, 6.8	1.8, 31.8	2.68, 31.8	4.3, 25	4.3, 6.8
337	0.065	4.3, 6.8	4.3, 25	2.68, 31.8	6.2, 31.8	6.2, 6.8

The limits listed above are based on a calendar day averaging period for both firing rate and O2%.

b. Part 5a does not apply to low firing rate conditions (i. e., firing rate less than or equal to 20% of the unit's rated capacity). , during startup or shutdown periods, or periods of curtailed operation (ex. during heater idling, refractory dryout, etc.) lasting 5 days or less.

During these conditions the means for determining compliance with the refinery wide limit shall be accomplished using the method described in 9-10-301.2 (i.e. units out of service and 30-day averaging data).

c. Part 5a does not apply during any source test required or permitted by this condition. (Reg. 9-10-502). See Part 7 for the consequences of source test results that exceed the emission factors in Part 5.

6a. The owner/operator may deviate from the NOx Box (either the firing rate or oxygen limit) provided that the owner/operator conducts a district approved source test which replicates the past operation outside of the established ranges. The source test representing the new conditions shall be conducted no later than the next regularly scheduled source test period, or within eight months, whichever is sooner. The source test results will establish whether the source was operating outside of the emission factor utilized for the source. The source test results shall be submitted to the district source test manager within 60 days of the test. As necessary, a permit amendment shall be submitted.

i. Source Test <= Emission Factor

If the results of this source test do not exceed the higher NOx emission factor in Part 5, or the CO limit in Part 9, the unit will not be considered to be in violation during this period for operating out of the "box." The facility may submit an accelerated permit program permit application to request an administrative change of the permit condition to adjust the NOx Box operating range(s), based on the new test data.

ii. Source Test > Emission Factor

If the results of this source test exceed the permitted emission concentrations or emission rates then, utilizing measured emission concentration or rate, the owner/operator shall apply the higher emission factor retroactively to the date of the previous source test and provide sufficient NOx IERCs for that time period to ensure the facility is in compliance with the refinery wide limit specified in Regulation 9-10-301. The owner/operator will be in violation of Regulation 9-10-301 for each day there are insufficient NOx IERCs provided to bring the refinery wide average into compliance with Regulation 9-10-301. The facility may submit a permit application to request an alteration of the permit condition to change the NOx emission factor and/or adjust the operating range, based on the new test data.

6b. The owner/operator must report conditions outside of box within 96 hours of occurrence.

7. For each source subject to Part 3, the owner/operator shall conduct source tests at the schedule listed below. The source tests are performed in order to measure NOx, CO, and O2 at the as-found firing rate, or at conditions reasonably specified by the APCO. The source test results shall be submitted to the District Source Test Manager within 60 days of the test. Regulation 9-10-502]

a. Source Testing Schedule

i. Heater < 25 MMBtu/hr: One source test per consecutive 12 month period. The time interval between source tests shall not exceed 16 months.

ii. Heaters greater than or equal to 25 MMBtu/hr: Two source tests per consecutive 12 month period. The time interval between source tests shall not exceed 8 months and not be less than 5 months apart. The source test results shall be submitted to the district source test manager within 60 days of the test. [Regulation 9-10-502]

b. If the results of any source test under this part exceed the permitted concentrations or emission rates, the owner/operator shall follow the requirements of Part 6a(ii). If the owner/operator chooses not to submit an application to revise the emission factor, the owner/operator shall conduct another Part 7 source test, at the same conditions, within 90 days of the initial test.

8. For each source listed in Part 1 with a NOx CEM installed, the owner/operator shall conduct semi-annual district approved CO source tests at as-found conditions. The time interval between source tests shall not exceed 8 months. District conducted CO emission tests associated with District-conducted NOx CEM field accuracy tests may be substituted for the CO semi-annual source tests.

9. For any source listed in Part 1 for which any two source test results over any consecutive five year period are greater than or equal to 200 ppmv CO at 3% O2, the owner/operator shall properly install, properly maintain, and properly operate a CEM to continuously measure CO and O2. The owner/operator shall install the CEM within the time period allowed in the District's Manual of Procedures. [Regulation 9-10-502, 1-522]

10. In addition to records required by 9-10-504, the facility must maintain records of all source tests conducted to demonstrate compliance with Parts 1 and 5. These records shall be kept on site for at least five years from the date of entry in a District approved log and be made available to District staff upon request. [Recordkeeping, Regulation 9-10-504]

11. The sources listed in Part 1 of this condition make up the group of sources that are operating under an Alternative Compliance Plan (ACP). The owner/operator shall demonstrate compliance with their ACP and with Regulation 9-10-301 by keeping a spreadsheet of the ACP calculations in a District approved format. [basis:Regulation 2-9-303, 9-10-301]

Conditions for use of IERC'S for compliance with Regulation 9-10-301:

12. The owner/operator shall submit quarterly reports to the APCO, within 30 days following the end of each calendar quarter, or other 3-month interval established in the plan.

Each quarterly report shall include:

a. Summary of the amount of IERC's used during the previous quarter;

b. Sum of all IERC's used during the current ACP period;

c. A projection of the IERC's that are needed for the entire ACP period based on the IERC usage rates calcul ated in Parts 12a and 12b of this condition, including the Environmental Benefit Surcharge, per Regulation 2-9 -309; and

d. Certification that the facility possesses IERC's equal to the amount projected in Part 12c of this condition or a description of how the facility will adjust its operat ion so that the amount of IERC's does not exceed the amount of IERC's possessed by the facility.

[basis: Regulation 2-9-502.3]

13. The owner/operator shall submit an annual reconciliation report to the APCO within 30 days of following the end of the ACP period, and surrender the banking certificate(s) for all IERC's used during the ACP period, including the environmental benefit surcharge, per Regulation 2-9-309. [basis:Regulation 2-9-502.4]

14. The ACP must be reviewed and approved by the APCO on an annual basis. The owner/operator shall submit all necessary documents with ACP renewal request. [basis: Regulation 2-9-303]

15. The owner/operator shall retain records for five years from the date the record was made, and shall submit such information as required by the APCO to determine compliance with the ACP. [basis: Regulation 2-9-502.2]

5.0 RECOMMENDATION

Approve following permit condition changes applicable to S2-S5, S7-S20, S22, S29-S31, S43, S44, S336, S337, S351, S371, and S372, Heaters and Boilers:

- **Modify Permit Condition 21235 to include the NOx Box limits**
- **Modify Permit Condition 21235 to allow 60 days for source test result submittal instead of current 45**

By: ____

Sanjeev Kamboj   Date
Senior Air Quality Engineer

ATTACHMENT A

BAAQMD POLICY MEMORANDUM: NOx, CO, AND O_2 Monitoring Compliance with Regulation 9, Rule 10

ATTACHMENT B

NOx BOXES AND RELATED SOURCE TEST RESULTS

ENGINEERING EVALUATION
ConocoPhillips Company
Application Number 14856; Plant Number 16

BACKGROUND

ConocoPhillips Company has applied for Interchangeable Emission Reduction Credits (IERC's) for the following equipment:

S-438 U110 H-1 Heater, 210 MMBTU/hr

The source (S-438) has been operating at a NOx concentration below its permitted limit.

For the Credit Generation Period (CGP) dates covered by this application, January 2004 through June 2006, the source (S-438) had two different permit limits. Prior to March 16, 2005, the source was operating with the permit limits from its original permit application. # 12412. S-438 was fully offset as part of Application # 12412. The limits were 10 ppm NOx at 3% O_2 and 210 MMBTU/hr firing rate.

ConocoPhillips received an Authority to Construct (ATC) for Application # 11293 on February 16, 2005. A start-up notification for this application was sent to the BAAQMD on March 11, 2005, indicating the startup of the source (S-438) would be on March 16, 2005 operating at its new permit limit. As part of application # 11293, ConcoPhillips requested an increase of the firing rate of S-438 from 210 to 250 MMBTU/hr. To maintain emissions of S-438 at the same level that was offset in application # 12412, ConcoPhillips agreed to a lower NOx limit of 7 ppm NOx at 3% O2.

Source S-438 is not part of the refinery's Regulation 9-10 "bubble" and is not be included in their Alternative Compliance Plan (ACP) (application # 14857).

IERC CALCULATION PROCEDURES

IERC's were calculated using the methodology in BAAQMD Regulation 2-9-604 and based on daily data. Annual emissions are based on a 24-hour per day, 365 days per year basis. There are three CGPs included in this application, which complies with Regulation 2-9-603.2 which sets a maximum number of credit generation periods that may be evaluated under a single IERC banking application to three. The following are the CGP's:

1. Calendar Year 2004 (CGP_1),
2. Calendar Year 2005 (CGP_2), and
3. January 1, 2006 through June 10, 2006 (CGP_3).

Because S-438 was fully offset, the baseline throughput and emission rate are calculated based on permitted levels, per Regulation 2-6-602.4. The baseline throughput and emission rate from January 4, 2004 through March 15, 2005 are based on the original permit limits of 10 ppm NOx at 3% O_2 and 210 MMBTU/hr firing rate. Calculations from March 16, 2005 through June 10, 2006 are based on the current permit limits of 7 ppm NOx at 3% O_2 and 250 MMBTU/hr firing rate.

Actual emissions are calculated based on Continuous Emission Monitoring (CEM) data for NOx and O_2, as well as process data for firing rate. The CEMS monitor NOx and O2 concentrations continuously at S-438 and record every minute. Fuel flow is also measured continuously for both fuel gas and off-gas. Higher heating value is monitored continuously for the fuel gas. For off-gas, higher heating value is determined by lab sampling periodically. All the monitoring data is stored electronically in the refinery's data historian, referred to as the PI System, which can be accessed using a spreadsheet. The data can be pulled into a spreadsheet in any averaging period, from minute to minute, to annual averaging. In this application, the data was summarized daily for District review.

Per Regulation 2-9-603.1.5, the IERCs for each day are calculated by subtracting the greater of the actual and non-curtailment emissions from the baseline emissions. The total IERC's for each CGP are calculated by summing the daily IERCs. Per Regulation 2-9-603.1, the following methodology was used:

603.1 Calculate the amount of IERC's as follows:

1.1 Determine the baseline adjusted emission rate, by adjusting the baseline emission rate downward, if necessary, to comply with the most stringent of RACT, BARCT, and District rules and regulations in effect during the credit generation period. The baseline adjusted emission rate may be different for successive credit generation periods, if RACT, BARCT or District rules and regulations change from one credit generation period to the next.

1.2 Determine the baseline adjusted emissions (baseline throughput multiplied by the baseline adjusted emission rate = A)

1.3 Determine the credit generation period actual emissions (actual throughput multiplied by actual emission rate = B)

1.4 Determine the credit generation period non-curtailment emissions (baseline throughput multiplied by actual emission rate = C)

1.5 Subtract the greater of B and C from A to obtain the amount of IERC's. [A – (greater of B or C)] = IERC's

The emission rate measured by the CEM system required no adjustment because it was already operating at a level more stringent than RACT, BARCT, and any District rule in effect. In addition, there is no change to Regulation 9-10 proposed in the District's Ozone Attainment Strategy. A Calculations Details Worksheet is attached that provides the detailed calculations for the IERC on a daily basis during the credit generator periods. The following is an explanation of the column headings:

Column	Property	Units	Equation Used
A	Date		None
B	Fuel Gas Fuel Flow	mscfh	None - Values directly from Refinery PI Data System (CEM)
C	Fuel Gas HHV	Btu/scf	None - Values directly from Refinery PI Data System (CEM)
D	Fuel Gas Firing Rate	MMBtu/hr	= Fuel Flow [B] (mscfh) * HHV [C] (Btu/scf) * 1000 scf/mscf * MMBtu/1x10^6 Btu
E	Off-Gas Fuel Flow	MMscfd	None - Values directly from Refinery PI Data System (CEM)
F	Off-Gas HHV	Btu/scf	None - Values directly from Refinery PI Data System (CEM)
G	Off-Gas Firing Rate	MMBtu/hr	= Fuel Flow [E] (MMscfd) * HHV [F] (Btu/scf) * 1 day/24 hr
H	Total Firing Rate	MMBtu/hr	= Fuel Gas Firing Rate [D] + Off-Gas Firing Rate [G]
I	CEMS O_2	%	None - Values directly from Refinery PI Data System (CEM)
J	CEMS Raw Nox	ppm	None - Values directly from Refinery PI Data System (CEM)
K	CEMS Nox @ 3% O_2	ppm	= Raw Nox [J] (ppm) * (20.95 - 3) / (20.95 - O2 [I] (%))
L	F-Factor Estimated Stack Flow (40 CFR 60 Appdx F)	scfh	= {(Fuel Gas F Factor [8710] (scf/MMBtu) * Fuel Gas Firing Rate [D] (MMBtu/hr)) + (Off-Gas F Factor [9464] (scf/MMBtu) * Off-Gas Firing Rate [G] (MMBtu/hr))} * (20.9/(20.9 - O2 % [I]))
M	Nox Actual (lb/hr)	lb/hr	= NOx Conc. [J] (ppm) * Stack Exhaust Flow [L] (scfh) * NOx MW [46 (lb/lb-mol) / (1x10^6 * Ideal Gas Molar Volume [385.3] (lb-mol/scf))
N	Nox Non-Curtailment (lb/hr)	lb/hr	= Actual [M] (lb/hr) * Permitted Firing Rate [210 (for 1/1/04-3/15/05) or 250 (for 3/16/05-current)] (MMBtu/hr) / Total Firing Rate [H] (MMBtu/hr)
O	Nox Potential to Emit (lb/hr)	lb/hr	Either [2.758 (for 1/1/04-3/15/05) or 2.298 (for 3/16/05-current, depending on date
P	Nox Emission Decrease (lb/day)	lb/day	= (Potential to Emit [O] (lb/hr) - larger of Non-Curtailment [N] and Actual [M]) / 24 hr/day

At S-438, there are two sources of fuel: fuel gas and off-gas. The bulk of the firing duty is provided by the off-gas, which is a byproduct of the Unit 110 Pressure Swing Adsorber (PSA), which is a purification process, associated with the Unit 110 Hydrogen Unit. This is a low BTU fuel. The fuel gas is used to supplement the off-gas in firing the S-438 Heater and is similar to the refinery fuel gas used at most refinery's other heaters. The 2005 source test off-gas analysis data was used to calculate the F Factor by taking the lab analysis of the molecular composition and applying 40 CFR 60 Appendix A Method 19, Equation 19-13. The data and calculations of the off-gas F Factor were provided to the District and reviewed and found correctly calculated.

In addition, to verify the daily data provided in the Calculations Details Worksheet, the minute-by-minute monitoring data for the following days was evaluated: 10/14/2004, 12/15/2005, and 6/1/2006. Review of this minute monitoring data substantiated that the daily monitoring values listed in the Calculation Details Worksheet were correct.

SUMMARY

Per Regulation 2-9-603.1.5, the IERC's for each day are calculated by subtracting the greater of the actual and non-curtailment emissions from the baseline emissions. The total IERC's for each CGP are calculated by summing the daily IERCs:

CGP#	Dates	NOx IERC (tons)	Effective Date	Expiration Date
CGP_1	1/1/04-12/31/04	2.18	1/1/05	12/31/09
CGP_2	1/1/05-12/31/05	6.29	1/1/06	12/31/10
CGP_3	1/1/06-6/10/06	3.04	6/11/06	6/10/11

STATEMENT OF COMPLIANCE

An emission reduction of a bankable pollutant may be banked as an Interchangeable Emission Reduction Credit, if it meets the criteria of Regulation 2-9-301.1. Review of the ConocoPhillips provided data substantiates that the criteria of Regulation 2-9-301 have been met:

301.1 The emission reduction is generated by a stationary source (S-438) that the District includes in its Emissions Inventory because it has a Permit to Operate.
301.2 The emission reduction is real, permanent, quantifiable, enforceable, and surplus.
301.3 The emission reduction did not result from the shutdown or curtailment of a source.
301.4 There are no secondary emissions resulting from the emission reduction to trigger the requirements of Regulation 2-5.

Best Available Control Technology review, offsets, Toxics Risk Screen Analysis, Prevention of Significant Deterioration, New Source Performance Standards, and National Emission Standards for Hazardous Air Pollutants requirements are not triggered for this application to bank IERC's.

This application for IERC's is not ministerial, but it is exempt from the requirements of the California Environmental Quality Act, per Regulation 2-1-312.10. Because IERC's are less than 40 tons per year, this application is NOT subject to the Publication, Public Comment, and Inspection requirements of Regulation 2-9-405.

PERMIT CONDITIONS

None.

RECOMMENDATION

I recommend that the following IERC's be issued to ConocoPhillips Company:

Credit Generation Period	NOx IERC (tons)
1/1/04-12/31/04	2.18
1/1/05-12/31/05	6.29
1/1/06-6/10/06	3.04
Total	11.51

BY: ______________________________ ____________

MCL:mcl **M.K. Carol Lee** **Date**

Senior Air Quality Engineer

ENGINEERING EVALUATION
ConocoPhillips Company
Application Number 14857; Plant Number 16

BACKGROUND

ConocoPhillips Company has applied for an Alternative Compliance Plan (ACP) to use Interchangeable Emission Reduction Credits (IERC's) for compliance with BAAQMD Regulation 9, Rule 10 (Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators, and Process Heaters in Petroleum Refineries). Under the proposed ACP, ConocoPhillips will use IERC's from one or more of the banking certificates (Application # 14856) generated by the operation of U110 H-1 Heater (S-438) to compensate for any excess emissions from the 29 heaters subject to Regulation 9-10. Specifically, Regulation 9-10-301 limits refinery-wide NOx emissions from these 29 heaters to 0.033 lb/MMBT on an operating-day average. Essentially, this application will result in a Change of Conditions **to incorporate conditions of the ACP to show daily compliance with Regulation 9-10.**

ACP CALCULATION PROCEDURES

On a daily basis, ConocoPhillips currently performs the following calculations to show compliance with Regulation 9, Rule 10:

Actual Emissions for Sources with NOx CEMS:
For the sources listed in ConocoPhillips Permit Condition # 21235 (attached) Part 1 as having a NOx CEM, the following calculations are performed:

1. Measure the daily average NOx ppm concentration (C_{NOx}) using CEMs.
2. Measure the daily average percent oxygen ($\%O_2$) using CEMs.
3. Measure the higher heating value (HHV) of the fuel gas combusted in the heaters.
4. Calculate the emission rate (E) using the following formula from 40 CFR 75 Appendix F: $E = 1.194x10E\text{-}7 \times C_{NOx} \times HHV \times [20.9/(20.9\text{-}\%O_2)]$ lb/MMBTU
5. Measure the daily fuel usage and convert to heat (H) in MMBTU.
6. Multiply the heat (H) by the emission rate (E) to obtain the emissions (EM) in pounds.

Actual Emissions for Sources without NOx CEMS:
For the sources listed in ConocoPhillips Permit Condition # 21235 (attached) Part 1 as NOT having a NOx CEM, the following calculations are performed:

7. Measure the daily average percent oxygen ($\%O_2$) using CEMs.
8. Measure the higher heating value (HHV) of the fuel gas combusted in the heaters.
9. Measure the daily fuel usage and convert to heat (H) in MMBTU.
10. Following Permit Condition # 21235 guidance, use the appropriate emission rate (E) for the given $\%O_2$ and heat rate (H).
11. Multiply the heat (H) by the emission rate (E) to obtain the emissions (EM) in pounds.

Total Emissions and Refinery Wide Emission Rate:

12. Sum the emissions (EM) from each individual source (all sources, calculated in Steps 6 and 11), where the subscripts 1 through 29 represent the individual sources subject to Regulation 9, Rule 10: $EM_{Total} = EM_1 + EM_2 + \ldots + EM_{29}$
13. Sum the heat release from each individual heater (all sources, calculated in Steps 5 and 9): $H_{Total} = H_1 + H_2 + \ldots + H_{29}$

14. Divide the total emissions by the total heat release to obtain the refinery-wide emission rate ($E_{refinery}$): $E_{refinery} = EM_{Total}/H_{Total}$ (lb/MMBTU)
15. For any given day, if $E_{refinery}$ is less than or equal to the Regulation 9-10-301 refinery-wide emission limit of 0.033 lb/MMBTU, the refinery is in compliance and no IERC's are required. If $E_{refinery}$ is greater than the Regulation 9-10-301 refinery-wide emission limit of 0.033 lb/MMBTU, then IERC's are required to comply with Regulation 9-10.
16. Calculate the allowable emissions (EM_{allow}) by multiplying the total heat input (H_{Total} from Step 13) by the Regulation 9-10-301 limit, 0.033 lb/MMBTU. Subtract the allowable emissions from the total emissions (EM_{Total} from Step 12) to obtain the excess emissions (EM_{Excess}): $EMExcess = EM_{Total} – EM_{allow}$ (pounds)
17. Per Regulation 2-9-306, the amount of IERC's used for compliance includes a 10% Environmental Benefit Surcharge. The total IERC's to be surrendered is equal to 10% more than the excess emissions (EM_{Excess}) calculated in Step 6: $IERC = EM_{Excess} \times 1.10$ (pounds)

CUMULATIVE INCREASE

There is no resulting increase or change of emissions from this application for ACP to use IERC's.

STATEMENT OF COMPLIANCE

An ACP must satisfy the requirements of Regulation 2-9-303 in order to comply with the NOx rule in Regulation 9-10. ConcocoPhillips' proposed ACP will comply with the requirements of Regulation 2-9-303 (Alternative Compliance Plan using IERC's):

303.1 The IERC's that will be used under this ACP will only include those generated, approved and banked in accordance with the provisions of Regulation 2-9.

303.2 The ACP will track actual and allowable emissions on a daily basis. If the actual emissions exceed the allowable, ConocoPhillips will be required to provide IERC's for the amount of the difference, plus a 10% environmental benefit surcharge. Because the IERC's provided are equal to the amount of the excess, the NOx emissions will not exceed the BARCT requirements of Regulation 9.

303.3 This application is the initial review of the ACP. Part 14 of the proposed permit conditions (see Permit Conditions Section) shall include a requirement for annual renewal submittals.

303.4 The procedures used by the facility currently (and described in the ACP Calculation Procedures section) illustrate that the facility has provided methods for demonstrating compliance on a daily basis.

Best Available Control Technology review, offsets, Toxics Risk Screen Analysis, Prevention of Significant Deterioration, New Source Performance Standards, and National Emission Standards for Hazardous Air Pollutants requirements are not triggered for this application for ACP to use IERC's.

This application for ACP to use IERC's is not ministerial. In addition, this application is not exempt from the California Environmental Quality Act and no other agency will be conducting a Negative Declaration or Environmental Impact Report for this project. An Appendix H form and Initial Study questionnaire was completed by the facility. The District has prepared and certified a Negative Declaration for this application. Per Regulation 2-9-405, this application is subject to the Publication, Public Comment, and Inspection requirements of Regulation 2-9-405.

The public notice requirements for this project has been meet. Staff distributed the Notice of Preparation, draft Negative Declaration, and draft CEQA Initial Study to the following parties for comment on September 25, 2006:

- Contra Costa County Planning Department
- Contra Costa Clerk's Office
- Governor's Office of Planning and Research
- California Air Resources Board
- Other Interested Parties

In addition, a Notice Inviting Written Public Comment and a Notice of Preparation of Negative Declaration has been published in the Contra Costa Times. The original public comment period was to expire on November 3, 2006. However, because one contact had inadvertently been left out from the list of interested parties, the District extended the public comment period to December 19, 2006 to allow more time to review the proposed project. The public comment has ended and comments were received from Communities for a Better Environment on the Initial Study and draft Negative Declaration. District Legal staff prepared the responses to comments and they have been incorporated into and made part of the final Negative Declaration for the ACP.

PERMIT CONDITIONS

Permit Condition ID # 21235 currently regulates compliance with Regulation 9-10 for all sources subject to that regulation:

```
     COND#  21235   --------------------------------------

Regulation 9-10 Refinery-Wide Compliance

1.  The following sources are subject to the refinery-
wide NOx emission rate and CO concentration limits in
Regulation 9-10:           [Regulation 9-10-301 and 305]

S#   Description                       NOx CEM
2    U229, B-301 Heater                   No
3    U230, B-201 Heater                   No
4    U231, B-101 Heater                   No
5    U231, B-102 Heater                   No
7    U231, B-103 Heater                   No
8    U240, B-1 Boiler                     Yes
9    U240, B-2 Boiler                     No
10   U240, B-101 Heater                   Yes
11   U240, B-201 Heater                   No
12   U240, B-202 Heater                   No
13   U240, B-301 Heater                   Yes
14   U240, B-401 Heater                   Yes
15   U244, B-501 Heater                   Yes
16   U244, B-502 Heater                   Yes
17   U244, B-503 Heater                   Yes
18   U244, B-504 Heater                   Yes
19   U244, B-505 Heater                   Yes
20   U244, B-506 Heater                   No
22   U248, B-606 Heater                   No
29   U200, B-5 Heater                     No
30   U200, B-101 Heater                   No
31   U200, B-501 Heater                   No
43   U200, B-202 Heater                   Yes
44   U200, B-201 PCT Reboil Furnace       Yes
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336	U231 B-104 Heater	No
337	U231 B-105 Heater	No
351	U267 B-601/602 Tower Pre-Heaters	Yes
371	U228 B-520 (Adsorber Feed) Furnace	Yes
372	U228 B-521 (Hydrogen Plant) Furnace	Yes

2. The owner/operator of each source listed in Part 1 shall properly install, properly maintain, and properly operate an O2 monitor and recorder. This Part shall be effective September 1, 2004. [Regulation 9-10-502]

3. The owner/operator shall operate each source listed in Part 1, which does not have a NOx CEM, within specified ranges of operating conditions (firing rate and oxygen content) as detailed in Part 5. The ranges shall be established by utilizing data from district-approved source tests. [Regulation 9-10-502)]

4. The owner/operator shall establish the initial NOx box for each source subject to Part 3 by June 1, 2004. The NOx Box may consist of two operating ranges in order to allow for operating flexibility and to encourage emission minimization during standard operation. The procedure for establishing the NOx box is as follows:

a. Conduct district approved source tests for NOx and CO, while varying the oxygen concentration and firing rate over the desired operating ranges for the furnace;
b. Determine the minimum and maximum oxygen concentrations and firing rates for the desired operating ranges (Note that the minimum O2 at low-fire may be different than the minimum O2 at high-fire. The same is true for the maximum O2). The owner/operator shall also verify the accuracy of the O2 monitor on an annual basis.
c. Determine the highest NOx emission factor (lb/Mmbtu) over the preferred operating ranges while maintaining CO concentration below 200 ppm; the owner/operator may choose to use a higher NOx emission factor than tested.
d. Plot the points representing the desired operating ranges on a graph. The resulting polygon(s) are the NOx Box, which represents the allowable operating range(s) for the furnace under which the NOx emission factor from part 5a is deemed to be valid.
  i. The NOx Box can represent/utilize either one or two emission factors.
  ii. The NOx Box for each emission factor can be represented either as a 4 or 5-sided polygon The NOx box is the area within the 4- or 5-sided polygon formed by connecting the source test parameters that lie about the perimeter of successful approved source tests. The source test parameters forming the corners of the NOx box are listed in Part 5.
e. Upon establishment of each NOx Box, the owner/operator shall prepare a graphical representation

of the box. The representation shall be made available on-site for APCO review upon request. The box shall also be submitted to the BAAQMD with permit amendments.

5. Except as provided in Part 5b and 5c, the owner/operator shall operate each source within the NOx Box ranges listed below at all times of operation. This part shall not apply to any source which has a properly operated and properly installed NOx CEM.

a. NOx Box ranges

[To Be Determined]

The limits listed above are based on a calendar day averaging period for both firing rate and O2%.

b. Part 5a does not apply to low firing rate conditions (i.e., firing rate less than or equal to 20% of the unit's rated capacity) during startup or shutdown periods or periods of curtailed operation (ex. during heater idling, refractory dryout, etc.) lasting 5 days or less. During these conditions the means for determining compliance with the refinery wide limit shall be accomplished using the method described in 9-10-301.2 (i.e. units out of service and 30-day averaging data).

c. Part 5a does not apply during any source test required or permitted by this condition. (Reg. 9-10-502). See Part 7 for the consequences of source test results that exceed the emission factors in Part 5.

6a. The owner/operator may deviate from the NOx Box (either the firing rate or oxygen limit) provided that the owner/operator conducts a district approved source test which replicates the past operation outside of the established ranges. The source test representing the new conditions shall be conducted no later than the next regularly scheduled source test period, or within eight months, whichever is sooner. The source test results will establish whether the source was operating outside of the emission factor utilized for the source. The source test results shall be submitted to the district source test manager within 45 days of the test. As necessary, a permit amendment shall be submitted.

i. Source Test <= Emission Factor

If the results of this source test do not exceed the higher NOx emission factor in Part 5, or the CO limit in Part 9, the unit will not be considered to be in violation during this period for operating out of the "box." The facility may submit an accelerated permit program permit application to request an administrative change of the permit condition to adjust the NOx Box operating range(s), based on the new test data.

ii. Source Test > Emission Factor

If the results of this source test exceed the permitted emission concentrations or emission rates then, utilizing measured emission concentration or rate, the owner/operator shall perform an assessment, retroactive to the date of the previous source test, of compliance with Section 9-10-301. The unit will be considered to have been in violation of 9-10-301 for each day the facility was operated in excess of the refinery wide limit. The facility may submit a permit application to request an alteration of the permit condition to change the NOx emission factor and/or adjust the operating range, based on the new test data.

6b. The owner/operator must report conditions outside of box within 96 hours of occurrence.

7. For each source subject to Part 3, the owner/operator shall conduct source tests at the schedule listed below. The source tests are performed in order to measure NOx, CO, and O2 at the as-found firing rate, or at conditions reasonably specified by the APCO. The source test results shall be submitted to the District Source Test Manager within 45 days of the test. [Regulation 9-10-502]

a. Source Testing Schedule
i. Heater < 25 MMBtu/hr: One source test per consecutive 12 month period. The time interval between source tests shall not exceed 16 months.
ii. Heaters = 25 MMBtu/hr: Two source tests per consecutive 12 month period. The time interval between source tests shall not exceed 8 months and not be less than 5 months apart. The source test results shall be submitted to the district source test manager within 45 days of the test. [Regulation 9-10-502]

b. If the results of any source test under this part exceed the permitted concentrations or emission rates the owner/operator shall follow the requirements of Part 6a(ii). If the owner/operator chooses not to submit an application to revise the emission factor, the owner/operator shall conduct another Part 7 source test, at the same conditions, within 90 days of the initial test.

8. For each source listed in Part 1 with a NOx CEM installed, the owner/operator shall conduct semi-annual district approved CO source tests at as-found conditions. The time interval between source tests shall not exceed 8 months. District conducted CO

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emission tests associated with District-conducted NOx
CEM field accuracy tests may be substituted for the CO
semi-annual source tests.

9.  For any source listed in Part 1 for which any two
source test results over any consecutive five year
period are greater than or equal to 200 ppmv CO at 3%
O2, the owner/operator shall properly install, properly
maintain, and properly operate a CEM to continuously
measure CO and O2.  The owner/operator shall install the
CEM within the time period allowed in the District's
Manual of Procedures.       [Regulation 9-10-502, 1-522]

10.  In addition to records required by 9-10-504, the
facility must maintain records of all source tests
conducted to demonstrate compliance with Parts 1 and 5.
These records shall be kept on site for at least five
years from the date of entry in a District approved log
and be made available to District staff upon request.
[Recordkeeping, Regulation 9-10-504]
```

I recommend that the following permit conditions be added to Condition # 21235 as Parts 11 through 15:

11. The sources listed in Part 1 of this condition make up the group of sources that are operating under an Alternative Compliance Plan (ACP). The owner/operator shall demonstrate compliance with their ACP and with Regulation 9-10-301 by keeping a spreadsheet of the ACP calculations in a District approved format. [basis: Regulation 2-9-303, 9-10-301]

12. The owner/operator shall submit quarterly reports to the APCO, within 30 days following the end of each calendar quarter, or other 3-month interval established in the plan. Each quarterly report shall include:
    - ~~o~~a. Summary of the amount of IERC's used during the previous quarter;
    - ~~o~~b. Sum of all IERC's used during the current ACP period;
    - ~~o~~c. A projection of the IERC's that are needed for the entire ACP period based on the IERC usage rates calculated in Parts 12a and 12b of this condition, including the Environmental Benefit Surcharge, per Regulation 2-9-309; and
    - ~~o~~d. Certification that the facility possesses IERC's equal to the amount projected in Part 12c of this condition or a description of how the facility will adjust its operation so that the amount of IERC's does not exceed the amount of IERC's possessed by the facility.

    [basis: Regulation 2-9-502.3]

13. The owner/operator shall submit an annual reconciliation report to the APCO within 30 days of following the end of the ACP period, and surrender the banking certificate(s) for all IERC's used during the ACP period, including the environmental benefit surcharge, per Regulation 2-9-309. [basis: Regulation 2-9-502.4]

14. With any request to renew the ACP annually, the owner/operator shall submit all necessary documents for the APCO to review and approve (or deny). [basis: Regulation 2-9-303]

15. The owner/operator shall retain records for five years from the date the record was made, and shall submit such information as required by the APCO to determine compliance with the ACP. [basis: Regulation 2-9-502.2]

<u>RECOMMENDATION</u>

I recommend that the ACP be approved, and the Change of Conditions to accepted to allow ConocoPhillips to use their ACP to use IERC's.

BY: ______________________________ ____________

MCL:mcl **M.K. Carol Lee** **Date**

Senior Air Quality Engineer

ENGINEERING EVALUATION
CONOCOPHILLIPS - SAN FRANCISCO REFINERY; PLANT 16
APPLICATION 17052

1.0 BACKGROUND

ConocoPhillips – San Francisco Refinery (ConocoPhillips) has submitted this permit application under the District's Accelerated Permitting Program (APP) to obtain a Permit to Operate (P/O) for alterations they plan to make at the following source:

S438 U110 H-1 Furnace (H_2 Plant Reforming), 250 MMBtu/hr maximum firing rate; abated by A46, Selective Catalytic Reduction Unit

As part of this alteration project, 18 out of a total of 45 burner blocks in S438 will be replaced with non-identical burners. The new burners will provide better heat distribution, reduced chronic overheating and improved furnace efficiency. The 18 burners to be replaced are each approximately half the size of the remaining 27 burners (e.g. 2.6 MMBtu/hr versus 5.3 MMBtu/hr). Each new burner will have approximately 30% larger capacity (e.g. 3.4 MMBtu/hr) than the old ones.

Per BAAQMD Regulation 2, Rule 1, Section 233.1, replacing burners with non-identical burners is defined as an alteration. Regulation 2-1-106 states that any alteration of a source will be evaluated under the APP. ConocoPhillips proposes to continue operating S438 under the same operating conditions and limits currently in the Title V permit.

The proposed project will not increase the emissions of any regulated air pollutants from S438. The daily and annual emission levels of any regulated air pollutant will not exceed emission levels currently approved by the BAAQMD in the Major Facility Review Permit. Therefore, this permit application qualifies for the Accelerated Permitting Program.

No changes are required to existing permit condition 1694 applicable to S438.

2.0 EMISSIONS SUMMARY

The proposed alterations at S438 will not increase emissions. ConocoPhillips certifies that emissions would not exceed criteria pollutant and toxic emission levels currently approved by the BAAQMD in the Major Facility Review Permit.

2.1 PLANT CUMULATIVE INCREASE

The cumulative emission increase is zero for all the criteria pollutants because annual emissions for this plant are not increasing due to this application.

2.3 BEST AVAILABLE CONTROL TECHNOLOGY

In accordance with BAAQMD Regulation 2, Rule 2, Section 301, a modified source with the potential to emit 10 pounds or more per highest day of POC, NPOC, NOx, CO, SO_2 or PM_{10} that has an increase in emissions must use BACT. Regulation 1-217 defines modification as a change that results in an increase in emissions. For this application, BACT is not triggered because the alteration of existing source S438 will not result in an increase in any emissions as mentioned in Emissions Summary section above.

2.4 TOXICS

New source review of Toxic Air Contaminants (BAAQMD Rule 2-5) requires the Best Available Control Technology for Toxics (TBACT) for sources that result in cancer risk greater than 1.0 in one million and/or chronic hazard index greater than 0.20. The proposed alterations at S438 would not result in an increase in toxic emissions, thus the New Source Review of Toxic Air Contaminants does not apply.

2.5 OFFSETS

Since there is no increase in emissions at this plant as mentioned in Section 2.0 above, offsets are not required for this application.

S438 is a fully offset source (Applications 12412, 11293 and 13424). Per Regulation 2-2-605.4, the baseline emission and throughput rates for a fully offset source are the permitted levels. Prior to 2/16/05, S438 was operating with the permit limits in its original permit application, Application #12412. The limits were 10 ppm NOx at 3% O_2 and 210 MMBtu/hr firing rate. All emissions from S438 except PM_{10} were fully offset as part of Application #12412. Application #11293 is the application that established the current permit limits for S438 of 7 ppm NOx at 3% O_2 and 250 MMBtu/hr firing rate in permit condition number 1694. All emissions from S438 except SO_2 were fully offset as part of Application #11293. PM10 and SO2 emissions from S438 were offset as part of Clean Fuel Expansion Project Application #13424. Please refer to "Cumulative Increase and Offsets" Section on page 29 of the engineering evaluation for Application #13424 for details. A copy of the page has been included in this Application folder.

3.0 STATEMENT OF COMPLIANCE

(i) AUTHORITY TO CONSTRUCT / PERMIT TO OPERATE

In accordance with BAAQMD Rule 2-1-301, any person who "puts in place, builds, erects, installs, modifies, modernizes, alters, or replaces any article, machine, equipment, or other contrivance, the use of which may cause, reduce or control the emissions of air contaminants" shall first obtain an ATC from BAAQMD. In addition, any person who "uses or operates any article, machine, equipment or other contrivance, the use of which may cause, reduce or control the emissions of air contaminants" shall first obtain a P/O. However, BAAQMD Rule 2-1-106 allows for projects that satisfy the APP requirements to be exempt from the ATC requirements of Rule 2-1-301. This permit application is exempt from the ATC requirements of Regulation 2-1-301 because it is an alteration where there will be no increase in emissions. Projects that qualify under the APP may install and operate a new or modified source after submittal of a complete permit application.

ConocoPhillips certifies that there will be no increase in emissions.

Per BAAQMD Regulation 2, Rule 1, Section 233.1, replacing burners with non-identical burners is defined as an alteration. Regulation 2-1-106 states that any alteration of a source will be evaluated under the APP. ConocoPhillips proposes to continue operating S438 under the same operating conditions and limits currently in the Title V permit.

BAAQMD REGULATIONS

S438 is subject to BAAQMD Regulation 1 (General Provisions and Definitions), and Regulation 6 (Particulate Matter and Visible Emissions). After the proposed project, the furnace will continue to satisfy the applicable requirements.

MAJOR FACILITY REVIEW

ConocoPhillips has a Major Facility Review permit as required by BAAQMD Rule 2-6 since it is considered a major source of emissions. The modifications proposed in this project will not require any changes to the existing permit conditions applicable to S438 because the burner details are not included in the permit. S438 will continue to operate per existing rules and permit conditions, so the Major Facility Review permit would not need to be modified.

NSPS

S438 is subject to NSPS Subpart J [Standards of Performance for Petroleum Refineries]. After the proposed project, the furnace will continue to satisfy the applicable requirements.

CEQA

The proposed project is for a minor alteration of existing equipment involving negligible or no expansion of use beyond that previously existing. Therefore, the project is exempt from CEQA review per Rule 2-1-312.6. The applicant has completed an Appendix H form.

PSD

The project is exempt from PSD requirements since the project emissions will not exceed any of the thresholds listed in Regulations 2-2-304 through 2-2-306 or 40 CFR 52.21.

PUBLIC NOTICE

The proposed project is not located within 1,000 feet of any school. Therefore, it is not subject to public notification requirements of Regulation 2-1-412.

4.0 PERMIT CONDITIONS

No changes are required to the existing permit condition 1694 applicable to S438. However, Condition 22012 will be archived. This condition was created for Application 11293. It was identical to Condition 1694 with some additions and changes. The original intent was to have Condition 22012 replace Condition 1694. Instead the changes were incorporated into Condition 1694, so Condition 22012 will be archived. The condition was never incorporated into the Title V permit.

The condition currently states that it was amended by Application 13424 in October 2007. The note will be revised to show all of the applications that amended the condition as accurately as can be determined at this date. The note will say:

> This application was amended by Application 2454 in October 2001, 5814 in December 2003, 10116 in August 2004, 10872 in October 2004, 11293 in February 2005, 12999 in September 2005, 13424 in October 2007, 18696 in November 1998, and 19318 in December 1999.

5.0 RECOMMENDATION

a) Issue ConocoPhillips a P/O to perform alterations at the following source:

S438 U110 H-1 Furnace (H_2 Plant Reforming), 250 MMBtu/hr maximum firing rate; abated by A46, Selective Catalytic Reduction Unit

b) Archive Condition 22012 in the District databank.

By: ____

Sanjeev Kamboj Date
Senior Air Quality Engineer

ENGINEERING EVALUATION
CONOCOPHILLIPS - SAN FRANCISCO REFINERY; PLANT 16
APPLICATION 19360

1.0 BACKGROUND

ConocoPhillips – San Francisco Refinery (ConocoPhillips) has submitted this permit application to request the following permit condition change:

- **Modify permit condition 1694 to include NOx emission limits to comply with the ConocoPhillips Consent Decree (CD)**

The sources affected by this application are S10, S13, and S15-S19, Heaters. The case number for the CD is H-05-258. The requirement to add NOx limits in the District permits is included in paragraph 98 of the CD. Paragraph 97 of the CD refers to the NOx Control Plan where the NOx emissions limits are mentioned. The NOx Control Plan submitted by ConocoPhillips to EPA on June 27, 2008 is included in Attachment A of this evaluation.

Permit condition 1694 will be modified to include NOx emission limits for sources S10, S13, and S15-S19, Heaters, as follows:

BAAQMD Source #	Heater ID	Proposed NOx Emission Limit, 12 month average (lb/MMBtu)
10	U240 B-101	0.015
13	U240 B-301	0.015
15-19 combined	U244 B-501- B-505	0.015

There will be no physical modifications or alterations to any of the sources affected by this application. Currently, sources S10, S13, and S15-S19 are subject to BAAQMD Regulation 9, Rule 10, which limits refinery wide NOx emissions from applicable heaters to 0.033 lb/MMBtu. Because these sources are part of, and in compliance with the Regulation 9, Rule 10 limit, the proposed NOx limits for these heaters will not results in an increase in NOx emissions.

This is a minor revision of the Major Facility Review permit for the following reasons:

- The change is not considered a major modification under 40 CFR Parts 51 (NSR) or 52 (PSD).

- The change is not considered a modification under 40 CFR Parts 60 (NSPS), 61 (NESHAPS), or Section 112 of the Clean Air Act (HAP).
- There is no significant change or relaxation of monitoring.
- No term is established to allow the facility to avoid an applicable requirement.
- No case-by case determination has been made.
- No facility-specific determination for ambient impacts, visibility analysis, or increment analysis on portable sources has been made.

2.0 EMISSIONS SUMMARY

As mentioned in the Background section, the proposed permit condition change will not increase emissions of any regulated air pollutant.

2.1 PLANT CUMULATIVE INCREASE

The cumulative emission increase is zero for all the criteria pollutants because annual emissions for this plant are not increasing due to this application.

2.2 BEST AVAILABLE CONTROL TECHNOLOGY

In accordance with BAAQMD Regulation 2, Rule 2, Section 301, a modified source with the potential to emit 10 pounds or more per highest day of POC, NPOC, NOx, CO, SO_2 or PM_{10} that has an increase in emissions must use BACT. Regulation 1-217 defines modification as a change that results in an increase in emissions. For this application, BACT is not triggered because the proposed permit condition changes will not result in an increase in any emissions as mentioned in Emissions Summary section above.

2.3 TOXICS

New source review of Toxic Air Contaminants (BAAQMD Rule 2-5) requires the Best Available Control Technology for Toxics (TBACT) for sources that result in cancer risk greater than 1.0 in one million and/or chronic hazard index greater than 0.20. The proposed changes at sources S10, S13, and S15-S19 would not result in an increase in toxic emissions, thus the New Source Review of Toxic Air Contaminants does not apply.

2.4 OFFSETS

Since there is no increase in emissions at this plant as mentioned in Section 2.0 above, offsets are not required for this application.

3.0 STATEMENT OF COMPLIANCE

<u>BAAQMD REGULATIONS</u>

The heaters (S10, S13, and S15-S19) burn gaseous fuels and hence, will continue to comply with Regulation 6, Rule 1 (Particulate Matter-General Requirements) including

6-1-301, 304, 305, and 310, which require that particulate emissions not exceed a Ringelmann 1.0 except during tube cleaning when emissions limit is Ringelmann 2.0, visible emissions not cause a public nuisance, and that particulate emissions not exceed 0.15 gr/dscf @ 6% O_2.

The heaters are subject to Regulation 9, Rule 10 (Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators, and Process Heaters in Petroleum Refineries). After the inclusion of NOx emission limits to comply with CD, the heaters will continue to comply with refinery wide NOx emissions limit of 0.033 lb/MMBtu applicable to heaters.

NSPS

Subpart J

The heaters will continue to comply with NSPS 40 CFR 60, Subpart J, Standards of Performance for Petroleum Refineries, including sections 60.104(a)(1) and 60.105(a)(4).

MAJOR FACILITY REVIEW

ConocoPhillips has a Major Facility Review permit as required by BAAQMD Regulation 2, Rule 2, since it is considered a major source of emissions. The changes proposed in this application will require changes to the existing Title V permit and Statement of Basis. These changes will be handled in Title V Minor Revision Application Number 19361.

CEQA

The project is considered to be ministerial under the District's CEQA Regulation 2-1-311 and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emissions factors as outlined in the District Permit Handbook Chapter 2.1.

PUBLIC NOTICE

The proposed project is not located within 1,000 feet of any school. Therefore, it is not subject to public notification requirements of Regulation 2-1-412.

PSD and NESHAPS do not apply.

4.0 PERMIT CONDITIONS

Current permit condition 1694 will be modified as follows:

COND# 1694 -------------------------------------

This condition was amended by Applications 13424 and 19360.

Conditions For Combustion sources and SO2 Cap, Except For Gas Turbines, Duct Burners, Engines, and S45, Heater (U246 B801/B802)

A. Heater Firing Rate Limits and General Requirements

1a. Each heater listed below shall not exceed the indicated daily firing rate limit (based on higher heating value of fuel), which are considered maximum sustainable firing rates. The indicated hourly firing rate is the daily limit divided by 24 hours and is the basis for permit fees and is the rate listed in the District database.

District Refinery Daily Firing Hourly Firing Source ID Rate Rate Number Number (MM Btu/day) (MM Btu/hour)

S3	U230/B201	1,488	62
S7	U231/B103	1,536	64
S21	U244/B507	194.4	8.1
S336	U231/B104	2,664	111
S337	U231/B105	816	34

[Regulation 2-1-234.3]

1b. Each heater listed below shall not exceed the indicated daily firing rate limit (based on higher heating value of fuel), which are considered maximum sustainable firing rates. The indicated hourly firing rate is the daily limit divided by 24 hours and is the basis for permit fees and is the rate listed in the District database.

District Refinery Daily Firing Hourly Firing Source ID Rate Rate Number Number (MM Btu/day) (MM Btu/hour)

S2	U229/B301	528	22
S4	U231/B101	2,304	96
S5	U231/B102	2,496	104
S8	U240/B1	6,144	256

S8 will be removed from service within 90 days of the date that the NOx offsets pursuant to Application 13424 must be supplied pursuant to BAAQMD Regulation 2-2-410.

S9	U240/B2	1,464	61
S10	U240/B101	5,352	223
S11	U240/B201	2,592	108
S12	U240/B202	1,008	42
S13	U240/B301	4,656	194
S14	U240/B401	13,344	556
S15	U244/B501	5,754	239.75

S16	U244/B502	5,754	239.75
S17	U244/B503	5,754	239.75
S18	U244/B504	5,754	239.75
S19	U244/B505	5,754	239.75
S20	U244/B506	552	23
S22	U248/B606	744	31
S29	U200/B5	2,472	103
S30	U200/B101	1,200	50
S31	U200/B501	480	20
S43	U200/B202	5,520	230
S44	U200/B201	1,104	46
S336	U231/B104	2,664	111
S337	U231/B105	816	34
S351	U267	2,280	95
S371	U228/B520	1,392	58
S372	U228/B521	1,392	58

[Regulation 2-1-301]

1c. Each heater listed below shall not exceed the indicated daily firing rate limit (based on higher heating value of fuel), which are considered maximum sustainable firing rates. The indicated hourly firing rate is the daily limit divided by 24 hours and is the basis for permit fees and is the rate listed in the District database.

District Refinery Daily Firing Hourly Firing Source ID Rate Rate Number Number (MM Btu/day) (MM Btu/hour)

District Source Number	Refinery ID Number	Daily Firing Rate (MM Btu/day)	Hourly Firing Rate (MM Btu/hour)
S438	U110	6,000	250

[Cumulative Increase]

2a. All sources shall use only refinery fuel gas and natural gas as fuel, EXCEPT for S438 which may also use pressure swing adsorption (PSA) off gas as fuel, and EXCEPT for S3 and S7 which may also use naphtha fuel during periods of natural gas curtailment, test runs, or for operator training. [Regulation 9-1-304 (sulfur content), Regulation 2, Rule 1, Consent Decree Case No. 05-0258, DATE: 1/27/05] Amended Application 12931

2b. Sources S3 and S7 are permitted to use naphtha fuel only during periods of natural gas curtailment, test runs, or for operator training. These sources shall be monitored for visible emissions during tube cleaning. If any visible emissions are detected when the operation commences, corrective action shall be taken within one day, and monitoring shall be performed after the corrective action is taken. If no visible emissions are detected, monitoring shall be performed on an hourly basis. [Regulation 2-6-409.2, Consent Decree Case No. 05-0258, DATE: 1/27/05] Amended Application 12931

2c. Sources S3 and S7 are permitted to use naphtha fuel only during periods of natural gas curtailment, test runs, or for operator training. These sources shall be monitored for visible emissions before each 1 million gallons of liquid fuel is combusted at each source. If an inspection documents visible emissions, a Method 9 evaluation shall be completed within 3 working days, or during the next scheduled operating period if the specific unit ceases firing on liquid fuel within the 3 working day time frame. [Regulation 2-6-409.2, Consent Decree Case No. 05-0258, DATE: 1/27/05]. Amended Application 12931

3a. The refinery fuel gas shall be tested for total reduced sulfur (TRS) concentration by GC analysis at least once per 8 hour shift (3 times per calendar day). At least 90% of these samples shall be taken each calendar month. No readable samples or sample results shall be omitted. TRS shall include hydrogen sulfide, methyl mercaptan, methyl sulfide, dimethyl disulfide. As an alternative to GC TRS analysis, the fuel gas total sulfur content may be measured with a dedicated total sulfur analyzer (Houston Atlas or equivalent), and TRS concentration estimated based on the total sulfur/TRS ratio, with the TRS estimate increased by a 5% margin for conservatism. The total sulfur/TRS ratio shall be determined at least on a monthly basis through GC analyses of total sulfur and TRS values, and the most recent ratio shall be used to estimate TRS concentration. [SO2 Bubble]

3b. The average of the 3 daily refinery fuel gas TRS sample results shall be reported to the District in a table format each calendar month, with a separate entry for each daily average. Sample reports shall be submitted to the District within 30 days of the end of each calendar month. Any omitted sample results shall be explained in this report. [SO2 Bubble]

4. Emissions of SO2 shall not exceed 1,612 lb/day on a monthly average basis from non-cogeneration sources burning fuel gas or liquid fuel. This limit shall not include S45, Heater (U240) and shall not include any engine. [SO2 Bubble]

5. The following records shall be maintained in a District-approved log for at least 5 years and shall be made available to the District upon request:

a. Daily and monthly records of the type and amount of fuel combusted at each source listed in Part A.1. [Regulation 2-1]
b. TRS sample results as required by Part A.3 [SO2 Bubble]
c. SO2 emissions as required by Part A.4 [SO2 Bubble]
d. The operator shall keep records of all visible emission monitoring required by Part 2b, shall

identify the person performing the monitoring and shall describe all corrective actions taken. [Regulation 2-6-409.2]

e. The operator shall keep records of all visible emission monitoring required by Part 2c, of the results of required visual monitoring and Method 9 evaluations on these sources, shall identify the person performing the monitoring and shall describe all corrective actions taken. [Regulation 2-6-409.2]

6. Sources listed below are affected facilities under NSPS Subpart J and are subject to the application requirements of NSPS Subparts A and J for fuel gas combustion devices. [Consent Decree Case No. 05-0258, DATE: 1/27/05]

S2	U229/B301
S3	U230/B201
S4	U231/B101
S5	U231/B102
S7	U231/B103
S8	U240/B1
S9	U240/B2
S10	U240/B101
S11	U240/B201
S12	U240/B202
S13	U240/B301
S14	U240/B401
S15-S19	U244/B501-B505
S20	U244/B506
S21	U244/B507
S22	U244/B606
S29	U200/B5
S30	U200/B101
S31	U200/B501

B. S351 Preheater

1. The S351 heater shall be abated by the A6 SCR unit at all times, except that S351 may operate without SCR abatement on a temporary basis for periods of planned or emergency maintenance. A District-approved NOx CEM shall monitor and record the S351 NOx emission rate whenever S351 operates without abatement. All emission limits applicable to S351 shall remain in effect whether or not it is operated with SCR abatement. [BACT, Cumulative Increase]

2. The concentration of NOx from S351 shall not exceed 20 ppmv @ 3% oxygen, dry, averaged over any consecutive 3 hour period. This limit shall not apply during a startup period which shall not exceed 12 hours. The startup exemption period may last up to 24 hours to allow the proper ammonia injection temperature to be reached provided that the temperature is monitored at least once per hour and that ammonia injection begins

within 2 hours of reaching the proper temperature. This limit shall also not apply during a shutdown period which shall not exceed 9 hours.
[BACT, Cumulative Increase]

3. The following instruments shall be installed and maintained to demonstrate compliance with Part 2:

   1) continuous NOx analyzer/recorder
   2) continuous O2 or CO analyzer/recorder [BACT, Cumulative Increase]

C. S371 and S372 Furnaces

1. The S371 furnace shall be abated by the A16 SCR unit at all times, and the S372 furnace shall be abated by the A17 SCR unit at all times, except that S371 and S372 may operate without SCR abatement on a temporary basis for periods of planned or emergency maintenance. A District-approved NOx CEM shall monitor and record the NOx emission rates from these heaters whenever they operate without abatement. All emission limits applicable to S371 and S372 shall remain in effect whether or not they are operated with SCR abatement. [BACT, Cumulative Increase]

2. The concentration of NOx from S371 and S372 shall not exceed 20 ppmv, dry, corrected to 3% oxygen, averaged over any consecutive 3 hour period. This limit shall not apply during a startup period, which shall not exceed 12 hours. The startup exemption period may last up to 24 hours to allow the proper ammonia injection temperature to be reached provided that the temperature is monitored at least once per hour and that ammonia injection begins within 2 hours of reaching the proper temperature. This limit shall also not apply during a shutdown period which shall not exceed 9 hours. [BACT, Cumulative Increase]

3. The concentration of CO emissions from S371 and S372 shall not exceed 50 ppmv, dry, corrected to 3% oxygen, averaged over any consecutive 3 hour period. This limit shall not apply during a startup period, which shall not exceed 12 hours. The startup exemption period may last up to 24 hours to allow the proper ammonia injection temperature to be reached provided that the temperature is monitored at least once per hour and that ammonia injection begins within 2 hours of reaching the proper temperature. This limit shall also not apply during a shutdown period, which shall not exceed 9 hours.
[BACT, Cumulative Increase]

D. S43 Coking Furnace (Unit 200 B-202) and S44 (Unit 200 B-201 PCT Reboil Furnace)

1. Nitrogen oxide emissions from the S43 Coking Furnace (Unit 200 B-202) shall be abated by Selective Catalytic Reduction Unit A4 at all times, except that S43 may operate without SCR abatement on a temporary basis for periods of planned or emergency maintenance. A District
-
approved NOx CEM shall monitor and record the S43 NOx emission rate whenever S43 operates without abatement. All emission limits applicable to S43 shall remain in effect whether or not it is operated with SCR abatement.
[BACT, Cumulative Increase]

2. The nitrogen oxides in the flue gases for S43, Unit 200 B-202 Coking Furnace and S44, Unit 200 B-201 PCT Reboil Furnace shall not exceed 40 ppmdv corrected to 3% oxygen, dry, over any consecutive 8 hour period. This limit shall not apply during a startup period which shall not exceed 12 hours. The startup exemption period may last up to 24 hours to allow the proper ammonia injection temperature to be reached provided that the temperature is monitored at least once per hour and that ammonia injection begins within 2 hours of reaching the proper temperature. This limit shall also not apply during a shutdown period which shall not exceed 9 hours. [BACT, Cumulative Increase]

3. The carbon monoxide in the flue gas for S43, Unit 200 B-202 Coking Furnace and S44, Unit 200 B-201 PCT Reboil Furnace shall not exceed 50 ppmdv corrected to 3% oxygen averaged over any calendar month. This condition shall not apply during start-up and shutdown. [BACT, Cumulative Increase]

4. Instruments shall be installed and operated to continuously monitor the percentage of oxygen and the concentration of nitrogen oxides from the following sources: S43, Unit 200 B-202 Coking Furnace and S44, Unit 200 B-201 PCT Reboil Furnace. [BACT, Cumulative Increase]

E. S438 Furnace

1. The S438 furnace shall be abated by the A46 SCR unit at all times, except that S438 may operate without SCR abatement on a temporary basis for periods of planned or emergency maintenance. A District-approved NOx CEM shall monitor and record the S438 NOx emission rate whenever S351 operates without abatement. All emission limits applicable to S438 shall remain in effect whether or not it is operated with SCR abatement. [BACT, Cumulative Increase]

2. Total fuel fired in S438 shall not exceed 2.19 E 12 btu in any rolling consecutive 365 day period. [Cumulative

Increase]

3. Pressure swing adsorption (PSA) off gas used as fuel at S438 shall not exceed 1.0 ppm (by weight) total reduced sulfur (TRS). TRS shall include hydrogen sulfide, methyl mercaptan, methyl sulfide, dimethyl disulfide. [BACT, Cumulative Increase]

4. The following emission concentration limits from S438 shall not be exceeded. These limits shall not apply during startup periods not exceeding 24 hours (72 hours when drying refractory or during the first startup following catalyst replacement) and shutdown periods not exceeding 24 hours. The District may approve other startup and shutdown durations.

NOx: 7 ppmv @ 3% oxygen, averaged over any 1 hour period
CO: 32 ppmv @ 3% oxygen, averaged over any calendar day
POC: 0.0023 lb/MMbtu of fuel used
[BACT, Cumulative Increase]

5. The concentration of TRS in the blended fuel gas shall not exceed 14 ppmv averaged over any calendar month. [SO2 bubble, Cumulative Increase]

6. Daily records of the type and amount of fuel combusted at S438 and of the TRS and hydrogen sulfide concentration in the blended fuel gas, and monthly records of average blended fuel gas TRS concentration, shall be maintained for at least five years and shall be made available to the District upon request. [Cumulative Increase]

7. No later than 90 days from the startup of S438, the owner/operator shall conduct District-approved source tests to determine initial compliance with the limits in Part 4 for NOx, CO and POC. The owner/operator shall conduct the source tests in accordance with Part
8. The owner/operator shall submit the source test results to the District staff no later than 60 days after the source test.

[BACT, Cumulative Increase]

9. The owner/operator shall obtain approval for all source test procedures from the District's Source Test Section prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements for continuous emissions monitors as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Section, in writing, of the source test protocols and projected test dates at least 7 days prior to testing. [BACT, Cumulative Increase]

F. S2, S3, S4, S5, S7, S8, S9, S10, S11, S12, S13, S14, S15-S19, Heaters

1a. Total fuel firing at Unit 240 (S8, S9, S10, S11, S12, S13, S14) shall not exceed 993.7 MMbtu/hr averaged over any consecutive 12 month period. [Cumulative Increase] [Part 1a will be effective until S8 is removed from service pursuant to Application 13424.]

1b. Total fuel firing at Unit 240 (S8, S9, S10, S11, S12, S13, S14) shall not exceed 877.3 MMbtu/hr (based on higher heating value) averaged over any consecutive 12 month period. [Cumulative Increase] [Part 1b will be effective after S8 is removed from service pursuant to Application 13424.]

2. Total fuel fired at the MP-30 Complex, including Unit 229 (S2), Unit 230 (S3) and Unit 231 (S4, S5, S7) shall not exceed 346.5 MMbtu/hr averaged over any consecutive 12 month period (based on higher heating value). [Cumulative Increase]

3. Monthly records of the fuel fired at sources in Parts 1 and 2 shall be kept in a District-approved log for at least 5 years and shall be made available the District upon request.
[Cumulative Increase]

4. The owner/operator shall not exceed the following NOx emission limits as measured by NOx CEMs:
   a. S10: 0.015 lb NOx per MMBtu heat input based on a 12 consecutive month average.
   b. S13: 0.015 lb NOx per MMBtu heat input based on a 12 consecutive month average.
   c. S15, S16, S17, S18 and S19 combined: 0.015 lb NOx per MMBtu heat input based on a 12 consecutive month average.

   [Basis: ConocoPhillips-EPA Consent Decree Case No. H-05-0258]

G. Regulation 9-10 Startup / Shutdown Provisions
[Basis: 9-10-301]

For determining compliance with Regulation 9-10-301, the contribution of each affected unit that is in a startup or shutdown condition shall be based on the methods described in 9-10-301.1, and the contribution of each affected unit that is in an out of service condition shall be based on the methods described in 9-10-301.2. Low-firing conditions (no higher than 20% of a unit's rated capacity), including refractory dryout periods, shall be considered out of service conditions subject to the 30-day averaging procedure in Regulation 9-10-301.2, including the 60-day annual limit for this procedure.

1. Heaters S8 (Unit 240, B-1), S14 (Unit 240, B-401) and S44 (Unit 200, B-201) shall be considered to be in normal operation whenever they have detectable fuel

flow, and shall be considered to be out of service for the purpose of Regulation 9-10-301 whenever they have undetectable fuel flow.

[S8 will be deleted from this part when the source is removed from service pursuant to Application 13424.]

2. For heaters S43 (Unit 200, B-202), S351 (Unit 267, B-601/602) and S371/372 (Unit 228, B-520/521), the durations of startups, shutdowns and refractory dryout periods are defined in Condition 1694, Part D.2 (S43), Part B.2 (S351) and Part C.2 (S371, S372).

3. For heaters S10 (Unit 240, B-101) and S15 through S19 (Unit 244, B-501 through B-505), the duration of startups, shutdowns and low-firing periods are defined as follows:

    3) startup and shutdown periods are not to exceed 24 hours
    4) low-firing periods are not to exceed 72 hours

4. For heater S13 (Unit 240, B-301), the duration of startups, shutdowns and low-firing periods are defined as follows:

    1) startup and shutdown periods are not to exceed 72 hours
    2) low-firing periods are not to exceed 72 hours

b. For heaters with no CEMS:

S2 (Unit 229, B-301)
S3 (Unit 230, B-201)
S4 (Unit 231, B-101)
S5 (Unit 231, B-102)
S7 (Unit 231, B-103)
S9 (Unit 240, B-2)
S11 (Unit 240, B-201)
S12 (Unit 240, B-202)
S20 (Unit 244, B-506)
S22 (Unit 248, B-606)
S29 (Unit 200, B-5)
S30 (Unit 200, B-101)
S31 (Unit 200, B-501)
S336 (Unit 231, B-104)
S337 (Unit 231, B-105)

startups, shutdowns, and out of service conditions shall each not exceed 5 days in succession at each source.

5.0 RECOMMENDATION

Issue modified Permit to Operate to ConocoPhillips after approving the following permit condition change:

- **Modify permit condition 1694 to include NOx emission limits for S10, S13, and S15-S19, Heaters, to comply with the ConocoPhillips Consent Decree**

By: ____
Sanjeev Kamboj Date
Senior Air Quality Engineer

ATTACHMENT A

NOx Control Plan and Applicable Parts of CD

Evaluation Report
A/N 19626
G# 7609 (Plant 16, Source 294)
Conoco Phillips Refinery, 1380 San Pablo Ave., Rodeo

Background

Conoco Phillips has applied for an A/C to replace the Phase II vapor recovery on the existing GDF at the Rodeo refinery with an EVR certified Phase II system. No other work is proposed under this application.

Conoco Phillips currently operates a 15,000 gallon underground gasoline tank with one EW A4005 gasoline nozzle equipped with Phil Tite EVR Phase I and balance Phase II vapor recovery. This equipment is permitted as Source 294 at Plant 16 and is subject to condition #7523, which limits annual gasoline throughput to 400,000 gallons per year and #18680, the standard operating and testing condition for the Phil-Tite Phase I equipment.

Proposed Phase II equipment consists of the Healy EVR Phase II system with the Clear Air Separator (CAS) pursuant to CARB Executive Order VR-201. ISD controls have not been proposed.

Emissions

No change in permitted throughput has been requested.

As the EVR Phase II equipment is certified to slightly more stringent standards than the existing balance Phase II vapor recovery equipment, there should be no increase in emissions per unit throughput.

The net emission increase under this A/N will be zero.

Statement of Compliance

As there will be no net emissions increase from this project, this application is not subject to the BACT and offset requirements of Regulation 2, Rule 2.

The proposed Healy EVR Phase II equipment is certified under VR-201. Plans submitted with this application verify that the installation will satisfy the requirements of this Executive order:

- The vapor return piping does not include any vapor pots or condensate traps.
- The separator will be located properly within 100' of the vents.
- Piping connecting the CAS to the vent will be sloped away from the CAS.
- The dispenser will be equipped with a Healy 900 nozzle and Healy Vapor pump

ISD equipment will not be installed. This GDF is conditioned to less than 600,000 gal/yr and is not subject to ISD requirements.

Use of CARB certified equipment satisfies all requirements of District Regulation 8, Rule 7.

Permit Conditions

Authority to Construct Conditions:

(Data Bank Cond ID# to be assigned)

1. The Healy EVR Phase II Vapor Recovery System without ISD, including all associated underground plumbing, shall be installed, operated, and maintained in accordance with the most recent revision of the California Air Resources Board (CARB) Executive Order **VR-201**. Section 41954(f) of the California Health and Safety Code prohibits the sale, offering for sale, or installation of any vapor control system unless the system has been certified by the state board.

2. Only CARB-certified EVR Phase I vapor recovery systems shall be used in conjunction with the Healy EVR Phase II Vapor Recovery System without ISD.

3. The owner/operator of the facility shall maintain records in accordance with the following requirements. Records shall be maintained on site and made available for inspection for a period of 24 months from the date the record is made.

    a. Monthly throughput of gasoline pumped, summarized on an annual basis

    b. A record of all testing and maintenance as required by E.O. VR-201, Exhibit 2. The records shall include the maintenance or test date, repair date to correct test failure, maintenance or test performed, affiliation, telephone number, name and Certified Technician Identification Number of individual conducting maintenance or test.

4. All applicable components shall be maintained to be leak free and vapor tight. Leak Free, as per BAAQMD (District) Regulation 8-7-203, is a liquid leak of no greater than three drops per minute. Vapor Tight as defined in District Manual of Procedures, Volume IV, ST-30.

5. **Start-up notification:** applicant must contact the assigned Permit Engineer, listed in the correspondence section of this letter, by phone, by fax [(415) 749-4949], or in writing at least three days before the initial operation of the equipment is to take place. Operation includes any start-up of the source for testing or other purposes. Operation of equipment without notification being submitted to the District, may result in enforcement action. **Please do not send start-up notifications to the Air Pollution Control Officer**.

6. The following performance test shall be successfully conducted at least ten (10) days, but no more than thirty (30) days after start-up. For the purpose of compliance with this Condition, all tests shall be conducted after back-filling, paving, and installation of all required Phase I and Phase II components:

    a. **Vapor-to-Liquid Test in accordance with E.O. VR-201, Exhibit 5. The vapor-to-liquid ratio shall be between 0.95 and 1.15 when measured at dispensing rates between 6 and 10 gallons per minute.** ***NOTE: For start up testing ONLY, two gallons of liquid gasoline must be introduced down each dispenser riser prior to the test.***

    b. **Healy Clean Air Separator Static Pressure Performance test in accordance with E.O. VR-201, Ex. 4.**

c. **Static Pressure Performance Test, in accordance with CARB Test Procedure TP-201.3 (3/17/99). If the tank size is 500 gallons or less, the test shall be performed on an empty tank.**

d. **Nozzle Bag Test on all nozzles in accordance with E.O. VR-201, Ex. 7.**

7. The Healy EVR Phase II system without ISD shall be capable of demonstrating on-going compliance with the vapor integrity requirements of CARB Executive Order VR-201. The owner or operator shall conduct and pass a **Static Pressure Decay Test**, a **Vapor-to-Liquid Test,** a **Healy Clean Air Separator Static Pressure Performance test** and **Nozzle Bag Tests on all nozzles** at least once in each 12-month period following successful completion of start-up testing. Tests shall be conducted using the above referenced test methods.

8. The applicant shall notify Source Test by email at gdfnotice@baaqmd.gov or by FAX at (510) 758-3087, at least 48 hours prior to any testing required for permitting. Test results for all performance tests shall be submitted in a District-approved format within thirty days of testing. Start-up tests results submitted to the District must include the application number and the GDF number. (For annual test results submitted to the District, enter "Annual" in lieu of the application number.) Test results may be submitted by email (gdfresults@baaqmd.gov), FAX (510) 758-3087) or mail (BAAQMD Source Test Section, Attention Hiroshi Doi, 939 Ellis Street, San Francisco CA 94109).

9. The maximum length of the coaxial hose assembly, including breakaway, swivels, and whip hoses, shall be twenty (20) feet. The maximum allowable length of hose which may be in contact with the top of the island block or the ground shall be six (6) inches.

10. The dispensing rate shall not exceed ten (10.0) gallons per minute (gpm), nor be less than six (6.0) gpm with the trigger at the highest setting. Compliance with this condition shall be verified with only one nozzle in operation per product supply pump.

11. The Healy Clean Air Separator (HCAS) shall be located no more than 100 feet from the tank vent lines. The line connecting the HCAS shall slope down towards the vent lines at a minimum of 1/8” per linear foot. The Air Breather Assembly shall be a minimum of 12 feet above grade.

12. All ball valves shall be positioned for normal operation as shown in E.O. VR-201, Ex. 2 except when necessary for testing and maintenance.

13. The Healy EVR Phase II Vapor Recovery System without ISD shall be installed, operated, and maintained in accordance with the System Operating Manual approved by CARB.

14. No dispensing shall be allowed when a vapor collection pump is disabled for maintenance or for any other reason. Only those nozzles affected by the disabled vapor collection pump are subject to this condition.

15. Regardless of proposed work, all vapor return and vent lines shall be a minimum nominal internal diameter of 2 inches from the dispensers or vent stacks to the first manifold. All lines after the first manifold and back to the underground storage tanks shall have a minimum internal diameter of 3 inches. All lines shall slope down towards the lowest octane tank at a minimum of 1/8 inch per linear foot. Condensate traps or knock-out pots are prohibited.

16. For projects involving addition, replacement, or removal of more than 50% of the vapor return piping, the vapor return lines shall be manifolded below grade at the tanks. This is in addition to any manifolds at the dispensers or on the vent lines.
17. Each vent pipe shall be equipped with a CARB certified pressure/vacuum relief valve as required by the applicable Phase I E.O.. Plumbing may be manifolded to reduce the number of relief valves needed. The District recommends that vents be manifolded to a single relief valve whenever possible.
18. The inner diameter of the connector between the dispenser and the vapor return piping riser shall be 1".
19. The Healy EVR Phase II Vapor Recovery System without ISD shall be retrofitted with ISD controls as required by CARB.
20. The current gasoline throughput at this facility shall not exceed 400,00 gallons of gasoline per year.

Permit to Operate Conditions

COND# 7523 --------------------------------------

Pursuant to BAAQMD Toxic Section Policy,
this facility's annual gasoline throughput shall
not exceed 400,000 gallons in any consecutive 12
month period.
(Basis: Toxic Risk Management Policy)

COND# 18680

1. The Phil Tite EVR Phase I Vapor Recovery System, including all associated plumbing and components, shall be operated and maintained in accordance with the most recent version of California Air Resources Board (CARB) Executive Order VR-101. Section 41954(f) of the California Health and Safety Code prohibits the sale, offering for sale, or installation of any vapor control system unless the system has been certified by the state board.

2. The owner or operator shall conduct and pass a Rotatable Adaptor Torque Test (CARB Test Procedure TP201.1B) and either a Drop Tube/Drain Valve Assembly Leak Test (TP201.1C) or, if operating drop tube overfill prevention devices ("flapper valves"), a Drop Tube Overfill Prevention Device and Spill Container Drain Valve Leak Test (TP201.1D) at least once in each 36-month period. Measured leak rates of each component

shall not exceed the levels specified in VR-101.

The applicant shall notify Source Test by email at gdfnotice@baaqmd.gov or by FAX at (510) 758-3087, at least 48 hours prior to any testing required for permitting. Test results for all performance tests shall be submitted within fifteen (15) days of testing. Start-up tests results submitted to the District must include the application number and the GDF number. (For annual test results submitted to the District, enter "Annual" in lieu of the application number.) Test results may be submitted by email (gdfresults@baaqmd.gov), FAX (510) 758-3087) or mail (BAAQMD Source Test Section, Attention Hiroshi Doi, 939 Ellis Street, San Francisco CA 94109).

COND# 22951

Permit Conditions for Healy EVR Phase II System w/o ISD per CARB E.O. VR-201

1) The Healy EVR Phase II Vapor Recovery System without ISD, including all associated underground plumbing, shall be installed, operated, and maintained in accordance with the most recent revision of the California Air Resources Board (CARB) Executive Order VR-201. Section 41954(f) of the California Health and Safety Code prohibits the sale, offering for sale, or installation of any vapor control system unless the system has been certified by the state board.

2) The owner/operator of the facility shall maintain records in accordance with the following requirements. Records shall be maintained on site and made available for inspection for a period of 24 months from the date the record is made.

a) Monthly throughput of gasoline pumped, summarized on an annual basis

b) All scheduled maintenance activities required under E.O. VR-201, Exhibit 2, Figure 2B-11

3) All applicable components shall be maintained to be leak free and vapor tight. Leak Free, as per

BAAQMD (District) Regulation 8-7-203, is a liquid leak of no greater than three drops per minute. Vapor Tight as defined in District Manual of Procedures, Volume IV, ST-30.

4) The Healy EVR Phase II system shall be capable of demonstrating on-going compliance with the vapor integrity requirements of CARB Executive Order VR-201. The owner or operator shall conduct and pass the following tests at least once in each 12-month period following successful completion of start-up testing. Tests shall be conducted using the referenced test methods:

a) Vapor-to-Liquid Test in accordance with E.O. VR-201, Exhibit 5. The vapor-to-liquid ratio shall be between 0.95 and 1.15 when measured at dispensing rates between 6 and 10 gallons per minute.

b) Healy Clean Air Separator Static Pressure Performance test in accordance with E.O. VR-201, Ex. 4.

c) Static Pressure Performance Test, in accordance with CARB Test Procedure TP-201.3 (3/17/99). If the tank size is 500 gallons or less, the test shall be performed on an empty tank.

5) The applicant shall notify Source Test by email at gdfnotice@baaqmd.gov or by FAX at (510) 758-3087, at least 48 hours prior to any testing required for permitting. Test results for all performance tests shall be submitted within fifteen (15) days of testing. Start-up tests results submitted to the District must include the application number and the GDF number. (For annual test results submitted to the District, enter "Annual" in lieu of the application number.) Test results may be submitted by email (gdfresults@baaqmd.gov), FAX (510) 758-3087) or mail (BAAQMD Source Test Section, Attention Hiroshi Doi, 939 Ellis Street, San Francisco CA 94109).

6) The maximum length of the coaxial hose assembly, including breakaway, swivels, and whip hoses,

shall be twenty (20) feet. The maximum allowable length of hose which may be in contact with the top of the island block or the ground shall be six (6) inches.

7) The dispensing rate shall not exceed ten (10.0) gallons per minute (gpm), nor be less than six (6.0) gpm with the trigger at the highest setting. Compliance with this condition shall be verified with only one nozzle in operation per product supply pump.

8) All ball valves shall be positioned for normal operation as shown in E.O. VR-201, Ex. 2, Figs. 2B-5 through 2B-9 except when necessary for testing and maintenance.

9) The Healy EVR Phase II Vapor Recovery System without ISD shall be maintained in accordance with the System Operating Manual approved by CARB.

10) No dispensing shall be allowed when a vapor collection pump is disabled for maintenance or for any other reason. Only those nozzles affected by the disabled vapor collection pump are subject to this condition.

11) Permanent access to vacuum assist equipment shall be provided for the purpose of inspection and/or testing.

12) The Healy EVR Phase II Vapor Recovery System without ISD shall be retrofitted with ISD controls as required by CARB.

Title V Permit Revisions

This plant has a Title V permit. This project will require a minor revision of the Title V permit.

Proposed revisions to the Title V permit are attached.

Recommendation

All fees have been paid. Recommend that an A/C be issued for the above project.

By ____________________________________ date__________________________

Scott Owen
Supervising AQ Engineer

DRAFT Table IV - K
Source-specific Applicable Requirements
S-294 – NON-RETAIL GASOLINE DISPENSING FACILITY

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 8, Rule 7	**Organic Compounds - Gasoline Dispensing Facilities (11/6/02)**		
8-7-113	Tank Gauging and Inspection Exemption	Y	
8-7-301	Phase I Requirements	Y	
8-7-301.1	Requirement for CARB Phase I System	Y	
8-7-301.2	Installation of Phase I Equipment per CARB Requirements	Y	
8-7-301.3	Submerged Fill Pipes	Y	
8-7-301.5	Maintenance of Phase I Equipment per Manufacturers Guidelines or CARB Executive Order	Y	
8-7-301.6	Leak-Free, Vapor-Tight	Y	
8-7-301.7	Poppetted Drybreaks	Y	
8-7-301.8	No Coaxial Phase 1 Systems on New and Modified Tanks	Y	
8-7-301.9	CARB-Certified Anti-Rotational Coupler or Swivel Adapter	Y	
8-7-301.10	System Vapor Recovery Rate	Y	
8-7-301.11	CARB-Certified Spill Box	Y	
8-7-301.12	Drain Valve Permanently Plugged	Y	
8-7-301.13	Annual Phase I testing	Y	
8-7-302	Phase II Requirements	Y	
8-7-302.1	Requirement for CARB Certified Phase II System	Y	
8-7-302.2	Maintenance of Phase II System per CARB Requirements	Y	
8-7-302.3	Maintenance of All Equipment as Specified by Manufacturer	Y	
8-7-302.4	Repair of Defective Parts Within 7 Days	Y	
8-7-302.5	Leak-Free, Vapor-Tight	Y	
8-7-302.6	Insertion Interlocks	Y	
8-7-302.7	Built-In Vapor Check Valve	Y	
8-7-302.8	Minimum Liquid Removal Rate	Y	
8-7-302.9	Coaxial Hose	Y	
8-7-302.10	Galvanized Piping or Flexible Tubing	Y	
8-7-302.12	Liquid Retain Limit	Y	
8-7-302.13	Spitting Limit	Y	
8-7-302.14	Annual balance Phase II backpressure test	Y	
8-7-302.15	Annual vacuum assist Phase II test	N	
8-7-303	Topping Off	Y	
8-7-304	Certification Requirements	Y	
8-7-306	Prohibition of Use	Y	
8-7-307	Posting of Operating Instructions	Y	

DRAFT Table IV - K
Source-specific Applicable Requirements
S-294 – NON-RETAIL GASOLINE DISPENSING FACILITY

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
8-7-308	Operating Practices	Y	
8-7-309	Contingent Vapor Recovery Requirements	Y	
8-7-313	Requirements for New or Modified Phase II Installations	Y	
8-7-315	Pressure Vacuum Valve Requirement, Underground Storage Tank	Y	
8-7-401	Permit Requirements, New and Modified Installations	Y	
8-7-406	Testing Requirements, New and Modified Installations	Y	
8-7-407	Periodic Testing	Y	
8-7-408	Periodic Testing Notification	Y	
8-7-501	Burden of Proof	Y	
8-7-502	Right of Access	Y	
8-7-503	Record Keeping Requirements	Y	
8-7-503.1	Gasoline Dispensed Records	Y	
8-7-503.2	Dispensing Facility Maintenance Records	Y	
8-7-503.3	Dispensing Records Retention	Y	
BAAQMD Condition 7523	Gasoline throughput shall not exceed 400,000 gallons in any consecutive 12-month period. [Basis: Toxic Risk Policy]	N	
BAAQMD Condition 20989, Part A	Throughput limits for S-294 [Basis: 2-1-234.3]	Y	
BAAQMD Condition 18680			
Part 1	Operation and maintenance standards for vapor recovery system (CARB Executive Order VR-101)	N	
Part 2	36-month testing requirement	N	

Table VII – K
Applicable Limits and Compliance Monitoring Requirements
S294 – NON-RETAIL GASOLINE DISPENSING FACILITY

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type

Table VII – K
Applicable Limits and Compliance Monitoring Requirements
S294 – NON-RETAIL GASOLINE DISPENSING FACILITY

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VOC	BAAQMD Regulation 8-7-301.6 and 8-7-302.5	Y		Vapor recovery equipment shall be leak-free and vapor tight	BAAQMD Regulation 8-7-301.13	A	Vapor tightness test
VOC	BAAQMD Regulation 8-7-301.10	N		98% or highest vapor recovery rate specified by CARB	None	N	None
VOC	None			None	BAAQMD Regulation 8-7-302.14	A	Backpressure test
VOC	BAAQMD Regulation 8-7-313.1	N		Fugitives $\leq$ 0.42 lb/1000 gallon	None	N	None
VOC	BAAQMD Regulation 8-7-313.2	N		Spillage $\leq$ 0.42 lb/1000 gallon	None	N	None
VOC	BAAQMD Regulation 8-7-313.3	N		Liquid Retain + Spitting $\leq$ 0.42 lb/1000 gallon	None	N	None
VOC	SIP Regulation 8-7-301.2	Y		95% recovery of gasoline vapors	None	N	None
VOC	California Air Resources Board Executive Order VR-101	N		Drop Tube/Drain Valve Test	BAAQMD Condition 18680, Part 2	CARB Test Procedure TP201.1C or 201.1D	P/36 months
VOC	California Air Resources Board Executive Order VR-101	N		Torque Test	BAAQMD Condition 18680, Part 2	CARB Test Procedure TP201.1B	P/36 months
VOC	BAAQMD Regulation 301.13	Y		Leak Test	BAAQMD Regulation 301.13	CARB Test Procedure TP201.3	A

Table VII – K
Applicable Limits and Compliance Monitoring Requirements
S294 – NON-RETAIL GASOLINE DISPENSING FACILITY

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VOC	BAAQMD Regulation 302.15	Y		Vapor-to-Liquid (V/L) Test	CARB Executive Order VR-201	CARB Executive Order VR-201, Exhibit 5	A
VOC	BAAQMD Regulation 302.15	Y		Healy Clean Air Separator Test	CARB Executive Order VR-201	CARB Executive Order VR-201, Exhibit 4	A
Through-put	BAAQMD Condition 7523	N		400,000 gal/yr	BAAQMD Regulation 8-7-503 BAAQMD Condition 20989, Part A	P/A P/M	Records Records
Through-put	BAAQMD Condition 20989, Part A	Y		20 gpm	None	N	None

ENGINEERING EVALUATION
CONOCOPHILLIPS - SAN FRANCISCO REFINERY; PLANT 16
APPLICATION 20801

1.0 BACKGROUND

ConocoPhillips – San Francisco Refinery (ConocoPhillips) has submitted this permit application under the District's Accelerated Permitting Program (APP) to obtain a Permit to Operate (P/O) for the following new tank:

S507 Tank #21, Fixed Roof, 450-Gallon FPLH Recovery Tank- Unit 76 Active Skimmer System, stores gasoline

The Unit 76 Area is located in the Lower Tank Farm in the southern portion of the Refinery and is used for gasoline blending and storage tank operations. As a result of historical hydrocarbon releases in the area between 1960 and 1988, a free-phase liquid hydrocarbon (FPLH) plume is present on the groundwater in the area. The Unit 76 active skimmer FPLH recovery system was installed in 1998 to recover FPLH in the area, in accordance with a Remedial Action Plan approved by California Regional Water Quality Board – San Francisco Bay Region (CRWQCB-SFB). The Unit 76 FPLH recovery program currently includes 14 groundwater-monitoring wells and three active FPLH skimming wells. The recovered FPLH is primarily gasoline with a measured API gravity of 51.5 degrees F.

Installation of a 450-gallon storage tank is necessary to expand the existing active skimmer program in the Unit 76 area in order to enhance FPLH recovery. The expanded system will operate in the same manner as the current system. A vacuum truck will be used periodically to transfer the recovered gasoline FPLH stored in the S507 tank to the Refinery's Recovered Oil System for recycling. The proposed changes are required as part of the Site Cleanup Requirements Order No. R2-2006-0065 adopted by CRWQCB-SFB.

S507 will be a 450-gallon Ace BenchTop double-walled rectangular tank. The tank will be outfitted with an OPW Model 623-V pressure/vacuum vent and an OPW Model 201M emergency vent and will undergo routine inspection and maintenance as required by BAAQMD Regulation 8, Rule 5 – Storage of Organic Liquids. The minimum set pressure for the PV valve will be 0.5 psig.

S507 will not be abated by the existing A7, Vapor Recovery System. According to ConocoPhillips, the nearest tie-in location to the Vapor Recovery System is approximately 1,200 feet from the planned location of S507, and connecting the planned system to the Vapor Recovery System over this distance is not practical when accounting for physical obstacles and site logistics.

This permit application is exempt from the Authority to Construct (ATC) requirements of Regulation 2-1-301 because it meets the requirements of the limited exemption under the Accelerated Permitting Program (Regulation 2-1-106).

The proposed project would not increase the throughput rate or capacity of any equipment associated with S507. Daily or annual emission levels of any regulated air pollutant would not exceed emission levels currently approved by the BAAQMD in the Major Facility Review permit. Therefore, this permit application qualifies for the Accelerated Permitting Program.

This is a minor revision of the Major Facility Review permit for the following reasons:

- The change is not considered a major modification under 40 CFR Parts 51 (NSR) or 52 (PSD).
- The change is not considered a modification under 40 CFR Parts 60 (NSPS), 61 (NESHAPS), or Section 112 of the Clean Air Act (HAP).
- There is no significant change or relaxation of monitoring.
- No term is established to allow the facility to avoid an applicable requirement.
- No case-by case determination has been made.
- No facility-specific determination for ambient impacts, visibility analysis, or increment analysis on portable sources has been made.
- No new federal requirement has been imposed.

2.0 EMISSIONS SUMMARY

U.S. EPA TANKS 4.0.9d software was used to estimate volatile organic compound (VOC) and hazardous air pollutant (HAP) emissions from the S507 storage tank. It was conservatively assumed that the Reid Vapor Pressure (RVP) of the FPLH that will be stored in the tank is 15 psi. Output from Tanks 4.0.9d is included in Attachment A. Based on the output, it is estimated that 217.15 pounds of total POC emissions would be generated per year from S507. According to ConocoPhillips, there will be no change in fugitive emissions, as no new components will be added as part of this project.

2.1 CUMULATIVE INCREASE AND OFFSETS

ConocoPhillips is an existing facility. Table 1 summarizes the cumulative increase in criteria pollutant emissions that will result at Plant 16 from the operation of S507.

Table 1 Cumulative Increase				
Pollutant	**Increase in plant emissions prior to April 5, 1991 (TPY)**	**Increase in plant emissions since April 5, 1991 (TPY)**	**Increase in plant emissions associated with this application (TPY)**	**Cumulative increase in emissions (Post 4/5/91 + Current application increase) (TPY)**
NOx	262.435	0	0	0
POC	31.281	0.003	0.109	0.112
CO	71.357	161.920	0	161.920
PM_{10}	0.001	0	0	0
SO_2	6.570	0.120	0	0.120
NPOC	0	0	0	0

Table 2 Offsets					
Pollutant	**Permitted plant emissions (TPY) Pre-April 5, 1991 + Post-April 5, 1991**	**Actual plant emissions[1] (TPY)**	**Increase in plant emissions associated with this application (TPY)**	**Total emissions (Higher of Permitted/Actual Emissions + Emissions associated with this application) (TPY)**	**Regulation 2-2-302 and 2-2-303 Offset Triggers (TPY)**
NOx	262.435	319.15	0	319.15	> 35
POC	31.284	175.10	0.109	175.209	> 35
CO	233.277	296.90	0	296.90	NA
PM_{10}	0.001	63.82	0	63.82	> 1
SO_2	6.690	357.37	0	357.37	> 1
NPOC	0	0	0	0	NA

[1] Db → q2 →p → all

It can be seen from Table 2 above that offsets are warranted for POC, since the emissions of the above pollutant are greater than the 35 tons per year offset trigger. It can also be seen that the actual emissions of NOx, POC, CO, PM_{10}, and SO_2 are above the permitted emissions for the above pollutants. This is so because most sources at refineries are grand fathered (i.e., Pre-1971 sources). In light of the above, and for the purposes of determining whether offsets are warranted, only those emission increases, which occurred after April 5, 1991 (0.003 TPY) that have not been offset are added to the emissions expected from S507 (0.109 TPY). Therefore, ConocoPhillips will have to surrender to the District 0.130 TPY of POC Emission Reduction Credits

(ERCs) at an offset ratio of 1.15:1[2]. ConocoPhillips currently owns 0.817 tons of POC ERCs in Certificate #1173 that was issued by the District on November 9, 2009. ConocoPhillips has surrendered above certificate to the District, and will receive a new certificate in the amount of 0.687 (0.817 – 0.130) tons per year with a new issuance date.

2 Per Regulation 2-2-302, (0.003 + 0.109) x 1.15 = 0.1288 ~ 0.130 TPY.

2.3 BEST AVAILABLE CONTROL TECHNOLOGY

In accordance with BAAQMD Regulation 2, Rule 2, Section 301, a source with the potential to emit 10 pounds or more per highest day of POC, NPOC, NOx, CO, SO_2 or PM_{10} must use BACT. For this application, BACT is not triggered because S507 annual average daily POC emissions are calculated to be 0.60 lbs/day.

2.4 TOXICS

Assuming the recovered gasoline contains approximately 2% benzene, this would result in 4.34 pounds of benzene emissions per year.

A 2 % benzene concentration is used as a conservative estimate for the FPLH being recovered with the Unit 76 Active Skimmer System. According to the Agency for Toxic Substances and Disease Registry, gasoline in the United States contains up to 2% benzene by volume.

On May 19, 2009 the FPLH from the existing recovery tank was sampled and analyzed by an independent analytical laboratory for benzene. The benzene concentration was determined to be 670,000 micrograms per kilogram (μg/kg). This concentration converts to a benzene percentage of 0.059% by volume.

Hourly benzene emissions are calculated as follows:

Hourly emissions = Annual Emissions (lbs/yr) / (365 days/yr) (24 hrs/day)
= (4.34 lbs/yr) / (8760 hrs/yr) = 0.00049 lbs/hr

Both annual and hourly benzene emissions are below their respective chronic and acute trigger levels of 6.4E+00 lbs/yr and 2.9E+00 lbs/hr. Therefore, a health risk screening analysis is not required.

3.0 STATEMENT OF COMPLIANCE

In accordance with BAAQMD Rule 2-1-301, any person who "puts in place, builds, erects, installs, modifies, modernizes, alters, or replaces any article, machine, equipment, or other contrivance, the use of which may cause, reduce or control the emissions of air contaminants" shall first obtain an ATC from BAAQMD. In addition, any person who "uses or operates any article, machine, equipment or other contrivance, the use of which may cause, reduce or control the emissions of air contaminants" shall first obtain a P/O. However, BAAQMD Rule 2-1-106 allows for projects that satisfy the APP requirements to be exempt from the ATC requirements of Rule 2-1-301. This permit application is exempt from the ATC requirements of Regulation 2-1-301 because it meets the criteria set forth in Sections 2-1-106.1 through 106.3. Projects that qualify under the APP may install and operate a new or modified source after submittal of a complete permit application.

ConocoPhillips certifies that the proposed project meets the accelerated permitting criteria below and therefore is eligible for the APP.

106.1 Uncontrolled emissions of POC, NPOC, NOx, SO2, PM_{10}, and CO are each less than 10 pounds per highest day and
106.2 Emissions of toxic compounds do not exceed the trigger levels identified in Table 2-5-1 of Regulation 2, Rule 5; and
106.3 The source is not subject to the public notice requirements of Section 2-1-412.

REGULATION 8, RULE 5, STORAGE OF ORGANIC LIQUIDS

S507 will be subject to Sections 8-5-301, 8-5-303 and 8-5-403.

S507 is required by Section 8-5-301 to have a pressure vacuum (PV) valve due to the size and vapor pressure of the contents. The tank will be equipped with a PV valve with a setting of 0.5 psig, which meets the requirements of Section 8-5-303.1.

The valve is expected to comply with the "gas-tight" requirement in Section 8-5-303.1 because it will be inspected twice per year in accordance with Section 8-5-403. The facility has stated that S507 will comply with this requirement.

NSPS

Subpart QQQ

S507 is not subject to NSPS Subpart QQQ [Standards of Performance For VOC Emissions From Petroleum Refinery Wastewater Systems] because there is no separation of oil and water in the tank. The contents of the tank S507 are transferred to the recovered oil system. The recovered oil system is designed to send recovered oil back into the process and any excess water to the WWTP. There are parts of the recovered oil system that are subject to QQQ. S507 is upstream of any equipment or processes subject to QQQ.

CEQA

The project is considered to be ministerial under the District's CEQA Regulation 2-1-311 and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emissions factors as outlined in the District Permit Handbook Chapter 4.

NESHAPS

Subpart EEEE
S507 will be an affected source under OLD MACT (NESHAPS Subpart EEEE) because the contents are greater than 5% by weight HAPs. Per 40 CFR 63.2343(a), however, S507 is not subject to any control requirements because its working capacity is less than 5,000 gallons. Notification of start-up shall be submitted to EPA 120 days after initial start-up per 40 CFR 63.2382(b)(2). Semi-annual reports will be submitted per 40 CFR 63.2386(c).

Subpart FF
Technically, 40 CFR 61 Subpart FF [National Emission Standards for Benzene Waste Operations (BWON)] applies to S507, but because it is considered uncontrolled, there are no inspection or control requirements that apply directly to the tank. Instead, per the BWON requirements in 61.355, the benzene quantities associated with S507 will be included in the annual TAB report, which includes the calculation for compliance with the 6BQ option. Citation 61.355, which details how the TAB and 6BQ are calculated, will be added as a Facility Wide Generally Applicable Requirement as part of the Title V permitting process.

Subpart GGGGG
40 CFR 63.7881 states "Your site remediation is not subject to this subpart if the site remediation will be performed under a Resource Conservation and Recovery Act (RCRA) corrective action conducted at a treatment, storage and disposal facility (TSDF) that is either required by your permit issued by either the U.S. Environmental Protection Agency (EPA) or a state program authorized by the EPA under RCRA section 3006; required by orders authorized under RCRA; or required by orders authorized under RCRA section 7003". Currently, all of the corrective action requirements are under California Regional Water Quality Control Board, San Francisco Bay Region Site Cleanup Requirements (SCR) Order No. R2-2006-0065. This SCR Order meets the exemption definition in 63.7881.

PSD

The project is exempt from PSD requirements since the project emissions will not exceed any of the thresholds listed in Regulations 2-2-304 through 2-2-306 or 40 CFR 52.21.

PUBLIC NOTICE

The proposed project is not located within 1,000 feet of any school. Therefore, it is not subject to public notification requirements of Regulation 2-1-412.

4.0 PERMIT CONDITIONS

New Permit Condition for S507 (Tank #21)

1. The owner/operator shall ensure that S507 stores only petroleum liquids with a True vapor pressure less than 11 psia. [Basis: Cumulative Increase, Offsets, Regulation 8-5-301]

2. The owner/operator shall ensure that S507 is equipped with a pressure vacuum valve with a setting of at least 25.8 mm Hg (0.5 psig). [Basis: Regulation 8-5-303.1]

3. The owner/operator shall ensure the throughput of petroleum liquids at S507 is less than 9,883 gallons in any consecutive twelve-month period. [Basis: Cumulative Increase, Offsets]

4. The owner/operator shall ensure that total POC emissions based on the maximum throughput in Part 1, do not exceed 218 pounds in any consecutive twelve-month period. [Basis: Cumulative Increase, Offsets]

5. In order to demonstrate compliance with Part 3, the owner/operator of tank S507 shall either maintain the total monthly throughput of each material stored, summarized on a consecutive twelve-month basis in a District approved log, or shall be able to generate these records within three business days. These records shall be kept on site and made available for District inspection for a period of five years from the date that the record was made. [Basis: Cumulative Increase, Recordkeeping]

5.0 RECOMMENDATION

Staff recommends the following:

Waive the authority to construct and issue a permit to operate for the following source:

S507 **Tank #21, Fixed Roof, 450-Gallon FPLH Recovery Tank- Unit 76 Active Skimmer System, stores gasoline**

By: ____

Sanjeev Kamboj Date
Senior Air Quality Engineer

ENGINEERING EVALUATION
CONOCOPHILLIPS - SAN FRANCISCO REFINERY; PLANT 16
APPLICATION 21294

1.0 BACKGROUND

ConocoPhillips – San Francisco Refinery (ConocoPhillips) has submitted this permit application to request the following permit condition change:

- **Modify permit condition 1440 to allow for a repair period for vapor leaks discovered at wastewater sources**

The wastewater sources affected by this application are S324, S381, S382, S383, S384, S385, S386, S387, S390, S392, S400, S401, S1007, S1008, and S1009.

The proposed change will bring consistency between District Regulation 8, Rule 8, Wastewater Collection and Separation Systems, and permit condition 1440 with respect to the API Separator (S324), Dissolved Air Floatation Unit (S1007) and other wastewater plant sources.

S324 is currently required by BAAQMD Regulation 8-8 and Federal regulations to operate with leaks less than 500 ppm and to conduct semi-annual inspections. These requirements allow for leaks to be minimized within 24 hours and repaired within 7 days.

ConocoPhillips proposes to modify permit condition 1440 parts 4 and 5 to allow for the same repair period as given in Regulation 8-8. In addition, ConocoPhillips proposes to modify the condition to require monthly leak inspections in accordance with Regulation 8-8-603 with a defined skip period. The current vapor-tight leak definition of 500 ppm will still be imposed.

These requirements will apply to the API Separator (S324), Dissolved Air Floatation Unit (S1007), the forebay, outlet basin and channel to the DAF. In addition, they will also apply to the wet and dry weather sumps as well as any other process vessel, distribution box, tank or other equipment downstream of the DAF (S400, 401, 381, 382, 383, 384, 385, 386, 387, 390 and 392).

This project will not require any physical modification to the facility and does not involve any new sources (equipment or facilities) as defined under Regulation 2-1. The proposed changes will not increase the throughput rate or capacity of any source mentioned above. Furthermore, no change in refinery throughput will result from this modification. Except for the addition of a consistent repair period for all affected sources, no changes in operation and regulated air pollutant emissions will occur.
This is a minor revision of the Major Facility Review permit for the following reasons:

- The change is not considered a major modification under 40 CFR Parts 51 (NSR) or 52 (PSD).
- The change is not considered a modification under 40 CFR Parts 60 (NSPS), 61 (NESHAPS), or Section 112 of the Clean Air Act (HAP).
- There is no significant change or relaxation of monitoring.
- No term is established to allow the facility to avoid an applicable requirement.
- No case-by case determination has been made.
- No facility-specific determination for ambient impacts, visibility analysis, or increment analysis on portable sources has been made.
- No new federal requirement has been imposed.

2.0 EMISSIONS SUMMARY

As mentioned in the Background section, the proposed permit condition change will not increase emissions of any regulated air pollutant.

2.1 PLANT CUMULATIVE INCREASE

The cumulative emission increase is zero for all the criteria pollutants because annual emissions for this plant are not increasing due to this application.

2.2 BEST AVAILABLE CONTROL TECHNOLOGY

In accordance with BAAQMD Regulation 2, Rule 2, Section 301, a modified source with the potential to emit 10 pounds or more per highest day of POC, NPOC, NOx, CO, SO_2 or PM_{10} that has an increase in emissions must use BACT. Regulation 1-217 defines modification as a change that results in an increase in emissions. For this application, BACT is not triggered because the proposed permit condition changes will not result in an increase in any emissions as mentioned in Emissions Summary section above.

2.3 TOXICS

New source review of Toxic Air Contaminants (BAAQMD Rule 2-5) requires the Best Available Control Technology for Toxics (TBACT) for sources that result in cancer risk greater than 1.0 in one million and/or chronic hazard index greater than 0.20. The proposed changes at sources S324, S381, S382, S383, S384, S385, S386, S387, S390, S392, S400, S401, S1007, S1008, and S1009 would not result in an increase in toxic emissions, thus the New Source Review of Toxic Air Contaminants does not apply.

2.4 OFFSETS

Since there is no increase in emissions at this plant as mentioned in Section 2.0 above, offsets are not required for this application.

3.0 STATEMENT OF COMPLIANCE

BAAQMD REGULATIONS

The facility is required to comply with the provisions of BAAQMD Regulation 8, Rule 8, Wastewater Collection and Separation Systems in addition to all permit conditions, even if one is more stringent than other. Hence, the wastewater sources S324, S381, S382, S383, S384, S385, S386, S387, S390, S392, S400, S401, S1007, S1008, and S1009 will continue to comply with all applicable sections of District Regulation 8, Rule 8.

S1007, DAF Unit, will continue to comply with Regulation 6, Rule 1 (Particulate Matter-General Requirements) including sections 6-1-301, 310.3, 311 and 401.

NSPS

Subpart QQQ

The API Separator (S324), Wet Weather Sump (S400), Dry Weather Sump (S401), J-boxes downstream of S400 and S401, Wastewater Process Sewers/Sewer Lines will continue to comply with applicable sections of NSPS 40 CFR 60, Subpart QQQ, Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems.

NESHAPS

Subpart FF

The API Separator (S324) and DAF Unit (S1007) will continue to comply with all applicable sections including 61.343(a)(1)(i)(A) [i.e., No detectable emissions over 500 ppmv] of 40 CFR 61, Subpart FF, National Emission Standards for Benzene Waste Operations.

MAJOR FACILITY REVIEW

ConocoPhillips has a Major Facility Review permit as required by BAAQMD Regulation 2, Rule 2, since it is considered a major source of emissions. The changes proposed in this application will require changes to the existing Title V permit and Statement of Basis. These changes will be handled in Title V Minor Revision Application Number 21295.

CEQA

This application is not subject to CEQA because it is a change in conditions for existing sources that will not involve any increases in emissions or physical modifications pursuant to BAAQMD Regulation 2-1-312.1.

PUBLIC NOTICE

The proposed project is not located within 1,000 feet of any school. Therefore, it is not subject to public notification requirements of Regulation 2-1-412.

PSD

PSD is not triggered because there is no increase in emissions.

4.0 PERMIT CONDITIONS

Current permit condition 1440 will be modified as follows:

COND# 1440 -------------------------------------

~~APPLICATION 10623;~~ SAN FRANCISCO REFINERY; PLANT 16
Conditions for S-324, S-381, S-382, S-383, S-384, S-385, S-386, S-387, S-390, S-392, S-400, S-401 S-1007, S-1008, S-1009
This condition was amended by Applications 13424 and 21294. ~~in October, 2007.~~

1. S-324 API Separator shall be operated such that the liquid in the main separator basin is in full contact with the fixed concrete roof. This condition shall not apply during separator shutdown for maintenance. (Basis: Cumulative Increase)

2. Diversions of refinery wastewater around the Water Effluent Treating Facility to the open Storm Water Basins (S-1008, S-1009) shall be minimized. These diversions shall not cause a nuisance as defined in District Regulation 7 or Regulation 1-301. (Basis: Cumulative Increase)

3. Records shall be maintained of each incident in which refinery wastewater is diverted to the open storm water basins. These records shall include the reason for the diversion, the total quantity of wastewater diverted to the basins, and the approximate hydrocarbon content of the water.
(Basis: Cumulative Increase)

4. The ~~following~~ sources below shall conduct monthly leak inspections in accordance with Regulation 8-8-603. After three consecutive inspections with no leaks detected that are not vapor-tight, inspections will be conducted quarterly for that source. If any leak is detected that is not vapor-tight during an inspection, than monthly inspections must be completed until there

are three consecutive inspections without any leaks that are not vapor-tight. Any leak found by the owner/operator or BAAQMD that is not vapor-tight must be minimized within 24 hours and repaired within 7 days. Vapor-tight is defined in Regulation 8, Rule 8. ~~be vapor-tight as defined in Regulation 8, Rule 8:~~

a. Doors, hatches, covers, and other openings on the S-324 API Separator, forebay, outlet basin, and channel to the S-1007 DAF Unit.
b. Doors, hatches, covers, and other openings on the S-1007 DAF Unit and the S-400 Wet and S-401 Dry Weather Sumps, except for the vent opening on ~~these units.~~ S-400 and S-401.
c. Any open process vessel, distribution box, tank, or other equipment downstream of the S-1007 DAF Unit (S - 381, S-382, S-383, S-384, S-385, S-386, S-387, S-390, S-392).

(Basis: Cumulative Increase)

5. Records shall be kept of each inspection in Part 4 and shall be made available to District personnel upon request. ~~Compliance with the VOC emission criteria of Part 4 shall be determined semi-annually and records kept of each inspection. These records shall be made available to District personnel upon request.~~ (Basis: Cumulative Increase)

6. The maximum wastewater throughput at the S-324 API Separator and S-1007 DAF Unit shall not exceed 7,500 gpm during media filter backwash and 7,000 gpm during all other times for each unit. Any modifications to equipment at this facility which increase the annual average waste water throughput at S-324 and S-1007 shall first be submitted to the BAAQMD in the form of a permit application.

(Basis: Cumulative Increase)

7. This part will apply after VOC emissions at S1007 must be reduced to provide offsets for Application 13424 per Condition 22970, Part B. The owner/operator shall ensure that S1007, DAF, is controlled by A49, DAF Thermal Oxidizer or A51, DAF Carbon Bed, at all times of operation of S1007, except for up to 175 hours per any consecutive 12-month period for startup, shutdown, or maintenance. The owner/operator must control with a thermal oxidizer at least 90% of the time on a consecutive 12-month basis, unless owner/operator controls H_2S with an equivalent control device as determined by the APCO. [Offsets, CEQA]

a. Through source testing as described in Part 7(b) and 7(c), the owner/operator must demonstrate that the total reduction of emissions through use of A49, DAF Thermal Oxidizer and/or A51, DAF Carbon Bed will result in a total reduction of 44 tons POC per year, considering that abatement will not occur with either abatement device up to 175 hours per year. If initial testing does not demonstrate total reduction of 44 tons POC per year, the owner/operator may choose to:

i. In the case of A49, DAF Thermal Oxidizer, perform 4 tests in one year and average the results. In this case, the tests will be performed no less than 2 months apart and no more than 4 months apart.

ii. In the case of A51, DAF Carbon Bed, average the results of one year's worth of monitoring.

If, after further testing, a total of 44 tons worth of POC reduction is not demonstrated, the owner/operator will supply offsets necessary to ensure a total reduction of 44 tons per year POC pursuant to BAAQMD Regulation 2-2-302. [Offsets, CEQA]

b. The following conditions apply to operation of A49, DAF Thermal Oxidizer:

i. Within 90 days of the startup date of A49, DAF Thermal Oxidizer, the owner/operator shall perform a source test to determine the following:

1. Mass emissions rate for POC that is collected and sent to A49.
2. Mass emissions rate for POC after abatement by A49.
3. Mass emissions rate for H2S that is collected and sent to A49.
4. Mass emissions rate for H2S after abatement by A49.
5. Mass emissions rate for SO2

During the source test, the owner/operator shall determine the temperature required to achieve 98.0% destruction by weight of POC or a concentration of 10 ppmv POC at the outlet. The temperature shall become an enforceable limit.

For the purposes of determining the amount of POC controlled, the owner/operator shall use District Method ST-7, Organic Compounds. The owner/operator shall submit the source test results to the District Source Test Manager, the District Permit Evaluation Manager, and the District Director of Compliance and Enforcement no later than 60 days after any source test. [Offsets, CEQA]

ii. After the initial source test required in Part 8 of this condition, the minimum temperature determined shall become the minimum temperature limit for A49. A49 shall not be operated below the minimum temperature except during an "Allowable Temperature Excursion" as defined below:

1. Operation of A49 within 20°F below the

minimum temperature

2.Operation of A49 more than 20°F below the minimum temperature for a period or periods which, when combined are less than or equal to 15 minutes in any hour; or

3.Operation of A49 more than 20°F below the minimum temperature for a period or periods which when combined are more than 15 minutes in any hour, provided that all three of the following criteria are met:

a. The excursion does not exceed 50°F below the minimum temperature;

b. The duration of the excursion does not exceed 24 hours; and

c. The total number of such excursions does not exceed 12 per calendar year (or any consecutive 12 month period). Two or more excursions greater than 15 minutes in duration occurring during the same 24-hour period shall be counted as one excursion toward the 12 excursion limit.

For each such excursion, sufficient records shall be kept to demonstrate that they meet the qualifying criteria described above. Records shall include at least the following information:

1. Temperature controller setpoint;
2. Starting date and time, and duration of each Allowable Temperature Excursion;
3. Measured temperature during each allowable Temperature Excursion;
4. Number of Allowable Temperature Excursions per month, and total number for the current calendar year; and
5. All strip charts or other temperature records.

[Offsets, CEQA]

iii. To determine compliance with the temperature limit in Part 9, A49, Thermal Oxidizer shall be equipped with a temperature measuring device capable of continuously measuring and recording the temperature in A49. The temperature device shall be installed and maintained in accordance with the manufacturer's recommendations, shall be ranged appropriately to measure the temperature limit determined, and shall have a minimum accuracy over the range of 1.0 percent of full-scale.

[Offsets, CEQA]

iv. Unless amendments to 40 CFR 60, Subpart J, remove applicability of the DAF vapors from that subpart, the owner or operator shall:

1. Ensure that the H2S content of the gas burned at A49 does not exceed 0.10 gr/dscf. (This condition will be deleted when the citation is added to the Title V Permit)
2. Install, calibrate, maintain, and operate a District-approved Continuous Emissions Monitoring System and recorder for H2S in the gas that is sent to A49. The owner/operator is not required to operate the CEMS when A49 is not being operated.

[40 CFR 60, Subpart J]

v. If 40 CFR 60, Subpart J is amended such that a continuous monitoring system is not required for A49, and the owner/operator does not install a Continuous Emissions Monitoring System, the owner/operator shall perform a source test to determine emissions of SO2 from A49, DAF Thermal Oxidizer using District Method ST-19A, Sulfur Dioxide, Continuous Sampling. The owner/operator shall submit the source test results to the District Source Test Manager, the District Permit Evaluation Manager and the District Director of Compliance and Enforcement no later than 60 days after any source test.
[Offsets, CEQA]

vi. If the continuous monitoring data per Part 7.b.iv or the Source Test Data per Part 7. b.v shows that the annual SO2 emissions are greater than 1.2 tons per year, the owner/operator shall provide additional SO2 offsets in accordance with BAAQMD Regulation 2-2-303.

[Offsets, CEQA]

c. The following conditions apply to A51, DAF Carbon Bed

i. A51 shall consist of two or more activated carbon vessels arranged in series, with at least one carbon vessel in service except for up to 175 hours per any consecutive 12-month period for startup, shutdown, or maintenance.

[Offsets, CEQA]

ii. Total emission reduction of A51 shall be demonstrated through use of an in-line flowmeter, and the results of monitoring per the conditions below.

[Offsets]

iii. The owner/operator of A51 shall monitor with a photo-ionization detector (PID), flame-ionization detector (FID), or other method approved in writing by the Air Pollution Control Officer at the following locations:

1. The stream prior to any carbon vessels
2. At the inlet to the last carbon vessel in series
3. At the outlet of the carbon vessel that is last in series prior to venting to atmosphere

[Offsets]

iv. When using an FID to monitor breakthrough, readings may be taken with or without a carbon filter tip fitted on the FID probe. Concentrations measured with the carbon filter tip in place shall be considered methane for the purpose of these permit conditions. [Offsets]

v. All breakthrough monitoring readings shall be recorded in a monitoring log each time they are taken. Readings shall be conducted on a daily basis initially, but after two months of daily collection, the owner/operator may propose for District review, based on actual measurements taken at the site during operation of the source, that the monitoring schedule be changed to weekly based on the demonstrated breakthrough rates of the carbon vessels. If the District Engineering Division does not disapprove of the proposed monitoring changes within 30 days, the owner/operator shall commence weekly monitoring.

[Offsets]

vi. The owner/operator shall utilize the activated carbon vessels in such a manner to ensure that the outlet stream to atmosphere contains below 10 ppm VOC or 98% reduction of VOC, whichever is greater.

[Offsets]

vii. The owner/operator of this source shall maintain the following records for each month of operation of A51:

1. The hours and times of operation

2. Each monitor reading or analysis result for the day of operation they are taken.
3. The number of spent carbon beds removed from service.

[Offsets]

8. This part will apply after VOC emissions at S1007 must be reduced to provide offsets for Application 13424 per Condition 22970, Part B. Any exceedance of any limit in part 7 shall be reported to the Compliance and Enforcement Division within 10 days of discovery of the occurrence. (This condition will be deleted when the condition is added to the Title V Permit.) [basis: Offsets; CEQA; 40 CFR 60, Subpart J]

9. This part will apply after VOC emissions at S1007 must be reduced to provide offsets for Application 13424 per Condition 22970, Part B. The owner/operator shall seal the DAF outlet channel and downstream sumps by a solid cover with gaskets. Any vents installed on the covered channel shall be routed to the thermal oxidizer or an equivalent control as determined by the APCO. [Offsets, CEQA]

5.0 RECOMMENDATION

Issue modified Permit to Operate to ConocoPhillips after approving the following permit condition change:

- **Modify permit condition 1440 to allow for a repair period for vapor leaks discovered at wastewater sources**

By: ____

Sanjeev Kamboj Date
Senior Air Quality Engineer

ENGINEERING EVALUATION
CONOCOPHILLIPS - SAN FRANCISCO REFINERY; PLANT 16
APPLICATION 21342

1.0 BACKGROUND

ConocoPhillips – San Francisco Refinery (ConocoPhillips) has submitted this permit application to request the following permit condition change:

- **Modify permit condition 4336 to combine the throughput limits for crude oil and gas oil**

Permit condition (PC 4336) applies to S425 and S426, Marine Loading Berths. Sources S425 and S426 are abated by A420, Thermal Oxidizer.

PC 4336-7a limits the import of crude oil to the Marine Terminal (S425 and S426) to no more than 30,000 barrels per day (bbl/d) on a rolling 12-month basis. PC 4336-7b limits the import of gas oil feed at the Marine Terminal to the Unit 240 Prefractionator (S305) to no more than 249,000 barrels per year (682 bbl/d). ConocoPhillips proposes to combine PC 4336-7a and 7b into a single combined crude and gas oil limit of 30,682 bbl/d on a rolling 12-month basis received at the Marine Terminal. Combining these limits would provide ConocoPhillips the flexibility to import gas oil in the place of crude as market conditions become more favorable to do so.

This project will not require any physical modification to the facility and does not involve any new sources (equipment or facilities) as defined under BAAQMD Regulation 2-1. No other changes in refinery throughput or permitted emission sources will result from this modification. There will be no emission increases associated with this modification.

Total transportation related emissions would not increase because there is no change in emissions from marine vessels associated with importing crude versus gas oil on a per barrel basis. Currently, there are transportation emissions associated with 30,682 bbl/d of material being delivered at the Marine Terminal (crude oil and/or gas oil) and after this permit change there will still be the same amount of transportation emissions because the overall amount of material imported will not change.

In addition, if all 30,682 bbl/d were to come in as either all crude, or all gas oil, the facility must still comply with the downstream process unit throughput limits, which will ensure that there are no emission increases throughout the rest of the refinery.

With the proposed permit change, ConocoPhillips will still be limited per permit conditions 19278 and 23125 to the existing combined sulfur throughput limit at the sulfur plants (S1001, S1002, S1003, and S1010) of 471 long tons per day. Therefore, there will be no increase in sulfur emissions above the currently permitted limits.

Attachment 1 contains a simplified flow diagram, which compares the overall emission impacts associated with importing crude versus gas oil at the Marine Terminal. A discussion of the emission impacts is included below.

- Marine Terminal Impacts. Combining the crude and gas oil imports at the Marine Terminal will not increase marine vessels emissions versus having separate crude and gas oil limits. This is because there is no change in emissions from marine vessels associated with importing crude versus gas oil on a per barrel basis.
- Storage Tank Impacts. Crude oil has a higher vapor pressure than gas oil. Therefore, emissions from storage tanks storing gas oil will be less than those storing crude oil.
- Process Unit Impacts. Importing a barrel of gas oil directly to Unit 240 Unicracking Unit (S307) or Unit 246 High Pressure Reactor Train (S434) has less process unit emissions than processing a barrel of crude oil at Unit 267 Crude Distillation Unit (S350). Refining crude involves processing the material at the front end of the refinery at Unit 267 and through downstream units prior to the gas oil fraction being fed to Unit 240/Unit 246 (see Attachment 1). Lower emissions are realized through reduced heater firing.

Hence, it can be concluded that there will be no emission increases associated with this modification.

This is a minor revision of the Major Facility Review permit for the following reasons:

- The change is not considered a major modification under 40 CFR Parts 51 (NSR) or 52 (PSD).
- The change is not considered a modification under 40 CFR Parts 60 (NSPS), 61 (NESHAPS), or Section 112 of the Clean Air Act (HAP).
- There is no significant change or relaxation of monitoring.
- No term is established to allow the facility to avoid an applicable requirement.
- No case-by case determination has been made.
- No facility-specific determination for ambient impacts, visibility analysis, or increment analysis on portable sources has been made.
- No new federal requirement has been imposed.

2.0 EMISSIONS SUMMARY

As mentioned in the Background section, the proposed permit condition change will not increase emissions of any regulated air pollutant.

2.1 PLANT CUMULATIVE INCREASE

The cumulative emission increase is zero for all the criteria pollutants because annual emissions for this plant are not increasing due to this application.

2.3 BEST AVAILABLE CONTROL TECHNOLOGY

In accordance with BAAQMD Regulation 2, Rule 2, Section 301, a modified source with the potential to emit 10 pounds or more per highest day of POC, NPOC, NOx, CO, SO_2 or PM_{10} that has an increase in emissions must use BACT. Regulation 1-217 defines modification as a change that results in an increase in emissions. For this application, BACT is not triggered because the proposed permit condition changes will not result in an increase in any emissions as mentioned in Emissions Summary section above.

2.4 TOXICS

New source review of Toxic Air Contaminants (BAAQMD Rule 2-5) requires the Best Available Control Technology for Toxics (TBACT) for sources that result in cancer risk greater than 1.0 in one million and/or chronic hazard index greater than 0.20. The proposed changes at sources S425 and S426 would not result in an increase in toxic emissions, thus the New Source Review of Toxic Air Contaminants does not apply.

2.5 OFFSETS

Since there is no increase in emissions at this plant as mentioned in Section 2.0 above, offsets are not required for this application.

3.0 STATEMENT OF COMPLIANCE

The requested permit changes will not require any modification to the BAAQMD or Federal regulations that currently apply and will not trigger the applicability of any additional regulations.

BAAQMD REGULATIONS

The Marine Loading Berths (S425 and S426) will continue to comply with Regulation 8, Rule 44 (Organic Compounds – Marine Tank Vessel Operations) including 8-44-301, 302, 303, 304, 305, 403, 404, 501, 502, 503, 504, 603 and 604. Both S425 and S426 will continue to be abated by A420, Thermal Oxidizer.

NSPS

Subpart J

The Marine Loading Berths (S425 and S426) will continue to comply with all applicable sections including SOx and H_2S limits of NSPS 40 CFR 60, Subpart J, Standards of Performance for Petroleum Refineries.

NESHAPS

Subpart Y

The Marine Loading Berths (S425 and S426) will continue to comply with all applicable sections including 63.565(1) [Emission estimation procedures] of 40 CFR Part 63, Subpart Y, National Emission Standards for Marine Tank Vessel Loading Operations.

MAJOR FACILITY REVIEW

ConocoPhillips has a Major Facility Review permit as required by BAAQMD Regulation 2, Rule 2, since it is considered a major source of emissions. The changes proposed in this application will require changes to the existing Title V permit and Statement of Basis. These changes will be handled in Title V Minor Revision Application Number 21343.

CEQA

This application is not subject to CEQA because it is a change in conditions for existing sources that will not involve any increases in emissions or physical modifications pursuant to BAAQMD Regulation 2-1-312.1.

PUBLIC NOTICE

The proposed project is not located within 1,000 feet of any school. Therefore, it is not subject to public notification requirements of Regulation 2-1-412.

PSD

PSD is not triggered because there is no increase in emissions.

4.0 PERMIT CONDITIONS

Current permit condition 4336 will be modified as follows:

(ii) CONDITION 4336

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COND#  4336    ---------------------------------------

     Conditions For S425, S426, Marine Loading Berths
     This condition was amended by Applications 13424 and 21342. ~~in October, 2007.~~

     1.  For each loading event of "regulated organic liquid",
         A420 shall be operated with a temperature of at least
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1300 degrees F during the first 15 minutes of the loading operation. After the initial 15 minutes of loading, the A420 temperature shall be at least 1400 degrees F. [Cumulative Increase]

2. Instruments shall be installed and maintained to monitor and record the following:

   a. Static pressure developed in the marine tank vessel
   b. A420 temperature.
   c. Hydrocarbons and flow to determine mass emissions or a concentration measurement alone if it is demonstrated to the satisfaction of the APCO that concentration alone allows verification of compliance, or
   d. Any other device that verifies compliance, with prior approval from the APCO.

[Cumulative Increase]

3. A "regulated organic liquid" shall not be loaded from this facility into a marine tank vessel within the District whenever A420 is not fully operational. A420 must be maintained to be leak free, gas tight, and in good working order. For the purposes of this condition, "operational" shall mean the system is achieving the reductions required by Regulation 8, Rule 44; "regulated organic liquids" include gasoline, gasoline blendstocks, aviation gasoline and JP-4 aviation fuel and crude oil. [Cumulative Increase]

4. A leak test shall be conducted on all vessels loading under positive pressure prior to loading more than 20% of the cargo. The leak test shall include all vessel relief valves, hatch cover, butterworth plates, gauging connections, and any other potential leak points. [Cumulative Increase]

5. Loading pressure shall not exceed 80% of the lowest relief valve set pressure of the vessel being loaded. [Cumulative Increase]

6a. No more than 25,000 barrels per day of gasoline, naphtha and C5/C6 shall be shipped across the wharf on an annual average basis. [Cumulative Increase]

1. Deleted Application 13691.

2. When barges are used to lighter crude oil, the volume of oil lightered during any reporting period shall be multiplied by a factor of 0.42 and included in the shipping totals to determine compliance with the throughput limits. The vessel Exxon Galveston is considered a ship for the purposes of this condition.

6b. The maximum loading rate at any time at both S425 and

S426 shall not exceed 20,000 barrels per hour to prevent overloading the A420 oxidizer. [Cumulative Increase]

7~~a~~. The owner/operator shall not receive more than ~~30,000~~30,682 bbl per day of crude oil and/or gas oil delivered by tanker, barge or ship at the Marine Terminal (S425, S426) on a 12-month rolling average basis. (Cumulative increase, 2-1-403, Offsets)

~~7b. The owner/operator shall receive no more than 249,000 barrels per year of gas oil feed at the Marine Terminal (S425, S426) to the U-240 (S305) Prefractionator. [Offsets]~~

8. All throughput records required to verify compliance with Parts 6 and 7, including hourly loading rate records (total for S425, S426), monthly crude oil receipt records, and maintenance records required for A420, which are subject to Regulation 8, Rule 44, shall be kept on site for at least 5 years and made available to the District upon request. [Cumulative Increase]

9. The destruction efficiency of the A420 control system shall be at least 98.5% by weight over each loading event for gasoline, gasoline blending stocks, aviation gas, aviation fuel (JP-4 type), and crude oil. [BACT]

10..The purpose of part 10 is to implement an alternative monitoring plan to assure compliance with the H2S limit in 40 CFR 60.104(a)(1) at A420, Thermal Oxidizer. This part will apply whenever A420 is used to comply with BAAQMD Regulation 8, Rule 44, and whenever A420 is used to burn fuel gas as defined by 40 CFR 60.101(d). To ensure that the thermal oxidizer is not used to burn fuel gas that is high in H2S, the following activities are not allowed at the terminal: ballasting, cleaning, inerting, purging, and gas freeing. The owner/operator shall perform the following monitoring. One detection tube sampling shall be conducted on the vapors collected during the event for each marine vessel that is affected. The detector tube ranges shall be 0 - 10/0-100 ppm (N=10/1) unless the H2S level is above 100 ppm. If the H2S level is above 100 ppm, the owner/operator shall use a detection tube with a 0-500 ppm range. The owner/operator shall use ASTM Method 4913-00, Standard Practice for Determining Concentration of Hydrogen Sulfide by Reading Length of Stain, Visual Chemical Detectors. The owner/operator shall maintain records of the H2S detection tube test data for five years from the date of the record. In addition, the owner/operator shall monitor at least once every calendar day that the thermal oxidizer is used. Within 8 months of approval of this part pursuant to Application 13691, the owner/operator shall submit the first six months of results of the H2S analysis to the District's Engineering and Enforcement and Compliance Departments for review. [40 CFR 60.13(i), BAAQMD Regulation 2-6-501]

RECOMMENDATION

Issue modified Permit to Operate to ConocoPhillips after approving the following permit condition change:

- **Modify permit condition 4336 to combine the throughput limits for crude oil and gas oil**

By: ____

Sanjeev Kamboj Date
Senior Air Quality Engineer

ATTACHMENT 1

(Process Flow Diagram showing the overall emission impacts)

APPENDIX C

BAAQMD POLICY MEMORANDUM: NOx, CO, AND O_2 Monitoring Compliance with Regulation 9, Rule 10

BAAQMD OFFICE MEMORANDUM

Revised 4/10/03
Supercedes Memo dated June 23, 2000

TO: REFINERY ENGINEERS

FROM: BILL DE BOISBLANC via: Steve Hill

[Original signed and approved on 4/11/03] Barry Young

Greg Solomon

SUBJECT: NO_X, CO, AND O_2 MONITORING COMPLIANCE WITH REGULATION 9, RULE 10

This policy is being revised in order to address situations that have arisen with regard to the enforceability of the previous memo. The revised policy clarifies that a source must be operated within the demonstrated NOx Box and more clearly defines how the NOx Box is to be established and modified. Also the revised policy addresses source test notification and submittal timelines. Furthermore, this revised policy more clearly establishes areas of non-compliance and the appropriate enforcement action to be taken. Moreover, the revised policy has a NOx CEM requirement when operation deviates beyond the scope of this policy.

This is a policy recommendation for emission monitoring requirements for those petroleum refinery heaters, furnaces, and boilers that are subject to the refinery NO_x rule, Regulation 9, Rule 10.

Rule 9-10 is the Best Available Retrofit Control Technology (BARCT) rule that limits the emissions of NO_x and CO from boilers, steam generators, and process heaters in petroleum refineries. Section 9-10-502 requires NO_x, CO, and O_2 CEMs or "equivalent" verification on affected combustion units. Regulation 9-10 was not intended to obtain CO emission reductions. The 400 ppmv CO limit in the rule was included only to prevent sources from emitting higher CO emissions as a result of implementing NO_x controls. Thus, the CO CEM equivalence verification standard does not need to be as stringent as that for NO_x monitoring equivalency.

I. Affected Combustion Units Abated by SCR or SNCR:

For combustion units abated by "add-on control" equipment, such as SCR or SNCR, the following guidelines are minimum acceptance criteria for Section 9-10-502 monitoring plans.

1. Abated combustion unit emissions shall be monitored continuously by a CEM that measures NO_x and O_2. Compliance with Rule 9-10 will be determined using measured emissions.

2. Abated combustion units with expected emissions >200 ppmv CO at 3% O_2 shall be monitored continuously by a CEM that measures CO. Compliance with Rule 9-10 will be determined using measured emissions.

3. For abated combustion units with demonstrated emissions < 200 ppmv CO at 3% O_2, the owner/operator of the units must have District-approved CO source tests done on a semi-annual basis with at least one of the source tests deemed by the District to be representative of normal operation. The time interval between source tests shall not exceed 8 months. District conducted CO emission tests associated with District-conducted NO_x CEM field accuracy tests may be substituted for the CO semi-annual source tests.

a) If two or more of the CO source test results, over any consecutive five year period, are > 200 ppmv CO at 3% O_2, the owner/operator is required to install and operate a CEM to continuously measure CO. Otherwise, a CO CEM shall not be required. The owner/operator shall be given the time period allowed in the District's Manual of Procedures to have the CO CEM installed and properly operating.

Other Monitoring Requirements:

4. Each fuel line of each affected unit shall be equipped with a fuel-flow meter as required by section 9-10-502.2.

5. Records shall be kept as required by section 9-10-504, except the records shall be retained for a period of five years from date of entry.

II. Affected Combustion Units not abated by SCR or SNCR and Unmodified Combustion Units without NO_x control:

For combustion units, which are controlled by low-NO_x burners and/or flue gas recirculation and not abated by add-on NO_x control equipment and unmodified combustion units without NO_x control, the following guidelines are minimum acceptance criteria for section 9-10-502 monitoring plans. For units which are vented to a common stack, the maximum rated heat input shall be the combined sum of the maximum rated heat inputs of each of the units for the purposes of determining which of the below monitoring requirements apply. However, if the District Source Test Manager and Permit Evaluation Manager approve that the ducting configuration and testing ports/platforms allow for accurate source testing of each individual unit vented to the common stack, then the maximum rated heat input of each individual unit shall be used for the purposes of determining which of the monitoring requirements apply.

A. Large-Sized Units (>= 200 million Btu/hour):

The guidelines for combustion units with maximum rated heat capacity > 200 million Btu/hour shall be the same as those shown above for Affected Combustion Units Abated by SCR or SNCR.

B. Medium-Sized Units with NO_x and O_2 CEMs (>=25 million Btu/hour and < 200 million Btu/hour)

The guidelines for medium-sized units with NO_x and O_2 CEMs shall be the same as those shown above for Affected Combustion Units Abated by SCR or SNCR.

C. Medium-Sized Units without NO_x and O_2 CEMs (>= 25 million Btu/hour and < 200 million Btu/hour):

1. For combustion units without NO_x and O_2 CEMs with a maximum rated heat capacity >= 25 million Btu/hour and < 200 million Btu/hour:

To comply with section 9-10-502, the owner/operator of these units shall install a CEM or an "equivalent" verification system. In lieu of a CEM, the owner/operator of these units must have District-approved NO_x, CO, and O_2 source tests done on a semi-annual basis. This equivalent verification system must include all of the following

- NOx BOX ESTABLISHMENT SOURCE TESTING REQUIREMENT: The source tests to establish the NOx Box shall be conducted as follows:

a) The tests will establish the "NOx Box" with these four conditions as the corners: (1) low fire/low O_2, (2) low fire/high O_2, (3) high fire/low O_2, and (4) high fire/high O_2, to demonstrate the emissions over the full-range of operation of the units. The boundaries of the Box will be determined by connecting the four corners with straight lines. The emission rates or emission factors for all operation inside the box will be (1) the highest measured rate or factor for any source test, or (2) a higher emission rate or emission factor requested by the owner/operator.

- Any deviation outside of the established NOx Box will require an additional source test within 45 days of the deviation.
- If the additional source test demonstrates that NOx and/or CO emissions are below the Box levels, the owner/operator MAY use the test results to establish a new corner by submitting an application to modify the permit.
- If the additional source test demonstrates that the NOx and/or CO emissions are above the Box levels, the earlier deviation(s) will be considered a violation of the original NOx Box emission factor (per either Reg.2-1-307/9-10-502). The owner/operator will not be cited for exceeding the NOx and/or CO emissions during the source test. The owner/operator MAY use the test results to establish a new emission rate or emission factor by submitting an application to modify the permit.
- The higher emission factor will be used to determine compliance with Regulation 9-10 rolling back to the date of the first deviation.
- Any deviation beyond the established NOx Box will require immediate (within 96 hours of occurrence) notification to the Enforcement Division.
- Changing the full-range of the NOx Box or the NOx emission factor will require the submittal of an application that will be considered a modification and shall require the payment of the appropriate modification fees in Regulation 3.
- Any deviation greater than 20% will be considered a violation of the NOx Box permit conditions and section 9-10-502 regardless of whether the deviation is later determined to be in compliance with the original NOx emission factor.
- If a source has two or more greater than 20% deviations within a consecutive five year period, the owner/operator of the source will be required to install NOx and O2 CEMs.
- Any two violation notices relating to NOx emissions within a consecutive five year period for any specific combustion unit will also require the installation of NOx and O2 CEMs.
- All source tests and source test methods shall be pre-approved by the district, and the district shall have prior notification of the all test dates in accordance with the District Manual of Procedures (MOP). All source test results shall be submitted to the district within 30 days of the test. All source test results shall be approved by the district.

- The NOx Box limits DO NOT APPLY during pre-approved source tests to establish a larger Box or new emission rate/emission factor provided that the original NOx Box has not had a deviation. This provision is to allow a facility to proactively establish either a new NOx Box or a new emission rate/factor without being cited.

- SUBSEQUENT SOURCE TEST REQUIREMENTS: Subsequent to the initial source tests, semi-annual source tests shall be conducted as follows:

a) Two NO_x, CO, and O_2 source tests per year shall be conducted at the as-found firing rate (within the NOx Box), within 20% of the permitted O_2 conditions likely to maximize NO_x emissions. If two source tests within any consecutive five year period exceed the NOx emission factor then the owner/operator of the source shall install a NOx and O2 CEMs. The time interval between tests shall not exceed 8 months.

If a source test demonstrates that the source is not in compliance with the NOx emission rate/factor, then the facility is considered in violation of the NOx emission rate/factor. The higher emission rate/factor will be used to determine compliance with Regulation 9-10 rolling back to the last complying source test date.

b) Two additional semi-annual NO_x, CO, and O_2 source tests are required at conditions likely to maximize CO at the as-found firing rate within the established NOx Box, for those units for which any of the initial test results or any semi-annual test result of the unit during the past five consecutive year period are >= 200 ppmv CO at 3% O_2. The time interval between tests shall not exceed 8 months.

- Those sources with FGR must also bracket the range of FGR rates as part of the test matrix.

- PERMIT CONDITIONS: The District will impose the following permit conditions:

a) Conditions establishing the daily average operating range (or the demonstrated four corner NOx Box). The facility will be allowed up to a 20% deviation from the originally demonstrated NOx Box provided that a district pre-approved source test is conducted within 45 days of the deviation demonstrating whether the deviation complies with the original NOx emission factor or not. The District Enforcement Division shall be notified immediately (within 96 hours of occurrence) upon deviation of the NOx Box. Source test results shall be submitted to the district for approval within 30 days of the source test date. The owner/operator shall submit an application for changes in either the NOx Box or the NOx emission rate/factor, if appropriate.

This requirement shall not apply to low firing rate conditions during startup or shutdown periods less than 3 days.

(1) If the results of the source test for the deviation exceed the permitted emission concentrations or emission rates, the unit will be considered to have been in violation for each day it operated outside of the defined operating range.

b) A condition limiting unit emissions to the NO_x concentrations or rates in the Regulation 9, Rule 10 control plan. The permit conditions will be used for demonstrating compliance with Rule 9-10. As mentioned above, any change in the

NOx concentrations or rates (NOx emission factor) shall require the submittal of an application and be treated as a modification.

- CO CEM REQUIREMENT:

  If any two source test results, over any consecutive five year period, are > 200 ppmv CO at 3% O_2, the owner/operator is required to install and operate a CEM to continuously measure CO and O_2. Otherwise, a CO and O_2 CEM shall not be required. The owner/operator shall be given the time period allowed in the District's Manual of Procedures to have the CEM installed and properly operating.

D. Small-Sized Units (< 25 million Btu/hour):

1. The owner/operator of these small-sized units must have District-approved NO_x, CO, and O_2 source testing done on an annual basis. This annual source testing must meet all the following:

   - Deemed by the District to be representative of normal operation.
   - The District will impose permit conditions, limiting unit emissions to the NO_x concentrations reported in the refinery NOx Control Plan for the unit and limiting unit firing rates to less than 25 million Btu/hour. The permit conditions will be used for demonstrating compliance with Rule 9-10. Any revision of the control plan will be considered a permit condition modification and will require the refinery to submit a permit application to the District.

Other Monitoring Requirements:

2. Each fuel line of each affected unit shall be equipped with a fuel-flow meter as required by Section 9-10-502.2.

3. Records shall be kept as required by Section 9-10-504, except the records shall be retained for a period of five years from date of entry.

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APPENDIX D

CAM REQUIREMENTS ANALYSIS

Source Name	Source Description	Pollutant	Federally Enforceable Limit	Basis of Limit	Uses a Control Device for Compliance? 40 CFR 64.2(a)(2)	Continuous Compliance Determination Method in Title V Permit? 40 CFR 64.2(b)(1)(vi)	Basis of Limit Imposed after Nov. 15 1990? 40 CFR 64.2(b)(1)(i)	Pre-Control PTE < MST? 40 CFR 64.2(a)(3)	Subject to CAM?	CAM Exemption	Comment
13	U240, B-301 Heater	NOx	0.033 lb NOx/MMbtu refinery-wide limit	BAAQMD 9-10-301	A113, SCR System	NOx CEMS	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	No	Emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in § 64.1.	
36	U200, B-102 Heater	NOx	10 ppmv NOx at 3% O2 (3 hour average), except startups and shutdowns	BAAQMD Condition 21097	A36, SCR System	NOx CEMS	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	No	Emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in § 64.1.	
43	U200, B-202 Heater	NOx	40 ppmv NOx at 3% O2 (over 8-hr period) except at startup and shutdown	BAAQMD Condition 1694	A4, SCR system	NOx CEMS	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	No	Emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in § 64.1.	
135	Tank 200	VOC	95% Control	BAAQMD 8-5-306	No (A7, Vapor Recovery System is not a control device)	No	Not necessary to evaluate [no control device]	Not necessary to evaluate [no control device]	No	No control device. Refinery vapor recovery system is a material recovery system per 40 CFR 64.1 definition for inherent process equipment. Not a control device because it is not used to destroy or remove air pollutant(s) prior to	FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS

Source Name	Source Description	Pollutant	Federally Enforceable Limit	Basis of Limit	Uses a Control Device for Compliance? 40 CFR 64.2(a)(2)	Continuous Compliance Determination Method in Title V Permit? 40 CFR 64.2(b)(1)(vi)	Basis of Limit Imposed after Nov. 15 1990? 40 CFR 64.2(b)(1)(i)	Pre-Control PTE < MST? 40 CFR 64.2(a)(3)	Subject to CAM?	CAM Exemption	Comment
										discharge to the atmosphere per the definition of a control device in 40 CFR 64.1.	
137	Tank 202	VOC	95% Control	BAAQMD 8-5-306	No (A7, Vapor Recovery System is not a control device)	No	Not necessary to evaluate [no control device]	Not necessary to evaluate [no control device]	No	See "S134, Tank 200" determination for A7, Vapor Recovery	FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
139	Tank 204 (also oil-water separator)	VOC	95% Control	BAAQMD 8-5-306	No (A7, Vapor Recovery System is not a control device)	No	Not necessary to evaluate [no control device]	Not necessary to evaluate [no control device]	No	See "S134, Tank 200" determination for A7, Vapor Recovery	FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
140	Tank 205 (also oil-water separator)	VOC	95% Control	BAAQMD 8-5-306	No (A7, Vapor Recovery System is not a control device)	No	Not necessary to evaluate [no control device]	Not necessary to evaluate [no control device]	No	See "S134, Tank 200" determination for A7, Vapor Recovery	FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
182	Tank 294	VOC	95% Control	BAAQMD 8-5-306	No (A7, Vapor Recovery System is not a control device)	No	Not necessary to evaluate [no control device]	Not necessary to evaluate [no control device]	No	See "S134, Tank 200" determination for A7, Vapor Recovery	FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
464	U240 H2 Plant	POC	15 lb/day POC from emission streams with more than 300 ppm total carbon	BAAQMD 8-2-301	A50, Hydrogen Plant Vent Scrubber	No	No	Yes	No	Pre control PTE<MST. Pre-control POC emissions ~ 70 ton/year.	

Source Name	Source Description	Pollutant	Federally Enforceable Limit	Basis of Limit	Uses a Control Device for Compliance? 40 CFR 64.2(a)(2)	Continuous Compliance Determination Method in Title V Permit? 40 CFR 64.2(b)(1)(vi)	Basis of Limit Imposed after Nov. 15 1990? 40 CFR 64.2(b)(1)(i)	Pre-Control PTE < MST? 40 CFR 64.2(a)(3)	Subject to CAM?	CAM Exemption	Comment
351	U267 B-601/602 Tower Pre-heaters	NOx	20 ppmv NOx at 3% O2 (over 3-hr period) except at startup and shutdown	BAAQMD Condition 1694	A6, SCR System	NOx CEMS	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	No	Emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in § 64.1.	
352	Combustion Turbine	NOx	1) 66 lb/hr NOx (3 hr average), 167 ton/yr NOx at S352-357; 528 lb/day NOx per turbine/duct burner set 2) 9 ppmv NOx at 15% O2	BAAQMD Condition 12122, Part 9a	A13, SCR System	NOx CEMS	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	No	Emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in § 64.1.	
353	Combustion Turbine	NOx	1) 66 lb/hr NOx (3 hr average), 167 ton/yr NOx at S352-357; 528 lb/day NOx per turbine/duct burner set 2) 9 ppmv NOx at 15% O2	BAAQMD Condition 12122, Part 9a	A14, SCR System	NOx CEMS	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	No	Emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in § 64.1.	
354	Combustion Turbine	NOx	1) 66 lb/hr NOx (3 hr average), 167 ton/yr NOx at S352-357; 528 lb/day NOx per turbine/duct burner set 2) 9 ppmv NOx at 15% O2	BAAQMD Condition 12122, Part 9a	A15, SCR System	NOx CEMS	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	No	Emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in § 64.1.	

Source Name	Source Description	Pollutant	Federally Enforceable Limit	Basis of Limit	Uses a Control Device for Compliance? 40 CFR 64.2(a)(2)	Continuous Compliance Determination Method in Title V Permit? 40 CFR 64.2(b)(1)(vi)	Basis of Limit Imposed after Nov. 15 1990? 40 CFR 64.2(b)(1)(i)	Pre-Control PTE < MST? 40 CFR 64.2(a)(3)	Subject to CAM?	CAM Exemption	Comment
355	Supplemental Firing Duct Burners	NOx	66 lb/hr NOx (3 hr average), 167 ton/yr NOx at S352-357; 528 lb/day NOx per turbine/duct burner set	BAAQMD Condition 12122, Part 9a	A13, SCR System	NOx CEMS	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	No	Emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in § 64.1.	
356	Supplemental Firing Duct Burners	NOx	66 lb/hr NOx (3 hr average), 167 ton/yr NOx at S352-357; 528 lb/day NOx per turbine/duct burner set	BAAQMD Condition 12122, Part 9a	A14, SCR System	NOx CEMS	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	No	Emission limitations or standards for which a part 70 or 71 permit specifies acontinuous compliance determination method, as defined in § 64.1.	
357	Supplemental Firing Duct Burners	NOx	66 lb/hr NOx (3 hr average), 167 ton/yr NOx at S352-357; 528 lb/day NOx per turbine/duct burner set	BAAQMD Condition 12122, Part 9a	A15, SCR System	NOx CEMS	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	No	Emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in § 64.1.	
371	U228 B-520 (Adsorber Feed) Furnace	NOx	20 ppmv NOx at 3% O2 (3-hr average)	BAAQMD Condition 1694, Part C2	A16, SCR System	NOx CEMS	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	No	Emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in § 64.1.	
372	U228 B-521 (Hydrogen Plant) Furnace	NOx	20 ppmv NOx at 3% O2 (3-hr average)	BAAQMD Condition 1694, Part C2	A17, SCR System	NOx CEMS	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	No	Emission limitations or standards for which a part 70 or 71 permit specifies a continuous	

Source Name	Source Description	Pollutant	Federally Enforceable Limit	Basis of Limit	Uses a Control Device for Compliance? 40 CFR 64.2(a)(2)	Continuous Compliance Determination Method in Title V Permit? 40 CFR 64.2(b)(1)(vi)	Basis of Limit Imposed after Nov. 15 1990? 40 CFR 64.2(b)(1)(i)	Pre-Control PTE < MST? 40 CFR 64.2(a)(3)	Subject to CAM?	CAM Exemption	Comment
										compliance determination method, as defined in § 64.1.	
380	Activated Carbon Silo (P-204)	FP	No emissions from source > 0.15 grains per dscf of gas volume	BAAQMD 6-1-305, 310 and 311	A20, Activated Carbon Silo Baghouse	No	No	Yes	No	Pre control PTE<MST	
389	Diatomaceous earth silo (F-214)	FP	No emissions from source > 0.15 grains per dscf of gas volume	BAAQMD 6-1-305, 310 and 311	A21, Diatomaceous Silo Baghouse	No	No	Yes	No	Pre control PTE<MST	
425	Marine Loading Berth M1	POC	2 pounds POC per 1,000 bbl loaded OR at least 95% by weight reduction of POC emissions	BAAQMD 8-44-301	A420, Marine Terminal Thermal Oxidizer	Temperature CPMS	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	No	Emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in § 64.1. Continuous Parametric Monitoring Systems (CPMS) meet the definition of a continous compliance determination method.	
426	Marine Loading Berth M2	POC	2 pounds POC per 1,000 bbl loaded OR at least 95% by weight reduction of POC emissions	BAAQMD 8-44-301	A420, Marine Terminal Thermal Oxidizer	Temperature CPMS	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	No	See "S425, Marine Loading Berth M1" determination for A420, Marine Terminal Thermal Oxidizer. (See Above)	

Source Name	Source Description	Pollutant	Federally Enforceable Limit	Basis of Limit	Uses a Control Device for Compliance? 40 CFR 64.2(a)(2)	Continuous Compliance Determination Method in Title V Permit? 40 CFR 64.2(b)(1)(vi)	Basis of Limit Imposed after Nov. 15 1990? 40 CFR 64.2(b)(1)(i)	Pre-Control PTE < MST? 40 CFR 64.2(a)(3)	Subject to CAM?	CAM Exemption	Comment
433	MOSC Storage Tank	VOC	Combined collection/destruction efficiency of 95% by weight	BAAQMD 8-8-304	No (A7, Vapor Recovery System is not a control device)	No	Not necessary to evaluate [no control device]	Not necessary to evaluate [no control device]	No	See "S134, Tank 200" determination for A7, Vapor Recovery	WASTEWATER SLUDGE TANKS WITH VAPOR RECOVERY TO FUEL GAS
438	U110, H-1 (H2 Plant Reforming) Furnace	NOx	7 ppmv NOx at 3% O2 (1-hr average)	BAAQMD Condition 1694, Part E	A46, SCR System	NOx CEMS	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	No	Emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in § 64.1.	
445	Tank 271 (Cracked Naphtha)	VOC	Combined collection/destruction efficiency of 95% by weight	BAAQMD Condition 12130	No (A7, Vapor Recovery System is not a control device)	No	Not necessary to evaluate [no control device]	Not necessary to evaluate [no control device]	No	See "S134, Tank 200" determination for A7, Vapor Recovery	FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
446	Tank 310 (Isopentane)	VOC	Combined collection/destruction efficiency of 95% by weight	BAAQMD Condition 12131	No (A7, Vapor Recovery System is not a control device)	No	Not necessary to evaluate [no control device]	Not necessary to evaluate [no control device]	No	See "S134, Tank 200" determination for A7, Vapor Recovery	FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
447	Tank 311 (Isopentane)	VOC	Combined collection/destruction efficiency of 95% by weight	BAAQMD Condition 12132	No (A7, Vapor Recovery System is not a control device)	No	Not necessary to evaluate [no control device]	Not necessary to evaluate [no control device]	No	See "S134, Tank 200" determination for A7, Vapor Recovery	FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
449	Tank 285 (Cracked Naphtha)	VOC	Combined collection/destruction efficiency of 95% by weight	BAAQMD Condition 11219	No (A7, Vapor Recovery System is not a control device)	No	Not necessary to evaluate [no control device]	Not necessary to evaluate [no control device]	No	See "S134, Tank 200" determination for A7, Vapor Recovery	FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS

Source Name	Source Description	Pollutant	Federally Enforceable Limit	Basis of Limit	Uses a Control Device for Compliance? 40 CFR 64.2(a)(2)	Continuous Compliance Determination Method in Title V Permit? 40 CFR 64.2(b)(1)(vi)	Basis of Limit Imposed after Nov. 15 1990? 40 CFR 64.2(b)(1)(i)	Pre-Control PTE < MST? 40 CFR 64.2(a)(3)	Subject to CAM?	CAM Exemption	Comment
461	U250, B-701 Heater	NOx	10 ppmv NOx at 3% O2 (3-hr average)	BAAQMD Condition 21096	A461, SCR System	NOx CEMS	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	Not necessary to evaluate [exempt per 64.2(b)(1)(vi)]	No	Emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in § 64.1.	
		H2S,NH3	95% of H2S/NH3 Removal and Recovery	BAAQMD 9-1-313.2	No (Equipment inherent to the SRU used to comply with this limit.)	No	Not necessary to evaluate [no control device]	Not necessary to evaluate [no control device]	No	No control device. Equipment inherent to the SRU and not the abatement devices used to comply with this limit. Consequently, does not have a control device as define in § 64.1.	
		SO3, H2SO4	0.08 grain/dscf exhaust concentration of SO3 and H2SO4, expressed as 100% H2SO4	BAAQMD 6-1-330	No	No	Not necessary to evaluate [no control device]	Not necessary to evaluate [no control device]	No	This emissions limit intended to limit Sulfuric Acid Mist (SAM) emissions from the Sulfur Plant abatement devices. No control device used to comply with this limit. Consequently, does not have a control device as define in § 64.1.	
1001	Sulfur Plant Unit 234 (including aux. burner)	SO2	250 ppm SO2 at 0% O2	40 CFR 60 Subpart J, 40 CFR 63 Subpart UUU	A1, Sulfur Plant Tail-Gas Treatment Plant A421, Tail-gas Incinerator	SO2 CEMS	Yes	Not necessary to evaluate [exempt per 64.2(b)(1)(i)]	No	Basis of limit is after 1990	Requirement driven by 63 subpart UUU (MACT II)

Source Name	Source Description	Pollutant	Federally Enforceable Limit	Basis of Limit	Uses a Control Device for Compliance? 40 CFR 64.2(a)(2)	Continuous Compliance Determination Method in Title V Permit? 40 CFR 64.2(b)(1)(vi)	Basis of Limit Imposed after Nov. 15 1990? 40 CFR 64.2(b)(1)(i)	Pre-Control PTE < MST? 40 CFR 64.2(a)(3)	Subject to CAM?	CAM Exemption	Comment
		H2S,NH3	95% of H2S/NH3 Removal and Recovery	BAAQMD 9-1-313.2	No (Equipment inherent to the SRU used to comply with this limit.)	No	Not necessary to evaluate [no control device]	Not necessary to evaluate [no control device]	No	No control device. Equipment inherent to the SRU and not the abatement devices used to comply with this limit. Consequently, does not have a control device as define in § 64.1.	
		SO3, H2SO4	0.08 grain/dscf exhaust concentration of SO3 and H2SO4, expressed as 100% H2SO4	BAAQMD 6-1-330	No	No	Not necessary to evaluate [no control device]	Not necessary to evaluate [no control device]	No	This emissions limit intended to limit Sulfuric Acid Mist (SAM) emissions from the Sulfur Plant abatement devices. No control device used to comply with this limit. Consequently, does not have a control device as define in § 64.1.	
1002	Sulfur Plant Unit 236 (including aux. burner, water stripper)	SO2	250 ppm SO2 at 0% O2	40 CFR 60 Subpart J, 40 CFR 63 Subpart UUU	A2, Sulfur Plant Tail-Gas Treatment Plant A422, Tail-gas Incinerator	SO2 CEMS	Yes	Not necessary to evaluate [exempt per 64.2(b)(1)(i)]	No	Basis of limit is after 1990	Requirement driven by 63 subpart UUU (MACT II)
1003	Sulfur Plant Unit 238 (including aux. burner)	H2S,NH3	95% of H2S/NH3 Removal and Recovery	BAAQMD 9-1-313.2	No (Equipment inherent to the SRU used to comply with this limit.)	No	Not necessary to evaluate [no control device]	Not necessary to evaluate [no control device]	No	No control device. Equipment inherent to the SRU and not the abatement devices used to comply with this limit. Consequently, does not have a control device as define in § 64.1.	

Source Name	Source Description	Pollutant	Federally Enforceable Limit	Basis of Limit	Uses a Control Device for Compliance? 40 CFR 64.2(a)(2)	Continuous Compliance Determination Method in Title V Permit? 40 CFR 64.2(b)(1)(vi)	Basis of Limit Imposed after Nov. 15 1990? 40 CFR 64.2(b)(1)(i)	Pre-Control PTE < MST? 40 CFR 64.2(a)(3)	Subject to CAM?	CAM Exemption	Comment
		SO3, H2SO4	0.08 grain/dscf exhaust concentration of SO3 and H2SO4, expressed as 100% H2SO4	BAAQMD 6-1-330	No	No	Not necessary to evaluate [no control device]	Not necessary to evaluate [no control device]	No	This emissions limit intended to limit Sulfuric Acid Mist (SAM) emissions from the Sulfur Plant abatement devices. No control device used to comply with this limit. Consequently, does not have a control device as define in § 64.1.	
		SO2	250 ppm SO2 at 0% O2	40 CFR 60 Subpart J, 40 CFR 63 Subpart UUU	A3, Sulfur Plant Tail-Gas Treatment Plant A422, Tail-gas Incinerator	SO2 CEMS	Yes	Not necessary to evaluate [exempt per 64.2(b)(1)(i)]	No	Basis of limit is after 1990	Requirement driven by 63 subpart UUU (MACT II)

Note: This list only includes equipment that has control equipment used to meet a federally enforcebable emission standard.
Major Source threshold (MST): 100 TPY for Criteria Pollutants, 10 TPY for a single HAP, 25 TPY for any combination of HAPs
Pre-Control Potential to Emit (PTE): Maximum emissions when operating without the control/abatement device.

APPENDIX E

COMPLIANCE & ENFORCEMENT DIVISION

Inter-Office Memorandum

September 27, 2010

TO: BRIAN BATEMAN – DIRECTOR OF ENGINEERING

FROM: KELLY WEE – DIRECTOR OF ENFORCEMENT

SUBJECT: REVIEW OF COMPLIANCE RECORD OF:

CONOCOPHILLIPS SAN FRANCISCO REFINERY, SITE #A0016

Background

This review was initiated as part of the District evaluation of an application by ConocoPhillips San Francisco Refinery (ConocoPhillips) for a Title V Permit Renewal. It is standard practice of the Compliance and Enforcement Division to undertake a compliance review in advance of a renewal of a Title V Permit to Operate. The purpose of this review is to assure that any non-compliance problems identified during the prior five-year permit term have been adequately addressed by returning the facility to compliance, or, if non-compliance persists, that a schedule of compliance is properly incorporated into the Title V permit compliance schedule. In addition, the review checks for patterns of recurring violation that may be addressed by additional permit terms. Finally, the review is intended to recommend, if necessary, any additional permit conditions and limitations to improve compliance.

Compliance Review

Staff reviewed ConocoPhillips Annual Compliance Certifications for December 1, 2003 to December 1, 2009 and found no ongoing non-compliance and no recurring pattern of violations, which have not already been corrected.

The District has conducted a compliance review of 145 Notices of Violation (NOVs) issued to ConocoPhillips from December 1, 2003 to December 1, 2009. While the petroleum refining facility received a number of violations over this 6-year period, for facilities as large, complex, and heavily-regulated as a petroleum refining facility within the Bay Area Air Quality Management District's jurisdiction, violations are likely to occur. It is important to note that all of the violations associated with the NOVs were in compliance at the time of this review. Furthermore, the District's analysis of the NOVs for the 6-year period indicated that there are no ongoing violations or pattern of recurring violations that would currently require a compliance schedule.

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Understanding how the District handles the violations associated with the NOVs is important to understanding how the District evaluated the facility's compliance status. Whenever the District discovers a violation, it begins a two-step process. The first step is to end the violation and bring the alleged violator back into compliance. Once compliance is achieved, the second step is to proceed with penalty assessment. It is District policy to not proceed with penalty assessment until compliance has been achieved. If a facility has not achieved compliance in a timely fashion, the District proceeds with additional enforcement action. The vast majority of Notice of Violation penalties are resolved through settlement negotiations.

The results of the District's compliance review are shown in Table I. As stated above, the 163 violations associated with the 145 NOVs were in compliance at the time of this review. In 74% of the violations, compliance was achieved within 1 day of occurrence. In the remaining 26% of the violations, the violations achieved compliance shortly after discovery but did not represent ongoing violation that would require a compliance schedule in a Title V permit. There were multiple violations at several of the same sources but causal analysis indicated different causes for the violations and there was no recurrent pattern. Of the 145 NOVs issued, about 86% of the violations resulted from the facility self-reporting, pursuant to District Regulations and Title-V requirements.

Based on this review and analysis of all the violations for the 6-year period, the District has concluded that no schedule of compliance or change in permit terms is necessary beyond what is already contained in the petroleum refining facility's Title V permit. As the record showed that the violations returned to compliance, were intermittent or did not evidence on-going non-compliance, there is no pattern of recurring violation, and the facility was in compliance at the time of this review.

The violation details associated with the 145 Notices of Violation (163 violations) are summarized below and detailed in Table 1.

Violation Category	TOTAL
Emissions Related	105
Administrative	56
Permit-to-Operate	2
TOTAL	**163**

District Staff has conducted a compliance review of 19 Notice to Comply (NTC's) issued to ConocoPhillips from December 1, 2003 though December 1, 2009. The District may use the NTC to achieve compliance by using enforcement action appropriate to the severity of the violation. In most cases, these violations involve procedural, administrative, or recordkeeping omissions that did not conceal a violation or were de

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minimis emissions. During this reporting period none of the NTC's resulted in the issuance of a Notice of Violation for failing to correct a minor NTC violation.

Staff also reviewed additional District compliance records for ConocoPhillips for December 1, 2003 to December 1, 2009. During this period ConocoPhillips activities known to the District includes:

The District received three hundred eighty-four (384) air pollution complaints alleging ConocoPhillips as the source. Ninety-six (96) of these complaints were confirmed.

The District received three hundred ten (310) notifications for Reportable Compliance Activities (RCA's)[1]: forty-four (44) breakdown requests, one hundred sixty-three (163) indicated monitor excesses, one (1) pressure relief device release, and one hundred two (102) in-operative monitor reports. Forty nine (49) of the RCAs resulted in NOVs.

The District entered into one (1) Enforcement Agreement with ConocoPhillips.

- As part of ConocoPhillips' ongoing efforts to comply with enhancements of the Leak Detection and Repair (LDAR) program, ConocoPhillips conducted a LDAR re-inventory through August 31, 2010, of all components at the facility subject to the LDAR requirements (the "LDAR Re-inventory). All outstanding NOVs involving the failure to inspect or identify LDAR components that ConocoPhillips discovered, and all such violations ConocoPhillips discovered during the course of the LDAR Re-inventory, will be included in the settlement of NOV 49234. The LDAR inventory concluded on August 30, 2010.

The District received seven (7) Dockets for Variances, Emergency Variances, and Title V Permit Appeals from ConocoPhillips. The seven (7) Dockets were withdrawn or cancelled. Below are the details of the Dockets that were withdrawn or cancelled:

- Docket No. 3452 was filed to appeal certain provisions of the Title V Permit issued by the District on December 1, 2003. This appeal was continued to allow the parties to reach an agreement regarding the appealed provisions. The appeal was withdrawn on September 4, 2009.

- Docket No. 3464 was filed for a variance from Regulation 9-9-301.3 and permit conditions 18629 (Part IX.E) and 12122 (Part 5 and 10.b) relating to NOx and CO emissions during testing and tuning periods at a gas-fired combustion turbine (S-354) and associated supplemental duct burner (S-357) located at the steam power plant. Variance was withdrawn on May 19, 2004.

[1] Reportable Compliance Activity (RCA), also known as "Episode" reporting, is the reporting of compliance activities involving a facility as outlined in District Regulations and State Law. Reporting covers breakdown requests, indicated monitor excesses, pressure relief device releases, and inoperative monitor reports.

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- Docket No. 3475 was filed for a variance from Regulation 9-10-301, 8-10-302.2 and Title V Review Permit (to the extent it incorporates the above regulations). This variance request relates to NOx and VOC emissions from the refinery's Unicracker Complex (S-307, 308, and 309) during maintenance shutdowns. Variance was withdrawn on August 26, 2004.

- Docket No. 3494 was filed for a variance from Regulation 9-10-301 and Title V Review Permit (to the extent as it incorporates Reg. 9-10-301). This variance request relates to NOx emissions from the pre-heat system at the Unit 240 B-301 heater (S-13) where increased emissions during repair periods affects the refinery wide "NOx bubble". Variance was withdrawn on May 5, 2005.

- Docket No. 3500 was filed for a variance from Regulation 2-1-307 and permit conditions 21096 (Part 3b) and 21097 (Part 3b) relating to the exceedence of the permitted PM_{10} emissions limit at two new heaters as part of the new Ultra Low Sulfur Diesel Hydrotreater Unit (Unit 200 B-102 (S-36)) and Unit 250 B-701 (S-461). Variance was withdrawn on December 8, 2005.

- Docket No. 3568 was filed for a variance requesting relief from NOx emissions from two heaters at the Isomerization Unit (Unit 228 B-520 and 521 heaters {S-371 and 372}) pursuant to permit condition 1694 (Part C.2). In addition to this variance, ConocoPhillips also filed for Breakdown relief (ID 05M68) relating to a NOx excess (Episode Excess ID 05M69) which was attributed to a defective ammonia injection nozzle design that was servicing the heaters. The defective nozzle design is susceptible to plugging and related to recurrent NOx excesses at these heaters. Breakdown ID 05M68 was granted on August 17, 2009. Variance was withdrawn on June 23, 2009.

Conclusion

The Compliance and Enforcement Division has made a determination that for the review period ConocoPhillips was in intermittent compliance. There is no evidence of on-going non-compliance and no recurring pattern of violations that would warrant consideration of a Title V permit compliance schedule or additional permit terms. The Division does not have any recommendations for any additional permit conditions and limitations and to improve compliance beyond what is already contained in the Title V Permit under consideration.

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NOV #	Source(s)#	Occurrrance Date	Issue Date	Reg	Violation Description	Compliance Achieved	Basis for No Compliance Schedule
A44571A	324	12/3/2003	12/3/2003	2-1-307	Permit Condition #1440-4 Violation- leaks > 500ppm discovered at API oil/water separator.	12/3/2003	This violation was corrrected on the same day when the leaks were repaired.
A44572A	1007	12/3/2003	12/10/2003	2-1-307	Permit Condition #1440-4 Violation- leaks > 500ppm discovered at DAF wastewater separators.	12/3/2003	This violation was corrected on the same day when DAF access hatches were closed, rim gaskets replaced and leaks repaired.
A44572B	1007	12/3/2003	12/10/2003	8-8-307.1	A DAF access hatch was left open and a displaced gasket on another DAF access hatch were discovered.	12/3/2003	This violation was corrected on the same day when DAF access hatches were closed, rim gaskets replaced and leaks repaired.
A44575A	183	1/12/2004	1/28/2004	8-5-321.3.2	Primary seal gap > 1/8"	1/12/2004	This violation was corrected on the same day when the torn fabric was affixed with a patch.
A46128A	122	1/15/2004	3/9/2004	8-5-321.1.	Two tears were discovered in the primary seal fabric of Tank 167	1/15/2004	This violation was corrected on the same day when the torn fabric was affixed with a patch.
A46126A	121	1/20/2004	3/9/2004	8-5-322.5	Secondary seal gap > 0.06" was discovered during a compliance inspection by ConocoPhillips.	1/20/2004	This violation was repaired the next day when tensioners were installed to repair secondary seal.
A46132A	324	1/22/2004	7/16/2004	2-1-307	Permit Condition #1440-4 Violation- leaks > 500ppm discovered at API oil/water separator.	1/22/2004	This violation was corrrected on the same day when the leaks were repaired.
A46131A	343	3/29/2004	7/16/2004	8-5-321.1	Holes in primary seal vapor barrier fabric on Tank 210.	3/29/2004	This violation was corrected on the same day when holes in the primary seals of Tank 210 were repaired.
A46130A	354,357	5/3/2004	5/27/2004	9-9-301.3	NOx Emissions-Excess > 9ppmv Episode Excess IDs #04D57, 04D92, 04D93.	5/3/2004	This violation was corrected on the same day when NOx emissions fell within the regulated limits.
A46130B	354	5/3/2004	5/27/2004	1-522.7	Late reporting of RCAs: Episode Excess IDs #04D57, 04D92, 04D93.	5/3/2004	This was an administrative violation, related to the late reporting of 2 RCAs. Conoco failed to report two earlier indicated excess because operators erred in assuming NOx emission limits were not applicable during start-up mode.
A46137A	438	6/15/2004	8/10/2004	2-1-307	Failed source test (#213-04) conducted by BAAQMD to show compliance with permit condition #1694-E4. CO > 32 ppmv @ 3% oxygen, averaged over any calendar day	8/19/2004	This violation was corrected when a passing source test was conducted to show compliance with permit condition #1694-E4.
A46133A	400	6/29/2004	8/3/2004	2-1-307	Permit Condition #1440-4 Violation- VOC leaks > 500ppm	6/29/2004	This violation was corrected on the same day when hatches were tighten and cracks resealed.
A46134A	324	6/29/2004	8/3/2004	2-1-307	Permit Condition #1440-4 Violation- VOC leaks > 500ppm	6/29/2004	This violation was corrected on the same day when hatches were tighten and cracks resealed.
A46135A	1007	7/13/2004	8/3/2004	2-1-307	Permit Condition #1440-4 Violation- VOC leaks > 500ppm	7/13/2004	This violation was corrected on the same day when hatches were tighten and cracks resealed.

NOV #	Source(s)#	Occurrrance Date	Issue Date	Reg	Violation Description	Compliance Achieved	Basis for No Compliance Schedule
A45289A	318	8/18/2004	10/26/2004	8-18-401.2	ConocoPhillips self reported that a pump and 49 valves were not identified in the LDAR program, therefore, not inspected on a quarterly basis.	10/26/2004	This violation was administrative for fugitive monitoring, related to components not entered into the fugitive monitoring database to be inspected on a quarterly basis. Affected components were entered into the fugitive emissions tracking system and inspected.
A45289B	318	8/18/2004	10/26/2004	8-18-402.1	ConocoPhillips self reported that a butane transfer pump did not have a fugitive emission tag.	10/26/2004	This violation was administrative for fugitive monitoring, related to not identifying fugitive emission component. Component was tagged and entered into the LDAR database.
A45290A	319	8/31/2004	10/26/2004	8-18-401.2	Missed quarterly LDAR inspections.	10/26/2004	This violation was corrected when missing components were entered into the fugitive monitoring database to be inspected on a quarterly basis.
A45290B	319	8/31/2004	10/26/2004	8-18-402.1	Fugitive emission tags were missing from a series of heat exchangers in the Gasoline Fractionation Unit (Unit 215).	10/26/2004	This violation was administrative for fugitive monitoring, related to not identifying fugitive emission components. Components were affixed with fugitive monitoring tags.
A46142A	125	8/31/2004	10/13/2004	8-5-321.1	Hole in primary seal of Tank 170 Denied Breakdown ID #04G05	8/31/2004	This violation was corrected on the same day when holes in the primary seals of Tank 170 were repaired.
A45288A	446	9/20/2004	10/22/2004	8-5-303.2	(2) PV valves > 500ppm	9/20/2004	This violation was corrected by repairing the PV valves.
A45287A	150	9/21/2004	10/8/2004	8-5-322.5	Secondary seal gaps > 0.06"	9/21/2004	This violation was corrected on the same day when expanding foam were applied to the gaps to close them.
A46761A	307	10/26/2004	4/4/2005	8-10-501	Failure to perform 3 daily inspections.	10/27/2004	This was an administrative violation related to lack of records for monitoring during vessel depressurization.
A45291A	121	10/28/2004	10/28/2004	8-5-322.5	During a BAAQMD inspection- Secondary seal gaps > 0.06"	10/28/2004	This violation was corrected on the same day when tensioners were install to tightened the secodary seal gap.
A47456A	296,398	10/29/2004	6/1/2005	12-11-501	During the rerouting of flare gas from the Main Flare to the MP-30 flare, vent gas was not monitored with a certified panametric flow meter.	11/9/2004	This violation was corrected when the flare gas flow monitoring resumed to the panametric flow monitor.
A47456B	296,398	10/29/2004	6/1/2005	12-11-506	Periods of flare monitoring system inoperation greater than 24 continuous hours was not reported.	11/9/2004	This was an administrative violation, related to no notification of an inoperative monitor during the bypass period where a certified flow meter was not used to monitor flare vent gas.
A45292A		10/31/2004	11/2/2004	1-301	Odorous release from the refinery. A blind from a gas knockout drum was inadvertently remove which resulted in the release of flare gas. This incident resulted in a public nuisance violation with 15 confirmed complaints.	10/31/2004	This violation was corrected on the same when the leak was repaired.

NOV #	Source(s)#	Occurrrance Date	Issue Date	Reg	Violation Description	Compliance Achieved	Basis for No Compliance Schedule
A45295A	GLM	10/31/2004	12/9/2004	9-2-301	Hydrogen Sulfide excesses (0.030 ppm for a 60 min average) at Tormey GLM location. Episode Excess ID #04H44	10/31/2004	This violation was corrected on the same day when the flange leak at the refinery was was repaired and H2S GLM at the Tormey location came back into compliance.
A45296A	GLM	10/31/2004	12/9/2004	9-2-301	Hydrogen Sulfide excesses (0.030 ppm for a 60 min average) at East Refinery GLM location. Episode Excess ID #04H45.	10/31/2004	This violation was corrected on the same day when the flange leak at the refinery was was repaired and H2S GLM at the East Refinery location came back into compliance.
A45293A	324	11/16/2004	12/7/2004	2-1-307	Permit Condition #1440-4 Violation- VOC leaks > 500ppm	11/16/2004	This violation was corrected on the same day when leaks were sealed.
A45294A	400	11/16/2004	12/7/2004	2-1-307	Permit Condition #1440-4 Violation- VOC leaks > 500ppm	11/16/2004	This violation was corrected on the same day when leaks were sealed.
A45297A	338	9/30/2004	1/5/2005	8-18-401.9	Failure to inspect components on the non-repairable list quaterly.	10/1/2004	This violation was administrative for fugitive emission monitoring, related to not inspecting valves and pumps on a quarterly basis.
A45298A	304	9/30/2004	1/5/2005	8-18-401.9	Failure to inspect components on the non-repairable list quaterly.	11/9/2004	This violation was administrative for fugitive emission monitoring, related to not inspecting valves and pumps on a quarterly basis.
A46758A	351	11/21/2004	2/8/2005	2-1-307	NOx > 20 ppm/3 hr., Episode Excess ID #04J17	11/21/2004	This violation was corrected on the same day when ammonia injection was restored to the SCR system.
A46758B	351	11/21/2004	2/8/2005	1-522.7	Episode Excess ID #04J17 reported late.	11/21/2004	This was an administrative violation, related to failure to report indicated excess with 96 hrs. Though they were late, the indicated excess was reported to the District.
A46756A	121	1/13/2005	2/8/2005	8-5-322.5	secondary seal gap > 0.06"	1/13/2005	This violation was corrected on the same day when tensioners were install to tightened the secodary seal gap.
A46757A	129	1/18/2005	2/8/2005	8-5-322.5	secondary seal gap > 0.06"	1/18/2005	This violation was corrected on the same day when tensioners were install to tightened the secodary seal gap.
A46760A	137	2/16/2005	4/4/2005	2-1-301	Authority to construct was not obtained for a tank that was storing regulated product.	3/16/2004	This violation was corrected when an application was submitted to the District.
A46760B	137	2/16/2005	4/4/2005	2-1-302	No permit to operate obtained on a tank that was storing regulated product.	3/16/2004	This violation was corrected when an application was submitted to the District.

NOV #	Source(s)#	Occurrrance Date	Issue Date	Reg	Violation Description	Compliance Achieved	Basis for No Compliance Schedule
A47455A		4/15/2005	5/4/2005	1-301	Odorous release from refinery. 5 face-to-face complaints were confirmed to Conoco. The odors were traced back to Unit 267 Desalter by Conoco Phillips personnel. Unit 267 was processing crude from a tank that was feeding a mixture of crudes and also pressure distillates. The pressure distillates could be particularly odorous and was determined to be the source of the odor complaints.	4/15/2005	This violation was corrected on the same day by reducing crude feed to the desalter unit. Additionally, the more odorous pressure distillates was processed at another unit.
A47463A	296	3/19/2005	6/15/2005	12-11-502	Failed to take flare samples. Denied Breakdown ID #04L59.	3/19/2005	This violation was corrected on the same day when power was restore and flare sampling resumed.
A47457A	371,372	3/28/2005	6/1/2005	2-1-307	NOx Excess > 20 ppmvd @ 3% O2 (3-hr average). Episode Excess ID #04L84	3/28/2005	This violation was corrected the same day when NOx emissions fell within permit limits.
A47458A	44	3/29/2005	6/9/2005	2-1-307	NOx Excess > 40 ppm over 8 hour rolling average period. Episode Excess ID #04L90.	3/30/2005	This violation was corrected the next day when NOx emissions fell within permit limits.
A47459A	44	4/4/2005	6/14/2005	2-1-307	NOx Excess > 40 ppm over 8 hour rolling average period. Episode Excess ID #04M00.	4/6/2005	This violation came into compliance when NOx emissions fell within permit limits.
A47460A	44	4/8/2005	6/21/2005	1-522.4	Late reporting of inoperative O2 monitor. Episode ID #04M17.	4/11/2005	This was an administrative violation and cleared when O2 monitoring resumed.
A47465A	182	4/1/2005	8/1/2005	8-5-306	Tank 294 was venting to atmosphere without approve emission control operating.	4/1/2005	This violation was corrected the same day when the odor abatement compressor was repaired and resumed operation.
A47461A	124	5/7/2005	6/15/2005	8-5-322.5	secondary seal gap > 0.06" Denied Breakdown ID #04M69.	5/8/2005	This violation was corrected the next day when tensioners were installed to repair secondary seal.
A47462A	123	5/18/2005	6/10/2005	8-5-322.5	secondary seal gap > 0.06"	5/18/2005	This violation was corrected the same day when the secondary seal was repaired.
A47464A	113	6/9/2005	6/30/2005	8-5-320.3	Open vacuum breaker vents (2) while the tank was operational	6/9/2005	This violation was corrected on the same day by adjusting the roof legs so that vacuum breaker vents were not open while tank roof was landed.
A47466A	300	2/19/2005	7/11/2005	8-18-404	A fugitive inspection not conducted.	6/20/2005	This violation was administrative for failure to conduct fugitive inspection on an odor abatement pot and associated valves within the regulatory timeline.

NOV #	Source(s)#	Occurrance Date	Issue Date	Reg	Violation Description	Compliance Achieved	Basis for No Compliance Schedule
A47585A	173,174	7/3/2005	7/5/2005	1-301	Odorous release from refinery. Seven (7) face-to-face odor complaints confirmed by BAAQMD to Tank 280 and 281.	7/3/2005	This violation was corrected on the same day by adding sulfur scavenger to Tank 280 & 281 and installing odorizer/maskant spray at the horn of the two tanks.
A47473A	102	7/13/2005	12/6/2005	8-5-322.5	secondary seal gap > 0.06"	7/13/2005	This violation was corrected on the same day when stiffeners were installed to fix secodary seal gaps.
A48326A	150	8/3/2005	12/22/2005	8-5-322.1	Holes found in secondary seal. Denied Breakdown ID #04P28.	8/4/2005	This violation was corrected the next day when secondary seal was repaired and max fill height was limited.
A48334A	354	8/18/2005	6/8/2006	9-9-301.3	NOx > 9 ppm/hr. Episode Excess ID #04P41.	8/18/2005	This violation was corrected on the same day by adjusting O2 so that NOx emissions from the combustion turbine was within regulated NOx limit.
A47467A	461	5/25/2005	10/13/2005	2-6-307	Failed Source test, #OS-1088.	8/10/2005	This violation was related to a failed source test performed by a contractor to show compliance with District permit condition (#21096) that limits ammonia concentration in the exhaust gas. Re-test conducted on 8/10/2005 showed ammonia concentration within permit limits.
A47468A	124	10/7/2005	10/13/2005	8-5-322.5	secondary seal gap > 0.06". Denied Breakdown ID #04Q45.	10/7/2005	This violation was corrected on the same day when stiffeners were installed to fix secodary seal gaps.
A47474A	371,372	10/9/2005	1/5/2006	2-6-307	NOx excess due to ammonia plugging. Episode Excess ID #04Q46.	10/10/2005	This violation was corrected when ammonia injection was restored to SCR system.
A48106A	296	10/9/2005	11/16/2005	1-301	Odorous release from refinery. Nine (9) complaints were confirmed to Conoco. The odors were due to incomplete combustion at the flare as a result of mismatching steam input with flaring rate. Flaring was due to a valve failure at the Unit 240 Hydrogen plant which cause an emergency shutdown of the unit and waste gases being sent to the main flare (S-296).	10/9/2005	This violation was corrected by the adjusting steam input to the flare which would result in more efficient burning of waste gases. Odors problems from the main flare ceased on 10/9/05 and the unit return to normal operations on 10/13/05.
A47469A	360	10/20/2005	10/20/2005	8-5-306	Gauge wire conduit on Tank223 found leaking > 100 ppm.	10/20/2005	This violation was corrected on the same day when leaks were sealed.
A47471A	124	10/25/2005	10/26/2005	8-5-320.3	Vacuum vents on Tank 169 were discovered to be lifted while the tank was resting on the surface of the liquid. Violation was discovered during a BAAQMD inspection.	10/25/2005	This violation was corrected on the same day when the tank roof was refloated so that the vacuum breakers closed.
A47470A	318	10/26/2005	10/26/2005	8-18-301	Equipment leak > 100 ppm.	10/27/2005	This violation was corrected the next day when open ended line was affixed with a plug.

NOV #	Source(s)#	Occurrrance Date	Issue Date	Reg	Violation Description	Compliance Achieved	Basis for No Compliance Schedule
A4747B	318	10/26/2005	10/26/2005	8-18-307	Liquid leaks exceeded 3 drops per minute	10/27/2005	This violation was corrected the next day when the open ended line was affixed with a plug.
A47472A	305	10/31/2005	1/17/2006	8-18-301	During a BAAQMD fugitive monitoring inspection, open ended lines without plugs were discovered that were leaking in excess of 100 ppm.	10/31/2005	This violation was corrected on the same day when open ended lines were affixed with end plugs.
A48329A	371,372	11/5/2005	2/17/2006	2-6-307	NOx excess due to ammonia plugging. Episode Excess ID #04Q98.	11/5/2005	This violation was corrected when ammonia injection was restored to SCR system.
A48107A	110	11/15/2005	12/6/2005	8-5-322.5	2 gaps in secondary seal > 0.06" were discovered during the inspection of Tank 155.	11/15/2005	This violation was corrected on the same day when stiffeners were installed to fix secodary seal gaps.
A48331A	113	12/6/2005	2/17/2006	8-5-322.5	During a ConocoPhillips inspection of Tank 158, a gap in the secondary seal >0.06" was discovered.	12/6/2005	This violation was corrected on the same day when stiffeners were installed to fix secodary seal gaps.
A48080A	307	12/15/2005	3/29/2006	2-6-307	(Source Test #05-2063) Organic Carbon Emissions> 15lbs/day pursuant to permit condition #06671.	2/1/2006	This violation was corrected when a re-test was conducted on 2/1/2006 by Avogadro Group and demonstrating VOC emissions < 15lbs/day.
A47475A	322	12/15/2005	12/22/2005	8-18-301	During a BAAQMD fugitive monitoring inspection, an open ended line was discovered to be leaking in excess of 100 ppm.	12/15/2005	This violation was corrected on the same day when open ended lines were affixed with end plugs.
A48330A	371,372	1/5/2006	2/17/2006	2-6-307	NOx excess due to ammonia plugging. Episode Excess #04S29.	1/5/2006	This violation was corrected when ammonia injection was restored to the SCR system. This violation represents a recurring pattern of NOx excesses at Unit 228 B-520/521 heaters(S-371, 372) due to a defective ammonia injection nozzle. The defective nozzle is susceptible to plugging and was not discovered to be the cause of multiple NOx excess until 1/21/09.
A48326A	150	8/3/2005	12/22/2005	8-5-322.1	Holes in secondary seal fabric. Denied Breakdown ID #04P28.	8/4/2005	This violation was corrected the following day by repairing the tear in the secondary seal.
A48327A	433	1/10/2006	1/30/2006	8-18-301	Open ended line > 10,000 ppm at gauge conduit on the side of the MOSC tank.	1/10/2006	This violation was corrected the same day when the leak was repaired by filling the "P" trap with glycol. The "P" trap prevents emissions to the atmosphere from the tank and it was found to be empty at time of inspection.

NOV #	Source(s)#	Occurrrance Date	Issue Date	Reg	Violation Description	Compliance Achieved	Basis for No Compliance Schedule
A48336A	GLM	5/9/2006	6/8/2006	1-510	Failed to maintain Tormey GLM site- SO2 deviation > 10% during accurracy test.	5/11/2006	This was an administrative violation, related to the maintenance of the refinery's Tormey GLM station. On 5/11/06, GLM was retested and demonstrated acceptable accuracy.
A48337A	308	1/25/2006	6/8/2006	8-10-501	Failure to perform 10 daily monitoring. VOC measurements were not taken on F-502 (U-244) each day that the vessel was open to atmosphere.	2/3/2006	This was an administrative violation, related to lack of records for monitoring during vessel depressurization.
A48338A	1001	12/2/2005	6/8/2006	1-522.4	Failed to report Inoperative SO2 monitor at SRU.	4/4/2006	This was an administrative violation and cleared when monitoring and storage of SO2 data resumed.
A48339A	1002	12/2/2005	6/8/2006	1-522.4	Failed to report Inoperative SO2 monitor at SRU.	4/1/2006	This was an administrative violation and cleared when monitoring and storage of SO2 data resumed.
A48340A	1003	12/2/2005	6/8/2006	1-522.4	Failed to report Inoperative SO2 monitor at SRU.	4/1/2006	This was an administrative violation and cleared when monitoring and storage of SO2 data resumed.
A48347A		6/28/2006	8/23/2006	8-18-402	Failure to identify components for monitoring.	6/28/2006	This violation completed the LDAR Compliance and Enforcement Agreement that was entered into on November 2005 between the District and ConocoPhillips. The agreement required Conoco to report missing LDAR components discovered during the internal LDAR audit.
A48079A	43	3/15/2006	3/15/2006	8-18-301	BAAQMD inspection of Unit 200 (Coker) discovered 4 venturi eductor at B-202 Heater leaking with concentrations > 100 ppm.	3/15/2006	This violation was cleared on the same day when the plugged venturi eductors were cleared.
A48335A	371,372	3/24/2006	6/8/2006	2-6-307	NOx excess due to ammonia plugging. Episode Excess ID #04T52	3/25/2006	This violation was corrected when ammonia injection was restored to the SCR system. This violation represents a recurring pattern of NOx excesses at Unit 228 B-520/521 heaters(S-371, 372) due to a defective ammonia injection nozzle. The defective nozzle is susceptible to plugging and was not discovered to be the cause of multiple NOx excess until 1/21/09.
A48348A	461	3/25/2006	10/20/2006	2-6-307	NOx excess due to ammonia plugging. Episode Excess ID #04T53.	3/25/2006	This violation was corrected on the same day when the ammonia plugging was cleared and NOx concentrations fell below NOx limits.
A48333A	296	5/1/2006	6/6/2006	12-11-502.2.2.1	Failure to take flare sample within 30 minutes of a flaring event.	5/1/2006	This violation was cleared on the same day when a manual flare sample was taken for the flaring event which was caused by a power failure at S-354.
A48344A	296	5/1/2006	7/20/2006	2-6-307	Title V Permit Condition #18255 Violation, visible emissions from the flare.	5/1/2006	This violation was cleared on the same day when electrical power and steam production was restored.

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A48344B	354	5/1/2006	7/20/2006	9-9-301.3	Reg. 9-9-301.3 Violation for NOx in excess of the 9 ppm. (RCA #04U07, 04U08)	5/1/2006	The violation occurred during a "brownout" causing turbine C to unexpectedly trip off-line.
A49007A	461	5/6/2006	4/10/2007	2-6-307	NOx Emissions- Episode Excess ID #04U29. Denied Breakdown ID #04U28,	5/6/2006	This violation was corrected on the same day when ammonia injection line plugging issue was cleared.
A48332A	128	5/15/2006	5/15/2006	8-18-307	Liquid leak > 5 drops per minute.	5/15/2006	This violation was corrected on the same day by repairing pressure relief valve.
A49234A		6/1/2006	3/25/2008	8-18-401.2	Failure to inspect LDAR components quarterly. Failure to identify components for monitoring. (40 CFR 60 GGG/VV)	2/21/2008	This violation was administrative for fugitive emissions monitoring, and related to failures to inspect and identify LDAR components. The District and ConocoPhillips entered into a settlement on 6/24/2009 which includes the violations cited in NOV #A49234 and other similar failures to inspect and identify LDAR components that CP discovers in the course of its ongoing re-inventory audit of the refinery's LDAR components until the end of August 2010.
A49234B		6/1/2006	3/25/2008	10	Failure to identify components for monitoring. (40 CFR 60 GGG/VV)	2/21/2008	This violation was administrative for fugitive emissions monitoring, and related to failures to identify LDAR components.
A48350A	254	6/12/2006	10/20/2006	8-5-322.5	A gap in secondary seal > 0.06" were discovered during the inspection of Tank 1001.	6/12/2006	This violation was corrected on the same day when stiffeners were installed to fix secodary seal gaps.
A48341A	1007	6/15/2006	6/15/2006	8-8-307.1	During a BAAQMD inspection, it was discovered that 2 hatches at the DAF unit were open.	6/15/2006	This violation was corrected when operator closed the hatches to the DAF.
A48342A	318	6/20/2006	6/20/2006	8-18-301	During a BAAQMD inspection, an open ended line leak > 100 ppm was discovered.	6/20/2006	This violation was corrected the same day when the valve seat for the thermal pressure relieve valve was repaired and returned to service.
A48349A	36	6/29/2006	10/20/2006	2-6-307	NOx Emissions-Excess. Episode Excess ID #04V75.	6/29/2006	This violation was corrected the same day when ammonia injection problems were resolved and NOx emissions fell below limit.
A49004A	36	6/30/2006	3/22/2007	2-6-307	Title V Permit Condition #21097. Failure to meet Total Reduced Sulfur (TRS) in refinery fuel gas (>100ppm).	7/7/2006	This violation was corrected when the refinery fuel gas was tested and the TRS was found to be below 100ppm.
A49005A	461	6/30/2006	3/22/2007	2-6-307	Title V Permit Condition #21096. Failure to meet Total Reduced Sulfur (TRS) in refinery fuel gas (>100ppm).	7/7/2006	This violation was corrected when the refinery fuel gas was tested and the TRS was found to be below 100ppm.
A49001A	461	7/28/2006	3/12/2007	2-6-307	NOx Emissions-Excess. Episode Excess ID #04W19.	7/31/2006	This violation was corrected when ammonia injection problem was resolved and NOx emissions fell below limit.

NOV #	Source(s)#	Occurrrance Date	Issue Date	Reg	Violation Description	Compliance Achieved	Basis for No Compliance Schedule
A48346A	183	8/1/2006	8/1/2006	8-18-307	During a BAAQMD inspection, a liquid leak of greater than 3 drops/min discovered at piping connector to associated Tank 295.	8/1/2006	This violation was corrected on the same day when the leaking connector was repaired.
A49232A	304-306,370	8/10/2006	2/22/2008	8-18-401.2	Failure to inspect LDAR components quarterly. Failure to identify components for monitoring. (40 CFR 60 GGG/VV)	6/20/2007	This violation was administrative for fugitive emissions monitoring, and related to failures to inspect and identify LDAR components. The District and ConocoPhillips entered into a settlement on 6/24/2009 where violation that include failures to inspect and identify LDAR components that CP discovers in the course of its ongoing re-inventory audit of the refinery's LDAR components until the end of August 2010 will be settled in NOV #A49234.
A49232B	304-306,370	8/10/2006	2/22/2008	10	Failure to identify components for monitoring. (40 CFR 60 GGG/VV)	6/20/2007	This violation was administrative for fugitive emissions monitoring, and related to failures to identify LDAR components.
A49002A	352-354	11/2/2006	4/10/2007	2-6-307	Title V Permit Condition #18629 violation. SO2> 44lbs/hr	11/3/2006	This violation was corrected the next day when SO2 emissions from gas turbines and HRG burners fell below the limit.
A49129A	36	11/24/2006	5/7/2007	2-6-307	NOx Emissions- Excess. Episode Excess ID #04X97.	11/24/2006	This violation was corrected the same day when ammonia injection problems were resolved and NOx emissions fell below limit.
A49003A	151	1/2/2007	3/22/2007	8-5-322.5	Secondary seal gap > 0.06" was discovered during a compliance inspection by ConocoPhillips.	1/2/2007	This violation was corrected on the same day when stiffeners were installed to fix secodary seal gaps.
A49236A		1/17/2007	4/29/2008	8-18-302.1	A leaking valve was discovered not to be repaired within the regulatory timeframes (>7 days).	8/16/2007	This violation was corrected when valve was repaired.
A49236B		1/17/2007	4/29/2008	8-18-3043.1	A leaking pump was discovered not to be repaired within the regulatory timeframes (>7 days).	8/16/2007	This violation was corrected when pump was put on the delay of repair list because leak could not be repaired without shutting down the unit.
A49235A	8	8/30/2007	4/15/2008	9-10-305	Source Test #31-08- CO > 400ppm/day average (604 ppm).	4/23/2008	This violation was corrected when District conducted a source test and found CO levels to be within the limits set by Reg. 9-10-305.
A49020A	461	3/1/2007	8/22/2007	2-6-307	Title V Permit Condition #21096. Failure to meet Total Reduced Sulfur (TRS) in refinery fuel gas (>100ppm).	3/1/2007	This violation was corrected when the refinery fuel gas was tested and the TRS was found to be below 100ppm.
A49452A	296	3/18/2007	10/3/2007	2-6-307	Title V Permit Condition #18255-5. Visible emissions from the flare > 3 consecutive minutes.	3/18/2007	This violation was corrected on the same day when visible emissions from flare dissipated.
A49024A	36,461	4/20/2007	10/1/2007	2-6-307	Title V Permit Condition #21096. Failure to meet Total Reduced Sulfur (TRS) in refinery fuel gas (>100ppm).	4/21/2007	This violation was corrected the next day when the refinery fuel gas was tested and the TRS was found to be below 100ppm.
A48167A	1002	5/22/2007	8/8/2007	6-301	Visible emissions from SRU evaporative cooler.	5/22/2007	This violation was corrected on the same day when visible emissions ceased.

NOV #	Source(s)#	Occurrrance Date	Issue Date	Reg	Violation Description	Compliance Achieved	Basis for No Compliance Schedule
A49130A	324	5/22/2007	5/29/2007	8-8-302.4	Fugitive emissions > 1000 ppm at API oil/water separator.	5/24/2007	This violation was corrected when leaks at the API were repaired.
A49021A	184	6/27/2007	8/30/2007	8-5-320.3	Vacuum breaker valves were discovered to be open while tank was floating.	6/28/2007	This violation was corrected the next day by increasing the roof height by adding product to the tank so that the vacuum breaker valves were in a closed position.
A49021B	184	6/27/2007	8/30/2007	10	Opened automatic bleeder valves.{40CFR63.646(f)(3)}	6/28/2007	This violation was corrected the next day by increasing the roof height by adding product to the tank so that the vacuum breaker valves were in a closed position.
A49132A	461	6/29/2007	10/2/2007	2-6-307	NOx Emissions- Excess. Episode Excess ID #05B01.	7/1/2007	This violation was corrected when NOx emissions fell below limit. NOx excess occurred because heater was put into idling mode with the intent to shut down but S/D did not occur.
A49019A	112	7/31/2007	8/2/2007	8-5-304.4	Liquid above seals.	7/31/2007	This violation was corrected the same day when temporary repairs were conducted on the seal by using a foam log and expanding urethane foam.
A49019B	112	7/31/2007	8/2/2007	8-5-322.5	During a BAAQMD inspection, approximately 50 feet of secondary seal was observed to have rolled over and with a gap>0.06" on Tank 157.	7/31/2007	This violation was corrected the same day when temporary repairs were conducted on the seal by using a foam log and expanding urethane foam.
A49022A	440	8/14/2007	8/30/2007	8-5-320.3 10	Vacuum breaker valves were discovered to be open while tank was floating.{40CFR63.646(f)(3)}.	8/14/2007	This violation was corrected on the same day when the tank roof height was increase by adding product and this closed the vacuum breaker valves.
A49229A	370	8/17/2007	12/14/2007	1-522.6	Source Test #24-08- Failed Field Accurracy Test for O_2 levels (not accurate within 20% of District reference value)	1/8/2008	This violation was corrected when pump and gauge were repaired and source test passed.
A49025A	296	8/21/2007	10/1/2007	12-11-502.3.1	Due to flare sampling handling errors, two flare samples were not analyzed.	8/22/2007	This violation was corrected the next day when flare sampling analysis were conducted.
A49023A	318	9/11/2007	9/11/2007	8-18-402.1	During a BAAQMD inspection, 6 new in-service components were discovered not to have fugitive ID tags affixed.	9/11/2007	This violation was corrected on the same day with components were affixed with ID tags.
A49453A	324	10/25/2007	11/1/2007	2-6-307	During a BAAQMD inspection,an atmospheric vent on the channel that transports water from the API separator to the DAF was discovered. Pemit Condition 1440-4 does not allow for an atmospheric vent since source would not be vapor tight.	10/25/2007	This violation was corrected the same day when the atmospheric vent was capped off.

NOV #	Source(s)#	Occurrance Date	Issue Date	Reg	Violation Description	Compliance Achieved	Basis for No Compliance Schedule
A49240A		10/27/2007	8/11/2008	8-8-313.2	During a review of the drain inspection program by ConocoPhillips, it was discovered that 36 uncontrolled drain components exceeded three leaks in a 5 year period and were not equiped with controls.	6/5/2008	This violation was corrected when affected drains were installed with controls and re-inspected for compliance with the vapor tight standard of Regulation 8-18.
A49133A	1007, 324,400, 401	10/25/2007	11/7/2007	2-6-307	During a BAAQMD inspection at the waste water treatment plant (WWTP) leaks in excess of Permit Condition #1440 Part 4, vapor tight threshold of 500 ppm VOC were discovered.	10/26/2007	This violation was corrected the next day when hatches were tightened and leaks were repaired at the WWTP.
A49230A	184	10/30/2007	12/14/2007	8-5-320.3	During a scheduled tank seal inspection it was discovered that the vacuum vents were open on Tank 296. Vacuum vent legs were too long and opening above safe heel roof height.	11/7/2007	This violation was corrected when product was added to Tank 296 so that the safe heel level was raised to a level where the vacuum vents would remain closed.
A49233A	351	11/11/2007	3/4/2008	2-6-307	NOx Emissions-Excess. Episode Excess ID #05C63.	11/11/2007	This violation was corrected the same day when NOx analyzer plugging issue was cleared.
A50232A	126, 257, 258, 448	11/16/2007	2/25/2009	8-5-405	During a BAAQMD evaluation of the tank inspection program, it was discovered that inspection records in 2007 for internal floating roof tanks (IFRT) were not submitted to the District.	2/23/2009	This violation was corrected when 2007 IFRT inspection reports were submitted to the District.
A50231A	448	2/26/2008	2/25/2009	8-5-402.2	During BAAQMD evaluation of the tank inspection program, it was discovered that the entire circumference of Tank 1007 was not inspected.	4/20/2009	This violation was corrected when a completed visual inspection of Tank 1007 was conducted.
A49243A	438	4/15/2008	10/1/2008	2-6-307	CO Emissions- Excess. Episode Excess ID #05F33, 05F22.	4/18/2008	This violation was corrected when heater operations was adjusted to stabilize CO concentration.
A49243B	438	4/15/2008	10/1/2008	1-522.7	CO Emissions- Excess. Episode Excess IDs #05F33, 05F22 were not reported within 96 hours.	4/18/2008	This was an administrative violation, related to failure to report indicated excess with 96 hrs. Indicated excess were reported to the District but late.
A49247A	351	4/29/2008	10/4/2008	2-6-307	NOx Emissions-Excess. Episode Excess ID #05F51.	4/30/2008	This violation was corrected the following day when the power supply to NOx analyzer was replaced and ammonia injection levels were restored.
A49242A	296	5/27/2008	9/5/2008	12-11-502.3.1	A flare sample was not taken after flaring w/ flow > 330 scfm for 15 consecutive minutes.	5/27/2008	This violation was corrected on the same day when flare auto sampler setting was corrected and vent gas sample taken. This administrative violation occurred because there were some confusion on the part of the operator to follow sampling procedures.

NOV #	Source(s)#	Occurrrance Date	Issue Date	Reg	Violation Description	Compliance Achieved	Basis for No Compliance Schedule
A49237A	324, 1007	5/29/2008	6/3/2008	2-6-307	During a BAAQMD inspection at the waste water treatment plant (U100),6 components on API Oil/Water Seperator(S324) & the DAF Unit(S1007) were found leaking in excess of the Permit Condition 1440 Part 4 vapor tight threshold of 500 ppm VOC.	5/29/2009	This violation was corrected on the same day when all fugitive leaks at discovered at Unit 100 were repaired and found in compliance the permit condition.
A49238A	324, 1007	6/26/2008	7/16/2008	2-6-307	Permit Condition #1440-4 Violation- VOC leaks > 500ppm	6/26/2008	This violation was corrected on the same day when all fugitive leaks at discovered at Unit 100 were repaired and found in compliance the permit condition.
A49248A	371, 372	7/14/2008	12/16/2008	2-6-307	NOx excess due to ammonia plugging. Episode Excess ID #05G86, Denied Breakdown ID #05G85.	7/14/2008	This violation was corrected on the same day when ammonia injection was restored to the SCR system. This violation represents a recurring pattern of NOx excesses at Unit 228 B-520/521 heaters(S-371, 372) due to a defective ammonia injection nozzle. The defective nozzle is susceptible to plugging and was not discovered to be the cause of multiple NOx excess until 1/21/09.
A49241A	1001	8/12/2008	8/26/2008	1-522.6	Source Test #16-09- Failed Field Accurracy Test for O2 levels (not accurrate within 20% of District reference value)	9/22/2008	This violation was corrected when a bad transducer on the O2 analyzer was replaced and passed source test.
A50226A	371, 372	8/19/2008	1/21/2009	2-6-307	NOx excess due to ammonia plugging. Episode Excess ID #05H42.	8/20/2008	This violation was corrected on the following day when ammonia injection was restored to the SCR system. This violation represents a recurring pattern of NOx excesses at Unit 228 B-520/521 heaters(S-371, 372) due to a defective ammonia injection nozzle. The defective nozzle is susceptible to plugging and was not discovered to be the cause of multiple NOx excess until 1/21/09.
A50229A	133	8/21/2008	2/10/2009	8-5-304.5	Liquid leak discovered at the tank shell of the API Waste Oil Tank T-193.	8/22/2008	This violation was corrrected the following day when a patch was welded on to the tank shell to repair the hole. Normally, the limited exemption for repair under section 8-5-119 can be used but the leak was not minimize within 8 hours of discovery, therefore, exemption could not be used.
A50227A	371, 372	8/30/2008	1/21/2009	2-6-307	NOx excess due to ammonia plugging. Episode Excess ID #05H68.	8/30/2008	This violation was corrected on the same day when ammonia injection was restored to the SCR system. This violation represents a recurring pattern of NOx excesses at Unit 228 B-520/521 heaters(S-371, 372) due to a defective ammonia injection nozzle. The defective nozzle is susceptible to plugging and was not discovered to be the cause of multiple NOx excess until 1/21/09.

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A49458A	438	10/3/2008	1/26/2009	2-6-307	CO Excess-Emissions > 32 ppm/day average (Permit Condition # 1694 part E4). Episode Excess IDs #05J13, #05J17.	10/4/2008	This violation was corrected the next day when the malfunctioned control valve was repaired and CO levels fell below permit limit.
A49244A	398	10/15/2008	10/21/2008	8-18-401.2	Failure to inspect LDAR components quarterly.	10/15/2008	This violation was administrative for fugitive monitoring, related to not inspecting fugitive emission components.
A49244B	398	10/15/2008	10/21/2008	8-18-402.1	During a BAAQMD LDAR inspection, 12 components at the MP-30 Flare were discovered not tagged & were not in the LDAR database.	10/15/2008	This violation was administrative for fugitive monitoring, related to not identifying fugitive emission component. Components were tagged and entered into the LDAR database.
A50228A	371, 372	10/17/2008	1/21/2009	2-6-307	NOx excess due to ammonia plugging. Episode Excess ID #05J39.	10/17/2008	This violation was corrected on the same day when ammonia injection was restored to the SCR system. This violation represents a recurring pattern of NOx excesses at Unit 228 B-520/521 heaters(S-371, 372) due to a defective ammonia injection nozzle. The defective nozzle is susceptible to plugging and was not discovered to be the cause of multiple NOx excess until 1/21/09.
A48864A	444	11/19/2008	12/3/2008	8-18-307	During a BAAQMD inspection, liquid leaks > 3 drops/min was discovered at the water draw pipe of Tank 243	11/19/2008	This violation was corrected on the same day when the leak was repaired and re-monitored.
A49245A	360	11/19/2008	12/2/2008	8-5-306.2	During a BAAQMD inspection, a leak >100 ppm was discovered at a gauge wire conduit located at the top of Tank 223.	11/20/2008	This violation was corrected the following day when the gauge conduit was repaired and re-monitored and found to be vapor tight.
A50236A	324, 400, 401, 1007	12/22/2008	7/7/2009	2-6-307	During a semi-annual compliance inspection at the waste water treatment plant (U100); 3 sample pts were found leaking in excess of the Permit 1440 part 4 vapor tight threshold of 500 ppm VOC.	12/22/2008	This violation was corrected on the same day when all fugitive leaks found at Unit 100 were repaired and found in compliance with the permit condition 1440-4.
A50239A	296	3/5/2009	6/22/2009	12-11-502.3.1	Flare samples were not taken during continuous flaring w/ flow > 330 scfm.	3/8/2009	This violation was corrected when the flare auto sampler setting was corrected and vent gas sample taken. This administrative violation occurred because there were some confusion on the part of the operator to follow sampling procedures.
A50238A	398	3/14/2009	7/22/2009	12-11-501	Flare samples were not taken during continuous flaring w/ flow > 330 scfm.	3/15/2009	This violation was corrected when the flare samples were taken manually.

NOV #	Source(s)#	Occurrance Date	Issue Date	Reg	Violation Description	Compliance Achieved	Basis for No Compliance Schedule
A50238B	398	3/14/2009	7/22/2009	12-11-502.3.1	During the rerouting of flare gas from the Main Flare to the MP-30 flare, vent gas was not monitored with a certified panametric flow meter.	3/15/2009	This violation was corrected when the flare gas flow monitoring resumed to the panametric flow monitor.
A50238C	296,398	7/22/2009	7/22/2009	12-11-506.1	Periods of flare monitoring system inoperation greater than 24 continuous hours was not reported.	3/15/2009	This was an administrative violation, related to no notification of an inoperative monitor during the bypass period where a certified flow meter was used to monitor flare vent gas.
A50237A	438	4/20/2009	7/7/2009	2-6-307	NOx Emissions-Excess. Episode Excess ID #05L94.	4/20/2009	This violation was corrected on the same day when the unit operator increased ammonia injection inorder to reduce NOx concentrations to within compliant levels.