

Bay Area Air Quality Management District

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**Draft
Permit Evaluation
and
Statement of Basis
for
MAJOR FACILITY REVIEW PERMIT
Reopening – Revision 2**

for
**ConocoPhillips – San Francisco Refinery
Facility #A0016**

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April 2005

Application 12433

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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 Volume 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.

The District issued the initial Title V permit to this facility on December 1, 2003. The District issued a reopened permit that amended flare and Regulation 9-10 requirements, corrected errors, and incorporated some new sources and permit conditions on December 16, 2004.

Previously, on October 8, 2004, EPA sent a letter containing two objections to the permit; EPA also provided various comments that did not raise to the level of an objection. The letter is attached in Appendix B. The objection issues are the subjects of a reopening to the permit that was proposed on February 1, 2005. The revised permit was issued on April 12, 2005.

This reopening addresses the comments in the letter. (Note that EPA commented on five refineries in this letter. Not all comments concern this facility.) Part of the result of Application 10349 for Authority to Construct for the facility cooling towers is also being incorporated in this action. That application is not final because all of the information that is necessary for a toxics risk assessment has not yet been submitted to the District. When the information is submitted, the District will assess risk and require permits for individual cooling towers or add additional permit conditions, if necessary. The District permit cannot be finalized without this step; however, the Title V permit can be proposed without completion of this step because the toxics risk assessment is a state program, not a federal program.

In addition, some issues raised in the refinery's appeal to the December 16, 2004 permit and some refinery comments on that permit will be addressed.

All changes to the permit will be clearly shown in "strikeout/underline" format. When the permit is finalized, the "strikeout/underline" format will be removed.

The District is soliciting public comment on the proposed revisions.

This statement of basis concerns only changes to the permit. Comprehensive statements of basis were prepared for the initial issuance of the permit and for the reopening issued on December 16, 2004. These are available on request.

B. Facility Description

The facility description can be found in the statement of basis that was prepared for the reopening issued on December 16, 2004. It is available on request from the Engineering Division of the District.

C. Permit Content

Additional information concerning the legal and factual basis of the Title V permit conditions is presented below. The information is organized by the relevant section of the Title V permit. All changes to the permit are shown in strikeout/underline format.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. Many of these conditions derive from 40 CFR § 70.6, Permit Content, which dictates certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit.

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

Changes to permit

The dates of adoption of Regulation 2, Rules 1, 2, 4, and 6 have been updated.

The EPA approval dates for SIP Regulation 1, SIP Regulation 2, Rules 1, 2, and 4 have been corrected.

The following language was added to Standard Condition I.B.1: "If the permit renewal has not been issued by [], but a complete application for renewal has been submitted in accordance with the above deadlines, the existing permit will continue in force until the District takes final action on the renewal application." This is the "application shield" pursuant to BAAQMD Regulation 2-6-407.

The following language was added as Standard Condition I.B.12: "The permit holder is responsible for compliance, and certification of compliance, with all conditions of the permit, regardless whether it acts through employees, agents, contractors, or subcontractors. (Regulation 2-6-307)." The purpose is to reiterate that the Permit Holder is responsible for ensuring that all activities at the facility comply with all applicable requirements.

Regulation 3, Fees, has been removed from the basis for Standard Conditions I.E.2 and I.F because it is an incorrect basis for these conditions.

The initial deadlines for monitoring reports and compliance certifications in Standard Conditions I.F and I.G have been deleted because they are obsolete.

Miscellaneous conditions I.J.5-I.J.8 were deleted because the information required has been submitted to the District.

Standard Condition I.J.8 has been deleted because the facility has supplied information to determine applicability of 40 CFR 61, Subpart FF.

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 or S-24).

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., A-24). If a source is also an abatement device, such as when an engine controls VOC emissions, it will be listed in this table but will have an “S” number. An abatement device that is also a source (such as a thermal oxidizer that burns fuel) will have an “A” number.

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 this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

Changes to permit

Cooling towers

EPA commented in its letter of August 2, 2004, that the permit for Conoco did not list all cooling towers that should have been in the permit.

The District subsequently asked Conoco to submit an application for the cooling towers to determine whether the sources were subject to permits in accordance with BAAQMD Regulation 2-1-319 or were significant sources in accordance with BAAQMD Regulation 2-6-239.

Conoco submitted some information with Application 10349. Complete calculations were submitted by January 31, 2005. Following is a table identifying the eight cooling towers, their capacities in gpm, and the estimated emissions:

Source #	Capacity, gpm	PM10, tpy	VOC, tpy
452	13,800	3.19	2.54
453	5,500	12.92	1.01
454	8,000	18.80	1.47
455	30,000	56.51	5.52
456	750	0.25	0.14
457	7,639	0.09	1.41
458	1,150	0.40	0.21
500	2,500	1.45	0.46
Total		93.21	12.55

Based on this information the District determined that three cooling towers (S452, S453 and S454) require District permits pursuant to BAAQMD Regulation 2-1-319 because they emit more than 5 tons particulate per year. All particulate is assumed to be PM10. Another cooling tower (S452) emits more than 2 tons particulate and more than 2 tons VOC per year, so it is significant pursuant to BAAQMD Regulation 2-6-239. The remaining four cooling towers are considered exempt, non-significant sources. All of the remaining cooling towers require conditions to ensure that they remain exempt and non-significant.

All of these sources have been exempt since the date of construction, so there is no emissions increase. However, the emissions inventory will be corrected.

Stormwater Basins

The capacity of the stormwater basins, S1008 and S1009, has been corrected from 7000 gpm to 2.3 MMgal and 7.2 MMgal, respectively. The capacity for storage of water is more appropriately expressed in volume, not rate.

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.

Some 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 a significant source pursuant to the definition in BAAQMD Rule 2-6-239.

Changes to permit

Language has been added to Section III to clarify that this section contains requirements that may apply to temporary sources. This provision allows contractors that have "portable" equipment permits that require them to comply with all applicable requirements to work at the facility on a temporary basis, even if the permit does not specifically list the temporary source. Examples are temporary sand-blasting or soil-vapor extraction equipment.

Section III has been modified to say that SIP standards are now found on EPA's website and are not included as part of the permit.

Table III has been updated by adding the following rules and standards to conform to current practice:

- BAAQMD Regulation 8, Rule 4, General Solvent and Surface Coating Operations
- BAAQMD Regulation 8, Rule 47, Air Stripping and Soil Vapor Extraction Operations
- SIP Regulation 8, Rule 51, Adhesive and Sealant Products
- BAAQMD Regulation 9, Rule 1, Sulfur Dioxide
- SIP Regulation 9, Rule 1, Sulfur Dioxide
- BAAQMD Regulation 11, Rule 2, Asbestos Demolition, Renovation and Manufacturing
- California Health and Safety Code Section 41750 et seq., Portable Equipment
- California Health and Safety Code Section 44300 et seq., Air Toxics "Hot Spots" Information and Assessment Act of 1987

The dates of amendment of several standards have been updated.

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) listed following the corresponding District Rules. SIP rules are District rules that have been approved by EPA into 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 portions of the SIP rule are cited separately after the District rule. The SIP portions will be federally enforceable; the non-SIP versions will not be federally enforceable, unless EPA has approved them 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 (unless they have been assigned a District permit condition number, in which case they are included as BAAQMD 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.

Complex Applicability Determinations

BAAQMD Regulation 8, Rule 2, Miscellaneous Operations

In an email of September 30, 2004, EPA commented that the permits for flares at several Bay Area refineries contained citations for the above rule, but that the Conoco permit did not. Both flares at this facility are exempt from the requirement of Regulation 8, Rule 2, because they meet the control efficiencies specified in Regulation 8-1-110.3 for such an exemption. To ensure that the flares continue to qualify for the exemption, Regulation 8-1-110.3 has been added to the Section IV and VII tables for S296 and S398, Flares. However, no monitoring has been added in Section VII because source testing is not feasible.

40 CFR 61, Subpart FF, National Emission Standard for Benzene Waste Operations

The applicability of 40 CFR 61, Subpart FF, National Emission Standard for Benzene Waste Operations, was not discussed in the original statement of basis that was finalized on December 1, 2003.

This standard was discussed in the engineering evaluation for Application 5814, which was included in the statement of basis for the reopening that was completed on December 16, 2004. Following is the discussion for this issue, which is found on page 45 of the evaluation:

61.340(a)	Applicability
61.340(c)	Applicability: Exempt Waste
61.342	Standards: General
61.342(a)	Exemption for facilities with less than 10 Mg/yr of benzene in waste
61.355	Test methods, procedures and compliance provisions
61.355(b)(1)	Quantification of annual waste quantity at sour water strippers (This section will be deleted and 61.355(b) will be added, since the whole section applies.)
61.355(c)(1)(i)(A)	Quantification of flow-weighted annual average benzene concentration (This section will be deleted and 61.355(c) will be added, since the whole section applies.)
61.356	Recordkeeping requirements
61.356(a)	Recordkeeping and retention requirements
61.356(b)	Waste stream records

61.357	Reporting requirements
61.357(c)	Reporting requirements for facilities with less than 10 Mg/yr total benzene in waste

The following additional requirements will be added to the table for the reasons in the parentheses (unless the reason is obvious):

61.340(b)	Applicability: Hazardous waste (This section applies because the refinery has a RCRA subpart C permit.)
61.340(d)	Exemption for gaseous streams routed to fuel gas systems (Any streams routed to fuel gas systems are not included in the total benzene waste.)
61.342(g)	Compliance with this part using methods in Section 61.355
61.355(a)	Determination of total annual benzene quantity from facility waste (This determination is required of all refineries.)
61.355(b)	Determination at point of waste generation (This determination is required of all refineries.)
61.355(c)	Determination of flow-weighted annual average benzene concentration (This determination is required of all refineries.)
61.357(a)	Reports after startup (This report is necessary if the facility adds a new source.)

MACT Subpart CC applicability for flares

Subpart CC applies to, among other things, miscellaneous process vents from petroleum refining process units (40 CFR 63.640(c)(1)). “Miscellaneous process vent” means a gas stream containing greater than 20 parts per million, by volume, organic HAP that is continuously or periodically discharged during normal operation of a petroleum refining process unit meeting the criteria specified in Sec. 63.640(a) (40 CFR 63.641). Miscellaneous process vents do not include gaseous streams routed to a fuel gas system nor do they include episodic or non-routine releases (40 CFR 63.641).

Subpart CC also contains a more general exemption from testing, monitoring, recordkeeping, and reporting requirements for refinery fuel gas systems or emission points routed to refinery fuel gas systems (40 CFR 63.640(d)(5)).

Subpart CC defines “emission point” to mean an individual miscellaneous process vent, storage vessel, wastewater stream, or equipment leak associated with a petroleum refining process unit (40 CFR 63.641). “Fuel gas system” means the offsite and onsite piping and control system that gathers gaseous streams generated by refinery operations, may blend them with sources of gas, if available, and transports the blended gaseous fuel at suitable pressures for use as fuel in heaters, furnaces, boilers, incinerators, gas turbines, and other combustion devices located within or outside of the refinery (40 CFR 63.641). “Combustion device” means an individual unit of

equipment such as a flare, incinerator, process heater, or boiler used for the combustion of organic hazardous air pollutant vapors (40 CFR 63.641).

The definition of “fuel gas system” clearly indicates that a system begins at the emission point. Once the gas is in the collection system, the fuel gas exemptions apply, even if the collected gases are subsequently routed to a flare. EPA, in its October 8, 2004 letter, disagreed with that interpretation. EPA’s rationale appears to be that the fuel gas system begins at the fuel gas compressor (and presumably any piping leading directly to the compressor). However, EPA’s interpretation renders the part of the definition of “fuel gas system” that includes gathering streams a nullity. Moreover, the definition indicates with equal clarity that a “fuel gas system” remains such even when the gas is routed to a combustion device, which, as noted above, is defined to include flares.

An alternative rationale exists in that gases vented to the flares in question are not within the definition of “miscellaneous process vents.” At all of the affected refineries, process gas collected by the gas recovery system are routed to flares only under two circumstances: (1) situations in which, due to process upset or equipment malfunctions, the gas pressure in the flare header rises to a level that breaks the water seal leading to the flare; or (2) situations in which, during process startups, shutdowns, or process upsets, the quality of the gas falls to a level such that it cannot be introduced into the fuel gas system. Episodic or non-routine releases such as those associated with startup, shutdown, malfunction, maintenance, depressurizing, and catalyst transfer operations are, by definition, not miscellaneous process vents, and are not subject to Subpart CC.

Cooling towers

EPA commented in their letter of August 2, 2004, that the permit for Conoco did not have applicable requirements for their cooling towers. This assertion is not entirely accurate; Regulation 6 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, Particulate Matter and Visible Emissions. 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 practices 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 have been added to ensure that the facility continues to use these practices. Tables IV-CC.1 and IV-CC.2 for the cooling towers have also been added.

The draft engineering evaluation for Application 10349 is attached in Appendix C and is considered part of this statement of basis. The engineering evaluation is complete with the exception of the risk screening analysis required by Regulation 2-1-316.

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 a 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.

Other Changes to permit

Section IV has been modified to say that SIP standards are now found on EPA's website and are not included as part of the permit.

The date of amendment of Regulation 2, Rule 1, has been updated.

The citation of BAAQMD Condition 20620 in Table IV-N has been corrected to say "applicable to S306 and S308 only" instead of S307 and S308. The requirement for an application for 40 CFR 63, Subpart UUU applies to the platforming and reforming units, not the uncracking unit.

BAAQMD Regulation 8, Rule 9, Vacuum Producing Systems, has been deleted from Table IV-N because the refinery has stated^[kew1] that none of the sources—S304-S309, S318, S319, S322, S435-S437, and S460—have vacuum producing systems.

The description of 40 CFR 60, Subpart VV, Section 482-8, in Table IV-AB, Components, was expanded.

The names of all the tank tables were changed from "B" series to "BB" series.

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 that 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.”

A Schedule of Compliance is included in the permit for marine wharfs S-425 and S-426 because no monitoring exists to comply with the requirements of 40 CFR 60 Subpart J 60.105(a)(4) to verify the H₂S concentration in gas combusted at the A-420 oxidizer that abates emissions from S-425 and S-426.

An addition to the schedule of compliance will be proposed as a minor revision in Application 11626.

VI. Permit Conditions

The following permit condition has been deleted:

CONDITION 20620

1. By October 11, 2004, the owner/operator shall submit a complete application for a significant revision to the Major Facility Review permit to incorporate the limits, compliance options, and monitoring requirements in 40 CFR 63, Subpart UUU, National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units.
[Basis: 40 CFR 63, Subpart UUU]

2. By April 11, 2005, the owner/operator shall submit an Operation, Maintenance and Monitoring Plan for District review in accordance with 40 CFR 63.1574(f). The plan shall be submitted to the Director of Enforcement. [Basis: 40 CFR 63.1574(f)]

The facility has submitted an application in accordance with part 1; therefore part 1 is obsolete. Part 2 has been deleted because EPA has changed the deadline for submittal of the OMM plan. Since 40 CFR 63, Subpart UUU is cited in the permit, the permit will rely on that citation for compliance instead of a permit condition.

Permit conditions 22121 and 22122 have been added for the cooling towers. The text is in the draft Engineering Evaluation for Application 10349, which is attached in Appendix C.

The permit conditions ensure that "best modern practices" are used, that accurate information will be available for the emissions inventory and fees, and add additional monitoring when there is a hydrocarbon leak.

VII. Applicable Limits and Compliance Monitoring Requirements

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

PM Sources

S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
S452-S458, S500	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	None
S452-S458, S500	BAAQMD 6-310	0.15 grain/dscf	None.
S452-S458, S500	BAAQMD 6-311	40 lb particulate/hr	None

As discussed in the draft Engineering Evaluation for Application 10349, which is attached in Appendix C, there is no possibility that the cooling towers will not comply with BAAQMD Regulation 6. Because the margin of compliance is high, no monitoring has been imposed for compliance with this regulation.

Monthly monitoring of total dissolved solids has been imposed so that the facility can accurately estimate particulate emissions for fees. There is no limit associated with this monitoring.

VOC Sources

S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
S452-S458, S500	None	None	Daily visual inspection
S452-S455, S457, S458, S500	None	None	Analysis of chlorine content twice per day
S452-S455, S457, S458, S500	None	None	Daily records of NaOCl usage
S452-S458, S500	None	None	Daily estimate of VOC loss after 4 weeks of indication of hydrocarbon leak
S456	BAAQMD 8-2-301	<u>300 ppm as carbon and 15 lb organic compounds/day</u>	Daily visual inspection

Although Cooling Towers, S452-S455, S457, S458, and S500, are small sources of VOC, they are not subject to any limit. Therefore, no monitoring has been imposed to ensure compliance with any limit. Monitoring has been imposed to ensure that the facility uses "best modern practices" for the sources.

S456 is subject to BAAQMD Regulation 8-2-301. As shown in the draft Engineering Evaluation for Application 10349, attached, the cooling tower is small and the margin of compliance is approximately 1000 to 1. Therefore, the only monitoring for VOC is a daily visual inspection.

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 VI of the permit.

Changes to permit

The leak inspection procedures and visual inspection procedures from 40 CFR 61, Subpart FF, have been deleted because they do not apply, as discussed in Section C.IV above.

IX. Permit Shield:

No changes to permit shields are proposed in this revision. However, the introductory language has been standardized.

X. Revision History

The revision history has been updated.

XI. Glossary

The term "NaOCl" was added.

XII. State Implementation Plan

This section was deleted because the web address for EPA's website containing the SIP is now found in the introduction to Sections III and IV of the permit.

D. Alternate Operating Scenarios

No alternate operating scenario has been requested for this facility.

E. Compliance Status:

Changes to the permit:

An addition to the schedule of compliance will be proposed as a minor revision in Application 11626.

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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

CEQA

California Environmental Quality Act

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.

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). Used to determine whether threshold-based requirements are triggered.

District

The Bay Area Air Quality Management District

dscf

Dry Standard Cubic Feet

dscm

Dry Standard Cubic Meter

EPA

The federal Environmental Protection Agency.

Excluded

Not subject to any District Regulations.

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 (HAP), and Part 72 (Permits Regulation, Acid Rain), and also 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.

FR

Federal Register

grains

7000 grains per pound

HAP

Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by 40 CFR Part 63.

Long ton

2200 pounds

Major Facility

A facility with potential emissions of: (1) at least 100 tons per year of regulated air pollutants, (2) at least 10 tons per year of any single hazardous air pollutant, and/or (3) at least 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity of hazardous air pollutants as determined by the EPA administrator.

MFR

Major Facility Review. The District's term for the federal operating permit program mandated by Title V of the Act and implemented by District Regulation 2, Rule 6.

MOP

The District's Manual of Procedures

NA

Not Applicable

NAAQS

National Ambient Air Quality Standards

NaOCl

Sodium Hypochlorite

NESHAPs

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

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 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 air pollutants for which the District is classified "non-attainment". Mandated by Title I of the Clean Air Act and implemented by 40 CFR Parts 51 and 52 as well as 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 at a specified ratio for the emissions from a new or modified source and any pre-existing cumulative increase minus any onsite contemporaneous emission reduction credits. Applies to emissions of POC, NOx, PM10, and SO2.

POC

Precursor Organic Compounds

PM

Total 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 air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

SCR

A "selective catalytic reduction" unit is an abatement device that reduces NOx concentrations in the exhaust stream of a combustion device. SCRs utilize a catalyst, which operates at a specific temperature range, and injected ammonia to promote the conversion of NOx compounds to nitrogen gas.

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.

Title V

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

tpy
tons per year

TRMP
Toxic Risk Management Plan

TSP
Total Suspended Particulate

VOC
Volatile Organic Compounds

Units of Measure:

bbbl	=	barrel of liquid (42 gallons)
bhp	=	brake-horsepower
btu	=	British Thermal Unit
C	=	degrees Celcius
F	=	degrees Farenheight
f ³	=	cubic feet
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inches
max	=	maximum
m ²	=	square meter
min	=	minute
M	=	thousand
Mg	=	mega-gram, one thousand grams
µg	=	micro-gram, one millionth of a gram
MM	=	million
MMBtu	=	million btu
mm	=	millimeter
mm Hg	=	millimeters of Mercury (pressure)
MW	=	megawatts
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

Symbols:

<	=	less then
>	=	greater then
≤	=	less then or equal to
≥	=	greater then or equal to

APPENDIX B
EPA'S LETTER OF OCTOBER 8, 2004

Permit Evaluation and Statement of Basis: Site #A0016, ConocoPhillips – San Francisco Refinery, 1380 San Pablo Avenue, Rodeo, CA 94572

APPENDIX C
DRAFT ENGINEERING EVALUATION FOR APPLICATION 10349