Bay Area Air Quality Management District

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

for

Valero Refining Co. - California
Facility #B2626

Facility Address:
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April, 2005
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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 as incorporated in 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 permit has been reopened several times, as outlined below.

Revision 1: On December 16, 2004, the District modified and issued the permit to amend flare and Regulation 9, Rule 10 requirements, add new permitted sources, and correct typographical and other inadvertent errors. This reopening is generally referred to as “Revision 1”. EPA objected to the Revision 1 permit on one issue: the permit’s failure to include monitoring or a design review for certain thermal oxidizers.

Revision 2: In the same October 8, 2004 letter in which it objected to the Revision 1 permit and required that it be reopened, EPA sent comments identifying a number of issues to be resolved for the District’s refinery Title V permits. (Note that EPA commented on five refineries in this letter. Not all comments concern this facility.) This statement of basis addresses those issues. In addition, this reopening addresses changes in applicable requirements authorized by District Authorities to Construct that have been issued since the initial Title V permit was issued Finally, some corrections to typographical and inadvertent errors are being addressed. The District proposed the reopening, which is generally referred to as “Revision 2”, and published it for public comment on April 15, 2005. EPA submitted comments on the proposed reopening, which are being addressed in this revised statement of basis for Revision 2.

Revision 3: Finally, on March 15, 2005, shortly before this Revision 2 reopening was proposed, EPA issued an Order directing the District to reopen the permit to address possible deficiencies that EPA had identified based on a petition to reconsider its decision regarding Revision 1. The District is undertaking an additional reopening, generally referred to as Revision 3, concurrently with Revision 2 in order to address the issues raised by the Order. Revision 3 was proposed and noticed for public comment on August 15, 2005. The issues involved in Revision 3 are addressed in a separate Revision 3 statement of basis being issued concurrently with this document.

The District is now finalizing Revision 2 and Revision 3 concurrently. The changes involved in both Revision 2 and Revision 3 are reflected in the accompanying draft permit, and they are explained in this statement of basis for Revision 2 and in the accompanying separate statement of basis for Revision 3. For ease of reference for reviewers at this draft permit stage, all changes being made through Revision 2 are clearly shown in "strikeout/underline" format. Changes being made with Revision 3 are also shown in "strikeout/ underline" format, but using a larger 14 point font. .When the permit is finalized, the "strikeout/underline" format will be removed.

The reopening is limited to the changes made to the permit. This statement of basis discusses the changes made by this limited reopening. It also provides additional analysis supporting applicability determinations made previously by the District. In some instances, the additional analysis did not result in a permit change. In those instances, the District is not reopening the permit, and the analysis is provided for information only.

The Revision 2 statement of basis does not address factual and legal bases for permit requirements and conditions that are not the subject of the reopening. These matters are addressed in the comprehensive statements of basis that accompany the Initial Permit and the Revision 1 Permit. Those statements of basis are available upon request.

Revisions to this permit produce no significant increase in facility emissions. The majority of the changes are corrections and clarifications. The revisions incorporate the following recent District permit applications into the permit:

Application Number(s)	**Description**
10355	S-244 Aqueous Cationic Polymer Solution Tank (Exempt)
10665/10692	S-103 TK-1793 Secondary Seal Installation
11017/11018	S-245 Wastewater Membrane Filter (Exempt)
11307	NOx Box Condition 21233 Update

The incorporation of these applications produces no increase in emissions. Sources S-244 and S-245 are exempt from the permitting requirements of Regulation 2-1-301 and 2-1-302 and will have insignificant emissions. The S-103 Secondary Seal Installation will reduce emissions (previously the tank did not have a secondary seal). Application 11307 does not impact emissions because the application updates the NOx Box Condition 21233 that prescribes monitoring requirements for compliance with Regulation 9-10.

Details of significant permit changes are listed in Section F of this document.

B. Facility Description

The facility description can be found in the statement of basis that was prepared for the reopened permit that was issued December 16, 2004. It is available upon request.

C. Permit Content

The legal and factual basis for the permit changes being made in this Revision 2 follows. Changes to each permit sections are described in the order 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.

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 of the condition is to reiterate that the permit holder is responsible for ensuring that all activities at the facility are performed in accordance with all applicable requirements.

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. The Permitted sources are shown in the Permit Table II A.

The exempt sources may or may not have a source number. The exempt sources are shown in the Permit Table II B.

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 or A-24). This abatement equipment is shown in the Permit Table II C. If a source is also an abatement device, such as when an engine controls VOC emissions, it will 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.

Following are explanations of the changes being made to the equipment list contained in the Revision 1 permit through this Revision 2:

The following sources have been taken out of service:

S-144	Fixed Roof Tank, TK5013, Neutralizing Amine
S-170	Fixed Roof Tank, TK 2317, Cationic Polymer
S-171	Fixed Roof Tank, Methanol Storage Tank
S-177	Solvent Cleaning Station Dip Tank
S-180	Fixed Roof Tank, Demulsifier Storage Tank

The following sources are being added:

S-244	TK-2317 Aqueous Cationic Polymer Solution Tank (Application 10355)
S-245	Wastewater Membrane Filter (Application 11017 and 11018)

The following sources are no longer owned by Valero Refining Company, California, and will be removed from the permit (see paragraph on Application 7980 immediately below this list):

S-57	Crude Oil Tank TK-1701, External Floating Roof, 6300 kgal
S-58	Crude Oil Tank TK-1702, External Floating Roof, 18900 kgal
S-59	Crude Oil Tank TK-1703, External Floating Roof, 18900 kgal
S-60	Crude Oil Tank TK-1704, External Floating Roof, 6300 kgal
S-61	Crude Oil Tank TK-1705, External Floating Roof, 18900 kgal
S-62	Crude Oil Tank TK-1706, External Floating Roof, 18900 kgal
S-67	Gas Oil Tank TK-1715, External Floating Roof, 9450 kgal
S-68	Gas Oil Tank TK-1716, External Floating Roof, 8820 kgal
S-70	Resid Coker Feed Tank TK-1718, Vertical Fixed Roof, 5250 kgal
S-71	Resid Coker Feed Tank TK-1719, Vertical Fixed Roof, 15708 kgal
S-72	Gas Oil Tank TK-1720, External Floating Roof, 15204 kgal
S-74	HVN TK-1734, External Floating Roof, 7980 kgal

The District permit applications not included in this proposed permit are as follows:

- Application 5846: Valero Improvement Project. This Application was granted an Authority to Construct in July 2003. This project is a major revision to the refinery, to be implemented over a long period of time (5 to 10 years). The permit is being revised to incorporate project components as they are built.
- Application 7980: Transfer of Selected Storage Tank assets to Valero Logistic Operations Facility B5574. Currently the Title V permit for Valero Logistic Operations is being drafted. As soon as this Facility B5574 permit is final, the Tanks (listed above) will be removed from the B2626 Permit.
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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.

The only generally applicable requirement being added with this revision is BAAQMD Regulation 8, Rule 16 for Solvent Cleaning Operations.

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, a description of the requirement, and an indication of whether the requirement is federally enforceable. If applicable, a future effective date for the requirement is also specified. 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.

This section of the statement of basis explains the changes that are being made to Section IV of the permit, and in a few cases explains why there is no need to make changes in areas where issues have been raised about what requirements apply to what sources.

Applicability Determinations for Flares

Flare Background Information

The Benicia Refinery has three separate flare header systems: 1) the main flare gas recovery header with flares S-18 and S-19, 2) the acid gas flare header with flare S-16, and 3) the butane flare header with flare S-17. Flares S-16 and S-18 were placed in service during the original refinery startup in 1968. Flare S-17 was placed in service with the butane tank TK-1726 in 1972. Flare S-19 was added to the main gas recovery header in 1974 to ensure adequate relief capacity for the refinery.

S-16, the Acid Gas Flare ST-2101AG serves the Claus Sulfur Recovery Units S-1 and S-2 and is only used during emergency malfunctions in those units. S-17, the Butane Flare ST-1701 serves the Butane Tank TK-1726. The off gas from this tank is recovered by a vapor recovery refrigeration system. The S-17 Butane Flare operates as backup during an emergency malfunction of this vapor recovery system.

S-18, the South Flare ST-2101, and S-19, the North Flare ST-2103, are part of the main refinery flare gas recovery header system. Any gas that flows into the main refinery flare gas recovery system is first abated by the Vapor Recovery Compressor A-13 and/or A-26 and routed to the refinery fuel gas system. Normally all the vapors are collected by A-13 and/or A-26 and there is no flow to S-18 and S-19. In the event (due to process upset or equipment malfunctions) that the gas flow to the main refinery flare gas recovery system exceeds the capacity of the Vapor Recovery Compressor, or due to an equipment malfunction neither compressor is operating, the pressure in the flare header will reach a level where the water seal in the knockout drum to S-18 is broken and gas will be flared at S-18. If the pressure continues to build in the flare header, the water seal in the knockout drum to S-19 will also be broken and gas will be flared at S-19.

An overview of the flares and thermal oxidizers, including a summary of applicable requirements, is provided on a later page of this section. Specific applicability determinations follow.

<u>MACT Subpart CC Applicability for Flares</u>

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 nonroutine 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. Morever, 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 nonroutine releases such as those associated with startup, shutdown, malfunction, maintenance, depressuring [sic], and catalyst transfer operations are, by definition, not miscellaneous process vents, and are not subject to Subpart CC.

Applicability Determination of NSPS 40 CFR Part 60 Subpart J to S-18 South Flare:

40 CFR 60.100(a) specifies that fluid catalytic cracking unit catalyst regenerators, fuel gas combustion devices, and Claus sulfur recovery units greater than 20 long tons per day are subject to Subpart J. The term "fuel gas combustion device" is defined in 40 CFR 60.101(g) to include flares. Pursuant to 40 CFR 60.100(b), Subpart J applies to any fuel gas combustion device for which construction or modification is commenced after June 11, 1973. Since S-18 was constructed prior to June 11, 1973 and has not been modified since that date, S-18 is not subject to Subpart J.

Applicability Determination of NSPS 40 CFR Part 60 Subpart J to S-19 North Flare:

Because S-19 North Flare was added to the main gas recovery header in 1974, and construction did not commence before June 11, 1973, the flare is subject to NSPS Subpart J. There is only one requirement for flares subject to subpart J: a limitation on the hydrogen sulfide content of gas combusted, and the monitoring to demonstrate compliance. However, Subpart J exempts from this requirement the flaring of upset gases and fuel gas that is the result of relief valve leakage or other emergency malfunctions.

A flare that burns only gases from upsets or emergencies is exempt from the hydrogen sulfide limit and, pursuant to 40 CFR 60.105(a)(3), the associated monitoring. For S-19 North Flare, flare Permit Condition 20806 Part 7 imposes a condition to assure compliance with the exemption criteria. The condition requires S-19 to burn only process upset gases, as defined by 60.101(e), or fuel gas, as defined by 60.101(d), that is released to it as a result of relief valve leakage or other emergency malfunctions. As a result, S-19 is exempt from the hydrogen sulfide limit of Subpart J and the associated monitoring.

Applicability Determination of NSPS 40 CFR Part 60 Subpart J to A-57 Thermal Oxidizer

The Valero Benicia Refinery has one thermal oxidizer (A-57) at the Wastewater Treatment Plant (WWTP), which abates VOC emissions from tanks and primary separation equipment.
The District is revising the permit to indicate the applicability of NSPS Subpart J at thermal oxidizer A-57.

This proposal is responsive to EPA's comments relative to the Bay Area refinery permits that a thermal oxidizer located at refinery is a "fuel gas combustion device" within the meaning of § 60.101(g) and therefore subject to Subpart J, provided other applicability criteria are met. EPA's comments are based on the definition of "fuel gas" found at § 60.101(d) as "any gas which is generated at a petroleum refinery and which is combusted." EPA made this comment on earlier versions of the refinery Title V permits. One purpose of this proposal is to determine whether EPA still holds to this view. The following discussion presents the District's understanding of the arguments favoring applicability, and also notes countervailing arguments that have been put forth by the refineries.

NSPS Subpart J applies to a "fuel gas combustion device … which commences construction or modification after June 11, 1973." (40 CFR § 60.100(b).) Any device subject to Subpart J shall not "[b}urn … any fuel gas that contains hydrogen sulfide (H2S) in excess of 230 mg/dscm." (40 CFR § 105(a)(1).) Subpart J defines fuel gas as "any gas which is generated at a petroleum refinery and which is combusted." (40 CFR 61.101(d).)

The question that has arisen at some Bay Area refineries is whether a thermal oxidizer at a waste water treatment unit or a gas loading rack is a "fuel gas combustion device." It has been argued that although these abatement devices are combusting gas generated at a refinery, the gases are typically not sufficiently rich in hydrocarbons to support combustion and so are not "fuel gas," both in the common sense of that term and the intended meaning of that term as used in NSPS J. Secondly, it has been argued that only gases generated at "petroleum refinery processing units" should be considered as "fuel gas," and that this would preclude applicability to wastewater treatment systems and gas loading racks. Finally, it has been argued that certain gases combusted at thermal oxidizers are not subject to the hydrogen sulfide standard of NSPS J because they are not compatible with amine treatment.

The District views these arguments as being for the most part analytically distinct. Accordingly, they are addressed in order below.

<u>Does "Fuel Gas" Refer Only to Gases That Can Support Combustion?</u>

As noted above, NSPS J defines "fuel gas" as "any gas which is generated at a petroleum refinery and which is combusted." Aside from the exemption of specific gas streams, the scope of this definition appears comprehensive. A textual argument might be made that the reference to "gas" in the phrase "gas which is generated," should be read as synonymous with "fuel gas." In other words, that "fuel gas" should be afforded its common-sense meaning as gas capable of supporting combustion, rather than the broader literal meaning given to it by the section 101(d) definition. This interpretation runs counter to the common practice for reading definitions, i.e., by importing meaning from the defined phrase into the definition itself.

"Fuel gas" was defined in the initial promulgation of NSPS J. In the proposed rule, "fuel gas" meant, in relevant part, "process gas and/or natural gas or any other gaseous mixture which will support combustion." 38 FR 15408 (June 11, 1973). In the final rule, "fuel gas" was defined as "any gas which is generated by a petroleum refinery process unit and which is combusted." 39 FR 9315 (March 8, 1974). Thus the phrase "gaseous mixture which will support combustion" was replaced by the phrase "[gas] which is combusted." This raises the question whether any change in meaning from proposal to final was intended.

The preamble to the final rule discusses a different change regarding fuel gas combustion (exemption of process upset gases), noting that it "do[es] not represent any change in the Agency's original intent." *Id.*, at 9310. From the fact that changes to the "fuel gas" definition are not mentioned, it might be inferred that no changes in meaning were intended (i.e., since discussion was devoted to changes that did not alter intent, one would presume any changes that did would have merited discussion). However, the comparison of proposed to final rule combined with the supposition that no change in intent occurred merely begs the question of which version better represents EPA's true intent.

The stronger presumption, however, is that a change in rule language intends a change in meaning. The change in language clearly has a broadening effect: a gas that, standing alone, will not support combustion will nevertheless combust if introduced into a sufficiently robust environment. EPA could quite reasonably have decided that basing applicability of a standard on the capacity of a gas stream to support combustion places too much weight on a variable facet of operations. In this plausible scenario, the final rule language could be viewed as simply a more accurate statement of EPA's original intent.

Other federal standards contain definitions of "fuel gas" that clearly limit the phrase to gases that can support combustion. See, e.g., NSPS VV, SOCMI HON. However, these are distinct standards established for purposes other than control of SO2 emissions. Inferences drawn from comparing definitions of "fuel gas" are ambiguous at best. These more specific definitions would seem to cut against, rather than support, arguments made by the refineries. That EPA can, when it chooses, define "fuel gas" to exclude gases not supporting combustion could lead one to infer that the literal meaning of section 60.101(d) is also the intended meaning.

Is "Fuel Gas" Limited to Gas Generated at Petroleum Processing Units?

As initially promulgated, "fuel gas" was defined as "gas generated at a petroleum refinery process unit." In the 1973 proposed rule, this phrase appeared in the definition of "process gas" but not in the definition of "fuel gas." It was added into the definition of "fuel gas" in the final rule, without explanation. A "refinery process unit" is, and has been, defined in section 101(f) as "any segment of a petroleum refinery in which a specific processing operation is conducted."

There is little if anything to illuminate the intended meaning of "process," which in this provision is used to define itself. There is arguably a common usage that refers only to operations that act upon petroleum and transform it towards some end product. Background documents for the 1974 rule explain that "[r]efinery processes, such as distillation and fluid catalytic cracking, produce substantial quantities of 'process gas…." The same document states that "[f]uel gas is produced in a refinery from a wide variety of processes including: crude oil separation, catalytic cracking, hydrocracking, coking, and reforming." However, there is no indication in these background documents that the phrase "refinery process units" was intended to be so limited.

"Process" could also be used in a broader sense to include waste water treatment plants, hydrogen plants, and other ancillary process that do not involve petroleum. In any case, EPA subsequently amended the definition of fuel gas to refer to any gas "generated at a refinery." Though no explanation was offered for the change, the plain language of the rule as revised would appear to foreclose whatever inferences could have been based on the earlier formulation. It might be argued that interpreting "process" to include any refinery operation deprives the definition of purpose. However, this broader interpretation of "process" does distinguish gas generated onsite from gas imported to the refinery (e.g., pipeline natural gas). Subsequent revision to the standard clarifying the exemption of pipeline gas is consistent with the idea that the reference to "refinery process unit" in the initial definition of "fuel gas" was intended to serve this same purpose.

Does "Fuel Gas" Refer Only to Gas Streams Subject to Amine Treatment?

There are clear indications in the regulatory history of NSPS J that the intent of the rule was to apply only to gases subject to amine treatment. Background documents to the initial proposal discuss amine treatment as the cost effective available control. In 1979, the rule was revised to answer two specific questions: were Thermofor catalytic cracking units treated the same as fluid catalytic cracking units under the regulation (answer: yes); and were auxiliary fuels burned along with gases generated by exempt units subject to the standards (answer: yes). The preamble to this direct-final rulemaking states that the hydrogen sulfide standard of NSPS J is "based on amine treating of refinery fuel gas." 44 FR 13481 (March 12, 1979). The definition of "fuel gas" was accordingly changed to exclude gases generated at catalytic cracking units, because these gases are chemically unsuitable for amine treatment.

This raises the question of whether other gas streams not susceptible to amine treatment should be considered exempt from the hydrogen sulfide standard or NSPS J. The idea finds considerable support in the original background documents and the 1979 preamble discussion. The 1979 preamble notes that "amine treating can be used, and in most major refineries normally is used, to remove hydrogen sulfide from . . . refinery fuel gas streams." *Id.* There is thus an inference that the intent of the standard was to apply only to fuels found in refinery fuel gas systems, or capable of being collected and used in fuel gas systems, because these systems are typically coextensive with the gas streams that are processed by an amine treater at a refinery.

However, there is no reference is in the text of the rule itself to amine treatment compatibility as a criterion of applicability. Under the terms of the rule, gas generated at refinery is either "fuel gas," and therefore subject, or not. Rather than create an explicit exemption based on amine treatment compatibility, EPA chose to specifically exclude those gas streams it knew to require different treatment. The argument for limiting applicability based on amine treatment compatibility therefore finds no foothold in the text of the rule. Presumably, other sources could be expected to comply with the standard using a different control technique (e.g., caustic scrubbing); or normally produce gases of sufficiently low sulfur content as to be inherently compliant.

Incorporation of NSPS Subpart J

This discussion begins by noting that the arguments that have been raised against applying the hydrogen sulfide standard of NSPS J to thermal oxidizers are analytically distinct. Though mostly true, it may be that certain arguments shade into others. For instance, the argument that only gases compatible with amine treatment were intended to be subject to the standard, which in turn tends to implicate only gases commonly in the fuel gas system, lends some further weight to the textual argument that "fuel gas," as defined in section 101(d), should be accorded its common sense, as opposed to its literal meaning. Further weight is added by a seeming emphasis, evidenced throughout the regulatory history, on gases generated at units that process petroleum as the subject of controls, which units in turn tend to be the primary source of fuel gas used to support combustion at refinery heaters and boilers.

However, the potential for tying together these different strands of evidence has never been taken up by EPA. Although EPA has never (to the District's knowledge) analyzed the technical feasibility, benefits, and costs of alternative controls and their application to gas streams not compatible with amine treatment, and although the practical consequences of application of NSPS Subpart J to the thermal oxidizers in question are not clear, EPA has established a consistent record of interpreting NSPS J to apply broadly and according to its literal terms. See, e.g., December 2, 1999, letter from J. Rasnic, EPA, to P. Guillemette, Koch Refining Co. The District assumes that EPA's longstanding interpretation would receive substantial deference from a reviewing court. Incremental changes to regulatory language over time, though sometimes unexplained, have tended to support these broader readings. The District speculates that the broader interpretation finds its policy justification in the desire to close potential loopholes -- that is, to remove any incentive to route treatable gas streams away from treatment. Though this may not be consistent with how some understand the original intent of the rule, it is nevertheless a legitimate and rational regulatory goal that finds ample support in the plain language of the rule. The District also notes that EPA did not comment on the District's proposal to apply this interpretation.

The District is therefore incorporating into the Title V permit NSPS J as applicable to certain thermal oxidizers.

Valero Flare and Thermal Oxidizer Summary Table

Flare or Oxidizer	Year Built	Design Capacity Lb/hr	Is Flare the Primary Abatement Device?	Service or Usage	Possible Sources Abated when Flare in Use	NSPS and NESHAPS Applicability			
						40 CFR 60 Subpart A	***40 CFR 60 Subpart J***	***40 CFR 63 Subpart A***	***40 CFR 63 Subpart CC***
S-16 Acid Gas Flare	1968	79,000	No	Backup abatement device when A24/A64 Tail Gas Unit and/or A56 Flexsorb Unit fails.	S1 and S2, Claus Sulfur Recovery Units	No. Not an Affected Facility per 60.2	No, per 60.100(b): Built before 6/11/73	No. Not an Affected Facility per 63.1(a)(2)	No, per 640(d)(4). Sulfur plant vents.
S-17 Butane Tank Flare	1972	16,000	No	Backup abatement device when vapor recovery refrigeration system fails	TK-1726 (exempt Butane Storage Tank)	No. Not an Affected Facility per 60.2	No, per 60.100(b): Built before 6/11/73	No. Not an Affected Facility per 63.1(a)(2)	No, per 63.640(a)(2) Butane is not a HAP on Table 1
S-18 South Flare	1968	1,200,000	No	Backup abatement device when A13/A26 flare gas recovery system capacity is exceeded and water seal in S18 South Flare knockout drum is broken.	S9 Blowdown System S51 HCU Sandfilter S52 HCU Sandfilter S133 Spent Acid Tank S188 Oil/Water Separator S189 Oil/Water Separator S211 Alkylate Debutanizer S1002 Diesel Hydrofiner S1003 Hydrocracker S1004 Catalytic Reformer S1005 Cat Feed Hydrofiner S1006 Crude Unit S1007 Alkylation Unit S1008 Gasoline Hydrofiner S1009 Jet Fuel Hydrofiner S1010 Hydrogen Plant S1011 HCN Hydrofiner S1012 Dimersol Unit S1014 Cracked Light Ends S1020 Heartcut Tower S1021 Heartcut Saturation S1022 Cat Reformer T-90 S1023 Cat Naphtha T-90 S1024 LCN Hydrotreater S1026 C5/C6 Splitter S1027 C5 Rail Load Rack	No. Not an Affected Facility per 60.2	No, per 60.100(b): Built before 6/11/73	No. Not an Affected Facility per 63.1(a)(2)	No, per 640(d)(5): Affected sources routed to fuel gas.
S-19 North Flare	1974	886,000	No	Backup abatement device when A13/A26 flare gas recovery system capacity is exceeded and water seals in both S-18 South Flare and S-19 North Flare knockout drums are broken.		Yes. Note that 60.18 does not apply since S-19 is not subject to any subpart that refers to 60.18 per 60.18(a).	Yes, but exempt from 60.104(a)(1) since only burns process upset gas or fuel gas from relief valve leakage or other emergencies	No. Not an Affected Facility per 63.1(a)(2)	No, per 640(d)(5): Affected sources routed to fuel gas.
A-57 WWTP Thermal Oxidizer	1998	N/A	Yes	WWTP vapors flow continuously to A-57 and/or carbon adsorption A-37. A-57 heat for hydrocarbon decomposition is from electrical power.	S131 Wastewater Sludge Drum S150 Primary Sludge Thickener S194 Oil/Water Separator S195 Oil/Water Separator S197 Oil/Water Separator S198 Oil/Water Separator S199 Oil Collection Drum S200 Collection Drum	Yes. Note that 60.18 does not apply since A-57 is not subject to any subpart that refers to 60.18 per 60.18(a).	Yes (See discussion in Statement of Basis)	Yes, except 63.11 does not apply since A-57 is not a flare.	Yes
A-14 & A-15 Sulfur Plant Incinerators	1968	N/A	No	Alternate backup abatement device when A24/A64 Tail Gas Unit and/or A56 Flexsorb Unit fails.	S1 and S2, Claus Sulfur Recovery Units	No. Not an Affected Facility per 60.2	No, per 60.100(b): Built before 6/11/73	No. Not an Affected Facility per 63.1(a)(2)	No, per 640(d)(4).

Applicability Determinations for Sewer Systems and Process Drains

<u>Applicability Determination of 40 CFR Part 60 subpart QQQ to Valero's New Process Unit Water Collection System</u>

The subject of this determination is whether NSPS subpart QQQ applies to the process water collection system from the new process units installed after the May 4, 1987 effective date of the subpart. The finding is that NSPS subpart QQQ applies but that the petroleum refinery MACT also applies and requires compliance with its provisions rather than those of NSPS subpart QQQ when both the MACT and the NSPS apply.

The process water collection system from the new process units is not a typical sewer line, but is instead a "hard-piped" system with no openings to the atmosphere. The connections between the process vessels and the system are direct flanged connections. Process wastewater passes through these flanged connections and is conveyed through hard piping to the D-2130 Flare Drum before being pumped to the gravity separation tanks (S-81 and S-104), where the entrained hydrocarbon product is recovered. After the product is recovered, the effluent water is conveyed to the Sour Water Stripper Feed Tank TK-2801 (S-55), to the Sour Water Stripper T-2831 and then to the wastewater treatment plant BIOX treatment units. All streams are contained in steel pipe at all points between the process vessels and the BIOX units. There is no contact between wastewater and the atmosphere until wastewater enters the Equalization Tank TK-1790 just upstream of the BIOX units.

The only NSPS subpart QQQ standard that could apply to the process water collection system is §60.692-2 Standards: Individual drain systems. This standard requires water seals for open drains, and controls for junction boxes, catch basins, and cracks or gaps. Nothing in the standard would apply to this hard-piped system. In prior applicability determinations for closed systems, EPA has determined that, though subpart QQQ applies to closed systems, such systems constitute an alternative means of control.

The petroleum refinery MACT, 40 CFR part 63, subpart CC, also applies to the wastewater collection system. Assuming that NSPS subpart QQQ does apply to the water collection system from the new process units, the MACT states, at 40 CFR 63.640(o)(1), that when NSPS subpart QQQ and the MACT both apply, then the equipment is required to comply only with MACT subpart CC. Therefore, the wastewater system is not required to comply with requirements in NSPS subpart QQQ.

<u>Applicability Determination of 40 CFR Part 61 Subpart FF</u>

EPA noted in previous discussions regarding applicability of the benzene waste NESHAP, 40 CFR part 61, subpart FF, that it was not clear that the permit contained requirements for non-aqueous waste streams (Reference EPA letter to Jack Broadbent, October 8, 2004, Attachment 2, Item 11). In response, the District committed to determine whether there were any such waste streams at the facility.

Valero has provided information showing that there is one waste stream that contains less than 10 % water. This is the waste stream from the analyzer building associated with the gasoline blending operation. The blending operation combines gasoline component streams from the various process units such as the MRU, the Cat Unit, the Dimersol Unit, and the Alkylation Unit. The analyzer determines the octane rating of the blended products, and the analyzer waste stream flows to a sump before being recycled (i.e. pumped back) to the refinery.

The octane analyzer sump is located in the refinery tank farm in the vicinity of the gasoline storage tanks and is not associated with any process unit or tank. The sump is 18.75 inches in diameter and about 6 feet high. The sump is controlled with a vapor barrier bladder on the vent line. Since the capacity is less than 260 gallons, the sump is exempt from permitting per BAAQMD Regulation 2-1-123.1, and the sump does not have a separate source number or a source specific table in Section IV of the permit.

40 CFR 61.342(e)(1) applies to this waste stream and is included in the Revision 1 permit in Table IV-Refinery. 40 CFR 61.342(c)(1) is also in Revision 1 of the permit. The sump is a tank as defined in 40 CFR 61.341 and complies with the NESHAP subpart FF tank standard found at 40 CFR 61.343(a)(1)(i)(B). This standard is not in the Revision 1 permit and is added in Revision 2.

Compliance with the benzene waste NESHAP is complicated. The following summarizes how Valero complies with subpart FF.

Subpart FF states that when a facility's total annual benzene quantity (TAB) is equal to or greater than 10 Mg/yr (11 ton/yr), the facility must manage its benzene containing waste streams (both aqueous and non-aqueous waste streams) in accordance with the general standard of section 61.342(c). The TAB is equal to the total annual quantity of benzene contained in all of the facility's aqueous waste streams. As an alternative to complying with section 61.342(c), NESHAP subpart FF allows a facility to manage its benzene containing wastes in accordance with the requirements of section 61.342(e). Valero has a TAB greater than 10 Mg/yr and has elected to manage the benzene-containing waste streams under section 61.342(e). That section requires Valero to manage its non-aqueous waste streams as required by section 61.342(e)(1) and its aqueous waste streams as required by sections 61.342(e)(2).

Section 61.342(e)(1) requires Valero to manage its one non-aqueous waste stream in accordance with section 61.342(c). Both 61.342(e)(1) and 61.342(c) are therefore included as applicable requirements in Table IV-Refinery.

Section 61.342(e)(2) requires that aqueous wastes (and wastes that become aqueous) are managed so that the benzene quantity for the wastes is equal to or less than 6.0 Mg/yr (called the "6BQ limit"). In order to verify compliance with the 6BQ limit, the benzene quantity in the aqueous waste is determined by the calculation method in section 61.355.
The calculation method in Section 61.355 requires the uncontrolled waste stream to be calculated pursuant to section 61.355(k)(1), and the controlled waste stream to be calculated pursuant to section 61.355(k)(2). Under section 61.355(k)(1), the uncontrolled waste stream calculation is made at the point where the waste is generated as detailed in sections 61.355(a), 61.355(b), and 61.355(c). The controlled waste stream calculation is made at the point where the waste stream

enters the first non-complying waste management unit, as specified in section 61.355(k)(2)(i), and in the manner specified in section 61.355(k)(5).

Section 61.355(k)(6) states that the total benzene quantity used to demonstrate compliance with the 6.0 Mg/yr limit of section 61.342(e)(2) is determined by adding together the benzene quantities from the calculation of section 61.355(k)(1) for uncontrolled sources and the calculation of 61.355(k)(5) for controlled sources. Section 61.355(k)(4) states that the benzene waste entering an enhanced biodegradation unit shall not be included in determination of the benzene quantity determined by 61.355(k)(6). Two conditions must be met to allow the 61.355(k)(4) exclusion: the inlet benzene concentration to the biodegradation unit must be less than 10 ppm, and all prior waste management units must comply with the applicable standards in section 61.343 (tanks), section 61.344 (surface impoundments), section 61.345 (containers), section 61.346 (individual drain systems), section 61.347 (oil-water separators), or section 61.348(a) (treatment processes).

Valero's Biox Units S-154, S-155, and S-169 are considered enhanced biodegradation units as defined in section 61.348(b)(2)(ii)(B). They are also designated uncontrolled because they do not meet the requirements of section 61.348. The benzene concentration in the feed to the Biox units is less than 10 ppm. The waste management units upstream of the Biox units are both controlled and uncontrolled (i.e., some units comply with the applicable standard in section 61.343, 61.344, 61.345, 61.346, 61.347, or 61.348(a), and some units do not). Valero therefore applies this 61.355(k)(4) exclusion on a stream-by-stream basis. If an aqueous waste stream is managed by at least one unit that does not comply with the applicable standard ((e.g., the S-161 sewer is a such a "non-complying unit"), the benzene waste is determined pursuant to section 61.355(k)(1). If an aqueous waste stream is managed only by complying units (e.g., desalter water, which only flows through equipment controlled with vapor recovery), then the benzene waste is determined pursuant to sections 61.355(k)(2) and 61.355(k)(6). For streams like the desalter water, the benzene waste is determined pursuant to section 61.355(k)(2)(i) at the point where the waste stream enters the first non-complying waste management unit. However, the first non-complying units are the Biox units, which pursuant to section 61.355(k)(4), are excluded from the total benzene waste calculation of section 61.355(k)(6).

This stream-by-stream application of the section 61.355(k)(4) exclusion, which turns on whether upstream units are "controlled" or "uncontrolled," appears to be the reason that EPA raised questions regarding 6BQ application to uncontrolled waste streams only (Reference EPA letter to Jack Broadbent, October 8, 2004, Attachment 2, Item 12). Given the configuration of the Valero wastewater collection and treatment system, all controlled aqueous waste streams are counted where the waste stream enters the first non-complying waste management unit, or the Biox units. Because of the section 61.355(k)(4) Biox exclusion, however, these controlled waste stream are not counted in the section 61.355(k)(6) calculation that determines compliance with the 6.0 Mg/yr limit of 61.342(e)(2). Valero makes the calculations required for the 6BQ option of 61.342(e) correctly and is in compliance as reported in the Benzene Waste NESHAP Annual Report.

Monitoring for Cooling Tower S-29

A cooling tower that is operated using best modern practices is exempt from Regulation 8-2. The District has reviewed the current practices of Bay Area refineries, and has determined that best modern practices for operation of cooling towers consists of a number of elements, including frequent monitoring to ensure that a hydrocarbon leak into cooling water would be swiftly detected (*i.e.*, daily visual inspection, plus water sampling and analysis for indicators of hydrocarbon leaks once per shift); maintenance to minimize the chances of equipment failure that could cause such a leak; and appropriate response actions in order to minimize emissions in the event that any leaks are discovered. All of these elements together make up the "best modern practices" as defined in District regulation 1-207, and the refineries must implement all elements for the cooling towers to be exempt from Regulation 8-2.

The District has determined that this facility is using best modern practices with respect to its cooling towers, and is therefore exempt from Regulation 8-2. Valero performs a visual inspection, a conductivity test, and a free chlorine test on the cooling water three times per day. Typically the free chlorine runs about 2 ppm. If there is a hydrocarbon leak in a heat exchanger, the hydrocarbon will consume the chlorine bleach and the free chlorine will decline to 0 ppm. Valero also does a Total Organic Content test twice a week to trend organic loading. If either test indicates a leak is probably, a LEL detection device is used at the battery limits of the various cooling water users to isolate the location of the leak. If leaks are discovered, Valero responds appropriately to fix the leaks promptly. The nature of the appropriate corrective action for a particular leak depends on the cause and the severity of the leak.

Because the cooling tower is exempt from Regulation 8-2, reference to the regulationis being removed from the source-specific applicable requirement Table IV-C5 for source S-29.

Monitoring for Electrostatic Precipitators A-1, A-2, A-3, A-4 and A-5

The District has determined that the monitoring required for compliance with MACT UUU is an appropriate means of providing a reasonable assurance that electrostatic precipitators comply with the particulate limits in District Regulation 6-310. Based on the results of an initial compliance demonstration, Valero has established a correlation between opacity and particulate emissions. The District is adding permit Condition #22156 to the permit to specify opacity as the ESP parameter to be monitored. Table IV – A3 is being modified to reflect this change, and the condition is being identified as federally enforceable. The corresponding monitoring for Regulation 6-310 is being added to the Applicable Limits and Compliance Monitoring Requirements table, Table VII – A3.

Monitoring for Regulation 9-1-313.2 – 95% Reduction of H2S in Refinery Fuel Gas

The District is deleting Title V permit conditions related to monitoring for compliance with 9-1-313.2 in the five Bay Area refinery permits, including this permit. Rule 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 deleting 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. 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.

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 solicited comment on removal of this monitoring requirement, and did not receive any adverse comments. 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.

The condition requirements for monitoring for Regulation 9-1-313.2 have been removed from the following tables: Table IV – A1, Table IV – A2, Table VI [condition 19466], Table VII-A1, and Table VII-A2.

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.

The BAAQMD Compliance and Enforcement Division has conducted a review of compliance over the past year and has no records of compliance problems at this facility during the past year.

VI. Permit Conditions

Conditions that are being changed in this revision of the permit are as follows:

Condition 896: This condition is being deleted since S-170 is no longer in service.

Condition 11888: Equipment tag identifier for S-131 is being correctedfrom D-2069 to TK-2069.

Condition 14318: Part 6 is being modified by adding missing reference to Part 5.

Condition 18744: Parts 2 through 6 are being deleted. The deleted text is redundant with Regulation 9-8.

Condition 18748: Parts 2, 3, and 4 are being deleted, and Part 1 is being revised. The deleted text is redundant with Regulation 9-8.

Condition 21233: This “NOx Box” condition is being updated per Application 11307, which established the NOx Box for the affected sources. Minor text clarifications are also being made.

Condition 20620: This condition is being deleted. The requirements will be satisfied by meeting the requirements of 40 CFR 63 Subpart UUU.

Condition 22156: This condition is being added for ESP monitoring. See Electrostatic Precipitators A-1, A-2, A-3, A-4 and A-5 in Section C.IV of this Statement of Basis.

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 which 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 issued 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.

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. Changes made to Section VII of the permit generally reflect the changes to other parts of the permit that have previously been discussed.

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.

IX. Permit Shield

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

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

This facility has the first and second types of permit shield. However, since the December 16, 2004 permit, there has been no additional permit shields added. The permit shield shown in **Table IX A-5, Non Applicable Fugitive Sources** was deleted because the regulations shown in the table do apply and should not be shielded.

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

E. Compliance Status:

Changes to the permit in this revision:
The facility is not currently in violation of any requirement. Moreover, the District has updated its review of recent violations and has not found a pattern of violations that would warrant imposition of a compliance schedule.

F. Permit Updates and Changes since the Final December 16, 2004 Permit

List of changes to the Revision 1 permit that are being made in through Revision 2.

Section I, II, III changes

1. S-170, S-171, S-177 and S-180 are being deleted from Table IIA. These sources are no longer in service. (Valero 3/7/05 comment A7, A8, A9, A10.)

2. S-144 is being deleted from Table IIB. This source is no longer in service. (Valero 3/7/05 comment A14)

3. Additional A-57 abatement requirements are being added in Table IIC. (Valero 3/7/05 comment A20)

4. Regulation 8, Rule 16, Solvent Cleaning Operations and 40 CFR 82 subpart H are being added to Table III. (Valero 3/7/05 comment A22, A27)

5. In Table III, the revision date of BAAQMD Regulation 8 Rule 28-302 is being changed and the reference to federal enforceability is being changed from no to yes. (Valero 3/7/05 comment A23)

6. Several dates in Table III are being updated. (Valero 3/7/05 comments A25, A26 & A27))

7. In Table IIA, the firing rates of S-1030, S-1031, S-1032 and S-1033 are being corrected to be consistent with Condition 19177, Part 16 in Section VI. (Valero 3/7/05 comment A30 & A31)

8. The tag for S-131 is being corrected from D-2069 to TK-2069. (Valero 3/7/05 comment A6)

9. Standard Condition I.B.12, stating that 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 is being added.

10. In Table IIB, exemption bases for the LPG Truck Loading Rack, the Fresh Acid Tank TK-2710 and the Cogeneration Unit Cooling Tower are being added. (EPA 15Mar05 Order Item III.H.2)

11. Miscellaneous Condition J.5 is being deleted. See the discussion regarding applicability of 40 CFR 63, Subpart CC to certain flares in Section C.IV of this statement of basis.

12. Miscellaneous Condition J.6 is being deleted. See the discussion regarding applicability of Regulation 8, Rule 2 to cooling towers in Section C.IV of this statement of basis.

13. Miscellaneous Condition J.7 is being deleted. See the discussion regarding applicability of 40 CFR 61, Subpart QQQ to certain wastewater treatment sources inSection C.IV of this statement of basis.

14. Miscellaneous Condition J.8 is being deleted. See the discussion regarding applicability of 40 CFR 63, Subpart FF to certain waste streams inSection C.IV of this statement of basis.

15. Miscellaneous Condition J.9 is being deleted. See discussion regarding ESP monitoring to assure compliance with SIP particulate standards in Section C.IV of this statement of basis.

Section IV, Applicable Requirements

1. The applicable requirements that were not in table form in Revision 1 are being reformatted into table format.

2. In Table IV-J33, 40 CFR 63.640(o)(1) is being added to clarify that NSPS subpart QQQ is not applicable to these tanks.

3. In Table IV-A15, in Condition 19466, Part 14, missing text "Steam Generators: S-40, S-41" is being added. (Valero 4/14/04 comment B73)

4. In Table IV-C5, Regulation 8-2-301 is being removed. See the discussion regarding applicability of Regulation 8, Rule 2 to cooling towers in Section C.IV of this statement of basis.

5. In Table IV-J34, S-103 is being added since a secondary seal was installed in 2004. Table IV-J35, the former location of S-103, is being deleted. (Application 10665/10692, Valero 3/7/05 comment B95)

6. In Table IV-K1, the applicable citations from 40 CFR 60 subpart A and J are being added for thermal oxidizer A-57. (EPA 4/14/04 comment 18 & 43)

7. In Table IV-J41, 40 CFR 60 subpart Kb citations that are not applicable for tanks that have a capacity less than 75 cubic meters are being deleted. This change is a result of the 10/15/03 revision to subpart Kb. (Valero 3/7/05 comment B107, Valero Revision 1 Appeal Issue #4)

8. In Table IV-A21, Condition 18748, Parts 2, 3, and 4 are being deleted, and Part 1 is being revised. The deleted text is redundant with Regulation 9-8. (Valero 3/7/05 comment B34 & B35)

9. In Table IV-A23, Condition 18744, Parts 2 through 6 are being deleted. The deleted text is redundant with Regulation 9-8. (Valero 3/7/05 comment B40 & B41, Valero Revision 1 Appeal Issue # 6)

10. In Table IV-Refinery, Regulation 8-8 title and adoption date are being updated and 8-8-308, which only applies to S-161 and is contained in Table IV-H3, is being deleted. (Valero 3/7/05 comment B4)

11. Several dates in Section IV are being corrected and updated. (Valero 3/7/05 comment B5, B6, B10, B12, B13, B15, B22, B24, B32, B36, B47, B63, B67, B68, B70, B71, B73, B77, B78, B94 & B110)

12. The reporting requirements citations of Subpart FF in Table IV-Refinery are being expanded. (Valero 3/7/05 comment B11)

13. In Table IV-Refinery, the requirements of 40 CFR 63 Subpart A are being rolled up into the main sections to be consistent with the requirements shown for 40 CFR 60, Subpart A and 40 CFR 61 Subpart A. (Valero 3/7/05 comment B12)

14. In Table IV-Refinery, 40 CFR 63 Subpart B is being moved into its proper sequential place but is not shown as a change in the permit. (Valero 3/7/05 comment B13)

15. In Tables IV-Refinery General, IV-A1, -A2, -A4 and -D1, the requirements of 40 CFR 63 Subpart UUU, Subpart A and Condition 20620 are being modified. (Valero Appeal Issue #14, Valero 3/7/05 comment B17, B19, Valero 9/21/05 comments B12, B16, B21, D1, D3, D25, D26, E2)

16. In Table IV-A1, 30 days is being revised to 45 days in Condition 19466 Parts 1 and 8 to be consistent with the condition in Section VI. (Valero 3/7/05 comment B21)

17. In Tables IV-A20, A22.1 and A22.2, Regulation 1-523 citations for the parametric monitors at these sources are being added. (Valero 3/7/05 comment B33)

18. In Table IV-C4.1, the basis of Condition 19466 Part 2c is being corrected to be consistent with the condition in Section VI. (Valero 3/7/05 comment B43)

19. Table IV-G1 is being deleted since S-177 is no longer in service. (Valero 3/7/05 comment B53)

20. Tables IV-H1.1, H1.2, H2.1, H2.2, H3, H4.1, H4.2, H5.1 and H5.2 are being revised to reflect the new version of Regulation 8, Rule 8. Also 40 CFR 61 Subpart FF citations are being added to Table IV-H2.1, H2.2,H3. (Valero 3/7/05 comment B54, B55) Also Condition 7015 is being deleted from Table IV-H2.2 because it is redundant to Regulation 1-301. S-245 Membrane Filter is being added to Table IV-H2.2 (Application 11018).

21. In Table IV-J23, S-171 and S-180, which have been taken out of service, are being deleted. (Valero 3/7/05 comment B87)

22. Table IV-J25 for S-170, which has been taken out of service, is being deleted. (Valero 3/7/05 comment B89)

23. In Table IV-J29, S-144, which has been taken out of service, is being deleted. (Valero 3/7/05 comment B93)

24. In Table IV-J36, S-131 tag number is being corrected from D-2069 to TK-2069 and basis of Condition 11888 Parts 1 & 2 is being corrected. (Valero 3/7/05 comment B96, B97, B98)

25. Tables IV-J42 and J43 for exempt LPG spheres and the Refrigerated Butane Tank are being added. (Valero 3/7/05 comment B108)

26. In Table IV-K1, citations for Regulation 8 Rule 8 are being added and SIP Regulation 8 Rule 8, 40 CFR 61 Subpart FF, and 40 CFR 63 Subpart CC are being added. (Valero 3/7/05 comment B110)

27. In Table IV-Refinery, VII-Refinery and VII-H3, the description of 61.342(e)(2)(i) is being corrected to reflect that the 6.0 Mg/yr Benzene allowance is for both controlled and uncontrolled streams. (EPA 15Mar05 Order Item III.A.2.e)

28. In Table IV-Refinery, 40 CFR Part 61, Subpart FF, 61.343 Tank Standards are being added for the octane analyzer sump non-aqueous benzene waste stream. (EPA 8Oct04 letter to Jack Broadbent, Attachment 2, Item 11)

29. In Tables IV-A1 and A2, Condition 19466, Part 1, monitoring for 95% H2S and Ammonia reduction in fuel gas, is being deleted. See dthe discussion in Section C.IV of this Statement of Basis.

30. In Table IV-A3, Condition 22156, Parts 1 through 5 are being added, consistent with Section VI.

Section VI, Permit Conditions

1. Condition 21233 is being updated per Application 11307, which established the NOx Box for the affected sources. Minor text clarifications are also being made. (Application 11307, Valero 3/7/05 comments C26, C27, C28, C29, C30, C32, C35, C36, C37 and C38.)

2. Condition 18748 Parts 2, 3, and 4, are being deleted and Part 1 is being revised. The deleted text is redundant with Regulation 9-8. (Valero 3/7/05 comment C18)

3. Condition 18744 Parts 2 through 6 are being deleted. The deleted text is redundant with Regulation 9-8. (Valero 3/7/05 comment C17, Valero Revision 1 Appeal Issue # 6)

4. Condition 896 is being deleted since S-170 is no longer in service. (Valero 3/7/05 comment C3)

5. Reference to Part 5 is being added in Part 6 of Condition 14318. (Valero 3/7/05 comment C14)

6. In condition 11888, tag for S-131 is being corrected to show TK-2069 rather than D-2069. (Valero 3/7/05 comment C13)

7. Condition 20620 is being deleted. This condition will be satisfied by meeting the requirements of 40 CFR 63 Subpart UUU. (Valero Appeal Issue #14, Valero 3/7/05 comment C25)

8. Condition 22156 for Electrostatic Precipitator (ESP) monitoring is being added. See discussion regarding ESP monitoring to assure compliance with SIP particulate standards in Section C.IV of this statement of basis.

9. Condition 19466, Part 1, monitoring for 95% H2S and Ammonia reduction in fuel gas, is being deleted. See discussion in Section C.IV of this statement of basis.

Section VII, Monitoring Requirements

1. In Table VII-A15, the FE status is being changed from ‘N’ to ‘Y’. (Valero 4/14/04 comment D41)

2. In Table VII-J34, S-103 is being added since a secondary seal was installed in 2004. Table VII-J35, the former location of S-103, is being deleted. Application 10665/10692, Valero 3/7/05 comment D61)

3. In Table VII-K1, the applicable citation for H2S monitoring from 40 CFR 60 subpart J has is being added for thermal oxidizer A-57. (EPA 4/14/04 comment 18 & 43)

4. In Table VII-A23, two of the three hours of operation monitoring requirements are being deleted. The identical monitoring required by Regulation 9-8 remains. (Valero

3/7/05 comment D22 & D23, Valero Revision 1 Appeal Issue #6)

5. In Table VII-A21, two of the three hours of operation monitoring requirements are being deleted. The identical monitoring required by Regulation 9-8 remains. (Valero 3/7/05 comment D18 & D19)

6. In Table VII-J36 and K1, the Thermal Oxidizer Permit Condition monitoring is being modified to be consistent with Permit Condition 11888 in Section VI. (Valero 3/7/05 comment D67, D69, D74, D75, Valero Revision 1 Appeal Issue #16)

7. In Table VII-J37, the Thermal Oxidizer Permit Condition monitoring is being modified to be consistent with Permit Condition 11879 in Section VI. (Valero 3/7/05 comment D67, D69, D74, D75, Valero Revision 1 Appeal Issue #16)

8. In Table VII-J36, S-131 tag number is being corrected to show TK-2069 rather than D-2069. (Valero 3/7/05 comment D62)

9. In Table VII-A18, the Regulation 9-10-502.1 NOx monitoring requirement citation is being replaced with 2-6-503 to be consistent with other tables in Section VII. (Valero 3/7/05 comment D10)

10. In Table VII-C4.1, the Opacity monitoring frequency and type is being corrected to be consistent with Condition 19466 Part 3 in Section VI. (Valero 3/7/05 comment D25)

11. In Table VII-D1, detailed citations of 40 CFR 63 Subpart UUU are being deleted until citations to selected compliance options can be added. (Valero Appeal Issue #14, Valero 3/7/05 comment D27)

12. Table VII-G1 is being deleted since S-177 is no longer in service. (Valero 3/7/05 comment D33)

13. Tables VII-H1.1, H1.2, H3, H4.1, H4.2, H5.1, H5.2 and K1 are being updated to reflect the new Regulation 8 Rule 8. (Valero 3/7/05 comment D34, D35, D36, D39, D40, D42, D77)

14. In Table VII-H4.2, H5.2, K1 the Thermal Oxidizer Permit Condition monitoring is being modified to be consistent with Permit Condition 11319 in Section VI. (Valero 3/7/05 comment D41, D74, D75, Valero Revision 1 Appeal Issue #16)

15. In Table VII – H5.2, VOC limit of 98.5% destruction is being added per Condition 13319 Part 3.

16. In Table VII-J23, S-171 and S-180, which have been taken out of service, are being deleted. (Valero 3/7/05 comment D52)

17. Table VII-J25 for S-170, which has been taken out of service, is being deleted. (Valero 3/7/05 comment D54)

18. In Table VII-J29, S-144, which has been taken out of service, is being deleted. (Valero 3/7/05 comment D60)

19. In Tables VII-J36, J37, J38, J39 & J40, missing monitoring for BAAQMD Regulation 8-5-306 gas tight emission control system is being added. (Valero 3/7/05 comment D65)

20. In Tables VII-J36, J37 and J39, the VOC monitoring in the Carbon Canister section is being modified to show NMHC monitoring and clarified the description. (Valero 3/7/05 comment D68)

21. Tables VII-J42 and J43 for exempt LPG spheres and the Refrigerated Butane Tank are being added. (Valero 3/7/05 comment D73)

22. In Table VII-K1, the VOC monitoring for Condition 11879, 11882, 11888 Part 10 and 13319 Part 15 is being modified to show NMHC monitoring and clarified the description. (Valero 3/7/05 comment D76)

23. In Table VII-K1, VOC monitoring required by 40 CFR 61 Subpart FF is being added. (Valero 3/7/05 comment D78)

24. In Table VII-K1, the description for the Temperature Limit monitoring is being amended to show the averaging over 3 consecutive hours to be consistent with the permit conditions in Section VI. (Valero 3/7/05 comment D79)

25. In Tables VII-A1 and A2, Condition 19466, Part 1, monitoring 9-1-313.2 and SIP 9-1-313.2 is being deleted. See discussion in Section C.IV of this statement of basis.

26. In Table VII-A3, the FP monitoring for 6-310.3 is being revised to reflect the requirements of Condition 22156.

Section VIII, Test Methods

1. SIP reference is being added to ST-4 Bulk Gasoline Loading Terminals since the BAAQMD ST-4 has been deleted. (Valero 3/7/05 comment E3)

2. Test methods are being added based on revisions to Regulation 8 Rule 8 and Regulation 8 Rule 18. (Valero 3/7/05 comment E4, E5)

3. Test methods associated with 40 CFR 63 Subpart UUU are being deleted until citations based on selected compliance options can be added. (Valero Appeal Issue #14, Valero 3/7/05 comment E9)

Section IX, Permit Shield

1. Table IX A-5, Permit Shield for equipment leaks is being deleted. The regulations shown in this table are applicable and should not be shielded. (Valero 4/14/04 comment F1 and Valero 3/7/05 comment F1)

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 which allows the District to impose requirements.

CAA
The federal Clean Air Act

CAAQS
California Ambient Air Quality Standards

CAPCOA
California Air Pollution Control Officers Association

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.

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.

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 (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.

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.

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 Federal Clean Air Act and implemented by District Regulation 2, Rule 6.

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.

NMHC
Non-methane Hydrocarbons (Same as NMOC)

NMOC
Non-methane Organic Compounds (Same as NMHC)

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.

Phase II Acid Rain Facility
A facility that generates electricity for sale through fossil-fuel combustion and is not exempted by 40 CFR 72 from Titles IV and V of the Clean Air Act.

POC
Precursor Organic Compounds

PM
Particulate Matter

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

Process Unit
For the purpose of start-up and shutdown reporting, a process unit is defined as in 40 CFR Part 60 Subpart GGG: Process Unit means components assembled to produce intermediate or final products from petroleum, unfinished petroleum derivatives, or other intermediates; a process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

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.

Start-up
For reporting purposes only, a start-up shall be defined as any of the following; the removal of boundary blinds, first fire to a furnace, or the introduction of process feed to a unit. A start-up only occurs following a shutdown unless it involves a newly constructed process unit.

Shutdown
For reporting purposes only, a shutdown shall be defined as any of the following; there is no process feed to a unit, no furnace fires, or the boundary blinds are installed.

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

THC
Total Hydrocarbons (NMHC + Methane)

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

TOC
Total Organic Compounds (NMOC + Methane, Same as THC)

TPH
Total Petroleum Hydrocarbons

TRMP
Toxic Risk Management Plan

TSP
Total Suspended Particulate

VOC
Volatile Organic Compounds

Units of Measure:

Bbl	=	barrel (42 gallons)
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
kgal	=	thousands of gallons
max	=	maximum
m^2	=	square meter
min	=	minute
MM	=	million
MMbtu	=	million btu
MMBBL	=	millions of barrels
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 Permit Evaluations

for

Application 10665 Seal Replacement Alteration For S-103
TK-1793 Crude Water Draw Tank, Internal Floating Roof, 676K gallons

Application 10355 Exemption for S-244
Aqueous Cationic Polymer Solution Tank 5000 gallons

Application 11018 Exemption for S-245
Zenon Membrane Filter

Application 11307 NOx Box
NOx Box Operating Parameters, Initial Establishment

EVALUATION REPORT for Exempt Source(s)

Applicant Valero Refining Company – California.

Plant Number 12626 Application Number 10665

1. Background:

The Applicant has applied for a seal replacement alteration for:

S-103 TK-1793 Crude Water Draw Tank, Internal Floating Roof, 676K gallons

Currently this tank is equipped with a metallic shoe type primary seal and no secondary seal. This alteration will install a zero-gap secondary seal. In addition, the metallic shoe type primary seal will also be replaced while the tank is out of service. This alteration is exempt by Regulation 2-1-123.4:

123.4 Tank seal replacement. For any tank subject to Regulation 8, Rule 5, any new seal must comply with the applicable provisions of Regulation 8, Rule 5, and the District must receive written notification of the tank source number and seal type at least three days prior to the installation.

2. Emission Calculations:

There is no chargeable cumulative increase for the exempt equipment described in Section 1. This exempt equipment does not emit one or more toxic air contaminants in quantities that exceed the limits listed in Table 2-1-316 of Regulation 2-1.

3. Statement of Compliance:

The exempt alteration described in Section 1 is exempt from Sections 2-1-301 and 302, in accordance with the specific section of Regulation 2-1 cited in Section 1.

When the new seals are installed and the tank is returned to service, S-103 will comply with Regulation 8, Rule 5, NSPS Title 40, Part 60 Subpart Kb (Tanks) and Part 61 Subpart FF (Benzene Waste Operations).

4. Exemptions:

I recommend that the Applicant be issued exemption status for the alteration to the equipment described in Section 1:

Application Reviewed By: Arthur Valla.
Position: Air Quality Engineer II

Date

EVALUATION REPORT for Exempt Source(s)

Applicant Valero Refining Company

Plant Number 12626 Application Number 10355

1. Background:

Valero Refining uses a cationic polymer as a coagulant that aids in the solids removal from raw water utility stream. This polymer was stored in an aqueous solution in the 5470 gallon TK-2317 plastic tank permitted as S-170. Prior to the polymer solution service, S-170 stored hexane. The Valero 2002 and 2003 annual updates indicate that hexane has not been stored in S-170. In 3Q2003, a flange leak was discovered on the bottom of S-170. The Applicant has applied for an exemption for the replacement equipment that will be dedicated to the polymer solution:

S-244, Aqueous Cationic Polymer Solution Tank, 5000 gallons

The MSDS provided by the applicant indicates the flash point of the polymer solution to be above 200F. Therefore, S-244 is exempt by equivalency Regulation 2-1-128.19 and Regulation 2-1-123.3.3 (flash point above 130 degrees Fahrenheit). New tank S-244 will comply with the applicable standards of Regulation 6 and the District Risk Management Policy.

2. Emission Calculations:

There is no chargeable cumulative increase for the exempt equipment described in Section 1. This exempt equipment does not emit one or more toxic air contaminants in quantities that exceed the limits listed in Table 2-1-316 of Regulation 2-1 nor does it emit any hazardous substances above the quantities listed in Regulation 2-1-318, for a PSD Major Facility.

3. Statement of Compliance:

The exempt equipment described in Section 1 is exempt from Sections 2-1-301 and 302, in accordance with the specific sections of Regulation 2-1 cited in Section 1. I certify:

- This exempt equipment does not emit one or more toxic air contaminants in quantities that exceed the limits listed in Table 2-1-316 of Regulation 2-1. Hence, an Air Toxics Risk Screening is not required.
- This exempt equipment has not received two or more public nuisance violations, under Regulation 1-301 or Section 41700 of the California Health and Safety Code, within any consecutive 180-day period.
- This exempt equipment does not emit any hazardous substances in excess of the quantities listed in Regulation 2-1-318 (for PSD Major Facilities).

Regulation 10 - New Source Performance Standard and Regulation 11 - Hazardous Pollutants requirements are not triggered. Because this application is ministerial (exempt source), the requirements of the California Environmental Quality Act (CEQA) are not triggered.

4. Exemptions:

I recommend that the Applicant be issued exemption status for the exempt equipment described and listed in Section 1:

Application Reviewed By: Arthur P. Valla
Position: Air Quality Engineer II

Signature of Reviewer

____

Date

EVALUATION REPORT for Exempt Source(s)

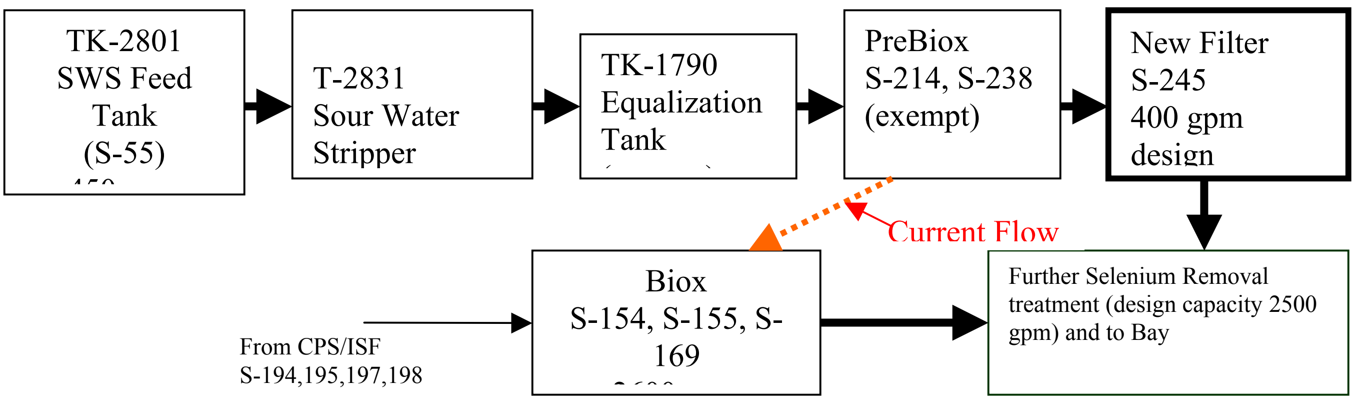
Applicant Valero Refining Co.

Plant Number 12626 Application Number 11018

1. Background:

The Applicant has applied for an exemption for the following equipment:

S-245 Zenon Filtration Unit, which is exempt by Regulation 2-1-123.2, organic content less than 1%.



S-245 will treat the effluent of the S-214/238 sour water pre-BIOX system. This new filtration unit will discharge directly into the final water treatment system (which removes selenium, adjusts pH, etc.) prior to discharge into the Bay. Currently the sour water pre-BIOX system discharges into the main BIOX system S- 154, S-155 and S-169 (which have a grandfathered throughput limit of 2600 gpm). The addition of this filter will provide some operational flexibility in these main BIOX units. However, the overall wastewater throughput will not increase because the system is capacity limited by the 2500 gpm design capacity of the final water treatment system.

2. Emission Calculations:

There is no chargeable cumulative increase for the exempt equipment described in Section 1. This exempt equipment does not emit one or more toxic air contaminants in quantities that exceed the limits listed in Table 2-1-316 of Regulation 2-1 nor does it emit any hazardous substances above the quantities listed in Regulation 2-1-318, for a PSD Major Facility.

3. Statement of Compliance:

The exempt equipment described in Section 1 is exempt from Sections 2-1-301 and 302, in accordance with the specific section of Regulation 2-1 cited in Section 1. I certify:

- This exempt equipment does not emit one or more toxic air contaminants in quantities that exceed the limits listed in Table 2-1-316 of Regulation 2-1. Hence, an Air Toxics Risk Screening is not required.

- This exempt equipment has not received two or more public nuisance violations, under Regulation 1-301 or Section 41700 of the California Health and Safety Code, within any consecutive 180-day period.
- This exempt equipment does not emit any hazardous substances in excess of the quantities listed in Regulation 2-1-318 (for PSD Major Facilities).

Regulation 10 - New Source Performance Standard and Regulation 11 - Hazardous Pollutants requirements are not triggered. Because this application is ministerial (exempt source), the requirements of the California Environmental Quality Act (CEQA) are not triggered.

NESHAP 40 CFR 61, Subpart FF. This equipment is part of the sour water stripper effluent water treatment system and is subject to Subpart FF NESHAPs for Benzene Waste Operations.

Permit Condition 7015:

COND# 7015 -------------------------------------

For Sources S-214 (BIOX Aerator) and S-215 (BIOX Clarifier)

1. The Owner/Operator shall operate the S-214 (BIOX Aerator) and S-215 (BIOX Clarifier) in a manner that does not produce odors in such quantities as to cause a public nuisance under Regulation 1-301.
   (Basis: BAAQMD 1-301)

Since S-245 will be integrated with the operation of the S-214, it follows that Contition 7015 would apply to S-245. However, all of the sources are exempt from permitting, so there should not be a permit condition. Research found that S-214 was granted a permit to operate at one time, so that is when Condition 7015 was imposed. When S-214 was granted an exemption, the condition should have been archived. Furthermore, all sources are subject to Regulation 1-301, so the Condition 7015 is not necessary. I recommend that Condition 7015 be archived.

4. Exemptions:

I recommend that the Applicant be issued exemption status for the exempt equipment described and listed in Section 1:

Application Reviewed By: Art Valla
Position: Air Quality Engineer II

Signature of Reviewer

____

Date

EVALUATION REPORT
VALERO BENICIA REFINERY
NOx BOX ESTABLISHMENT
APPLICATION 11307, PLANT 12626

BACKGROUND

The Valero Benicia Refinery (Valero) operates several furnaces and boilers that are subject to Regulation 9-10-301 that limits the refinery wide NOx limit to 0.033 lb/MMBtu of fired duty. Regulation 9-10-502 requires the installation of a NOx, CO and O2 CEM 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. The District and Valero has worked hard to produce the CEM equivalent verification system. This system is called the "NOx Box". The NOx Box is an operating window for the 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 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 the 0.033 lb/MMBtu limit of Regulation 9-10-301. The Permit Condition that contains the details of the NOx Box is #21233.

Condition 21233, Part 4 required Valero to submit the initial NOx Box for the affected sources by December 1, 2004. Valero met this requirement with this Application 11307, a Minor Revision to the Title V permit, for the following sources:

S-7 F-103 Jet Fuel HF, 53 MMBtu/hr
S-20 F-104 Naphtha HF, 62 MMBtu/hr
S-24 F-601 Cat Feed HF, 33 MMBtu/hr
S-26 F-801 HCN HF, 33 MMBtu/hr
S-34 F-2905 PFR Regen Gas, 74 MMBtu/hr
S-35 F-2906 PFR React Gas, 14 MMBtu/hr
S-173 F-902 Coker Steam Superheat, 20 MMBtu/hr

Since Valero submitted this application, there have been several subsequent applications regarding NOx Box Permit Condition 21233:

Application 12659, Administrative Change in Conditions granted September 13, 2005
Application 12478, Title V minor revision associated with NSR Application 12659
Application 12701, Revised NOx Box for S-20, granted September 12, 2005
Application 12434, Title V minor revision associated with NSR Application 12701

In addition, the following applications are also applicable to NOx Box Condition 21233 since this condition also applies to sources at the Valero Benicia Asphalt Plant A0901 (plant number 13193):

Application 12660, Administrative Change in Conditions granted September 13, 2005
Application 12477, Title V minor revision associated with NSR Application 12660

Application 13011, NOx Box Revision for S-19, currently incomplete.
Application 13010, Title V minor revision associated with NSR Application 13011

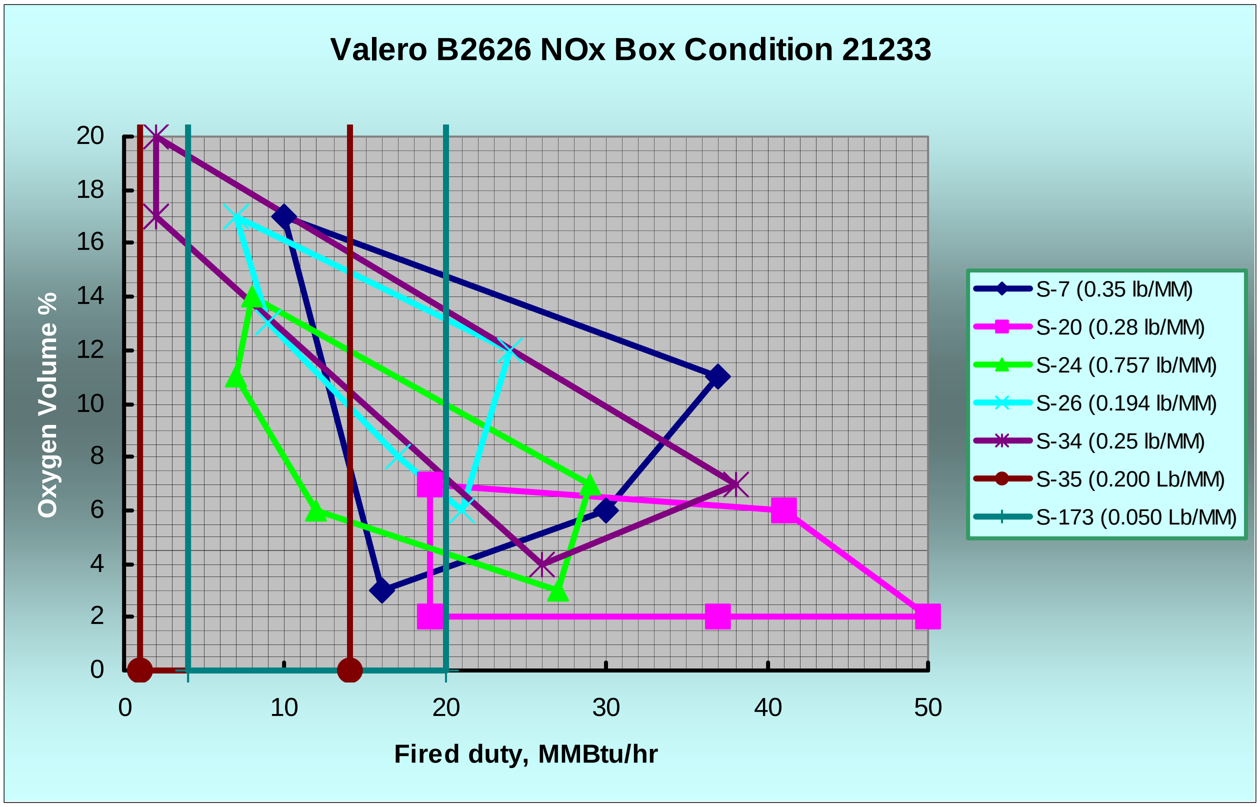
The proposed NOx Box for these sources covered by this application is as follows:

Source No.	Emission Factor (lb/MMBtu)	Min O_2 at Low Firing (O2% , MMBtu/hr)	Max O_2 at Low Firing (O2% , MMBtu/hr)	Min O_2 at High Firing (O2% , MMBtu/hr)	Mid O_2 at Mid/High Firing (polygon) (O2% , MMBtu/hr)	Max O_2 at High Firing (O2% , MMBtu/hr)
Plant B2626						
7	0.350	3, 16	17, 10	6, 30	N/A	11, 37
20	0.28	2, 19	12, 23*	2, 37	2, 50	5, 47*
24	0.757	11,7	14, 8	3, 27	6, 12	7, 29
26	0.194	13, 9	17, 7	6, 21	8, 17	12, 24
34	0.250	17, 2	20, 2	4, 26	N/A	7, 38
35	0.200	(Note 1), 1	(Note 1), 1	(Note 1), 14	N/A	(Note 1), 14
173	0.050	(Note 1), 4	(Note 1), 4	(Note 1), 20	N/A	(Note 1), 20
*Updated numbers per Application 12701, which revised the S-20 operating parameters as shown below.						
20 old	0.28	2, 19	7, 19	2, 37	2, 50	6, 41
20 new	0.28	2, 19	12, 23	2, 37	2, 50	5, 47

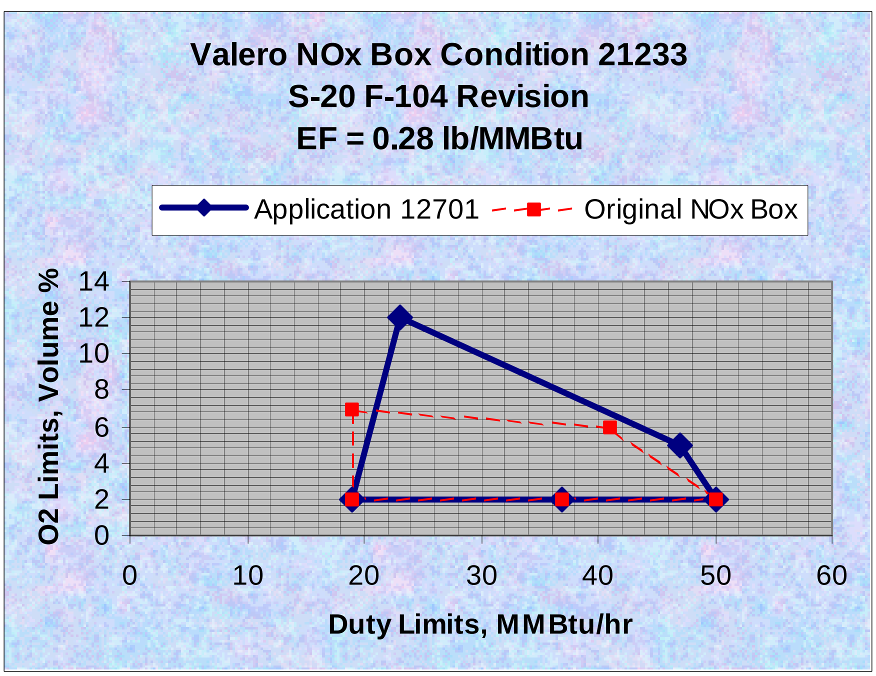
Note 1: Per Condition 21233, Part 3B, Oxygen limits do not apply to sources with maximum firing rate less than 25MMBtu/hr

The proposed NOx Boxes are supported by source tests reviewed by the Source Test Section. All of the proposed operating ranges shown above are included in Rev. 2 of the Title V Permit.

The following drawing summarizes the proposed NOx Boxes for the sources covered by this application:



The following diagram summarizes the changes to the S-20 NOx Box (Application 12701):



EMISSIONS SUMMARY

There are no changes in emissions due to this application. The NOx Box emissions factors for the sources remain the same and are not changed by this application.

PLANT CUMULATIVE INCREASE

There are no net changes to the plant cumulative emissions.

TOXIC RISK SCREEN

This proposed NOx Box change would not emit toxic compounds in amounts different that previously emitted. Therefore, a toxic risk screen is not required.

BEST AVAILABLE CONTROL TECHNOLOGY

BACT is triggered for new or modified sources that emit criteria pollutants in excess of 10 lbs/day. However, Regulation 2-1-234 defines a modified source as one that results in an increase in daily or annual emissions of a regulated air pollutant. For this application, there is no change in emissions. Therefore, BACT does not apply.

PLANT LOCATION

According to the SCHOOL program, the closest school is Semple Elementary, which is just over one mile from the facility.

COMPLIANCE

The NOx Box establishment will not change the compliance the sources. Emissions will comply with Regulation 2-9-303 (Alternative Compliance Plan using IERC's), Regulations 6 and Regulation 9, Rule 10 as before the NOx Box establishment.

The closest school is over a mile from the facility, so the Public Notice requirements of Regulation 2-1-214 do not apply.

Toxics, CEQA, NESHAPS, BACT, Offsets and NSPS do not apply.

CONDITIONS

As explained in the Background section, the NOx Box Condition 21233 has been the subject of several applications. The permit condition below reflects all approved changes, including the administrative change of conditions and the modification to the S-20 operating parameters. The

Condition 21233 shown below is identical to the version shown in the draft Revision 3 of the Title V Permit, except for the revision to S-20 as approved in Application 12701, which was not included in the draft Revision 3 issued for Public comment (this S-20 change will be included in the proposed Rev 3 title V permit). The primary impact of this application 11307 will be the NOx Box operating parameters shown in Part 5A.

Condition 21233

Valero Refining Company – California
3400 E. Second Street
Benicia, Ca 94510
Application 11307
S-20 (B2626) Modified by Application 12701
Plant B2626 and A0901
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: (Basis: Regulation 9-10-301 & 305)

Facility No. B2626, Valero Refining Company

S#	Description	NOx CEM
7	F-103 Jet Fuel HF, 53 MMBtu/hr	No
20	F-104 Naphtha HF, 62 MMBtu/hr	No
21	F-301 Hydrogen, 614 MMBtu/hr	Yes
22	F-351 Hydrogen, 614 MMBtu/hr	Yes
23	F-401 Gas Oil HC, 200 MMBtu/hr	Yes
24	F-601 Cat Feed HF, 33 MMBtu/hr	No
25	F-701 Cat Feed, 230 MMBtu/hr	Yes
26	F-801 HCN HF, 33 MMBtu/hr	No
30	F-2901 PFR Preheat, 463 MMBtu/hr total	Yes
31	F-2902 PFR Preheat, 463 MMBtu/hr total	Yes
32	F-2903 PFR Preheat, 463 MMBtu/hr total	Yes
33	F-2904 PFR Preheat, 463 MMBtu/hr total	Yes
34	F-2905 PFR Regen Gas, 74 MMBtu/hr	No
35	F-2906 PFR React Gas, 14 MMBtu/hr	No
40	SG-2301 Steam Gen, 218 MMBtu/hr	Yes
41	SG-2302 Steam Gen, 218 MMBtu/hr	Yes
173	F-902 Coker Steam Superheat, 20 MMBtu/hr	No
220	F-4460 MRU Hot Oil, 351 MMBtu/hr	Yes

Facility No. A0901 (13193), Valero Benicia Asphalt Plant

S#	Description	NOx CEM
19	Vacuum Heater, 40 MMBtu/hr	No
20	Steam Boiler, 14.7 MMBtu/hr	No
21	Steam Boiler H-2B, 14.7 MMBtu/hr	No

A. Compliance with the daily refinery wide average NOx emission limit, 0.033 lb NOx/MMBtu fired duty is achieved through the use of an approved Alternate Compliance Plan using NOx IERCs in accordance with the provisions in Regulation 2-9-303.

B. The owner/operator of each source listed in Part 1 above shall determine compliance with Regulation 9-10 as follows:

1) Calculate NOx emissions from each furnace using measured fuel gas rates, and either:

a. CEM data or

b. NOx emission factors from Part 5A

2) The daily facility wide average emission rate shall be determined by dividing the combined total emissions from sources listed in Part 1 above by the combined total heat input.

3) Sufficient NOx IERC's will be provided in accordance with the provisions of Regulation 2-9-303 to ensure compliance with the refinery wide average NOx emission limit of 0.033 lb NOx/MMBtu fired duty.

*2. The Owner/Operator of each source with a maximum firing rate greater than 25 MMBtu/hr listed in Part 1 shall properly install, properly maintain, and properly operate an O2 monitor and recorder. (Basis: 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. (Basis: Regulation 9-10-502)

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 25MMBtu/hr shall be established as follows: High-fire shall be the maximum rated capacity. Low-fire shall be 20% of the maximum rated capacity (except for S-35, for which the low-fire shall be 8% of the maximum rated capacity). There shall be no maximum or minimum O2.

*4. The Owner/Operator shall establish the initial NOx box for each source subject to Part 3 by January 1, 2005. The NOx Box may consist of two operating ranges in order to allow for operating flexibility and to encourage emission minimization during standard operation. (Basis: Regulation 9-10-502) The procedure for establishing the NOx box is

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 O_2 at low-fire may be different than the minimum O_2 at high-fire. The same is true for the maximum O_2). 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.

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

2) 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 & C, 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 that has a properly operated and properly installed NOx CEM. (Basis: Regulation 9-10-502)

A. NOx Box ranges. The limits listed below are based on a calendar day averaging period for both firing rate and O2%.

Source No.	**Emission Factor (lb/MMBtu)**	**Min O_2 at Low Firing (O2% , MMBtu/hr)**	**Max O_2 at Low Firing (O2% , MMBtu/hr)**	**Min O_2 at High Firing (O2% , MMBtu/hr)**	**Mid O_2 at Mid/High Firing (polygon) (O2% , MMBtu/hr)**	**Max O_2 at High Firing (O2% , MMBtu/hr)**
Plant B2626						
7	0.350	3, 16	17, 10	6, 30	N/A	11, 37
20	0.28	2, 19	12, 23	2, 37	2, 50	5, 47
24	0.757	11,7	14, 8	3, 27	6, 12	7, 29
26	0.194	13, 9	17, 7	6, 21	8, 17	12, 24
34	0.250	17, 2	20, 2	4, 26	N/A	7, 38
35	0.200	(Note 1), 1	(Note 1), 1	(Note 1), 14	N/A	(Note 1), 14

173	0.050	(Note 1), 4	(Note 1), 4	(Note 1), 20	N/A	(Note 1), 20
Plant A0901 (13193)						
S-19	0.030	6.8, 13.6	7.6, 13.5	2.8, 38.5	7.7, 16.6	6.2, 38.8
S-20	0.055	(Note 1), 2.9	(Note 1), 2.9	(Note 1), 14.7	N/A	(Note 1), 14.7
S-21	0.055	(Note 1), 2.9	(Note 1), 2.9	(Note 1), 14.7	N/A	(Note 1), 14.7

Note 1: Per Part 3B, Oxygen limits do not apply to sources with maximum firing rates less than 25 MMBtu/hr.

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 dry out, 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 & 30-day averaging data).

C. Part 5A does not apply during any source test required or permitted by this condition. See Part 7 for the consequences of source test results that exceed the emission factors in Part 5.

*6. NOx Box Deviations (Basis: Regulation 9-10-502) .

A. 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 that reasonably represents 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. The Owner/Operator may request, and the APCO may grant, an extension of 15 days for submittal of results. As necessary, a permit amendment shall be submitted.

1) 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.

2) Source Test > Emission Factor

If the results of this source test exceed the permitted emission concentrations or emission rates then the actions described below must be followed:

a. Utilizing the measured emission concentration or rate, the Owner/Operator shall perform an assessment of compliance with Regulation 9-10-301 as follows:

   1. "Out of Box" Condition – for the day(s) in which the "out of box" condition(s) occurred, the Owner/Operator shall ensure sufficient NOx IERCs are provided to ensure the facility is in compliance with the refinery wide limit. 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.

   2. Within the Box – for the case when the source is operated within the "box" but source test results indicate a higher emission factor, 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.

b. 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.

B. Reporting. 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 on 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. The Owner/Operator may request, and the APCO may grant, an extension of 15 days for submittal of results. (Basis: Regulation 9-10-502)

A. Source Testing Schedule

1) Heater < 25 MMBtu/hr

One source test per consecutive 12 month period. The time interval between source tests shall not exceed 16 months. The source test results shall be submitted to the District Source Test Manager within 45 days of the test.

2) 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.

3) If a source has been shutdown longer than the period allowed between source testing periods (e.g. <25 MMBtu/hr - > 16 mos or > 25 MMBtu/hr - > 8 mos), the owner/operator shall conduct the required source test within 30 days of start up of the source.

B. Source Test Results > NOx Box Emission Factor

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 6A2. 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 that does not have a CO CEM installed pursuant to Part 9, 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. (Basis: Regulation 9-10-502)

*9. For any source listed in Part 1 with a maximum firing limit greater than 25 MMBtu/hr 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. (Basis: Regulation 9-10-502, 1-522)

*10. In addition to records required by Regulation 9-10-504, the Owner/Operator 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. (Basis: Regulation 9-10-504)

RECOMMENDATION

It is recommended that a Change of Conditions to the Permit to Operate that establishes the NOx Boxes be granted to Valero for:

S-7 F-103 Jet Fuel HF, 53 MMBtu/hr
S-20 F-104 Naphtha HF, 62 MMBtu/hr
S-24 F-601 Cat Feed HF, 33 MMBtu/hr
S-26 F-801 HCN HF, 33 MMBtu/hr
S-34 F-2905 PFR Regen Gas, 74 MMBtu/hr
S-35 F-2906 PFR React Gas, 14 MMBtu/hr
S-173 F-902 Coker Steam Superheat, 20 MMBtu/hr

Arthur P. Valla	Date
Air Quality Engineer	27Sep05