Bay Area Air Quality Management District

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Permit Evaluation
and
Statement of Basis
for
MAJOR FACILITY REVIEW PERMIT
Reopening – Revision 3

for

Valero Refining Co. - California
Facility #B2626

Facility Address:
3400 East Second Street
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July 2005
Revised September 2006 for Proposed Permit
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TABLE OF CONTENTS

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 a "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 issued Revision 1 of the permit, which amended flare and BAAQMD Regulation 9, Rule 10 requirements, added new permitted sources, and corrected typographical and other inadvertent errors ("Revision 1 Permit"). The Revision 1 Permit is the current permit for the facility, and the phrases "Revision 1 Permit" and "current permit" are used interchangeably in this document. 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.) On April 15, 2005, the District proposed Revision 2 of the permit. The primary purpose of the Revision 2 proposal was to address various issues identified in EPA's October 8, 2004 letter regarding the Revision 1 proposal. The public comment period for the Revision 2 proposal ended May 24, 2005. The issues involved in Revision 2 are addressed in a separate Revision 2 statement of basis being issued concurrently with this document.

Revision 3: On December 7, 2004, EPA received a petition from Our Children's Earth Foundation (OCE) requesting that the administrator object to the issuance of the Title V permit (the Revision 1 Permit). 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 the OCE petition. On August 15, 2005, the District proposed Revision 3 of the permit, primarily to address the issues listed in the EPA March 15, 2005 Order. The issues involved in Revision 3 are addressed this statement of basis.

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 3 and in the accompanying separate statement of basis for Revision 2. For ease of reference for reviewers at this draft permit stage, all changes to the current permit being made through Revision 2 and Revision 3 are shown in "strikeout/underline" format. Changes being made with Revision 3, which are less numerous, are shown in large (14 pt) fontto distinguish them from the changes being made through Revision 2. When the permit is finalized, the "strikeout/underline" format will be removed.

This statement of basis for Revision 3 discusses changes being made through 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.

This statement of basis does not address factual and legal bases for permit requirements and conditions that are not the subject of the Revision 3 reopening. These matters were addressed in the comprehensive statements of basis that accompanied the initial permit and the Revision 1 Permit. Those statements of basis are available upon request.

Revision 3 also includes revisions to the permit in response to recent applications that are directly or indirectly related to the issues raised in the EPA March 15, 2005 Order. The Revision 3 permit incorporates the following recent Title V revision applications into the permit:

Application Number(s)	**Description**
12578	Delete Grain Loading Source Tests from S-11, S-160 and S-233
12588/12589	Reroute S-160 Vent to Vapor Recovery System
12434/12701	S-20 NOx Box Revision
12659/12478	NOx Box Condition 21233 Changes
12867	Correction of A-57 40 CFR 61 Recordkeeping Requirement
12575	Change in S-142 Service

The incorporation of these applications will produce no increase in emissions. Deleting the source test requirements from S-11, S-160 and S-233 will not change the source emissions. Rerouting the S-160 vent to the Vapor Recovery system reduces emissions. NOx Box changes do not impact emissions. Changing the S-142 service from one exempt service (demulsifier) to another exempt service (caustic) does not increase emissions.

Details of significant proposed 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 current permit (Revision 1 Permit) that was issued December 16, 2004. It is available upon request.

C. Permit Content

The legal and factual basis for the changes being made in this Revision 3 follows. Changes to each permit section 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.

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 in 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 in 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, such as a thermal oxidizer that burns fuel, may also be a source 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 BAAQMD Regulation 2-1-403.

Following are explanations of the changes to the equipment list contained in the Revision 1 permit being made through this Revision 3:

The following sources have been taken out of service:

S-10	Catalyst Rail Unloading Station
S-12	Lime Silo TK-2061

No sources are being added to the permit through Revision 3.

As noted in the Revision 2 statement of basis, the following sources are no longer owned by Valero Refining Company, California:

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 removal of these sources from the permit was pending the issuance of a Title V permit to the current owner of these sources. This Title V permit has been issued. Therefore, these sources have been removed from this permit.

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement

will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound) are placed in this section.

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

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.

As stated previously, the Revision 3 proposal is primarily intended to address the issues identified in the EPA's review and response to the petition regarding the Revision 1 Permit. Each item that resulted in an EPA order to reopen the Valero permit is addressed below in sections (A.) through (O.). After these EPA Order items are addressed, the monitoring changes due to Title V Revision Applications 12578 and 12589 are discussed.

(A.) Applicability of NSPS Subpart QQQ to New Process Units.
Reference: Order Item III.A.2.c on page 6 of the order.

This item is addressed in the Revision 2 statement of basis. The District's conclusion is that Subpart QQQ does not apply. Please see the Revision 2 statement of basis for the detailed determination. Revision 3 does not include revisions to the permit regarding this item.

(B.) Management of Non-aqueous Benzene Waste Streams Pursuant to 40 C.F.R. Part 61, subpart FF.
Reference: Order Item III.A.2.d on page 7 of the order.

This item is addressed in the Revision 2 statement of basis. The District's conclusion is that 61.342(e)(1) is applicable to one benzene waste stream, and this requirement is in the permit Table IV-Refinery because the waste stream does not come from a permitted source. Please see the Revision 2 statement of basis for the detailed determination. Revision 3 does not include revisions to the permit regarding this item.

(C.) Parametric Monitoring for Electrostatic Precipitators
Reference: Order Item III.A.2.f on page 8 of the order.

This item is addressed in the Revision 2 statement of basis. Permit Condition 22156 is being added through Revision 2 to address this issue. Please see the discussion of monitoring for electrostatic precipitators in the Revision 2 statement of basis. Revision 3 does not include revisions to the permit regarding this item.

(D.) Assurance of Compliance with All Applicable Requirements Pursuant to the Act, Part 70 and BAAQMD Regulations
Reference: Order Item III.C.1 on page 12 of the order.

This item has been combined with the Notice of Violation Order Item III.C.1 (discussion immediately following below).

(E.) Notices of Violation (NOV)
Reference: Order Item III.C.1.a on page 13 of the order.

EPA required the District to address the NOVs that the District had issued to the facility – and, in particular, NOVs that had not been resolved at the time of permit issuance – because they may evidence ongoing noncompliance with applicable regulatory requirements.

No unresolved NOVs involve ongoing noncompliance. All instances of noncompliance documented in the NOVs issued to the facility have been corrected. Some NOV files remain unresolved, but only because settlement of penalties has not yet been completed.

Four-Year Compliance Review

The District has conducted a compliance review of the 87 Notices of Violation (covering 95 violations) issued to Valero from January 1, 2001, through December 31, 2004. The District has found no instances of noncompliance that would justify imposition of a schedule of compliance. While the refinery received numerous violations over this 4-year period, that is not unexpected for large, complex, and heavily-regulated facilities such as refineries. It is important to note that all of the 95 violations were cured and brought back into compliance. Furthermore, the District's analysis of all the violations for the 4-year period indicated that there is no ongoing violation or pattern of recurring violation that would require a compliance schedule.

Understanding how the District handles violations is important to understanding how the District evaluated the facility's compliance status. Whenever the District discovers a violation, it begins a two-step process. The first step is to ensure that the violation ceases and the violator comes back into compliance. Once compliance is achieved, the second step is to proceed with penalty assessment. It is District policy to not proceed with penalty assessment until compliance has been achieved. If a facility has not achieved compliance in a timely fashion, the District proceeds with additional enforcement action. The vast majority of Notice of Violation penalties are resolved through settlement negotiations. Therefore, a violation indicated as "pending" resolution does not indicate ongoing violation; it simply indicates that the penalty assessment is still pending a final disposition.

The results of the District's compliance review are shown in Appendix C, which identifies each violation that was evaluated and indicates how and when compliance was achieved. As stated earlier, all of the 95 violations have been brought back into compliance. For 84% of the violations, compliance was achieved within 1 day of discovery of the violation. In the remaining 16% of the violations, the violation occurred over a multi-day period, but compliance was eventually achieved and the violation is not ongoing. Fifty-six percent of the violations involved a source at which multiple violations occurred during the period, but causal analysis indicated different causes for each violation, and there was no recurrent pattern that that would require a compliance schedule. Based on this review and analysis of all the violations for the 4-year period, the District has concluded that no schedule of compliance is necessary because in each case the facility returned to compliance, the violation did not evidence ongoing noncompliance, there was no pattern of recurring violations with a common cause, and the source involved is currently in compliance with all applicable permit requirements.

This permit is not being reopened with respect to this issue.

(F.) Permit Shields 40 C.F.R. 60.7(c) and (d)

Reference: Order Item III.E.1 on page 24 of the order.

In Table IX B-7 of the current permit, various reporting requirements of 40 CFR 60 Subpart A 60.7(c) and 60.7(d) are said to be subsumed by BAAQMD Regulation 1-522.8 Continuous

Emission Monitoring and Recordkeeping Procedures. This is an error, and Table IX B-7 is being deleted in Revision 3.

40 CFR 60 Subpart A 60.7(c) and 60.7(d) contain very specific reporting requirements, as can be seen by the excerpts shown below:

> [60.7](c) Each owner or operator required to install a continuous monitoring device shall submit excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and-or summary report form (see paragraph (d) of this section) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each six-month period. Written reports of excess emissions shall include the following information:
>
> (1) The magnitude of excess emissions computed in accordance with §60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.
>
> (2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.
>
> (3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.
>
> (4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.
>
> [60.7] (d) The summary report form shall contain the information and be in the format shown in figure 1 unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility.
>
> (1) If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in §60.7(c) need not be submitted unless requested by the Administrator.
>
> (2) If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in §60.7(c) shall both be submitted.

BAAQMD Regulation 1-522.8 simply requires monthly reports in a "format specified by the APCO". The form used for satisfying this requirement includes the information required by 60.7(c) and 60.7(d). However, the language of BAAQMD Regulation 1-522.8 itself does not require the detail of 60.7 (c) and (d). Rather than demonstrate that the form compels submittal of the information required by the federal regulations, the District concludes that this permit shield is invalid. In Revision 3, the District is adding 40 CFR 60 Subpart A 60.7(c) and 60.7(d) to Table IV-Refinery.

(G.) 40 C.F.R, Part 60, Subpart J (NSPS for Petroleum Refineries)

Reference: Order Item III.G.1 on page 29 of the order.

<u>Monitoring for NSPS Subpart J at Flares</u>

The Orders for Chevron and Valero state that the Air District must either impose the requirements contained in 40 CFR § 60.105(a)(3) or (4), or add monitoring to assure compliance with Chevron permit Condition 18656, Part 7 and Valero Condition 20806, Part 7 (referred to below as "prohibitory conditions"). The Orders for Tesoro and ConocoPhillips indicate EPA's intent to treat those permits similarly in the near future.

When the Air District proposed Revision 3 on August 15, 2005, it explained that it was deleting the prohibitory conditions, and was otherwise deferring response on this issue until there was new guidance from EPA. EPA had issued, concurrent with the March 15, 2005, Orders, guidance addressing the Subpart J monitoring issue. However, on May 16, 2005, EPA issued a brief statement withdrawing the March 15 guidance and stating that new guidance would be issued "in the upcoming weeks." In the Statement of Basis that accompanied the Revision 3 proposal, the Air District indicated that, in the absence of clear guidance, it believed the most efficient course was to defer its response to the Orders until new guidance was issued. No guidance has been issued as of the date of this final Statement of Basis. As a result, the Valero permit is being finalized without the prohibitory language and with a restatement of the Subpart J exemption for non-routine gases. This action does not restrict the District's ability to address this issue as appropriate in a future permit revision.

(H.) Cooling Tower Monitoring for Regulation 8-2-301

Reference: Order Item III.G.3.a on page 32 of the order.

This item is addressed in the Revision 2 statement of basis. The District's conclusion is that BAAQMD Regulation 8-2-301 does not apply and should be removed from Table IV-C5 for S-29 Cooling Tower. Please see the Revision 2 statement of basis for the detailed determination. Revision 3 does not include revisions to the permit regarding this item.

(I.) Cooling Tower Monitoring for Regulation 6-311

Reference: Order Item III.G.3.b(2) on page 35 of the order.

BAAQMD Regulation 6-311 limits the maximum particulate emissions from a source even if the grain loading limitation of BAAQMD Regulation 6-310 is satisfied. The following emission calculations for S-29 cooling tower demonstrate a significant margin for compliance with BAAQMD Regulation 6-311. Therefore, periodic monitoring is not justified. Revision 3 does not include revisions to the permit regarding this item.

The PM10 factors in AP-42 are not the proper factors to use since the factor is based on a total dissolved solids content of 11,500 ppm in the cooling water. Furthermore, AP-42 states "a conservatively high PM-10 emission factor can be obtained by (a) multiplying the total liquid drift factor by the total dissolved solids (TDS) fraction in the circulating water and (b) assuming that, once the water evaporates, all remaining solid particles are within the PM-10 size range." While this method would be conservative in predicting PM-10 emissions, it would be adequate to estimate total particulate emissions. The calculations below use this method of determining particulate emissions.

Cooling Tower Operating Data:

Design Circulation Rate: 59,375 gpm [x(8.34 lb/gal)x(60min/hr) = 29,711,250 lb/hr]
Drift Rate: 0.02%, or 0.0002 lb drift per lb of cooling water (AP-42, Fifth Edition, Table 13.4-1)
Total Dissolved Solids (TDS) = 1716 ppm averaged over a two year period
TDS = 3260 maximum measured over past two years
Regulation 6-311 limit for Process wt rate > 57,320 lb/hr = 40 lb/hr particulate emissions

Average Particulate Emissions = (circulation rate)x(drift rate)x(Average TDS)
= (59,375 gpm)x(60min/hr)x(8.34lb/gal)x(0.0002 lb drift/lb water)x(1716/1000000)
= 10.20 lb/hr average particulate emissions

Maximum Particulate Emissions = (circulation rate)x(drift rate)x(Maximum TDS)
= (59,375 gpm)x(60min/hr)x(8.34lb/gal)x(0.0002 lb drift/lb water)x(3260/1000000)
= 19.37 lb/hr maximum particulate emissions

Average particulate emissions are about 25% of the BAAQMD Regulation 6-311 limit. Maximum particulate emissions are 48.4% of the limit. These calculations demonstrate that S-29 Cooling Tower has a significant margin for compliance with BAAQMD Regulation 6-311. Therefore, periodic monitoring of S-29 to assure compliance with BAAQMD Regulation 6-311 is not justified.

In its September 8, 2005 comments to Jack Broadbent on Revision 3, EPA responded to the above explanation, which was included in the District's draft Revision 3 statement of basis, as follows:

> "EPA's March 15 order was based on emission calculations provided in the Statements of Basis that accompanied the final permits issued on December 1, 2003. The District's June 13, 2005 letter responding to the petition orders stated that the District intended to provide a more thorough explanation of the conservative assumptions used in its calculations and propose monitoring where the potential to emit is greater than 50% of the limit. Instead, in the Statement of Basis for the current revision, the District recalculated the emissions using a procedure outlined in AP-42 and found that the estimated emissions are not above the 50% threshold for any of the cooling towers. As a result, the District is not proposing any monitoring at this time. However, the District's current draft Statement of Basis does not explain the basis for its use of the specific TDS concentration values and why they yield conservative estimates of the emissions. A review of historical TDS data for each cooling tower could be helpful in this regard. EPA notes that the District did review TDS data from a two year period for the Valero cooling tower but the same review was apparently not conducted for the 13 Tesoro cooling towers. The District should conduct a similar analysis for Tesoro. Due to the variability of TDS concentrations over time, EPA also suggests that the District review data from a longer period of time to better understand the degree of variability at both facilities."

In response to the EPA comments on the draft, the District notes that theanalysis included above uses historic TDS concentrations for a period of 2 years. This information is actual recorded data for the cooling tower in question, not a generic concentration from an industry cooling tower survey. Although EPA's AP-42 states that its TDS method is conservative, it does not

directly explain why. However, the document states that not all liquid drift contributes to particulate emissions because "large drift droplets settle out of the tower exhaust air stream and deposit near the tower." As a result, the assumption used in the calculation – that all drift contributes to particulate emissions – leads to a conservative estimate both for PM-10 and for total particulate emissions. While it could be true that EPA considers the method to be conservative only for PM-10 because some particulate emissions may not be PM-10, the manner in which PM-10 emissions are created from drift – "PM-10 is generated when the drift droplets evaporate and leave fine particulate matter formed by crystallization of dissolved solids" – suggests that total particulate emissions and PM-10 emissions are nearly identical. As a result, it seems more likely that EPA considers the method to be conservative because of its explicit recognition that not all drift contributes to particulate emissions.

EPA also requests TDS information over a longer period than the two years included in the analysis above. In response to EPA's comment above, Valero has provided over 5 years of TDS concentration data, from January 2000 to September 2005. The maximum TDS concentration over the period was 3575 ppm. The average TDS concentration is 1717 ppm (median = 1660 ppm).

Using this 5+ year summary data, the maximum particulate emissions are about 53% of the BAAQMD Regulation 6-311 limit, rather than the 48.4% figure derived from the most recent data. The average particulate emissions remain virtually identical (1717 ppm compared to 1716 ppm). These differences are not significant and, given that the emission estimate is conservative, the District continues to find that periodic monitoring is not justified.

(J.) Sulfur Storage Pit (S-157) Monitoring for Regulations 6-301 and 6-310

Reference: Order Item III.G.5.a on page 37 of the order.

BAAQMD Regulation 6-301 limits the opacity of emissions to Ringelmann No. 1, and BAAQMD Regulation 6-310 limits grain loading to 0.15 grains per dry standard cubic foot. As explained below, monitoring for S-157 is already included in the permit, directly in the case of 6-301 and indirectly in the case of 6-310. Revision 3 does not include revisions to the permit regarding this item.

The initial permit (December 1, 2003) statement of basis stated that monitoring for S-157 was not included in the permit because the source is capable of exceeding the visible emission or grain loading standard only during process upset and that, under such circumstances, other indicators will alert the operator that something is wrong. After further investigation, the District has determined that Sulfur Storage Pit S-157 is enclosed, and the emissions are collected and directed to the main refinery stack. The main stack is monitored with a continuous opacity monitor to assure compliance with BAAQMD Regulation 6-301 Ringelmann No. 1 Limitation. Permit Condition 19466, Part 6 requires annual source tests for S-5 FCCU Regenerator and S-6 Coker Burner to determine compliance with BAAQMD Regulation 6-310. S-5 and S-6 produce the CO fuel gas used in the refinery, and the emissions from S-5 and S-6 are also exhausted at the main stack, after the CO fuel gas is combusted in S-3 and S-4 process heaters and the flue gas is treated in Electrostatic Precipitators (ESPs) A-1 through A-5. Therefore, the annual source test requirement for S-5 and S-6, which is performed on the main stack downstream of the

ESPs, will also determine S-157 compliance with BAAQMD Regulation 6-310. This is also true for the other sources that discharge into the main stack (S-1, S-2 and S-7). Because the source test required by Condition 19466, Part 6 will also assure S-1, S-2, S-3, S-4, S-5, S-6, S-7 and S-157 compliance with BAAQMD Regulation 6-310, individual compliance monitoring for S-157 would be duplicative.

(K.) Lime Slurry Tanks (S-174 and S-175) Monitoring for Regulations 6-301, 6-310, and 6-311

Reference: Order Item III.G.5.b on page 38 of the order.

BAAQMD Regulation 6-301 limits the opacity of emissions to Ringelmann No. 1, BAAQMD Regulation 6-310 limits grain loading to 0.15 grains per dry standard cubic foot, and BAAQMD Regulation 6-311 limits the total hourly particulate emissions of a source even if the grain loading limits of 6-310 are satisfied. With Revision 3, the District is adding visible emission monitoring to the permit in Condition 639 to satisfy monitoring deficiencies for S-174 and S-175 Lime Slurry Tanks. The basis for this addition is discussed below.

In the statement of basis for the initial permit (December 1, 2003), the District stated that monitoring for S-174 and S-175 was not included in the permit because the source is capable of exceeding the visible emission or grain loading standard only during process upset and that under such circumstances, other indicators will alert the operator that something is wrong. Monitoring for BAAQMD Regulation 6-311 was not addressed, but Table VII-B3 indicates no monitoring for 6-311. Condition 639 requires that any visible emissions from S-175 be abated.

After further research, the District has determined that the Lime Slurry Tanks are primarily in a liquid slurry service. Particulate emissions would be possible only when lime powder is added to the tank. When the lime slurry inventory becomes low, a truck discharges lime powder into the tank, where it is mixed with water. During the lime unloading, the tank vents to an eductor system that uses water for the motive source. Any lime dust carryover is quenched with water and discharged into the sewer system. The eductor system does have an atmospheric vent that may allow some particulate emissions, but it is expected that very little dust will escape the water quench. The truck deliveries occur about once per week, and the transfer period is about 40 minutes. After the slurry is properly mixed, it is pumped to the water softening system.

In Revision 3, the District is adding a requirement for an annual visibility emission test to be performed at each source during an unloading operation. This test is a visual observation performed in a manner similar to the other visual tests required by the permit (i. e. by a certified opacity reader trained in visual inspection techniques).

The reasons this annual visual monitoring is is being added are as follows:

1. The tanks represent a small source of particulate emissions because the unloading operations occur infrequently (40 minutes per week amounts to a potential for emissions about 0.4% of the time the equipment is in operation).
2. It is District experience that, in most operations, grain loading levels do not exceed the standard of 0.15 grains per dscf until well after visible emissions exceed the standard of Ringelmann No. 1. Therefore, annual visible emission observations by a

certified opacity reader provide a high confidence that BAAQMD Regulation 6-310 compliance is demonstrated.

3. Annual visible observations are consistent with lime unloading operations in other facilities (e.g. Title V Permit for facility B1911, C&H Sugar, S-284 and S-307).
4. A source test would be difficult to conduct since the atmospheric vents do not conform to the source test sampling requirements for particulate grain loading set forth in the Districts Manual of Procedures.

Existing Permit Condition 639, which is in the Section VI of the Revision 1 permit, is being revised as follows:

Existing:

Condition# 639
For Source S-175

1. The Owner/Operator shall abate the visible emissions from the lime slurry tanks. [Basis: BAAQMD Regulation 1-301]

Proposed Revision:

Condition# 639
<u>For Source S-174 and S-175 Lime Slurry Tanks</u>

1. The Owner/Operator shall abate the visible emissions from the lime slurry tanks. [Basis: BAAQMD Regulation 1-301]
2. <u>In order to demonstrate compliance with BAAQMD Regulations 6-301, 6-310 and 6-311, the Owner/Operator shall monitor and record the visible emissions from S-174 and S-175 Lime Slurry Tanks on an annual basis. The visible emissions test shall be conducted during the entire lime offloading operation and the highest visible emissions during the period shall be recorded. If any visible emission exceeds Ringelmann No. 1, the Owner/Operator shall take corrective action to comply with Part 1 of this condition. (Basis: BAAQMD Regulation 6-301, 6-310 and 6-311)</u>

(L.) Diesel Backup Generators (S-240, S-241 and S-243) Monitoring for Regulation 6-310

Reference: Order Item III.G.5.c on page 38 of the order.

BAAQMD Regulation 6-310 limits grain loading to 0.15 grains per dry standard cubic foot. As discussed below, periodic monitoring is not justified for the engines. Revision 3 does not include revisions to the permit regarding this item.

Diesel engines S-240, S-241, S-242 and S-243 are for emergency backup purposes. S-240 provides raw water in an emergency, S-241 and S-242 drive emergency firewater pumps, and S-243 provides emergency electrical power to the control room.

No periodic monitoring is justified for these engines for three reasons: (1) potential to emit is low, (2) grain loading is unlikely to exceed the Regulation 6-310 limit, and (3)

CAPCOA/CARB/EPA Region IX guidance does not recommend periodic monitoring for this type of source. Each of these reasons is discussed in greater detail below.

First, the potential to emit (PTE) for particulate for these engines is low. The following table shows the emissions using the factor of 0.0022 lb PM10/hp-hr for diesel engines in Chapter 3, Stationary Internal Combustion Engines, of AP-42, Compilation of Air Pollutant Emission Factors, Volume 1, Stationary Point and Area Sources, Fifth Edition. Each engine is assumed to operate for 500 hours, using the guidance in John Seitz' memo of September 6, 1995 entitled Calculating Potential to Emit (PTE) for Emergency Generators, which states that "…500 hours is an appropriate default assumption for estimating the number of hours that an emergency generator could be expected to operate under worst-case conditions."

Diesel Engine Potential to Emit – Particulate Matter			
Source #	HP	lb/yr @ 500 hr/yr	tons/yr @ 500 hr/yr
240	550	605	0.303
241	230	253	0.127
242	700	770	0.385
243	1095	1205	0.602
Total			1.420

The emissions would likely be lower than the above estimates because engines in California generally use low-sulfur fuel containing less than 0.05% S, which lowers emissions, but by an unknown amount. In addition, all four engines are subject to BAAQMD Regulation 9-8-330 that limits the non-emergency hours of operation to no more than 100 hours. (EPA makes the point on page 39 of the order that the limit on hours of operation is not federally enforceable. It should be noted that in the 1995 *National Mining Association v. EPA* case, the court decided that limits did not have to be federally enforceable to limit potential to emit. EPA's treatment of a state-only limit as ineffective is contrary to case law.) Moreover, the recently enacted California Air Resources Board Airborne Toxics Control Measure for Stationary Compression Ignition Engines will significantly reduce the S-243 engine hours of operation for maintenance and reliability purposes. In a good year (i.e. one with no fires or power outages), total engine operation could be 20% (or less) of the 500 hours per year used in the Potential to Emit calculations above.

Second, grain loading is not likely to exceed the limit in BAAQMD Regulation 6-310. BAAQMD Regulation 6-310 limits PM emissions to 0.15 gr/dscf. If it is assumed that the Diesel engine exhaust gases contain 15% excess oxygen under normal operating conditions, the BAAQMD Regulation 6-310 limit can be compared to the AP-42 PM emission factor as follows:

> From 40 CFR 60, Appendix A, Method 19, Table 19-1, a stoichiometric dry gas combustion factor of 9,190 dscf/MMBTU is given for distillate oil combustion. At 15% excess O_2 this factor becomes:
>
> 9,190 x [21%/(21% - 15%)] = 32,165 dscf (combustion products)/MMBTU
>
> The conversion of 0.15 gr/dscf @ 15% O_2 to lb/MMBTU is then:

(32,165 dscf/MMBTU) x (0.15 gr/dscf) x (lb/7,000 gr) = 0.689 lb/MMBTU

In the absence of actual emissions data for these engines, the District considers the AP-42 PM10 emission factor for diesel IC engines to be representative. From AP-42 Table 3.3-1, "Emission Factors For Uncontrolled Gasoline And Diesel Industrial Engines", the PM10 emission factor (based on fuel consumption) is 0.31 lb/MMBTU. Since this assumed emission factor is well below the converted BAAQMD Regulation 6-310 emission rate, compliance is assumed.

Third, the "CAPCOA/CARB/EPA Region IX Recommended Periodic Monitoring for Generally Applicable Grain Loading Standards in the SIP: Combustion Sources" dated July 2001 recommends that the only monitoring necessary for grain-loading for non-utility distillate-oil-fueled emergency piston-type IC engines is recordkeeping for fuel usage, which is already required for these engines.

(M.) Coke Transport, Catalyst Unloading, Carbon black Storage and Lime Silo (S-8, S-10, S-11, and S-12) Monitoring for Regulation 6-311.
Reference: Order Item III.G.5.e on page 39 of the order.

BAAQMD Regulation 6-311 limits the total hourly particulate emissions of a source even if the grain loading limits of 6-310 is satisfied. With Revision 3, the District is revising the permit to include BAAQMD Regulation 6-311 monitoring for S-8, Coke Transport Cyclone, by adding S-8 to Permit condition 19466, Part 9. No changes are proposed to the permit regarding BAAQMD Regulation 6-311 monitoring for S-10, Catalyst Railcar Unloading, S-12, Lime Silo, and S-11, Activated Carbon Bin. The basis for this revision is discussed below.

S-10 and S-12 have been out of service for many years. The Owner/Operator has retained the permits to allow a future return to service. However, it is clear at this time that the return to service option is remote, and the Owner/Operator has requested that these sources be removed from the permit.

Permit Condition 19466, Part 7, requires annual source tests for S-8 to determine compliance with BAAQMD Regulation 6-310, the grain-loading standard. It is a simple matter to derive the total particulate emission rate in lb/hr from this source test to determine compliance with BAAQMD Regulation 6-311. S-8 is therefore being added to Condition 19466, Part 9, which requires annual source tests to assure compliance with BAAQMD Regulation 6-311.

Monitoring of S-11 to assure compliance with BAAQMD Regulation 6-311 is not being added. S-11 stores the activated carbon used in the Waste Water Treatment Plant. The bin contains a small baghouse (A-6) to abate emissions. This bin is reloaded about 2 to 3 hours each month. The exhaust point from the baghouse is small duct (~5" x ~13") on top of the bin that loops out of the bin and faces downward towards the roof of the bin. The estimated exhaust flowrate is about 6 CFM, with peaks as high as 60 CFM during pneumatic unloading.

For the following reasons, the existing periodic inspection and annual visual monitoring are considered adequate:

1. Particulate matter has not been observed on top of the bin (District staff from the Source Test Section and the Permit Evaluation Section inspected the source April 20, 2004).
2. If the baghouse A-6 were to fail, carbon deposits would be evident on the top of the bin and in the adjacent area.
3. The outlet ductwork is not suitable for standard testing procedures.
4. The bin represents a small source of particulate emissions because the unloading operations occur infrequently (3 hours per month amounts to a potential for emissions during approximately 0.4% of the time the equipment is in operation).
5. It is District experience that, in most operations, grain-loading levels do not exceed the standard of 0.15 grains per dscf until well after visible emissions exceed the standard of Ringelmann No. 1. Therefore, annual visible emission observations by a certified opacity reader provide a high degree of confidence that BAAQMD Regulation 6-310 compliance is demonstrated.
6. Since the 0.15 grain/dscf standard represents 0.077 lb/hr during the peak 60 CFM exhaust flow (= 0.15 gr/dscf * 60 CFM * 60 min/hr * 1lb/7000gr), there is high degree of confidence that the visible emissions test by a certified opacity reader will also assure compliance with BAAQMD Regulation 6-311.

It should also be noted that in Permit Application 12578, the owner has proposed a significant revision to the Title V permit regarding S-11 monitoring. This application proposes that monitoring to assure compliance with BAAQMD Regulation 6-310 (required by Condition 19466, Part 7) be deleted. Alternatively, Application 12578 proposes that monitoring include visual inspections during each loading event and during an annual visible emissions test. The justification for this revision is reviewed and discussed below in connection with Application 12578.

(N.) MACT 40 C.F.R Part 63, Subpart CC Applicability to Flares

Reference: Order Item III.H.1.b on page 40 of the order.

This item is addressed in the Revision 2 statement of basis. The District's conclusion is that MACT Subpart CC does not apply. Please see the Revision 2 statement of basis for the detailed determination. Revision 3 does not include revisions to the permit regarding this item.

(O.) Basis for Tank Exemptions

Reference: Order Item III.H.2 on page 41 of the order.

The missing tank exemptions are being added through Revision 2 . The review and inclusion of all exemption bases will be included in a future permit revision. Revision 3 does not include revisions to the permit regarding this item.

Applications 12578 and 12589, Monitoring Changes for S-11, S-160 and S-233.

Application 12578, a Significant Revision to the Title V permit, requests the deletion of BAAQMD Regulation 6-310 grain loading monitoring for S-11, S-160 and S-233. Application 12589, also a Significant Revision to the Title V permit, is for the modification of S-160 that will reroute the source emissions from atmosphere to the A-13/A-26 Vapor Recovery System.

S-11

S-11, Activated Carbon Storage Bin stores the activated carbon used in the Waste Water Treatment Plant. When Permit Condition 19466, Part 7 was first proposed, the Owner/Operator identified difficulties in conducting the annual source test. The vent from S-11 is a small duct with low flow making the source test procedure detailed in the District Manual of Procedures unsuitable. Discussions ensued and it was agreed that the Owner/Operator should propose an alternative testing protocol for the District's approval. Once the proposed test procedure was approved, source testing would commence within a year, and continue annually. The Owner/Operator complied by submitting alternative test procedures to the District's Source Test Section on April 1, 2004.

The Source Test Section reviewed the proposed procedures, inspected the source, and recommended that periodic opacity readings, pursuant to EPA Method 9, be imposed in place of source testing to determine compliance with BAAQMD Regulation 6-310. The recommendation was primarily based on the S-11 exhaust duct configuration. A copy of the Source Test Section recommendation, dated February 23, 2005, is included in Appendix B.

In addition, and as discussed above, most of the reasons that support periodic inspection and visual monitoring as a means of monitoring S-11 for compliance with BAAQMD Regulation 6-311 (discussed above in section C.IV.(M.)) also support the proposed deletion of BAAQMD Regulation 6-310 monitoring:

1. Particulate matter has not been observed on top of the bin (District staff from the Source Test Section and the Permit Evaluation Section inspected the source April 20, 2004).
2. If the baghouse A-6 were to fail, carbon deposits would be evident on the top of the bin and in the adjacent area.
3. The outlet ductwork is not suitable for standard testing procedures.
4. The bin represents a small source of particulate emissions because the unloading operations occur infrequently (3 hours per month amounts to a potential for emissions during approximately 0.4% of the time the equipment is in operation).
5. It is District experience that, in most operations, grain-loading levels do not exceed the standard of 0.15 grains per dscf until well after visible emissions exceed the standard of Ringelmann No. 1. Therefore, annual visible emission observations by a certified opacity reader provide a high degree of confidence that BAAQMD Regulation 6-310 compliance is demonstrated.

S-160

The Application 12589 modification will reduce S-160 Seal Oil Sparger emissions and a Temporary Permit to Operate has been granted (via related NSR Application 12588) under BAAQMD Regulation 2-1-106 Limited Exemption, Accelerated Permitting Program. Therefore, all emissions from S-160 are abated, and monitoring is no longer required.

S-233

S-233, ESP Fines Storage Bin, stores the Cat unit catalyst fines. There are actually two emission points from S-233. One is on the top of the tank, is abated by baghouse A-55, and will only have a small, virtually undetectable flow, both inbreathing and exhaust, due to displacement. The second emission point is a 3" vent on the discharge of the catalyst fines conveyance blower, which is abated by A-54 baghouse. Based on the blower capacity, the estimated exhaust flowrate is about 25 CFM.

When Permit Condition 19466, Part 7 was first proposed, the Owner/Operator identified difficulties in conducting the annual source test. The vent from S-233 is a small 3" pipe with low flow making the source test procedure detailed in the District Manual of Procedures unsuitable. Discussions ensued and it was agreed that the Owner/Operator should propose an alternative testing protocol for the District's approval. Once the proposed test procedure was approved, source testing would commence within a year, and continue annually. The Owner/Operator complied by submitting alternative test procedures to the District's Source Test Section on April 1, 2004.

The Source Test Section reviewed the proposed procedures, inspected the source, and recommended that periodic opacity readings, pursuant to EPA Method 9, be imposed in place of source testing to determine compliance with BAAQMD Regulation 6-310. The recommendation was primarily based on the S-233 exhaust pipe being untestable. A copy of the Source Test Section Recommendation dated February 23, 2005, is included in Appendix B.

Exemption of Flares from Regulation 8

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

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

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

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

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

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

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

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

Second, the flares at this facility are not subject to Regulation 8, Rule 2 because they are subject to a rule in Regulation 10. Regulation 8, Rule 2 applies to miscellaneous operations, which do not include operations limited by any other rule in Regulation 8 or any rule in Regulation 10. Certain refinery flares, including the flares at this facility, are subject to 40 CFR Part 60, which includes Subpart J. This federal regulation has been incorporated by reference in Regulation 10; consequently a flare subject to Subpart J is also subject to a Regulation 10 rule. The flares at this facility will be certified for compliance with Subpart J, which includes an acceptance of Subpart J applicability, in accordance with the provisions of the Consent Decree filed in the U.S. District Court, Western District of Texas in United States v. Valero Refining Company. Because the flares are limited by a Regulation 10 rule, Regulation 8, Rule 2 does not apply to these devices.

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

The Order further provides that the permit lacks periodic monitoring for compliance with permit conditions added to ensure that flares are properly operated. The District also has no authority to take this action. In response to concerns previously raised by EPA about the need to ensure the flares will meet the conditions for the exemption from Regulation 8, Rule 2 under Regulation 8-1-110.3, the District added permit conditions to ensure the flares are operated in a manner consistent with the operational parameters assumed in determining that they would qualify for

the exemption. Although the permit conditions were not necessary to ensure compliance with an applicable requirement, they were identified as federally enforceable; this was in error. If the District had retained these conditions, the permit would have been modified to reflect this conclusion. Because Regulation 8, Rule 2 does not apply to refinery flares and the exemption in Regulation 8-1-110.3 is, therefore, irrelevant for these devices, these conditions are not necessary or authorized and must be deleted. And because the conditions have been deleted, the issue of adding periodic monitoring to ensure compliance with the permit conditions is moot.

Minor Revisions Incorporated into the Permit

1. Application 12434. Revision to the S-20 "NOx Box" operating parameters. This application resulted in a change to BAAQMD Condition 21233, Part 5A.
2. Application 12478. Revision to the NOx Box condition 21233, Part 7A1, to clarify the annual source test requirement for small units. Change in Conditions approved in Application 12659. Changes also made to S-220 since a CO CEM was installed.
3. Application 12867. Deletion of A-57 requirement 40 CFR 61.356(f)(2)(i)(A), recordkeeping requirements for the 61.349 compliance option of engineering calculations. For A-57, Valero uses the 61.349 compliance option of performance testing [§ 61.349(c)(2)] so 61.356(f)(2)(i)(A) is not applicable.

Administrative Changes Incorporated into the Permit

1. Conditions 11879, 11882, 11888 and 13319 were changed administratively to reflect the A-57 abatement device and the successful completion of the A-57 source test requirement. The source test demonstrated compliance and the Application 7214 Permit to Operate was granted. Tables IV-H4.2, H5.2, J36, J37, J39, K1 and VII-H4.2, H5.2, J36, J37, J39, K1 are being modified accordingly.

2. Application 12575, change of exempt service for S-142. This tank previously stored demulsifier and is now in fresh caustic service. Table IIB is being revised accordingly and since S-142 no longer contains organic liquid, S-142 is being deleted from Tables IV-J29 and VII-J29.

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 have conducted a review of compliance over the past year and have no records of compliance problems at this facility during the past year.

VI. Permit Conditions

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

Condition 639, visible emission monitoring requirements for S-174 and S-175 Lime Slurry Tanks, are being added.
Condition 7015 is being deleted because it is redundant with BAAQMD Regulation 1-301 public nuisance.
Conditions 11879, 11882, 11888 and 13319 were changed administratively to reflect the A-57 abatement device and the successful completion of the A-57 source test requirement.
Condition 19466, references to S-10 and S-12 in Parts 3 and 7, are are being deleted since the sources are out of service and removed from the permit.
Condition 19466, Part 7 (affecting S-11, S-160 and S-233) is being deleted per Permit Applications 12578 and 12589. S-160 no longer vents to atmosphere and has been rerouted to the vapor recovery system. S-11 and S-233 are not suitable for standard particulate testing, and visual emission monitoring is required as an alternative.
Condition 19466, Parts 2c and 2d –Part 2c is being deleted and Part 2d is being added to reflect the modification of S-160 that results in emissions being abated by the vapor recovery system.
Condition 19466, Part 9—S-8 is being added to the list of sources subject to the annual source test requirements to demonstrate compliance with BAAQMD Regulation 6-311.
Condition 20806, Part 7 is being deleted since the limitation of the gases burned at S-19 did not resolve the intention of compliance with NSPS Subpart J. See details at the end of Section C.VI in this document.
Condition 21233, Part 5 –Part 5A is being revised to reflect the change in S-20 operating parameters and Part 5B is being revised to reflect the low fire operation for S-35, consistent with Part 3B.

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 BAAQMD Regulation 2-2-301.

- Cumulative Increase: This term is used for a condition imposed by the APCO that limits a source's operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- Offsets: This term is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to BAAQMD 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 BAAQMD 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.

The tables below contain only proposed monitoring changes, or proposed clarifications to the reasoning behind a no-monitoring requirement as addressed in this Revision 3 statement of basis.

NOx Discussion:

There are no proposed changes in the permit regarding NOx monitoring.

CO Discussion:

There are no proposed changes in the permit regarding CO monitoring.

SO2 Discussion:

There are no proposed changes in the permit regarding SO2 monitoring.

PM Discussion:

The table below summarizes determinations made in Revision 3 regarding PM monitoring. Discussions follow the table.

PM Sources

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

PM Sources

S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
S-11, Activated Carbon Storage Bin	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 6)
S29, Cooling Tower	BAAQMD 6-311	40 lb/hr Total Particulate Emissions	No monitoring (Note 1)
S-157, Sulfur Storage Pit	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	No individual source monitoring (Note 2)
	BAAQMD 6-310	0.15 grain per dscf	No individual source monitoring (Note 2)
S160 Seal Oil Sparger	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	No monitoring (Note 3)
	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 3)
S-174, S-175, Lime Slurry Tanks	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	Monitoring added (Note 4)
	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 4)
	BAAQMD 6-311	4.10 P0.67 lb/hr particulate, where P is process weight rate in lb/hr	No monitoring (Note 4)
S-233, ESP Fines Storage Bin	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 6)
Emergency Diesel Backup Engines S240, S241, S242, S243	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 5)

Note 1: No 6-311 monitoring is required for S-29 Cooling Tower primarily because the potential to emit is low. See detailed response to EPA March 15, 2005 Order Item III.G.3.b(2) in section C.IV.(I.) of this document.
Note 2: S-157 emissions are discharged at the refinery main stack, which has a continuous opacity monitor and is subject to annual source tests. See detailed response to EPA March 15, 2005 Order Item III.G.5.a in section C.IV.(J.) of this document.
Note 3: S-160 was modified and now vents to the A-13/A-26 vapor recovery system.
Note 4: Monitoring for 6-301 is being added to Permit Condition 639 for S-174 and S-175 in response to EPA March 15, 2005 Order Item III.G.5.b. Monitoring for 6-310 and 6-311 is not required due to the infrequent operation that could emit lime dust. This is consistent with the

monitoring required in other Title V permits for lime mixing operations. See detailed discussion in section C.IV.(K.) of this document.
Note 5: Monitoring for 6-310 is not required for Diesel engines S-240, S-241, S-242 and S-243 because of a low potential to emit. See detailed response to EPA March 15, 2005 Order Item III.G.5.c in section C.IV.(L.) of this document.
Note 6: Application 12578 requested the deletion of S-11 and S-233 from BAAQMD Regulation 6-310 monitoring due to low potential to emit, non-conforming exhaust ducting, and the high confidence of compliance based on visible emissions monitoring. Detailed discussion can be found at the end of section C.IV in this document.

POC Discussion:

POC Sources

S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
S160 Seal Oil Sparger	BAAQMD Regulation 8-2-301	300 ppm and 15 lb/day of total carbon, dry basis	No monitoring (Note 1)

Note 1: S-160 was modified and now vents to the A-13/A-26 vapor recovery system.

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, no additional permit shields have been added. With Revision 3, the permit shield shown in **Table IX B-7, CEMS** is being deleted because BAAQMD Regulation 1-522.8 does not require the detailed reporting that is required in 40 CFR 60.7 (c) and (d).

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

E. Compliance Status:

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 Changes since the Final Revision 1 Permit issued December 16, 2004

List of changes to Final Revision 1 Permit that are included in the Revision 3 proposal.

Section I, II, III changes

1. In Table IIA, S-10 and S-12 are being removed from the table because they have been removed from service. This revision is in response to EPA Petition Response Item III.G.5.e.

Section IV, Applicable Requirements

1. In Table IV-Refinery, Notification and record keeping requirements of 40 CFR 60.7 are being added. 60.7 (c) and (d) are being added in response to EPA Petition Response Item III.E.1 and Permit Shield Table IX B-7 would be deleted. Other parts of 60.7 are being added because they also apply.

2. In Table IV-B1 and VII-B1, Permit Condition 19466, Part 9 are being added to determine S-8 compliance with BAAQMD Regulation 6-311. In Section VI, Condition 19466, Part 9 is being revised to include S-8. This revision is in response to EPA Petition Response Item III.G.5.e.

3. Changes are being made to other Section IV tables to be consistent with the changes made in Section VI.

4. In Table IV-A9, Permit Condition 20806, Part 7 is being deleted. See details at end of Section C.VI in this document.

Section VI, Permit Conditions

1. Condition 19466, Part 9 is being revised to include S-8. This change would result in changes in the appropriate tables in Section IV and VII. This revision is in response to EPA Petition Response Item III.G.5.e.

2. Condition 639 is being revised to include visible emission monitoring for S-174 and S-175 Lime Slurry Tanks. This revision is in response to EPA Petition Response Item III.G.5.b.

3. Condition 19466, is being revised to delete references to S-10, S-12 and S-160 in Parts 3 and 7. S-10 and S-12 are out of service and removed from the permit. S-160 now vents to the vapor recovery system. This change also caused changes in the appropriate tables in Section II, IV and VII. This revision is in response to EPA Petition Response Item III.G.5.e and Application 12589.

4. Condition 19466, Part 7, is being revised to delete S-11, S-160 and S-233 per Permit Applications 12578 and 12589. S-160 no longer vents to atmosphere and has been rerouted to the vapor recovery system. S-11 and S-233 are not suitable for standard particulate testing and alternative monitoring is proposed. This change also results in changes in the appropriate tables in Section II, IV and VII.

5. Condition 19466, Parts 2c and 2d – Part 2c are being deleted and Part 2d is being added to reflect the Application 12589 modification of S-160 that results in emissions being abated by the vapor recovery system. This change also results in changes in the appropriate tables in Section II, IV and VII.

6. Permit Condition 20806, Part 7 is being deleted. See details at end of Section C.VI in this document.

Section VII, Monitoring Requirements

1. In Table IV-B1 and VII-B1, Permit Condition 19466, Part 9 is being added to determine S-8 compliance with BAAQMD Regulation 6-311. In Section VI, Condition 19466, Part 9 is being revised to include S-8. This revision is in response to EPA Petition Response Item III.G.5.e.

2. Changes are being made to other Section VII tables to be consistent with the changes being made in Section VI.

Section VIII, Test Methods

No changes are being made in this section.

Section IX, Permit Shield

1. Table IX B-7 permit shield for 40CFR60.7 (c) and (d) is being deleted. This revision is in response to EPA Petition Response Item III.E.1.

G. Permit Changes Being Made In Response to Public Comments on the Draft Revision 3 Permit

Section I, II, III changes

1. Revised the service of S-142 in Table IIB to Fresh Caustic. Deleted S-142 from Tables IV-J29 and VII-J29 since the tank is no longer in organic liquid service. (Minor Revision Application 12575)

Section IV, Applicable Requirements

1. In Table IV-A3, Permit Condition 22156 is being changed to Federally Enforceable to be consistent with Section VI. (EPA Rev 2 comment 5d)

2. Conditions 11879, 11882, 11888 and 13319 are being changed administratively to reflect the A-57 abatement device and the successful completion of the A-57 source test requirement. The source test demonstrated compliance and the Application 7214 Permit to Operate was granted. Tables IV-H4.2, H5.2, J36, J37, J39, K1 and VII-H4.2, H5.2, J36, J37, J39, K1 are being modified accordingly.

3. In Table IV-A19, Permit Conditions 21233, Parts 8 and 9 are being deleted because they no longer apply. Two source tests for S-220 resulted in CO concentrations over 200 ppmv so a CO CEM was installed. The appropriate revision is also being made to Table VII-A19. (Minor Revision Application 12478)

4. In Tables IV-A22.1 and 22.2, condition 19177, Part 47 is being deleted to be consistent with Section VI. (Valero 9/21/05 comment B50)

5. In Table IV-B7, condition 19466, Part 7 is being deleted to be consistent with Section VI. (Valero 9/21/05 comment B56)

6. In Table IV-K1, 40 CFR 61.356(f)(2)(i)(A), recordkeeping requirements for the engineering calculation compliance option 61.349(c)(1), is being deleted since Valero demonstrates compliance through 61.349(c)(2) performance tests. (Minor Revision Application 12867)

7. The service of S-142 in Table IIB is being revised to Fresh Caustic. S-142 is being deleted from Tables IV-J29 and VII-J29 since the tank is no longer in organic liquid service. (Minor Revision Application 12575)

Section VI, Permit Conditions

1. In Condition 21233, Part 5B is being revised to indicate that the S-35 low fire case is below 8% of the maximum rated capacity, to be consistent with Part 3B. (Valero Rev

3 comment C39)

2. In condition 21233, Part 5A is being revised to reflect the new operating parameters for S-20. (Minor Revision Application 12434 and NSR Application 12701).

3. In condition 21233, Part 7A1 is being revised to reflect an annual source test requirement for small units. (Administrative Change in Conditions Application 12659, Minor Revision Application 12478)

4. Conditions 11879, 11882, 11888 and 13319 are being changed administratively to reflect the A-57 abatement device and the successful completion of the A-57 source test requirement. The source test demonstrated compliance and the Application 7214 Permit to Operate was granted. Tables IV-H4.2, H5.2, J36, J37, J39, K1 and VII-H4.2, H5.2, J36, J37, J39, K1 are being modified accordingly.

Section VII, Monitoring Requirements

1. In Table VII-B3, monitoring for S-174 and S-175 Lime Slurry Tanks is being corrected to be consistent with Sections IV and VI. (Valero 9/21/05 Comment D23)

2. In Table VII-C5 for Cooling Tower S-29, monitoring for 8-2-301 is being deleted to be consistent with Table IV-C5. (Valero 5/24/05 comment D20 and 9/21/05 comment D24)

3. In Table VII-H4.2 for S-194 and S-195 Wastewater CPS Units, VOC monitoring for BAAQMD Condition 13319, Part 3 requiring a 98.5% destruction efficiency is being added, consistent with similar monitoring for S-197 and S-198 Wastewater ISF Units in Table VII-H5.2. (Valero 5/24/05 comment D29 and 9/21/05 comment D35)

4. Conditions 11879, 11882, 11888 and 13319 are being changed administratively to reflect the A-57 abatement device and the successful completion of the A-57 source test requirement. The source test demonstrated compliance and the Application 7214 Permit to Operate was granted. Tables IV-H4.2, H5.2, J36, J37, J39, K1 and VII-H4.2, H5.2, J36, J37, J39, K1 are being modified accordingly.

5. In Table IV-A19, Permit Conditions 21233, Parts 8 and 9 are being deleted because they no longer apply. Two source tests for S-220 resulted in CO concentrations over 200 ppmv so a CO CEM was installed. The appropriate revision is also being made to Table VII-A19. (Minor Revision Application 12478)

6. The service of S-142 in Table IIB is being revised to Fresh Caustic. S-142 is being deleted from Tables IV-J29 and VII-J29 since the tank is no longer in organic liquid service. (Minor Revision Application 12575)

Section VIII, Test Methods

No changes are being made in this section.

Section IX, Permit Shield

No changes to respond to comments are being made in this section.

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APPENDIX A Permit Evaluations

for

Application 12588 Reroute S-160 Seal Oil Sparger to Vapor Recovery System.

Application 12659 Change of Condition 21233, NOx Box

Application 12701, Change in Operating Parameters for S-20 NOx Box

VALERO REFINING COMPANY
APPLICATION 12588, PLANT 12626

INTRODUCTION

Valero Refining Company has submitted a permit application for a modification of the following equipment:

S-160 Alkylation Unit Compressor C-1031 Seal Oil Sparger

The modification is to reroute the source outlet from atmosphere to the vapor recovery system.

Annual source tests required by the Title V permit condition 19466, Part 2c and Part 7, were performed in March 2005. The results indicated that S-160 did not comply with District Regulations. The source test results indicated that the organic emissions are in the range of 133 to 150 lb/day (average = 142 lb/day), and a total carbon load of 285,000 to 369,000 ppmv. Valero immediately stopped operation of S-160 and added fresh seal oil to the compressor instead of recycling sparged (nitrogen stripped) seal oil. This resulted in the use of 8-12 barrels of fresh seal oil per day, an uneconomic operation.

This modification will return S-160 to compliance by sending the emissions to the vapor recovery system A-13/A-26.

EMISSIONS

Current emissions shown in databank are shown below:

```
Source No.: 160   Desc.: SEAL OIL SPARGER FOR COMPRESSOR C1031
Downstream Train: S160

Fraction of Emissions to Downstream Train: n/a

Source Code: G5999419        Material Processed: Lube oil
Throughput: -    9500.0  thou gallons          Eff. Date: 12-31-01

 (Annual) X (Emission) = (Unabated) X (Abatement) = (Abated)
  (Usage)    (Factor)    (Emissions)   (Factor)    (Emissions)

                          Emission   EF      Unabated   Abate       Abated
Pollutant Name       Code Factor     Type    Emission   Factor     Emission
                          lb/thou gallons     lb/day                lb/day
---------------      ---- --------  -----    --------  --------    --------
Organics (part not s  990 5.00E-02    Gen      1.3014    n/a         1.3014

   PONSCO Split     Part     Org     POC     NOx     SOx      CO   Other

     Unabated         .0     1.3     1.3      .0      .0      .0      .0
     Abated           .0     1.3     1.3      .0      .0      .0      .0
```

This modification will result in virtually no emissions since all gases are recovered and sent to the fuel gas system. Using 99.7 % efficiency for the furnaces and heaters that consume the fuel gas, the new emissions are:

Average POC emissions = 142 lb/day (1-.997) = 0.426 lb/day. Valero has not requested emission reduction credits for this modification.

(Note: The POC emission factor for S-160 has been revised to reflect the actual emissions of 142 lb/day. Once the annual update cycle for 2004 has been completed, the EF will be revised again.)

PLANT CUMULATIVE INCREASE

Since S-160 is a grandfathered source, there is no impact on the facility cumulative emissions.

TOXIC RISK SCREEN

There are no toxic compounds in this operation that would trigger a risk screen.

COMPLIANCE

S-160 is subject to Regulations 6-301, 6-310, 6-311 and 8-2-301. Source testing conducted in March, 2005 has demonstrated S-160 to be out of compliance with some of these regulations. This modification will allow S-160 to be in compliance with all applicable regulations.

BACT, Offsets, CEQA and PSD are not applicable.

CONDITIONS

The permit condition 19466 will be modified for S-160 as shown below.

Note that there are four versions of this permit condition in various places:

1), Revision 1 Title V Permit version (currently enforceable),
2) Revision 2 Title V Permit version (in the draft permit issued for Public Comment),
3) Revision 3 Title V Permit version (currently under internal review), and
4) the version shown below.

Only Parts 2c, 2d, 3 & 7 are pertinent to S-160 and only the changes associated with S-160 are shown below. There are boldface notes that indicate pertinent information regarding the Part, but detailing each version is beyond the scope of this engineering evaluation.

Condition 19466

1. The Owner/Operator shall conduct an annual District-approved source test on the S-1 and S-2 Claus Units to demonstrate that 95% of the H2S in the refinery fuel gas is removed and recovered on a refinery-wide basis and 95% of the H2S in the process water streams is removed and recovered on a refinery-wide basis AND 95% of the ammonia in the process water stream is removed. The Owner/Operator shall submit the test results to the District's Compliance and Enforcement Division and the District's Permit Services Division no less than 45 days after the test. The test shall include sampling of the inlet and outlet of the fuel gas scrubber and sour water stripper towers. [Basis: Regulation 9-1-313.2] **This Part Deleted in the Rev 2 draft Title V Permit**. (Basis: Sampling is a safety problem and there is reasonable assurance that compliance with Regulation 9-1-313.2 is achieved. See detailed analysis in Statement of Basis)

2a. Deleted. (Basis: S-188 vents to the refinery fuel gas system).

2b. Deleted. (Basis: S-189 vents to the refinery fuel gas system).

2c. Deleted. (Basis: S-160 was modified in May, 2005 and now vents to Vapor Recovery System A-13/A26) ~~The Owner/Operator shall conduct an annual District-approved source test on the S-160, Seal Oil Sparger, to demonstrate compliance with Regulation 8-2-301. The Owner/Operator shall submit the test results to the District's Compliance and Enforcement Division and the District's Permit Services Division no less than 45 days after the test. These records shall be kept for a period of at least 5 years from date of entry and shall be made available to District staff upon request. [Basis: Regulation 2-6-503]~~

2d. The Owner/Operator shall operate S-160 Seal Oil Sparger only when abated by A-13/A-26 Vapor Recovery Compressor to be returned to the refinery fuel gas system. (Basis: Cumulative Increase)

3. The Owner/Operator shall monitor and record on a monthly basis the visible emissions from Sources S-1, S-2, S-8, S-10, S-11, S-12, ~~S-160~~, S-176, S-233 and S-237 to demonstrate compliance with Regulation 6-301 (Ringlemann 1 or 20% opacity). For S-10 and S-12 only, this monitoring is required only when these sources are returned to service. For S-176 only, this monitoring is only required when dry salt is added to the tank. These records shall be kept for a period of at least 5 years from date of entry and shall be made available to District staff upon request. [Basis: Regulation 6-301] **Does not reflect all changes made in the Draft Revision 3 Title V Permit.**

4. The owner/operator shall notify the District in writing by fax or email no less than three calendar days in advance of any scheduled startup or shutdown of any process unit and as soon as feasible for any unscheduled startup or shutdown of a process unit, but no later than 48 hours or within the next normal business day after the unscheduled startup/shutdown. The notification shall be sent in writing by fax or email to the Director of Enforcement and Compliance. The requirement is not federally enforceable. [Regulation 2-1-403]

5. The Owner/Operator shall abate the emissions from the S-3 and S-4, CO Boilers, by at least four of the five A-1 through A-5 Electrostatic Precipitators and the Owner/Operator shall

exhaust those emissions through the main stack (P-1). [Basis: Regulation 6-301 and Regulation 6-304].

6. The Owner/Operator shall perform an annual source test on Sources S-5 and S-6 to demonstrate compliance with Regulation 6-310 (outlet grain loading no greater than 0.15 grain/dscf). The Owner/Operator shall submit the test results to the District's Compliance and Enforcement Division and the District's Permit Services Division no less than 45 days after the test. These records shall be kept for a period of at least 5 years from date of entry and shall be made available to District staff upon request. [Basis: Regulation 6-310]

7. The Owner/Operator shall perform an annual source test on Sources S-8, S-10, S-11, S-12, ~~S-160~~,and S-176 and S-233 to demonstrate compliance with Regulation 6-310 (outlet grain loading no greater than 0.15 grain/dscf). For S-11~~, S-160~~ and S-233 only, the Owner/Operator shall submit a source test plan and procedure to the Manager of Source Test for approval by April 1, 2004. The first source test shall commence for S-11, ~~S-160~~ and S-233 no more than one year from the date of the S-11, ~~S-160~~ and S-233 source test plan and procedure is approved. The Owner/Operator shall submit the test results to the District's Compliance and Enforcement Division and the District's Permit Services Division no less than 45 days after the test. These records shall be kept for a period of at least 5 years from date of entry and shall be made available to District staff upon request. For S-10 and S-12 only, this annual source test is required only when these sources are returned to service. For S-176 only, this source test is only required when dry salt is added to the tank. [Basis: Regulation 6-310] **Does not reflect all changes made in the Draft Revision 3 Title V Permit.**

8. The Owner/Operator shall perform annually a source test on S-1 and S-2 to determine compliance with Regulation 6-330 (Outlet grain loading not to exceed 0.08 grain/dscf of SO3 and H2SO4). The Owner/Operator shall submit the test results to the District's Compliance and Enforcement Division and the District's Permit Services Division no less than 45 days after the test. These records shall be kept for a period of at least 5 years from date of entry and shall be made available to District staff upon request. [Basis: Regulation 6-330]

9. The Owner/Operator shall perform an annual source test on Sources S-5, and S-6 and S-8 to demonstrate compliance with Regulation 6-311 (PM mass emissions rate not to exceed 4.10P0.67 lb/hr). The Owner/Operator shall submit the test results to the District's Compliance and Enforcement Division and the District's Permit Services Division no less than 45 days after the test. These records shall be kept for a period of at least 5 years from date of entry and shall be made available to District staff upon request. [Basis: Regulation 6-311]

10. The Owner/Operator shall conduct a District-approved source test on a semi-annual basis on Sources S-7, S-20, S-21, S-22, S-23, S-24, S-25, S-26, S-30, S-31, S-32, S-33, S-34, S-40, S-41 and S-220 and on an annual basis on sources S-35 and S-173 to demonstrate compliance with Regulation 9-10-305 (CO not to exceed 400 ppmv, dry, at 3% O2, operating day average). The Owner/Operator shall submit the test results to the District's Compliance and Enforcement Division and the District's Permit Services Division no less than 45 days after the test. These records shall be kept for a period of at least 5 years from date of entry and shall be made available to District staff upon request. [Basis: Regulation 9-10-305]

11. The Owner/Operator shall conduct a semi-annual District-approved source test on Sources S-43, S-44 and S-46 to demonstrate compliance with Regulation 9-9-301.1 (NOx not to exceed 55 ppmv, dry, at 15% O2, fired on refinery fuel gas). The Owner/Operator shall submit the test results to the District's Compliance and Enforcement Division and the District's Permit Services Division no less than 45 days after the test. These records shall be kept for a period of at least 5 years from date of entry and shall be made available to District staff upon request. [Basis: Regulation 9-9-301.1]

12. The Owner/Operator shall abate the VOC emissions from the S-159 Lube Oil Reservoir using the S-36 Boiler. [Basis: Cumulative Increase]

13. The Owner/Operator shall vent the VOC emissions from S-167 and S-168 Seal Oil Spargers in a closed system to the flare gas recovery header to be returned to the refinery fuel gas system. [Basis: Cumulative Increase]

14. The Owner/Operator shall use the continuous emission monitors required by Regulation 9, Rule 10, to monitor compliance for all NOx limits at the following sources:
CO Furnaces: S-3, S-4
Process Furnaces: S-21, S-22, S-23, S-25, S-30, S-31, S-32, S-33, S-220
Steam Generators : S-40, S-41

15. The Owner/Operator shall use the continuous opacity monitors required by Regulation 1-520 to monitor compliance for the opacity limits at the Main Stack for the following sources:
S-5 Fluid Catalytic Cracking Unit, Catalyst Regenerator
S-6 Fluid Coker, Burner

16. To allow sufficient time to prepare test plans, train employees, and install any necessary equipment, the monitoring requirements Parts 1, 2c, 3, 6, 7, 8, 9, 10, 11, 14 and 15 are effective April 1, 2004.

RECOMMENDATION

I recommend that a conditional Permit to Operator be granted to Valero for the modification of the following equipment:

S-160 Alkylation Unit Compressor C-1031 Seal Oil Sparger

S/_____

Arthur P. Valla
Air Quality Engineer II

EVALUATION REPORT
VALERO BENICIA REFINERY
REVISIONS TO NOx BOX CONDITION 21233
APPLICATION 12659, 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 have 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.

This application proposes administrative changes to Condition 21233, which covers the following sources:

S-7 F-103 Jet Fuel Hydrofiner, 53 MMBtu/hr
S-20 F-104 Naphtha HF, 62 MMBtu/hr
S-21 F-301 Hydrogen, 614 MMBtu/hr
S-22 F-351 Hydrogen, 614 MMBtu/hr
S-23 F-401 Gas Oil HC, 200 MMBtu/hr
S-24 F-601 Cat Feed HF, 33 MMBtu/hr
S-25 F-701 Cat Feed, 230 MMBtu/hr
S-26 F-801 HCN HF, 33 MMBtu/hr
S-30 F-2901 PFR Preheat, 463 MMBtu/hr total
S-31 F-2902 PFR Preheat, 463 MMBtu/hr total
S-32 F-2903 PFR Preheat, 463 MMBtu/hr total
S-33 F-2904 PFR Preheat, 463 MMBtu/hr total
S-34 F-2905 PFR Regen Gas, 74 MMBtu/hr
S-35 F-2906 PFR React Gas, 14 MMBtu/hr
S-40 SG-2301 Steam Gen, 218 MMBtu/hr
S-41 SG-2302 Steam Gen, 218 MMBtu/hr
S-173 F-902 Coker Steam Superheat, 20 MMBtu/hr
S-220 F-4460 MRU Hot Oil, 351 MMBtu/hr

Most of the proposed revisions are insignificant and have been incorporated into the condition as part of the Title V response to comments process. There remain two of the requested changes still to be approved.

1. Proposed revision #1: Delete reference to plant number 13193 to eliminate confusion with Facility number A0901. This proposal is not recommended. A0901 is the Title V Facility Designator. Plant 13193 is used in the District's Data Bank and while apparently redundant, is not without value.

2. Proposed revision #2: Modify Part 7A1 as follows:

   *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

   Annual source test. 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.

   This change does not materially change the condition so the revision is recommended.

EMISSIONS SUMMARY

There are no changes in emissions due to this application. The specified NOx Box emission factors and operating windows 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 change to the NOx Box will not change the compliance for the covered 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 change.

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

The NOx Box Condition 21233 will be modified as shown below, shown in underline/strikeout format in large font. The other changes are proposed in Application 12701 which modifies the operating window for S-20 (B2626). Only Part 7A1 (page 7) has changes due to this application.

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%.

		Min O_2 at	**Max O_2 at**	**Min O_2 at**	**Mid O_2 at Mid/High Firing**	**Max O_2 at High**

Source No.	Emission Factor (lb/MMBtu)	Low Firing (O2% , MMBtu/hr)	Low Firing (O2% , MMBtu/hr)	High Firing (O2% , MMBtu/hr)	(polygon) (O2% , MMBtu/hr)	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	TBD	(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

Annual source test. 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 be granted to Valero for:

S-7	**F-103 Jet Fuel Hydrofiner, 53 MMBtu/hr**
S-20	**F-104 Naphtha HF, 62 MMBtu/hr**
S-21	**F-301 Hydrogen, 614 MMBtu/hr**
S-22	**F-351 Hydrogen, 614 MMBtu/hr**
S-23	**F-401 Gas Oil HC, 200 MMBtu/hr**
S-24	**F-601 Cat Feed HF, 33 MMBtu/hr**
S-25	**F-701 Cat Feed, 230 MMBtu/hr**
S-26	**F-801 HCN HF, 33 MMBtu/hr**
S-30	**F-2901 PFR Preheat, 463 MMBtu/hr total**
S-31	**F-2902 PFR Preheat, 463 MMBtu/hr total**
S-32	**F-2903 PFR Preheat, 463 MMBtu/hr total**
S-33	**F-2904 PFR Preheat, 463 MMBtu/hr total**
S-34	**F-2905 PFR Regen Gas, 74 MMBtu/hr**
S-35	**F-2906 PFR React Gas, 14 MMBtu/hr**
S-40	**SG-2301 Steam Gen, 218 MMBtu/hr**
S-41	**SG-2302 Steam Gen, 218 MMBtu/hr**
S-173	**F-902 Coker Steam Superheat, 20 MMBtu/hr**
S-220	**F-4460 MRU Hot Oil, 351 MMBtu/hr**

Arthur P. Valla	Date
Air Quality Engineer	8Sep05

EVALUATION REPORT
VALERO BENICIA REFINERY
REVISED NOx BOX FOR S-20, F-104 VNHF FURNACE
APPLICATION 12701, 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 via Application 11307, a Minor Revision to the Title V permit. Although Application 11307 has yet to be formally approved (evaluation due date is 12/17/05), the NOx Box's in the application were supported by properly conducted source tests and the NOx Box operating windows for all the affected sources have been included in Revision 2 of the Title V permit (reference: Section VI, Condition 21233, Part 5A, NOx Box Ranges).

This application requests a change in the NOx Box operating window for:

S-20 Process Furnace, Naphtha Hydrofining, F-104, 62MM Btu/hr

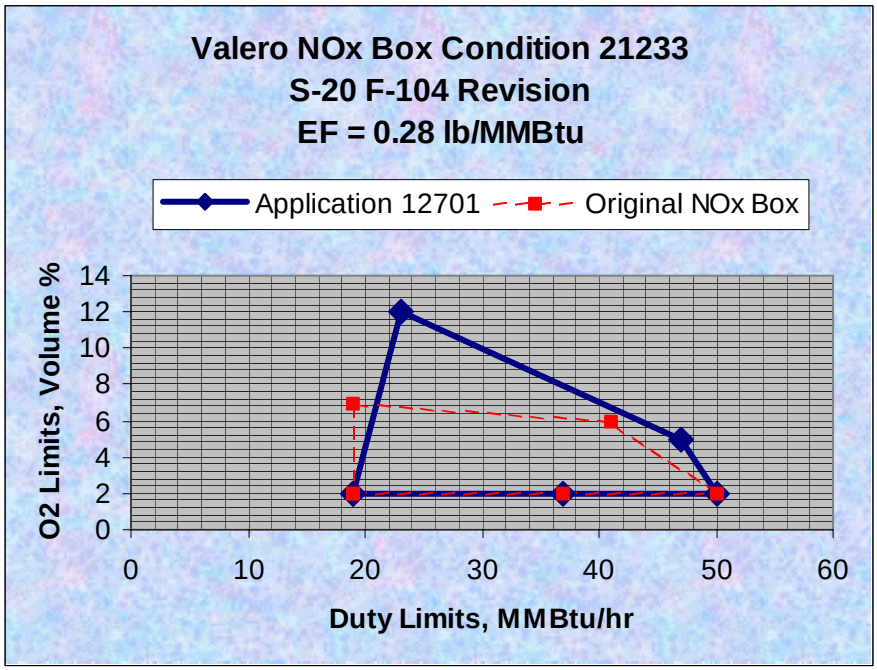
The change is as follows:

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						
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

The changes are supported by source tests reviewed by the Source Test Section.

This application is being processed as an administrative change in conditions since there is no change to the specified NOx emission factor for this unit.

The following diagram summarizes the changes to the S-20 NOx Box:



EMISSIONS SUMMARY

There are no changes in emissions due to this application. The specified NOx Box emission factor for S-20 remains 0.28 lb/MMBtu and is 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 change to the NOx Box will not change the compliance for Furnace S-20. Emissions from S-20 will comply with Regulation 2-9-303 (Alternative Compliance Plan using IERC's), Regulations 6 and Regulation 9, Rule 10 as before the change.

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

The NOx Box Condition 21233 will be modified as shown below. The substantive changes are for two of the B2626 S-20 NOx Box points shown in Part 5A of the condition. For clarity, the change is tracked from the version in Revision 3 of the Title V permit, with the underline/strikeout removed. (The condition with the underline/strikeout included is located in the application file if needed.)

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:

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

c. CEM data or

d. NOx emission factors from Part 5A

5) 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.

6) 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	TBD	(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.

D. 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).

E. 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.

3) 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

4) 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.

5) 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.

6) 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 be granted to Valero for:

S-20 Process Furnace, Naphtha Hydrofining, F-104, 62MM Btu/hr

Arthur P. Valla	Date
Air Quality Engineer	1Sep05

APPENDIX B Source Test Section Recommendation

for

Application 12578 S-11, S-160 and S-233 monitoring for BAAQMD Regulation 6-310.

MEMORANDUM
February 23, 2005

To: A. Valla

Via: K. Kunaniec concur KMK 2/23/05

From: T. Underwood 2/23/5

Re: Enforceability and necessity of specific permit conditions
Plant No: B2626; Valero Refining
Source 1: S-11>A-6; WWTP carbon bin abated by cartridge baghouse
Source 2: S-160; seal oil sparger
Source 3: S-233>A-55; ESP fines storage bin abated by baghouse
A/C No: Title V
Cond No. 19466; annual source testing requirement

The annual source testing requirement on these three sources is not necessary, not justified and does not help ensure emissions be minimized. Instead, monthly to yearly opacity readings, pursuant to EPA Method 9, will better ensure compliance with Regulation 6. Additionally, the suggested procedures will be far more cost effective and better document the consistency of compliance than can be hoped for by requiring annual particulate testing. Eric Hengst, consultant for Valero, has written to request that the Title V permit be changed to allow an alternative method of demonstrating compliance **(his memo is attached)**. I concur with the basis of this request. The following observations and recommendations are made to guide Permits in drafting permit language that is necessary and reasonable with regard to these three sources.

S-11: The WWTP activated carbon bin is reloaded from 2 to 3 hours per month. The exhaust points down to the deck of the silo top. If significant particulate is being exhausted, evidence of those emissions would be easily observed on the deck surface on top of the silo.
Recommendation: Inspect the baghouse top platform at the conclusion of any loading event. Require a Plume Evaluation Reading (PER) once per year during a loading operation. Maintenance activity should be initiated any time the platform deck suggests particulate emissions are getting through the A-6 baghouse. Eliminate the requirement for an annual particulate test.

S-160: The seal oil sparger is not testable. Its 2 inch size precludes any particulate sampling. There is no access to the emission point. Visible emissions are negligible. This source easily meets Regulation 6 limitations.
Recommendation: Require semi-annual PER on an "as-found" basis. Eliminate the requirement for an annual particulate test.

S-233: The ESP fines storage bin exhaust (3 inch diameter) is not testable. Its 3 inch size precludes any particulate sampling. Monthly visual monitoring would adequately address the need to document continued compliance with Regulation 6 limits.
Recommendation: Require monthly PER on an "as-found" basis. Eliminate the requirement for an annual particulate test.

Tim Underwood

From: Hengst, Eric [Eric.Hengst@valero.com]
Sent: Friday, February 18, 2005 12:28 PM
To: Tim Underwood
Subject: Valero Grain Loading Proposal

Tim, Valero's Title V permit includes Condition 19466 Part 7, which requires annual source tests for several potential sources of particulate emissions to demonstrate compliance with Regulation 6-310, (outlet grain loading less than 0.15 grains/dscf). This permit condition became effective on April 1, 2004, per Condition 19466 Part 16.

Condition 19466 Part 7 also recognized that three sources, specifically S-11 WWTP activated carbon bin, S-160 Alky compressor seal oil sparger vent, and S-233 ESP fines storage bin, had small or non-uniform vents which did not conform with the source test sampling requirements for grain loading set forth in the District's MOP. Accordingly, the Condition required that Valero submit an alternate source test plan for these sources to the District by April 1, 2004, and that the source tests be conducted within one year of approval of the alternate source test plans. Valero submitted the alternate source test plan on April 1, 2004, and recently contacted the District to obtain an update on alternate test plan approval.

In addition to the annual source tests for particulate grain loading required by Condition 19466 Part 7, Valero's Title V permit includes Condition 19466 Part 3, which requires monthly visible emissions monitoring of several potential sources of particulate emissions to demonstrate compliance with Regulation 6-301 (Ringlemann No. 1 or 20% opacity). This permit condition also became effective on April 1, 2004, per Condition 19466 Part 16. To comply with this task, Valero has retained an environmental contractor who is a certified opacity reader, to perform the monthly visible emissions observations. Monthly visible emissions monitoring is required for the above three sources (S-11, S-160, and S-233), in addition to annual source testing for grain loading for these sources.

Based on recent discussions with District staff and visible emissions monitoring data for these three sources, Valero believes that the annual source tests for grain loading are not justified for the following reasons:

1. Monthly visible emissions inspections over the past 10 months for all three sources have recorded 0% opacity for both the average and highest Ringlemann readings. Based on District experience, a visible emissions observation of Ringlemann No. 1 is comparable to a particulates grain loading of about 0.15 grains/dscf. Continued visible emissions observations of 0% opacity for these three sources by a certified opacity reader provides adequate assurance of compliance with the grain loadings limit of 0.15 grains/dscf.

2. The three sources represent small sources of particulate emissions.

S-11 WWTP activated carbon bin unloads about one truck of carbon per month for about 2-3 hours. Truck deliveries can occur at any time, day or night. During this brief timeframe, the bin vents to atmosphere through A-6 baghouse. The rest of the time, the bin downgauges as activated carbon is injected into the wastewater. Hence, the bin intermittently vents (abated) to atmosphere less than 0.5% of the time. The emission point is a rectangular vent which points downward at the top platform of the bin. If the bin were venting particulates, there would be some accumulation of particulates on the platform. To date, there has been no evidence of particulates on the platform.

S-160 Alky compressor (C-1031) seal oil sparger has a small 2" diameter vent, which would require scaffolding to safely access and sample this emission point. As discussed above, consistent visible emissions observations of 0% opacity indicate that the corresponding grain loading is negligible. Even if the grain loading were 0.15 grains/dscf, a typical nitrogen sparger rate of about 12 scfm would result in less than 0.5 lbs/day of PM emissions. This very low potential for PM emissions does not justify the high cost of performing a source test to determine a grain loading for this vent, based on its excellent compliance history of no visible emissions.

2/18/2005

S-233 Electrostatic Precipitator (ESP) fines storage bin vents to atmosphere through A-55 baghouse and a 3" diameter vent located about 10' above grade. As discussed above, consistent visible emissions observations of 0% opacity indicate that the corresponding grain loading is negligible. Even if the grain loading were 0.15 grains/dscf, a typical air blower rate of about 260 scfm would result in only about 8 lbs/day of PM emissions. This very low potential for PM emissions does not justify the high cost of performing a source test to determine a grain loading for this vent, based on its excellent compliance history of no visible emissions.

In summary, Valero believes that monthly visible emissions monitoring by a certified opacity reader is appropriate and cost effective for assuring compliance with the grain loading limit, based on the excellent compliance history to date for monthly visible emissions monitoring. For S-11 intermittent vent, if there is evidence or accumulation of particulates on the top platform by A-6 baghouse or visible emissions are observed, then Valero will perform maintenance on the baghouse and/or adjust carbon truck unloading to mitigate emissions. For S-160 and S-233 continuous vents, if there is any significant increase in visible emissions, Valero will initiate an investigation and take appropriate action to correct the situation.

If you have any questions on this issue, please contact me at (707) 745-7385. Thanks. Eric.

2/18/2005

APPENDIX C Compliance Division Summary of NOV Review

Key to Abbreviations used in this Appendix:

Column Title:	Description:
V#	The District violation identification number
S#	The District permitted source identification number
Occur	The violation or occurrence date
Issued	The date the Notice of Violation was issued
Reg	The regulation allegedly violated
Violation Comments	Summarized description of the alleged violation
Compliance Achieved	The date the District determined the violation to cease and/or to be back in compliance
# NOVs	The number of violations issued during the 4-year period for this source (1/1/2001-12/31/2004)
Ongoing	Ongoing Violations Code: A-Single-day Violation, Single Violation in 4-year period B- Single-day Violation, Multiple/Repeat Violations in 4-year period, Different Causes C-Multi-day Violation, Single Violation in 4-year period D-Multi-day Violation, Multiple/Repeat Violations in 4-year period, Different Causes E-Ongoing/recurring violation requiring a compliance schedule