

Bay Area Air Quality Management District

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**Permit Evaluation
and
Statement of Basis
for
MAJOR FACILITY REVIEW PERMIT
Reopening – Revision 1**

for
**Valero Benicia Asphalt Plant
Facility #A0901**

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August, 2004

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Title V Statement of Basis

A. Background

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

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

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

The District issued the initial Title V permit to this facility on December 1, 2003. The District has reopened the permit to amend Regulation 9, Rule 10 requirements, to correct errors, and to incorporate changes to two sources. All changes to the permit will be clearly shown in "strikeout/underline" format. When the permit is finalized, the "strikeout/underline" format will be removed.

The District is soliciting public comment on the proposed revisions. The District is also soliciting comment on changes that were made between the version of the permits that were issued for public comment in July of 2003 and the final permits issued December 1, 2003. Though the District does not believe these changes were of such a magnitude as to render the issuance notice and comment process inadequate, these permits were the subject of considerable scrutiny, and so the District wishes to be as thorough as possible in allowing an opportunity for comment on all aspects of the final permits. The District will respond to comments received on these changes from draft to final. Any changes to the permit that result from comments received will be addressed in a future revision.

Regarding EPA's review of the final permits, EPA has indicated to the District that, because of the extent of changes made between proposal and final, it intends to conduct a new review of the refinery permits in their entirety. The District acknowledges that EPA has this authority and intends to respond appropriately to any issues EPA may raise in its review, whether or not those issues relate to the proposed revisions. EPA has informed the District that it intends to commence a 45-day review period on the entire content of each refinery Title V permit when it receives the version of the permit that is proposed for revision.

This statement of basis concerns only changes to the permit. A comprehensive statement of basis was prepared for the initial issuance of the permit and is considered to be the statement for basis for the entire permit. It is available on request.

The public comment period for this reopening started on March 1, 2004, and closed on April 14, 2004. Comments were received from the facility on April 14, 2004. Most of the changes to the permit are based on comments from the facility. No comments from the public were received. A comment from EPA regarding Subpart J of the New Source Performance Standards applies to this facility, but no comments from EPA were directed at this facility.

B. Facility Description

The Valero Benicia Asphalt Plant is a small-scale petroleum refinery that primarily produces asphalt from crude oil. The by-products-naphtha, kerosene, and gas oil-are transferred to the adjacent Valero fuel refinery or sold to other companies for the production of other petroleum products.

The processes used at the facility are: distillation, vacuum distillation, blending, organic liquid storage, asphalt storage, organic liquid loading, and asphalt loading.

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

<http://www.epa.gov/ttn/chief/ap42>

This document contains descriptions of tank and their emissions and combustion units and their emissions.

The principal sources of air emissions from this refinery are:

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

Combustion unit emissions are generally controlled through the use of burner technology. Storage tank emissions are controlled through the use of add-on control and or fitting loss control. Fugitive emissions have been controlled through the use of inspection and maintenance. Wastewater treatment facilities are controlled by covering units, gasketing covers, and add on controls, such as carbon canisters. Caustic scrubbers control the H₂S in the refinery gas from the crude distillation.

C. Permit Content

The legal and factual basis for the permit revision follows. The permit sections are described in the order that they are presented in the permit. Generally, this statement of basis/permit evaluation addresses only the proposed revisions to the permit. A comprehensive statement of basis was prepared for the initial issuance of the permit and is available on request.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. If the Title IV (Acid Rain) requirements for certain fossil-fuel fired electrical generating facilities or the accidental release (40 CFR § 68) programs apply, the section will contain a standard condition pertaining to these programs. Many of these conditions derive from 40 CFR § 70.6, Permit Content, which dictates certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit.

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

Changes to the permit in this revision:

None

II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S24 or S-24).

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

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

This facility has no sources that are significant but do not require District permits pursuant to BAAQMD Rule 2-1-302.

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A-24). If a source is also an abatement device, such as when an engine controls VOC emissions, it will be listed in this table but will have an "S" number. An abatement device that is also a source (such as a thermal oxidizer that burns fuel) will have an "A" number.

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

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

Changes to the permit in this revision:

S20, Steam Boiler

The capacity of this source was corrected to its original capacity, 14.7 MMbtu/hr, instead of 15 MMbtu/hr, as requested by the permittee in the appeal of the permit.

A31, Thermal Oxidizer, S66, Oil-Water Separator

Citation of S66 was removed the line in Table II-B regarding the use of A31 to comply with 40 CFR 60.472(c) , as requested by the permittee in the appeal of the permit. This is an asphalt processing standard to which the oil-water separator is not subject.

Changes to the permit after public comment

Table II-A, Equipment

At the permittee's request, the description of S16 has been changed from "Loading Racks-Kerosene or Distillate Oil" to "Truck Loading Rack-Heavy Vacuum Gas Oil" since the source is described as "Kerosene and Heavy Vacuum Gas Oil Loading Rack" in the pre-existing conditions at Condition 1240, part II.90.

S29, Naphtha Merox Treater, was removed from because it has been dismantled. Since this is an administrative amendment pursuant to BAAQMD Regulation 2-6-201, this change requires no public notice.

Table II-B, Abatement Devices

S31 has been added to the list of sources that is controlled by S24, Hot Oil Heater, along with citation of BAAQMD Regulation 8-6-301, since S24 is the backup abatement device for A31, Thermal Oxidizer.

The description of the refinery fuel gas burned by S19, Vacuum Heater, has been changed from "refinery gas" to "asphalt plant refinery fuel gas" to distinguish between refinery fuel gas that is generated at the asphalt plant and refinery fuel gas that is generated at the main refinery.

S66, Oil Water Separator has been added to the list of sources controlled by A31 that are subject to 61.349(a)(2)(i)(A) because it is an oil-water separator that is subject to the NESHAPS.

S32 has been deleted from the list of sources controlled by S19 since S32 no longer exists.

S54, Oil Water Separator has been added to the list of sources controlled by S24 that are subject to BAAQMD Condition I.14.

III. Generally Applicable Requirements

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

standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound), are placed in this section.

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

Changes to the permit in this revision:

The following language was added to the heading for this section: "This section also contains provisions that may apply to temporary sources." Also, BAAQMD Regulation 8, Rules 40, Aeration of Contaminated Soil and Removal of Underground Storage Tanks, and 47, Air Stripping and Soil Vapor Extraction Operations, were added. Contractors who have portable permits, that is, permits with conditions that allow them to operate at more than one site, often perform these types of operations.

Changes to the permit after public comment:

The current Regulation 8, Rules 3 and 4, have been adopted into the SIP on 1/2/04 and 8/26/03, respectively. Therefore the citation of a separate SIP rule has been deleted and the designation on the current District rules was changed to "Federally Enforceable." Since this is an administrative amendment pursuant to BAAQMD Regulation 2-6-201, this change requires no public notice.

IV. Source-Specific Applicable Requirements

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

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

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District's or EPA's

websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

Complex Applicability Determinations

The facility (Valero Asphalt) is subject to certain requirements because it is owned by Valero Refining Company. The facility is also contiguous to the Valero Refining Company facility in Benicia. Based on the definition of facility in Regulation 2-6-206, facilities that are under the same ownership or control and that are located on contiguous property are considered to be the same facility for Federal Clean Air Act purposes.

S19, Vacuum Heater, is subject to 40 CFR 60, Subpart J, because it is a fuel gas combustion device and was built after June 11, 1973. The source is subject to the sulfur standard in Section 63.104(a)(1), which states that the source may not burn any fuel gas that contains hydrogen sulfide (H₂S) in excess of 0.10 gr/dscf. This standard is equivalent to approximately 256 ppmv H₂S. Compliance is determined by the use of a hydrogen sulfide continuous emission monitor.

Subpart J

EPA commented that NSPS Subpart J, an EPA-promulgated standard, is applicable to thermal oxidizers at petroleum refineries. EPA notes that thermal oxidizers combust gas, and are therefore a “fuel gas combustion device,” which is defined at 40 CFR § 60.102(g) to mean “any equipment, such as process heaters, boilers and flares used to combust fuel gas ...” Although thermal oxidizers in most instances combust gas for no purpose other than abatement of the gas stream, and although gas combusted in a thermal oxidizer may or may not have heating value sufficient to serve as fuel gas for refinery processes, the NSPS J definition of fuel gas is clear in declaring a “fuel gas” to be “any gas which is generated at a petroleum refinery which is combusted.” See 40 CFR § 60.101(d).

If EPA’s comment is correct, then Subpart J would be incorporated into the Title V permit as an applicable requirement for thermal oxidizers A4, A31, and S24, and a schedule of compliance would be established addressing instances of non-compliance. Because incorporation of Subpart J for these units was not part of the Revision 1 proposal, and because the issue deserves consideration based after an opportunity comment by all interested parties, the District will address incorporation of Subpart J for these units in the next revision. In the mean time, no Title V permit shield is provided, and so the Title V permit does not impact the applicability of Subpart J as a federal matter. Accordingly, the District encourages refineries with affected fuel gas combustion devices to be considering their compliance options even while the next revision is pending.

NOx Box

The following discussion explains changes to refinery permit conditions prescribing monitoring for compliance with Regulation 9-10 at units for which CEMs are not required, commonly known as the “NOx Box” permit conditions. To facilitate the reader’s understanding of the

proposed changes, this discussion provides background on the 9-10 rule and CEM-equivalency monitoring provided for therein.

Regulation 9-10 requires each refinery to reduce NO_x emissions from boilers and heaters. All of the boilers and heaters at each refinery above 10 MMBTU that were in existence on January 5, 1994 are included in determination of compliance with a facility-wide average emission rate of 0.033 lb/MMbtu. BAAQMD 9-10-301.

In order to demonstrate compliance, each affected heater must be equipped with a NO_x CEM, or equivalent verification system (BAAQMD 9-10-502). Where combustion processes are sufficiently static over time, emissions factors combined with MMBtu data can be used to verify compliance with accuracy equivalent to that of CEMs. An emissions factor approach can be deemed equivalent if the integrity of the emissions factors can be assured. The NO_x Box approach does this by: 1) verifying emissions factor accuracy through source-testing, 2) defining the parameters of operation within which emissions factors have been proven, and 3) requiring that any excursions outside of those parameters be the subject of a new source test.

Source tests to establish the NO_x Box are conducted at extreme operating conditions (the “corners” of the NO_x Box). As long as the facility operates within the perimeter defined by these source tests, emissions are assumed to be equal to the highest emission rate tested. By monitoring firing rate and O₂ in the exhaust, the validity of using the emission factor is reasonably assured. Periodic source tests confirm that the emission factor is still valid for the operating range. Operation outside the box results in scrutiny to determine compliance with the emission standard, including conduct of a test at the unproven conditions.

That the NO_x Box approach is consistent with the intent of Regulation 9-10 is evidenced in the District Staff Report for that rule, which stated:

“District staff recommends that CEMS be only required on units equipped with SCR and SNCR due to high capital and maintenance costs. NO_x can vary significantly for SCR and SNCR units based on temperature and amount of ammonia injected. On the contrary, NO_x from non-SCR and SNCR units equipped with FGR and low NO_x burners and are relatively stable and CEMS should not be necessary for these units.”

Rule Development Staff Report, Regulation 9, Rule 10, November 19, 1993, p. 7.

Federal Enforceability

9-10-301 and 9-10-502 are not included in the SIP, and are therefore not federally enforceable. Revisions to the NO_x Box Condition in the Title V permit may be made by Administrative Amendment. BAAQMD 2-6-201.

Changes from the current conditions

The current Title V refinery permits contain NO_x Box conditions based on an earlier District policy for demonstrating verification system equivalence. Experience with implementation of

these conditions has allowed the District to identify certain areas for improvement. One problem with the current set of conditions is that it allows sustained operation at conditions that have never been tested for compliance with the NOx Box emission factor.

The proposed condition addresses this problem, and several others that have been raised by EPA, the facilities, and the public.

The changes can be summarized as follows:

- The old policy allowed for operation at conditions outside the perimeter of test conditions. The reason for this was to account for the fact that requiring the facility to test the furnace at specific conditions could have an expensive impact on production. While this is still true, there was also considerable opportunity for circumvention, where a facility could have sustained operation outside the box, and then test at conditions that happened to be well within the box. The new policy requires that a test be conducted that would capture the new conditions. The impact on process operation is mitigated by allowing the facility to delay testing until the next periodic source test.
- The old policy used one emission factor for all allowable operating conditions. The new policy allows two boxes, with two factors. One lower factor applies to routine operating conditions, while another higher factor may be used for normal operation at higher levels. This provides more flexibility without sacrificing the assurance of compliance.
- The NOx box can be a 5-sided polygon, rather than a simple box.
- Because the policy is, in some ways, more stringent, time to conduct the source tests to establish the new boxes has been allowed. Existing NOx Box conditions will remain in effect until June 1, 2004, when they will be replaced by the new conditions.
- Under the old policy, two Notices of Violations (NOVs) issued because of a single source would automatically trigger a requirement to install a NOx CEM. Under the new policy, two NOVs will trigger a review by District staff to determine if the NOx Box for that source is still deemed equivalent to a NOx CEM. If it is not, a NOx CEM will be required.
- The new policy allows a facility to operate at low firing rates (idling) for a limited period of time, without having to expand the box to include those conditions. There are two reasons for this. First, emissions at low fire are much lower than normal, even if the emission factor is higher. Second, it is an extreme hardship to require the facility to turn down its production in order to test at very low fire conditions.

The following summarizes the various parts of the proposed NOx Box conditions:

Part 1 of the condition lists all of the combustion devices subject to 9-10-301.

Part 2 requires installation of oxygen monitors. This is necessary because some of the smaller heaters are not required by Regulation 9-10 to have oxygen monitors. Oxygen content must be monitored continuously to demonstrate compliance with the condition. Operators will be allowed six months to install any newly-required oxygen monitors.

Part 3 requires operation of each combustion device within the box. Failure to operate within the box is a violation of this condition, unless excused by one of the deviation procedures in Part 7.

Part 3B covers small units (<25MMBH). The NOx Box for small units is essentially the entire potential operating range for the unit. Rather than establishing the “corners” of the box, the box is defined to be the full range of firing rates, and all possible oxygen contents. Existing data may be used to establish the emission factor that will be applied. Unless the unit is fired above its rated capacity, it is not possible to operate outside the box. An annual source test will confirm that the factor used is still valid.

Part 4 requires the operators to conduct the source tests necessary to establish the initial NOx boxes. Each combustion device may have two NOx boxes, one larger than the other. The smaller NOx box, with the lower emission factor, represents the typical operating range of the unit. As long as the unit operates within this range, the listed emission factor and the measured firing rate will be used to determine the unit’s contribution to the refinery-wide average. The operator may choose to have a second, larger box, to cover unusual operating conditions. This larger box will have a higher emission factor associated with it. The allowance for two boxes means that a higher emission factor can be used for occasional operation at harsher, higher-emitting conditions, while still allowing use of a lower emission factor during normal operation. The District believes this is an appropriate degree of flexibility that does not unduly complicate implementation.

The NOx box may be expanded by replacing corner points with new ones that have been tested. The operator may also decide to increase the emission factor associated with a NOx box. This may allow operation at a wider range of conditions; it may be necessary because a source test has shown that the old factor is no longer valid; it may be desirable to provide a margin of compliance.

Part 5 describes the actual NOx box.

Part 5A contains the table that defines the perimeter of the NOx box, the perimeter of the second NOx box (if the operator chooses to use one), and the emission factors used

Part 5B allows established emission factors to be used for operation outside the box at low firing rate conditions. Although NOx or CO emission factors (expressed as lb/MMbtu) may be higher under these conditions, overall emissions are lower because of the greatly reduced firing rate. Testing under these conditions would have a significant cost because the operator would need to reduce firing (and production) to conduct a test. Instead, reduced firing will be treated in the same manner as a shutdown: for purposes of calculating the refinery average, the furnace will be treated as if it were operating at its normal firing rate and emission rate. In other words, though emission factors may be inaccurate in this low-firing range, there is not a possibility that emissions will be underestimated.

Part 5C allows a facility to conduct source tests outside the NOx box in order to increase the range of allowable operation.

Part 6 describes the steps to be taken if operation outside the box occurs.

Operation outside the range for which the emission factor has been demonstrated raises certain questions. Is the emission factor valid for these conditions? If not, and if emissions were higher, did the higher emissions result in a violation of the refinery-wide average? The procedures of this part answer these questions.

Operation outside the NOx box triggers a requirement for the operator to test the unit under conditions that capture the new operating conditions. The test may be conducted in lieu of the next scheduled periodic source test (small furnaces, which may not normally be tested so soon, will have to be tested within 8 months). It is possible that the operator may not be able to reproduce the operating conditions during a source test. Failure to conduct the test will result in a violation of the Part 5 of the permit condition, and would be considered a violation of 9-10-502. If more than one such violation occurs during a 5-year period at a given unit, the District will review the NOx Box for that unit to determine whether it is, in fact, equivalent to a CEM. The District considered whether to establish in permit conditions a threshold for concluding that the NOx Box approach was inadequate for a particular unit and that CEMs must be installed. However, a simple algorithm for making this determination was not apparent. Instead, the District will evaluate each situation case by case, and will use its authorities to require installation of a CEM where appropriate.

If the test shows that emissions are below the factor used for the box, then no violation has occurred. The operator may choose to expand the box to utilize the new test results. This emission factor will then be used in the future.

If, however, the test shows that the emission factor for the new operating conditions exceeds the NOx box factor, the operator must reassess past emissions utilizing the higher emission factor. This may result in violations of the refinery-wide average (Regulation 9-10-301).

Part 7 requires periodic source tests to demonstrate that the NOx Box factor is still valid. Usually, tests will be conducted at whatever conditions the unit is operating at on the day of the test. If, however, it has been some time since the extreme corners of the box have been tested, or if there is reason to believe that difficult operating conditions are being avoided during tests, the APCO may require that the test be conducted under specific conditions.

Small furnaces are tested once per year. Large furnaces are tested every six months.

Part 8 requires installation of a CO CEM if two sources tests show CO levels greater than 200 ppm. Normal CO concentrations are an order of magnitude lower. One high CO reading is an anomaly. Two high readings are an indication that CO may be a problem, and continuous monitoring of firing rate and O2 is not equivalent to continuous monitoring for CO.

Part 9 requires maintenance of records for the monitoring required by the permit condition.

Other changes to the permit in this revision:

General Asphalt Plant Requirements

BAAQMD Regulation 8-5-605, Pressure-Vacuum Valve Gas Tight Determination, was deleted from Table IV-A, General Asphalt Plant Requirements, because it is a tank requirement that is cited in the tank tables where necessary.

BAAQMD Regulation 9-1-302, General Emission Limitation, was deleted from Table IV-A, General Asphalt Plant Requirements, because it does not apply to facilities that have ground level monitoring pursuant to BAAQMD Regulation 1, General Requirements.

BAAQMD Condition 1240, part I.20 has been deleted from Table IV-A, General Asphalt Plant Requirements, as requested by the permittee in the appeal of the permit, because it is essentially the same condition as Standard Condition I.J.3.

40 CFR 60, Subpart Kb

The description of 40 CFR 60.110b has been corrected in the tables for S9, S13, S59, and S63, because EPA raised the applicability criteria for tanks from 40 cubic meters to 75 cubic meters.

BAAQMD Regulation 6-401

BAAQMD Regulation 6-401, Appearance of Emissions, was deleted from the tables for S19, S20, S21, S24, and S34, Heaters, because it does not apply to gas fired heat transfer operations regulated by Sections 6-301.

S13, S59, S63, Tanks

BAAQMD Condition 1240, part II.32e, omitted in error, was added to the tables for S13, S59, S63, Tanks.

S14, Loading Rack

BAAQMD Condition 1240, parts II.59a and II.59b, omitted in error, were added to the table for S14, Loading Rack.

S15, Loading Rack

BAAQMD Condition 1240, parts II.62a and II.62b, omitted in error, were added to the table for S15, Loading Rack.

S24, Hot Oil Heater

The monitoring frequency for valves subject to BAAQMD Condition 1240, part II.86, has been changed from "P/Q" to "P/Q or A" because the conditions states that the limit shall be monitored in accordance with BAAQMD Regulation 8, Rule 18, and Section 404 of the rule allows valves to be monitored on an annual basis under certain circumstances. All other fittings will continue to be monitored on a quarterly basis.

S31, Loading Rack

BAAQMD Condition 1240, parts II.72a and II.72b, omitted in error, were added to the table for S14, Loading Rack.

S66, Oil-Water Separator

The monitoring frequency for valves subject to BAAQMD Condition 1240, part II.86, has been changed from "P/Q" to "P/Q or A" because the conditions states that the limit shall be monitored in accordance with BAAQMD Regulation 8, Rule 18, and Section 404 of the rule allows valves to be monitored on an annual basis under certain circumstances. All other fittings will continue to be monitored on a quarterly basis.

S69, Asphalt Additive Loading Bin

BAAQMD Condition 20278 has been revised in accordance with Application 7471 for a throughput increases at S69, Asphalt Additive Loading Bin, and S70, Asphalt Additive Mixing Tank.

S70, Asphalt Additive Mixing Tank

The requirements of 40 CFR 63, Subpart CC have been deleted from the table for this source because storage vessels are defined in Section 63.641 as vessels larger than 40 cubic meters for the purposes of this standard. Since the tank volume is 8.3 cubic meters, it is not subject to the standard.

BAAQMD Condition 20278 has been revised in accordance with Application 7471 for a throughput increases at S69, Asphalt Additive Loading Bin, and S70, Asphalt Additive Mixing Tank.

A31, Thermal Oxidizer

The citation of BAAQMD Condition 1240, part 55, in the table for A31 was corrected to include the right sources that are being abated.

The monitoring frequency for valves subject to BAAQMD Condition 1240, part II.86, has been changed from "P/Q" to "P/Q or A" because the conditions states that the limit shall be monitored in accordance with BAAQMD Regulation 8, Rule 18, and Section 404 of the rule allows valves to be monitored on an annual basis under certain circumstances. All other fittings will continue to be monitored on a quarterly basis.

Changes to the permit after public comment

The "Federally Enforceable" column has been changed to "Y" for all instances of BAAQMD Regulation 8-5-117.

The references to SIP 1-523.5 have been deleted because this section does not exist in the SIP.

In all references to BAAQMD Condition 1240, part II.58b, citations in the basis of 61.356(f)(2)(i)(A), and 61.356(f)(2)(i)(C) from 40 CFR 61, Subpart FF, the Benzene Waste NESHAPS, were deleted, and 61.354(c)(1) was inserted because the facility will comply through the use of performance tests, not engineering calculations. In the response to Valero Asphalt comments dated December 1, 2003, the District acknowledged that this compliance option was chosen by the facility.

General Asphalt Plant Requirements, Table IV-A

The federal enforceability of BAAQMD Regulation 8-28-302 was changed from "N" to "Y". The title of the requirement for the SIP rule has been changed because it was in error. Since these are typographical errors and therefore administrative amendments pursuant to BAAQMD Regulation 2-6-201, these changes require no public notice.

40 CFR 63.5(a) has been deleted because it is just a title.

40 CFR 63.5(b)(5) has been deleted because it has been reserved in the new standard.

The citation of 40 CFR 63.8(f)(4)(ii) was corrected to 40 CFR 63.8(f)(5)(ii) and placed in the proper order.

40 CFR 63.8(f)(4)(iv) was added to Table IV-A of the permit at the permittee's request. This provision is for applications for minor changes to monitoring procedures.

The title of 40 CFR 63.5(f)(1) has been corrected from "local pre-construction review" to "prior state pre-construction review."

The citation and title of SIP regulation 8-28-301 have been corrected. Since this a typographical error and therefore, an administrative amendment pursuant to BAAQMD Regulation 2-6-201, this change requires no public notice.

BAAQMD Condition 1240, part I.15, the prohibition against using wastewater for dust control, the citation has been corrected from "asphalt plant and asphalt plant wastewater" to " asphalt plant wastewater and refinery wastewater."

Tanks

The tables for tanks S1, S2, S4, S9, S13, S23, S59, and S63, a citation of BAAQMD Regulation 8-5-328.1 has been added before 8-5-328.1.2.

The description of 40 CFR 60.110b has been corrected in the tables for S1, S2, S4, and S23, because EPA raised the applicability criteria for tanks from 40 cubic meters to 75 cubic meters.

Citation of 40 CFR 60.116b(e)(2)(iii) in the table for S1, S2, S4, S23, Tanks, has been deleted because it does not exist.

The descriptions for 40 CFR 60.116b(e)(2)(i) and (ii) were corrected in the tables for S1, S2, S4, and S23, Tanks.

BAAQMD Regulation 8-5-322.6 has been added to the table for S9 because it was omitted in error. This requirement states: " The secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal."

In the table for S9, the following citations were added for determining true vapor pressure for crude oil and refined petroleum products: 60.116b(e)(2)(i) and (ii). The citations of 60.116b(e)(3)(i) through (iv) have been deleted because they apply to "other liquids." The heading, 40 CFR 60.116(e) was also added.

The requirements from 40 CFR 63, Subpart CC, have been added for sources S39, Lube Oil Tank, and S40, Latex Storage Tank because both tanks have a capacity that is larger than 40 cubic meters and can be considered subject to the regulation. Citation of 40 CFR 63.123(a) is also added since 40 CFR 63.654(i)(1) incorporates this section.

Wastewater

The following citation has been added to sources S12, Wastewater Tank; S25, Effluent Water Feed Tank; and S28, Effluent Water Feed Tank: 40 CFR 61.356(f)(3) since the facility will comply with the performance test option. Response: The District previously agreed to make this change in the transmittal letter of December 1, 2003. The change was omitted in error.

In the table for S27, references to 40 CFR 61, Subpart FF, Sections 349(a)(2)(i) and 349(a)(2)(i)(A) have been deleted and Section 349(a)(2)(ii) has been added because the source is subject to the requirements for vapor recovery systems.

In the table for S66, reference to BAAQMD Regulation 8-8-602, Determination of Emissions, has been deleted because there is no requirement to determine emissions periodically. The test method referenced in the regulation is in Section VII, Test Methods, cross-referenced to the limits in the rule.

In the table for S66, references to 40 CFR 61, Subpart FF, Section 349(c)(1) have been deleted and Section 349(c)(2) has been added because the facility will comply through the use of performance tests, not engineering calculations. Section 354(c)(1) has been added for temperature monitoring for the thermal oxidizer. In the response to Valero Asphalt comments dated December 1, 2003, the District acknowledged that this compliance option was chosen by the facility.

In the table for Components, the reference to 40 CFR 61, Subpart FF, Sections 347(b) has been deleted because it applies only to oil-water separators and it is cited in the table for S66, Oil-Water Separator.

Combustion sources

In the tables for S19, S20, and S21, the references to SIP 9-10-502.1 have been deleted because this section was not approved into the SIP. The citation was also deleted from the monitoring citations for SIP Regulation 9-10-303 in the Section VII tables for the same sources. The monitoring citation has been replaced with the annual or semi-annual source testing requirement in BAAQMD Condition 20617, part 7a.

In the tables for sources S19, S20, and S21, the basis of BAAQMD Condition 19329, part 1 has been corrected from Regulation 9, Rule 10, to "Regulation 2-9-303.4.1."

In the tables for S20 and S21, citation of Regulation 9-10-504.1 under 9-10-504 has been added to show that 9-10-504.2 does not apply. The District agreed to this correction for initial issuance, but the change was not made to the permit.

In the tables for S19, S20, and S21, Condition 20617, that implements monitoring for BAAQMD Regulation 9, Rule 10, has been changed to Condition 21233 because Valero Asphalt and Valero Refining are one facility and should have one condition. Condition 21233 is equivalent to Condition 20617.

The requirement for oxygen monitors in BAAQMD Condition 21233 has been modified so that it does not apply to combustion sources under 25 MMBtu/hr, since there is oxygen limit. Therefore, it has been deleted from the tables for S20 and S21.

In the tables for S19, S20, and S21, Condition 2123 (was 20617), the effective date has been changed to December 1, 2004. This administrative amendment was issued on May 27, 2004. The change is an administrative amendment because it is a change to non-federally enforceable conditions pursuant to BAAQMD Regulation 2-6-201.

In the table for S24, citation of Regulation 9-10-505.1 under 9-10-505 has been added to show that 9-10-505.2 does not apply. The section does not apply because the facility is not required to have CEMs at S24.

The citations for BAAQMD and SIP Regulations 1-523 have been added to the tables for S20 and S21, Steam Boilers, because the sources have fuel flow monitors that are subject to the parametric monitor requirements. Since this is a minor revision pursuant to BAAQMD Regulation 2-6-215, this change requires no public notice.

The citation number, inadvertently dropped, was added for the citation of BAAQMD Regulation 2-9-502 in the tables for S20 and S21.

In the table for S24, Condition 1240, part I.10 has been corrected to II.10 and has been placed in numerical order. Since this is a typographical error and therefore an administrative amendment pursuant to BAAQMD Regulation 2-6-201, this change requires no public notice.

In the table for S24, the following missing citations have been added: BAAQMD Regulation 8-6-301. The reason is that S31 has been added to the list of sources that is controlled by S24, Hot Oil Heater, since S24 is the backup abatement device for A31, Thermal Oxidizer.

In the table for S24, the following missing citations have been added: 9-10-504, 9-10-504.2, and 9-10-505.

In the table for S24 and A31, references to 40 CFR 60, Subparts A and J, have been added because these sources burn fuel gas as defined in 40 CFR 60.101(d).

In the table for S24, Hot Oil Heater, 40 CFR 61.355(i), 61.356(j)(3)(i), and 61.356(j)(6) have been added. These are the citations regarding performance tests and monitoring for control devices. The District agreed to this correction for initial issuance, but the changes were not made to the permit.

In the table for S24, references to 40 CFR 61, Subpart FF, Section 356(f)(2) have been deleted because the facility will comply through the use of performance tests, not engineering calculations. In the response to Valero Asphalt comments dated December 1, 2003, the District acknowledged that this compliance option was chosen by the facility.

In the table for S24, the references to 40 CFR 61, Subpart FF, Sections 356(j)(4) and 61.357(d)(7)(iv)(A) have been deleted and references to 356(j)(6) and 61.357(d)(7)(iv)(C) have been added because S24 is a process heater, not a thermal oxidizer.

In the table for S24, a citation of 40 CFR 61, Subpart FF, Section 356(j)(3)(i) regarding recordkeeping of carseals has been added as well as the reference of 40 CFR 61, Subpart FF, Section 349(a)(1)(ii)(B) that allows the facility to have a carseal or lock-and-key configuration on the bypass line in place of a flow monitor.

In the table for A4, Thermal Oxidizer, "Part II.62" has been deleted from the "Future Effective" date column. Since this is a typographical error and therefore an administrative amendment pursuant to BAAQMD Regulation 2-6-201, this change requires no public notice.

In the table for A31, the reference to 40 CFR 61, Subpart FF, Section 356(f)(2)(A) has been deleted because the facility will comply through the use of performance tests, not engineering calculations. In the response to Valero Asphalt comments dated December 1, 2003, the District acknowledged that this compliance option was chosen by the facility.

In the table for A31, Thermal Oxidizer, the duplicate permit condition BAAQMD Condition 1240, part II.10 has been deleted. Since this is a typographical error and therefore an administrative amendment pursuant to BAAQMD Regulation 2-6-201, this change requires no public notice.

In the table for A31, Thermal Oxidizer, sources S60 and 65 were deleted and sources S38 and S70 were added in the reference to BAAQMD Condition 1240, part II.55. Since this is a typographical error and therefore an administrative amendment pursuant to BAAQMD Regulation 2-6-201, this change requires no public notice.

In the tables for S20, S21, S24, A4, and A31, BAAQMD Condition 1240, part III.3 has been added since it applies to all combustion sources except S68, Firewater Pump. The condition states:

"While any vessel is in port at the asphalt plant wharf, all asphalt plant combustion units, except for S68, Emergency Diesel Powered Firewater Pump, shall be fired exclusively on natural gas or refinery fuel gas with the maximum H₂S content of 10 ppm (by volume)."

Corresponding changes have been made to Section VII.

Loading Racks

The description of S16 in the title of table IV-AM has been changed from "Loading Racks-Kerosene or Distillate Oil" to "Truck Loading Rack-Heavy Vacuum Gas Oil" at the permittee's request since the source is described as "Kerosene and Heavy Vacuum Gas Oil Loading Rack" in the pre-existing conditions at Condition 1240, part II.90. The

condition will also be changed to say only "Heavy Vacuum Gas Oil." In addition, the titles of table IV-J and VII-J, and the description in Table II were changed.

The temperature excursion conditions (conditions 1240.I.19a, 19b, and 19c) have been deleted from the tables for S14, Truck Loading Racks – Naphtha; and S15, Truck Loading Racks – Gas Oil; S17, Truck Loading Racks – Asphalt; Loading Rack tables since they are listed in the Section IV table for the abatement device. Staff agreed to this correction for initial issuance, but the change was not made to the permit.

The requirement of Regulation 8, Rule 6, Organic Liquid Bulk Terminals and Bulk Plants, were deleted from the table for S54, Asphalt Loading Rack, because they do not apply since the vapor pressure of the asphalt is below 0.5 psia.

Miscellaneous sources

The table for S29, Naphtha Merox Treater, was removed because it has been dismantled. Since this is an administrative amendment pursuant to BAAQMD Regulation 2-6-201, this change requires no public notice.

Mention of S29, Naphtha Merox Treater, and its associated piping, was removed from the "Components" table because it has been dismantled. Since this is an administrative amendment pursuant to BAAQMD Regulation 2-6-201, this change requires no public notice.

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 only contains elements 2-6-409.10.1 and 2-6-409.10.2.

Changes to the permit in this revision:

There have been no changes in the facility's compliance status since the Title V permit was issued on December 1, 2003.

VI. Permit Conditions

As part of the Title V permit reopening, the District is proposing changes made to several permit conditions, these include: Regulation 9-10 requirements, and, as appropriate, revised conditions for clarity and enforceability. The Title V permit is being updated to accurately reflect these applicable requirements. All changes to existing permit conditions are clearly shown in “strike-out/underline” format in the proposed permit. When the permit is issued, all ‘strikeout’ language will be deleted; all “underline” language will be retained, subject to consideration of comments received.

Conditions that are obsolete or that have no regulatory basis have been deleted from this permit.

The regulatory basis has been referenced following each condition. The regulatory basis may be a rule or regulation. The District is also using the following codes for regulatory basis:

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

Changes to the permit in this revision:

General Conditions

BAAQMD Condition 1240, part I.20 has been deleted, as requested by the permittee in the appeal of the permit, because it is essentially the same condition as Standard Condition I.J.3, which has been retained.

BAAQMD Condition 1240, part I.13 has been amended so that existing H₂S monitoring will be used to assure compliance with BAAQMD Condition 1240, part III.3.

The following permit conditions are being incorporated into the Title V permit. These conditions were not included in the Title V permit as initially issued because they were either established or changed during or subsequent to the issuance process. Because the current action is merely to incorporate these conditions into the Title V permit, the District is not soliciting comment on the substance of these conditions. For informational purposes, however, the engineering evaluation for each condition is attached to this statement of basis.

The Valero Asphalt Plant number (A0901) and the capacities of sources S20 and S21 were corrected in Condition 19329.

S69, Asphalt Additive Loading Bin, and S70, Asphalt Additive Mixing Tank
BAAQMD Condition 20278 has been revised in accordance with Application 7471.

S20, S21, Steam Boilers at Plant 13193 (Facility A0901)
The capacity of the above sources has been corrected to 14.7 MMbtu/hr.

Changes to the permit after the public comment period

At the request of the permittee, the requirement in BAAQMD Condition 1240, part I.16a for semi-annual source testing for compliance with BAAQMD Regulation 9, Rule 10, has been deleted because it is redundant to BAAQMD Condition 20617. The facility will be allowed to submit the report in 45 days so that all testing and reporting is on the same schedule.

In BAAQMD Condition 1240, part II.58b, citations of 61.356(f)(2)(i)(A), and 61.356(f)(2)(i)(C) from 40 CFR 61, Subpart FF, the Benzene Waste NESHAPS, were deleted, and 61.354(c)(1) was inserted because the facility will comply through the use of performance tests, not engineering calculations. The Section IV tables with the mistaken citation have also been corrected. In the response to Valero Asphalt comments dated December 1, 2003, the District acknowledged that this compliance option was chosen by the facility.

In the table for S24, the following missing citations have been added: BAAQMD Regulation 8-6-301. The reason is that S31 has been added to the list of sources that is controlled by S24, Hot Oil Heater, since S24 is the backup abatement device for A31, Thermal Oxidizer.

S24 is the backup abatement device for A31, Thermal Oxidizer. Therefore, mention of S24 has been added to BAAQMD Condition 1240, parts II.65 and II.69, and the description of S31 before part II.65, since these conditions are concerned with abatement of emissions at S31.

At the request of the permittee, the description of S16 description before BAAQMD Condition 1240, part II.90 has been changed from "Kerosene and Heavy Vacuum Gas Oil Loading Rack" to "Truck Loading Rack-Heavy Vacuum Gas Oil." Since the description is more restrictive, the change has been made.

BAAQMD Condition 1240, part III.3 has been modified to clarify that the restriction on sulfur content in fuel at combustion sources while any vessel is in port only applies to the asphalt plant wharf. This condition predates the merger of the Valero refinery and the asphalt plant and this was the original intention.

Condition 20617, that implements monitoring for BAAQMD Regulation 9, Rule 10, has been changed to Condition 21233 because Valero Asphalt and Valero Refining are one facility and should have one condition. Condition 21233 is equivalent to Condition 20617.

The requirement for oxygen monitors in BAAQMD Condition 21233 has been modified so that it does not apply to combustion sources under 25 MMbtu/hr, since there is oxygen limit.

BAAQMD Condition 1240, part I.15, the prohibition against using wastewater for dust control, has been corrected from "asphalt plant and refinery wastewater" to "asphalt plant wastewater and refinery wastewater."

In the Section IV, Source-Specific Applicable Requirements, tables for S20, S21, S24, A4, and A31, BAAQMD Condition 1240, part III.3 has been added since it applies to all combustion sources except S68, Firewater Pump. Corresponding changes have been made to Section VII.

VII. Applicable Limits and Compliance Monitoring Requirements

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

An analysis of instances of limits where the District has imposed new monitoring or decided that no monitoring is necessary to assure compliance is contained in the statement of basis/permit evaluation for initial issuance.

Changes to the permit in this revision:

General Asphalt Plant Requirements

BAAQMD Regulation 9-1-302, General Emission Limitation, was deleted from Table VII-A, General Asphalt Plant Requirements, because it does not apply to facilities that have ground level monitoring pursuant to BAAQMD Regulation 1, General Requirements.

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The monitoring for BAAQMD Regulation 9, Rule 10 has been modified in accordance with the changes in Condition 21233 (was 20617). The changes are fully discussed in Section C.IV of this statement of basis.

S9, Naphtha Storage Tank

BAAQMD Regulation 8-5-320.5.2 and 8-5-320.5.3 have been removed from the table for S9 because the facility has stated that the tank has no slotted guidepoles or other similar fixed projections.

BAAQMD Regulation 8-5-320.6 has been removed from the table for S9 because it applies to roof drains and the tank has no roof drains.

The semi-annual monitoring for BAAQMD Regulation 8-5-321.1 has been deleted because it was included in error.

S24, Hot Oil Heater

The monitoring frequency for valves subject to BAAQMD Condition 1240, part II.86, has been changed from "P/Q" to "P/Q or A" because the conditions states that the limit shall be monitored in accordance with BAAQMD Regulation 8, Rule 18, and Section 404 of the rule allows valves to be monitored on an annual basis under certain circumstances. All other fittings will continue to be monitored on a quarterly basis.

A note has been added to clarify that footnote A regarding 8-18-404 is found at the end of Table VII-AL for "Components."

S63, Tank 31

A note has been added to clarify that footnote A regarding 8-18-404 is found at the end of Table VII-AL for "Components."

S66, Oil-Water Separator

The monitoring frequency for valves subject to BAAQMD Condition 1240, part II.86, has been changed from "P/Q" to "P/Q or A" because the conditions states that the limit shall be monitored in accordance with BAAQMD Regulation 8, Rule 18, and Section 404 of the rule allows valves to be monitored on an annual basis under certain circumstances. All other fittings will continue to be monitored on a quarterly basis.

S69, Asphalt Additive Loading Bin

As discussed in Section C.VI, the throughputs for S69, Asphalt Additive Loading Bin, and S70, Asphalt Additive Mixing Tank, have been raised to 20,000 tons per year and 400,000 tons per year, respectively. The monitoring for these sources will not change as a result of the throughput increase because it is appropriate monitoring for the type and quantity of emissions.

S70, Asphalt Additive Mixing Tank

As discussed in Section C.VI, the throughputs for S69, Asphalt Additive Loading Bin, and S70, Asphalt Additive Mixing Tank, have been raised to 20,000 tons per year and 400,000 tons per year, respectively. The monitoring for these sources will not change as a result of the throughput increase because it is appropriate monitoring for the type and quantity of emissions.

A31, Thermal Oxidizer

The monitoring frequency for valves subject to BAAQMD Condition 1240, part II.86, has been changed from "P/Q" to "P/Q or A" because the conditions states that the limit shall be monitored in accordance with BAAQMD Regulation 8, Rule 18, and Section 404 of the rule allows valves to be monitored on an annual basis under certain circumstances. All other fittings will continue to be monitored on a quarterly basis.

A note has been added to clarify that footnote A regarding 8-18-404 is found at the end of Table VII-AL for "Components."

Changes to the permit after public comment

Citations of BAAQMD Condition 1240, part 18a have been corrected to: BAAQMD Condition 1240, part I.18a.

Tanks

In the table for S9, for BAAQMD Regulation 8-5-322.1, the monitoring type has been corrected from "Secondary seal inspection" to "Visual inspection" in accordance with the monitoring citation, BAAQMD Regulation 8-5-402.2. BAAQMD Regulation 8-5-320.3.2, the requirement for no visible gaps for inaccessible openings, has been added with the same monitoring requirement.

In the table for S9, the monitoring frequency has been corrected for BAAQMD Regulation 8-5-402.3 to "...when tank roof is accessible, but no less frequently than every 10 years, no more frequently than every six months."

In the table for S59, "Y" has been added to the "FE" column for BAAQMD Condition 1240, part II.33a.

Subpart CC (40 CFR 63.641) has been added in the tables for sources S39, Lube Oil Tank, and S40, Latex Storage Tank because both tanks have a capacity that is larger than 40 cubic meters and can be considered subject to the regulation.

Wastewater

In the tables for S12, S25, S26, S27, S28, and S67, the following typographical errors have been corrected: (1) 40 CFR 61.343(a)(1)(B) has been replaced by 40 CFR 61.343(a)(1)(i)(B); 40 CFR 61.353(3) has been replaced by 40 CFR 343(c). Since these are administrative amendments pursuant to BAAQMD Regulation 2-6-201, these changes require no public notice.

In the tables for S41, S66, and S67, the link between the visual inspection in 40 CFR 61.347(b) and the fugitive limit in 40 CFR 61.347(a)(1)(i)(A) has been deleted. Instead this monitoring has been tied to other limits, such as the requirement to repair gaps, etc. The monitoring for the fugitive limits is Method 21, at varying frequencies depending on the standard. For example, in the case of S66, Wemco Hydrotreater, the visual inspection in 40 CFR 61.347(b) has been tied to the requirement in 40 CFR 61.347(b) for "no cracks or gaps between cover and O/W separator wall; access hatches and other openings closed and gasketed properly."

In the tables for S41 S66, and S67, 40 CFR 61.349(a)(2)(i)(A) has been bifurcated into two monitoring options depending on whether the source is abated by a process heater or a thermal oxidizer.

In the tables for S41 and S67, a new line was added for limit in 40 CFR 61.349(a)(2)(i)(A) with the monitoring citation for process heaters: 40 CFR 61.354(c)(4).

In the tables for S12, S24-S28, S41, S66, S67, and A31, the link between the visual inspection in 40 CFR 61.349(f) and the fugitive limit in 40 CFR 61.349(a)(1)(i) has been deleted. Instead this monitoring has been tied to other limits, such as the requirement to repair gaps, etc. The monitoring for the fugitive limits is Method 21, at varying frequencies depending on the standard. For example, in the case of S12, Wastewater Tank, the visual inspection in 40 CFR 61.349(f) has been tied to the requirement for repairs in 40 CFR 61.349(g).

Loading Racks

In the tables for S14 and S15 citations of BAAQMD Condition 1240, parts I.59a, I.59b, I.62a, I.62b, I.72a, and I.72b were corrected to parts II.59a, II.59b, II.62a, II.62b, II.72a,

and II.72b. Since this is an administrative amendment pursuant to BAAQMD Regulation 2-6-201, this change requires no public notice.

The description of S16 in the title of table IV-AM has been changed from "Loading Racks-Kerosene or Distillate Oil" to "Truck Loading Rack-Heavy Vacuum Gas Oil" at the permittee's request since the source is described as "Kerosene and Heavy Vacuum Gas Oil Loading Rack" in the pre-existing conditions at Condition 1240, part II.90. The condition will also be changed to say only "Heavy Vacuum Gas Oil." In addition, the titles of table IV-J and VII-J, and the description in Table II were changed.

In the table for S31, a duplicate line for BAAQMD Condition 1240, part II.69 has been deleted.

Combustion Devices

In the tables for S19, S20, and S21, the references to SIP 9-10-502.1 have been deleted because this section was not approved into the SIP. The citation was also deleted from the monitoring citations for SIP Regulation 9-10-303 in the Section VII tables for the same sources. The monitoring citation has been replaced with the annual or semi-annual source testing requirement in BAAQMD Condition 20617, part 7a.

In the tables for S19, S20, and S21, the citation of BAAQMD 9-10-303 has been changed to "non-federally enforceable" because the requirement is not in the SIP.

In the table for S19, Vacuum Heater, the citation for the fuel gas H₂S limit of 163 ppmv has been corrected from BAAQMD Condition 1240, part III.3 to part I.11. The requirement for the fuel gas H₂S limit of 10 ppmv when a vessel is in port, listed as part I.12, has been corrected to part III.3. A clarification has been added in accordance with the permit condition that the 10 ppm H₂S limit only applies when a vessel is at the asphalt plant dock.

In the table for S24, the following missing citations have been added: BAAQMD Regulation 8-6-301. The reason is that S31 has been added to the list of sources that is controlled by S24, Hot Oil Heater, since S24 is the backup abatement device for A31, Thermal Oxidizer.

In the tables for S24 and A31, the citation for the temperature limit in 40 CFR 61, Subpart FF, has been corrected from 61.356(f)(2)(i)(A) to 61.357(d)(7)(iv)(C). This is the most direct citation of the temperature limit in the NESHAPS.

In the table for A31, the citation for the temperature limit in 40 CFR 61, Subpart FF, has been corrected from 61.356(f)(2)(i)(A) to 61.357(d)(7)(iv)(A). This is the most direct citation of the temperature limit in the NESHAPS.

All references to BAAQMD Condition 20617, the condition for monitoring for BAAQMD Regulation 9, Rule 10, have been changed to Condition 21233 because Valero Asphalt and Valero Refining are one facility and should have one condition. Condition 21233 is equivalent to Condition 20617.

The oxygen content monitoring in the tables for S20 and S21 has been deleted because it has been deleted from Condition 21233.

The phrase "every six months" in the "Monitoring Frequency" column in the table for S19 has been changed to "SA" (meaning semi-annual) for consistency.

The phrase "part 7a.2" has been added in the "Monitoring Requirement Citation" column in the table for S19 in the line for BAAQMD Regulation 9-10-301 and semi-annual testing since that part requires the semi-annual testing because this is the part that applies to S19.

Pursuant to an administrative amendment to the permit dated May 27, 2004, the deadline by which the O2 limit must be established for S19 has been changed to December 1, 2004. The citation of the limit is now contained in BAAQMD Condition 21233, part 5.

In the tables for S19, S20, and S21, the future effective date for BAAQMD Condition 21233 (was 20617) has been changed to 12/1/04, pursuant to an administrative amendment to the permit dated May 27, 2004.

In the table for S19, Vacuum Heater, the "citation of limit" column entry for the O2 limit was changed from part 12 to part 5 due to revisions in the permit condition. The monitoring frequency was changed from P/H to C (continuous), since an oxygen monitor provides continuous monitoring. The future effective date has been changed to 12/1/04, pursuant to an administrative amendment to the permit dated May 27, 2004.

In the table for S19, Vacuum Heater, the " Monitoring Requirement Citation " column entry for the CO limit in BAAQMD Regulation 9-10-305 was changed from BAAQMD Condition 1240, part I.16a to BAAQMD Condition 21233 part 5 because this is the monitoring condition for BAAQMD Regulation 9, Rule 10.

The phrase "part 7a.1" has been added in the "Monitoring Requirement Citation" column in the tables for S20 and S21 in the line for BAAQMD Regulation 9-10-301 and annual testing since that part requires the annual testing.

In the tables for S20 and S21, Steam Boiler, the " Monitoring Requirement Citation " column entry for the CO limit in BAAQMD Regulation 9-10-305, BAAQMD Condition 21233 part 7.a.1 was added because this is the condition for the annual source testing.

The line for Condition 21233, part 8 (now renumbered as part 9), in the tables for S20 and S21 was deleted because it no longer applies to combustion units under 25 MMbtu/hr.

In the tables for S20, S21, S24, A4, and A31, BAAQMD Condition 1240, part III.3 has been added since it applies to all combustion sources except S68, Firewater Pump. The condition states:

"While any vessel is in port at the asphalt plant wharf, all asphalt plant combustion units, except for S68, Emergency Diesel Powered Firewater Pump, shall be fired exclusively on natural gas or refinery fuel gas with the maximum H₂S content of 10 ppm (by volume)."

Corresponding changes have been made to Section IV. This condition was imposed to limit emissions of SO₂ at the facility. These sources burn natural gas as fuel. Natural gas generally contains about 3 ppm sulfur as mercaptan, not H₂S. Therefore no additional monitoring has been imposed for this requirement. Moreover, the potential to emit for SO₂ for the entire facility is low, about 5.3 tons per year, as shown in the original statement of basis.

Miscellaneous Sources

In the table for S18, Crude Unit, the monitoring frequency for the throughput limits in BAAQMD Condition I.1 and I.2 have been corrected from monthly to daily in accordance with BAAQMD Condition 1240, part I.4.

The table for S29, Naphtha Merox Treater, was removed because it has been dismantled. Since this is an administrative amendment pursuant to BAAQMD Regulation 2-6-201, this change requires no public notice.

Components

In the table for Components, for BAAQMD Condition 1240, parts II.32d, II.53, and II.86, the monitoring citation has been corrected from BAAQMD Regulation 8-18-401.2 to 8-18-401. "or A" has been added in the "Monitoring Frequency" column because the frequency can drop to annual if the valve does not leak for 5 consecutive quarters. A note has been added that refers to the footnote at the end of Table VII-AL, Components, regarding the Alternative Monitoring Schedule pursuant to BAAQMD Regulation 8-18-404.

In the table for Components, the limit that is linked to the 40 CFR 61.347(b) visual monitoring requirements has been corrected to the standard in 40 CFR 61.347(b): "no cracks or gaps between cover and O/W separator wall; access hatches and other openings closed and gasketed properly."

In the table for Components, the limit that is linked to the 40 CFR 61.349(f) visual monitoring requirements has been corrected to the standard in 40 CFR 61.349(g): "First effort to repair visible defects within 5 days after detection; repair complete within 15 days except as allowing by 40 CFR 61.350."

In the tables for S24, S63, and A31, for BAAQMD Condition 1240, part II.32d, the monitoring citation has been corrected from BAAQMD Regulation 8-18-401.2 to 8-18-401. "or A" has been added in the "Monitoring Frequency" column because the frequency can drop to annual if the valve does not leak for 5 consecutive quarters. A note has been added that refers to the footnote at the end of Table VII-AL, Components, regarding the Alternative Monitoring Schedule pursuant to BAAQMD Regulation 8-18-404.

VIII. Test Methods

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

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

Changes to the permit in this revision:

None.

Changes to the permit after public comment

In Section VIII, Test Methods, the duplicate row for 40 CFR 60.104(a)(1) has been deleted.

In Section VIII, Test Methods, a header row for NSPS Part 60 Subpart Kb has been added. Since this is a change in formatting, it is an administrative amendment pursuant to BAAQMD Regulation 2-6-201.

In Section VIII, Test Methods, applicable requirement 40 CFR 61.349(a)(2)(i) has been corrected to 61.349(a)(2)(i)(A) to clarify that the chosen compliance option is the 95% VOC control requirement in accordance with Section 61.349(a)(2)(i)(B).

The following methods have been added to the references for 40 CFR 61.349(a)(2)(i)(A) and 61.355(i) because they are cited in the regulations: EPA Methods 1, 1A, 2, 2A, 2C, and 2D.

IX. Permit Shield:

Changes to the permit in this revision:

None.

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

E. Compliance Status:

Changes to the permit in this revision:

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

Permit Evaluation and Statement of Basis: Site B3193, Valero Benicia Asphalt Plant, 3001 Park Road, Benicia, CA

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APPENDIX A
GLOSSARY

ACT

Federal Clean Air Act

APCO

Air Pollution Control Officer: Head of Bay Area Air Quality Management District

ARB

Air Resources Board

BAAQMD

Bay Area Air Quality Management District

BACT

Best Available Control Technology

Basis

The underlying authority that allows the District to impose requirements.

CAA

The federal Clean Air Act

CAAQS

California Ambient Air Quality Standards

CAPCOA

California Air Pollution Control Officers Association

CEQA

California Environmental Quality Act

CFR

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

CO

Carbon Monoxide

Cumulative Increase

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

District

The Bay Area Air Quality Management District

dscf

Dry Standard Cubic Feet

EPA

The federal Environmental Protection Agency.

Excluded

Not subject to any District regulations.

Federally Enforceable, FE

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

FP

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

HAP

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

H2SO4

Sulfuric Acid

Long ton

2200 pounds

Major Facility

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

MFR

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

MOP

The District's Manual of Procedures.

MSDS

Material Safety Data Sheet

NAAQS

National Ambient Air Quality Standards

NESHAPS

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

NMHC

Non-methane Hydrocarbons (Same as NMOC)

NMOC

Non-methane Organic Compounds (Same as NMHC)

NOx

Oxides of nitrogen.

NSPS

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

NSR

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

Offset Requirement

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

Phase II Acid Rain Facility

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

POC

Precursor Organic Compounds

PM

Particulate Matter

PM10

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

PSD

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

SIP

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

SO2

Sulfur dioxide

THC

Total Hydrocarbons (NMHC + Methane)

Title V

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

TOC

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

TPH

Total Petroleum Hydrocarbons

TRMP

Toxic Risk Management Plan

TSP

Total Suspended Particulate

VOC

Volatile Organic Compounds

Units of Measure:

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

APPENDIX B

Permit Evaluation for Application 7471

EVALUATION REPORT

VALERO ASPHALT COMPANY - BENICIA PLANT #13193 APPLICATION #7471

INTRODUCTION

Valero Asphalt Company (Valero) has applied for a change in permit conditions for the following sources:

S-69 Asphalt Additive Open-Top Loading Bin
S-70 Asphalt Additive Mixing Tank; 2200 gallon capacity;
abated by S-24 Hot Oil Heater or A-31 Incinerator

Valero received a permit to operate for S-69 and S-70 on January 15, 2003 pursuant to Application #6310. Valero produces a modified asphalt product known as Polymer Modified Asphalt (PMA). Valero is requesting to produce up to 200,000 tons/year of PMA. To achieve this production rate, Valero is requesting to:

- Increase the throughput for the S-69 Asphalt Additive Bin from 2650 tons/year to 20,000 tons/year.
- Increase the throughput for the S-70 Asphalt Mixing Tank from 155,368 tons to 400,000 tons/year. To ensure a homogenous mixture from the S-70 Asphalt Additive Mixing Tank, the mixed product is circulated twice through the mixing tank for each batch of PMA produced.

A more detailed description of Valero's specific request is appended to the end of this engineering evaluation report.

EMISSIONS

S-69 Asphalt Additive Loading Bin

Only PM10 emissions for concrete aggregate loading bin are listed in AP-42, Section 13.2.4. The permit handbook Section 11, Chapter 2, calculated the emission factor based on AP-42 to be 0.000428 lb PM10 per ton of aggregate with 6.5 mile/hour of wind speed and 5% moisture content.

PM10

20,000 tons/year x 0.000428 lbs/ton = 8.56 lbs/year (0.004 ton/yr) PM10

0.004 ton/year (source total) minus 0.000 ton/year from App. #6310
= **0.004 ton/year PM10**

S-70 Asphalt Additive Mixing Tank

Given

POC: 0.1% Di(2-ethylhexyl)phthalate [DEHP] in modified asphalt in the vapor space per information found in MSDS

Throughput: 200,000 tons/year

POC Control Efficiency: S-24 Hot Oil Heater or A-31 Incinerator
 ≥98.5% per Parts 32a, 32b, 32c of Condition #1240

$$\begin{aligned}
 & \text{POC} \\
 & (200,000 \text{ tons/year}) * (2000 \text{ lbs/ton}) * (\text{gal}/7.73 \text{ lbs}) * (\text{Ft}^3/7.48 \text{ Gals}) * (0.1\%/100) * \\
 & (\text{Mole}/379 \text{ SCF}) * (390.56 \text{ lbs/Mole}) * ([100 - 98.5]/100) \\
 & = 107 \text{ lbs/year (0.054 ton/year) POC}
 \end{aligned}$$

0.054 ton/year (source total) minus 0.003 ton/year from App. #6310 = **0.051 ton/year POC**

CUMULATIVE INCREASE

	Existing TPY		Proposed TPY	
POC	0.0	+	0.051	= 0.051 TPY
PM10	0.0	+	0.004	= 0.004 TPY

TOXICS

A toxic risk screen analysis was done for the air-borne release of 107 lbs/year of di(2-ethylhexyl)phthalate and 9.3 lbs/year of hydrogen sulfide. Results from the health risk screen analysis indicated that the maximum incremental cancer risk is estimated at 0.017 in a million. The Hazard Index was 0.001. In accordance with the District’s Risk Management Policy, this cancer risk level is considered acceptable since the incremental cancer risk is less than one in a million and the Hazard Index is less than one.

COMPLIANCE

S-69 and S-70 should continue to be in compliance with all the applicable sections of Regulation 6, “Particulate Matter and Visible Emissions”. Visible emissions should be less than Ringlemann 1. S-70 should continue to comply with the requirements of Regulation 2, Miscellaneous Operations. Pursuant to Section 8-2-301, source emissions are less than 15 pounds per day and less than 300 PPM of total carbon on a dry basis.

This application is considered to be ministerial under the District’s proposed CEQA guidelines (Regulation 2-1-311) and therefore is not subject to CEQA review. The engineering review for this proposed project requires only the application of standard permit conditions and standard emission factors in accordance with Permit Handbook Section 11, Chapter 2.

The project is over 1000 feet from the nearest public school and is therefore not subject to the public notification requirements of Regulation 2-1-412.

BACT, PSD, NSPS and NESHAPS are not triggered.

OFFSETS

The POC offset required is $0.051 \text{ TPY} * 1.15 = 0.059 \text{ TPY}$

The plant has elected to use the offset deferral provision allowed in Regulation 2-2-421. The facility has valid Banking Certificates to cover this small increase and the facility's cumulative increase is less than 15 tons/year (presently at zero). As discussed with the applicant, offsets will be provided at least 30 days prior to the date of the annual permit renewal (i.e., no later than July 1, 2004).

The cumulative increase for PM10 is 0.004 TPY. A review of the available information in the District's databank covering past projects for the Valero Asphalt Plant since April 5, 1991 revealed that there was no pre-existing cumulative increase for PM10. Pursuant to the provisions in Regulation 2-2-303, offsets will be deferred until the PM10 cumulative increase exceeds 1.0 ton/year.

CONDITION

COND# 20278 -----

Conditions for S-69 (Additive Loading Bin) and S-70 (Asphalt Additive Mixing Tank; abated by S-24 (Hot Oil Heater) or A-31 (Incinerator):

1. The annual throughput of asphalt (excluding additives) at S-70 shall not exceed ~~17,591~~ 400,000 tons during any consecutive 12-month period. [Basis: Regulation 2-2-212, Cumulative Increase]
2. The annual throughput of additives at S-69 shall not exceed ~~2,650~~ 20,000 tons during any consecutive 12-month period. [Basis: Regulation 2-2-212, Cumulative Increase]
3. Hot Oil Heater (S-24) or the Rail Road Thermal Oxidizer (A-31) shall abate emissions from S-70 at all times that S-70 is in operation. [Basis: Regulation 2-6-503, Monitoring]
4. Visible dust and smoke emissions from S-69 and S-70 shall not exceed Ringelmann 1 for a period or periods aggregating more than three minutes in any hour, or result in fallout on adjacent property in such quantities so as to cause a public nuisance as described in Regulation 1-301 [Basis: Regulation 1 and Regulation 6]
5. The total hours of operation of S-70 shall not exceed 1248 hours in any consecutive 12-month

period. [Basis: Cumulative Increase]

6. In order to demonstrate compliance with the above permit conditions, the following records shall be maintained in a District approved log. These records shall be kept on site and made available for District inspection for a period of at least 5 years from the date on which a record is made.

- a. Total daily throughput of modified asphalt at S-70 and additives at S-69
- b. Total daily hours of operation of S-70
- c. The daily throughput of product and hours of operation shall be totaled on a monthly basis. [Basis: Regulation 2-6-501, Record-keeping]

RECOMMENDATION

I recommend that Valero Asphalt be allowed to increase the throughputs for the following two sources as depicted in the permit condition above.

S-69 Asphalt Additive Open-Top Loading Bin
S-70 Asphalt Additive Mixing Tank; 2200 gallon capacity;
abated by S-24 Hot Oil Heater or A-31 Incinerator

Douglas W. Hall
Supervising Air Quality Engineer

Date