

**Bay Area Air Quality Management District**

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**Permit Evaluation  
and  
Statement of Basis  
for**

**RENEWAL of  
MAJOR FACILITY REVIEW PERMIT**

for  
**Shore Terminals, LLC  
Facility #A0581**

**Facility Address:**  
90 San Pablo Ave.  
Crockett, CA 94525

**Mailing Address:**  
90 San Pablo Ave.  
Crockett, CA 94525

October 2006

Application Engineer: Thu H. Bui  
Site Engineer: Thu H. Bui

Application: 13149

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## **Permit Evaluation/Statement of Basis for Renewal of Major Facility Review Permit**

### **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, and 10 tons per year of a hazardous air pollutant, or more than 25 tons per year of a combination of hazardous air pollutants.

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

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

Each facility in the Bay Area is assigned a facility identifier that consists of a letter and a 4-digit number. This identifier is also considered to be the identifier for the permit. The identifier for this facility is A0581.

This facility received its initial Major Facility Review permit on March 12, 2001 under Shore Terminals, LLC (formerly known as Wickland Oil Company). This application seeks to renew the Title V permit.

The District proposes to renew the permit. The permit will include modifications requested by the permittee, as well as other modifications by the District, and it will incorporate earlier permit revisions and modifications. The standard sections of the permit have been updated to include new standard language used in all Title V permits and new requirements applicable to all Title V facilities. Also, various other corrections have been made to the permit. The proposed permit shows all changes to the permit in strikeout/underline format.

On July 1, 2005, Valero, LP purchased Shore Terminals in Crockett. Valero LP has not changed the name of the entity that owns the facility. The facility will continue to be referred to as Shore Terminals, LLC. The primary responsible official, secondary responsible official, facility contact and the street name (same location) have changed.

All of these revisions are described below in the permit content section. The proposed permit shows all changes to the permit in strikeout/underline format.

The facility has submitted 4 applications since the initial Major Facility Review permit was issued on March 12, 2001. Following is a list of the applications:

<u>Application #</u>	<u>Description</u>	<u>Date of Receipt</u>
4520	Standby Diesel Engines	3/19/02
11861	Modification of Marine Vessel Loading	2/15/05
11862	Title V Minor Modification	2/15/05
13149	Title V Renewal	8/8/05

Application 13149 seeks renewal of the Title V permit, which is the subject of this action.

Application 4520 sought a permit to operate source S-46, a small existing emergency diesel generator that has been in service since 1986. It was excluded from District regulation in accordance with Regulation 1-110.2. However, Regulation 1-110.2 was deleted on May 17, 2000. Therefore, the engine requires a permit to operate.

Application 11861 sought an increase in the daily liquid throughput into storage tanks S-32 through S-44 from 145,000 barrels/day to 250,000 barrels/day in Condition 6185, Part 3 and the emission limit of 150 lbs/day in Condition 6185, Part 9. The permit holder sought these limits in order to avoid triggering either a BACT or CEQA evaluation required by District Regulation 2-2 in late 1989 or early 1990. Since then, the District's Regulation 2-2 has changed. We no longer have the trigger level at 150 lb/day. Modern tank ships generally carry around 250,000 barrels or larger. In order to accommodate the larger tanker and comply with the permit's throughput limit, the terminal must shut down the marine offloading operation (S-27) when 145,000 barrels daily level is reached. A vessel might idle at the wharf for up to 10-12 hours, until 12:01 a.m. the next day before resuming transfer operations. The emissions of NO<sub>x</sub>, SO<sub>x</sub>, CO, POC, and PM can increase as a result of the hoteling.

Application 11862 sought a minor revision of the existing Title V to incorporate the condition change from District's application 11861. This Title V minor permit revision was issued on December 29, 2005. See Appendix A for New Source Review Permits (Applications 4520, and 11861).

## **B. Facility Description**

The facility is a bulk terminal that receives gasoline and petroleum products, and distributes them either by pipelines or truck racks.

This bulk terminal includes thirteen fixed roof tanks, ten external floating roof tanks, 1 tank truck loading rack, 1 marine loading wharf, 1 water pond, 1 oil-water separator, and 1 emergency diesel generator. The thirteen fixed roof tanks, which store gasoline or other petroleum products, and the marine loading wharf are abated by two Charcoal Adsorption Vapor Recovery Units (A-421 and A-422). The gasoline truck loading rack is abated by the Vapor Recovery System (A-1).

With this Title V permit renewal application, Shore Terminals requested clarification of certain permit conditions to assist the permit applicant's compliance. The requested permit condition changes are listed below. The company has new numbers for some of the tanks. The existing

diesel emergency generator will be added to the equipment list because it lost its exemption status. Source S-45 storage tank was shut down, and will be removed from equipment list. Abatement device A-423, Thermal Oxidizer Vapor Combustion Unit was used for tank degassing operations and removed from the site; therefore, it will be removed from the equipment list. The new provisions of Regulation 8-44 Marine Tank Vessel Operations will be added to the appropriate part IV and part VII tables because this Regulation was revised and adopted into the District Rules and Regulations on December 7, 2005. All other equipment will remain the same as permitted.

Over the past years, the facility has increased its POC and other regulated emissions. The listed POC emissions are derived from the District's database for the years ending in June 2001 and June 2005. All other emissions listed on the chart are derived from the applicant's Title V permit applications for the years ending in June 2001 and June 2005. The change in emissions is as follows:

<b>Year Ending</b>	<b>POC (tons/yr)</b>	<b>NOx (tons/yr)</b>	<b>SO2 (tons/yr)</b>	<b>CO (tons/yr)</b>	<b>PM<sub>10</sub> (tons/yr)</b>	<b>Benzene (tons/yr)</b>
June 2001	14.4	29.61	13.55	3.75	3.91	0.15
June 2005	16.3	33.52	15.34	4.24	4.43	0.17
<b>Increase of Emissions</b>	<b>1.9</b>	<b>3.91</b>	<b>1.79</b>	<b>0.49</b>	<b>0.52</b>	<b>0.02</b>

### **C. Permit Content**

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

#### **I. Standard Conditions**

Section I contains administrative requirements and conditions that apply to all facilities. If the Title IV (Acid Rain) requirements for 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, General Provisions and Definitions, and Regulation 2, Permits.

#### **Changes to permit:**

The dates of adoption and approval of rules in Standard Condition 1.A have been updated.

Standard Condition I.B.11, which requires the responsible official to certify all documents submitted, was added to conform to changes in Regulation 2, Rule 6.

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

Standard Condition I.E.1 requiring the permit holder to provide any information, records, and reports requested or specified by the APCO, was added because it was omitted in error.

Standard Condition I.J has been added to clarify that the capacity limits shown in Table II-A are enforceable limits.

## **II. Equipment**

Section II of the permit lists all permitted or significant sources. Each source is identified by S and a number (e.g., S24, 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 per year of a "regulated air pollutant," as defined in BAAQMD Rule 2-6-222, or 400 pounds per year of a "hazardous air pollutant," as defined in BAAQMD Rule 2-6-210.

Major Facility Review permits list all abatement (control) devices.

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 an authority to construct or 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.

### **Changes to permit:**

The following tanks have new numbers listed on Table II-A, Permitted Sources.

- S-1, Tank T-801 becomes Tank T-7901
- S-2, Tank T-802 becomes Tank T-7902
- S-3, Tank T-803 becomes Tank T-7903
- S-5, Tank T-501 becomes Tank T-5001
- S-6, Tank T-502 becomes Tank T-5002
- S-12, Tank T-1501 becomes Tank T-15001
- S-15, Tank T-672 becomes Tank T-6402
- S-24, Tank T-241 becomes Tank T-2401
- S-25, Tank T-141 becomes Tank T-1501
- S-30, Tank T-671 becomes Tank T-6401
- S-32, Tank T-1502 becomes Tank T-15102

- S-33, Tank T-2001 becomes Tank T-20101
- S-34, Tank T-2002 becomes Tank T-20102
- S-35, Tank T-2003 becomes Tank T-20103
- S-36, Tank T-2004 becomes Tank T-20104
- S-37, Tank T-2005 becomes Tank T-20105
- S-38, Tank T-2006 becomes Tank T-20106
- S-39, Tank T-2007 becomes Tank T-20107
- S-40, Tank T-2008 becomes Tank T-20108
- S-41, Tank T-2009 becomes Tank T-20109
- S-42, Tank T-2010 becomes Tank T-20110
- S-43, Tank T-2011 becomes Tank T-20111
- S-44, Tank T-301 becomes Tank T-3001
- S-45, Tank T-51 was shut down and will be deleted from the equipment list.

Other permit changes include:

- S-46, Emergency Diesel Generator will be added to the equipment list.
- A-423, Thermal Oxidizer Vapor Combustion Unit, was shut down and will be deleted from Table II-B Abatement Devices.
- S-27, Marine Vessel Loading will be changed from 3 fillers to 2 fillers.

### **III. Generally Applicable Requirements**

Section III 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.

Sources that do not require permits to operate are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Major Facility Review permit if they are considered significant sources pursuant to the definition in BAAQMD Rule 2-6-239.

#### **Changes to permit:**

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

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

- BAAQMD Regulation 2, Rule 1, General Requirements
- BAAQMD 2-1-429, Federal Emissions Statement
- SIP Regulation 2, Rule 1, General Requirements
- BAAQMD Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants

- SIP Regulation 5, Open Burning
- Regulation 8, Rule 2, Miscellaneous Operations
- BAAQMD Regulation 8, Rule 40 Aeration of Contaminated Soil and Removal of Underground Storage Tanks
- BAAQMD Regulation 8, Rule 47, Air Stripping and Soil Vapor Extraction Operations
- SIP Regulation 8, Rule 51, Adhesive and Sealant Products
- California Health and Safety Code Section 41750 et seq., Portable Equipment
- California Health and Safety Code Section 44300 et seq., Air Toxics “Hot Spots” Information and Assessment Act of 1987
- California Health and Safety Code Section 93115 et seq., Airborne Toxic Control Measure for Stationary Compression Ignition Engines
- 40 CFR Part 61, Subpart M, National Emission Standards for Hazardous Air Pollutants – National Emission Standard for Asbestos

The dates of adoption or approval of the rules and their "federal enforceability" status in Table III have also been updated.

#### **IV. Source-Specific Applicable Requirements**

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

- District Rules
- SIP Rules (if any) 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). 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 for particular sources. 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.

#### **Complex Applicability Determinations**

The facility is not subject to 112(j) of the Clean Air Act because it is not a major source of hazardous air pollutants. The primary HAP emitted at this facility is benzene. As shown in the "Facility Emissions" table in part B, "Facility Description" section, the benzene emissions from this facility are much less than 10 tons per year.

In the case of Shore Terminals, the VOC emissions from each gasoline truck rack (S-22), marine vessel loading (S-27), and fixed roof storage tanks (S-32 through S-44), prior to abatement, exceed 100 tons per year, then the requirements of 40 CFR 64 Compliance Assurance Monitoring (CAM) apply. Shore Terminals complies with CAM by having an existing continuous hydrocarbon monitoring system on abatement devices (A-1, A-421 and A-422), in which the monitoring occurs at least four times per hour for the post-abatement emissions that are greater than 100 tons per year.

**Changes to permit:**

- Section IV will be modified to state that SIP standards are now found on EPA's website and are not included as part of the permit.
- The dates of adoption or approval of the rules and their "federal enforceability" status will be updated.

**S-1, S-2, S-3, S-5 and S-6 External Floating Roof Tanks:**

- Condition 6185, Part 18 will be deleted from Table IV-A because it refers to A-423, Thermal Oxidizer, which will be removed from operation.
- Condition 12677, Part 6, the word PM will be changed to PM10 for clarification on Table IV-A.
- Condition 12677, Part 7, the vapor pressure of products stored in storage tanks will be changed from 8.3 psia to 11.0 psia on Table IV-A, because Regulation 8-5-301 allows non-pressure tanks to store liquids up to 11 psia.
- Condition 12677, Part 19, the marine vessel activity reporting will be modified from monthly to quarterly, shown on Table IV-A. This change reduces the amount of paperwork without having any significant environmental impact.
- The requirements of Regulation 8-5-322.5 and 322.6 will be added to Table IV-A because the company replaced the secondary seals for these tanks in March 10, 2003.

**S-11, Internal Floating Roof Tank:**

- Condition 6185, Part 18 will be deleted from Table IV-B because it refers to A-423, Thermal Oxidizer, which has been removed from operation.
- Condition 12677, Part 6, the word PM will be changed to PM10 for clarification on Table IV-B.
- Condition 12677, Part 7, the vapor pressure of products stored in storage tanks will be changed from 8.3 psia to 11.0 psia on Table IV-B, because Regulation 8-5-301 allows non-pressure tanks to store liquids with a vapor pressure of up to 11 psia.
- Condition 12677, Part 19, the marine vessel activity reporting will be modified from monthly to quarterly, shown on Table IV-B. This change reduces the amount of paperwork without having any significant environmental impact.

**S-12, S-15 and S-30, External Floating Roof Tanks:**

- Condition 6185, Part 18 will be deleted from Table IV-C because it refers to A-423, Thermal Oxidizer, which has been removed from operation.
- Condition 12677, Part 6, the word PM will be changed to PM10 for clarification on Table IV-C.
- Condition 12677, Part 7, the vapor pressure of products stored in storage tanks will be changed from 8.3 psia to 11.0 psia on Table IV-C, because Regulation 8-5-301 allows non-pressure tanks to store liquids with a vapor pressure of up to 11 psia.
- Condition 12677, Part 19, the marine vessel activity reporting will be modified from monthly to quarterly, shown on Table IV-C. This change reduces the amount of paperwork without having any significant environmental impact.
- The requirements of Regulation 8-5-322.5 and 322.6 will be added to Table IV-C because the company replaced the secondary seals for these tanks in March 10, 2003.

#### S-22, Gasoline Loading Racks

- The requirements of Regulation 8-6 – Organic Liquid Bulk Terminals and Bulk Plants will be added to Table IV-D to reflect the loading operation of organic materials other than gasoline.
- Condition 12677, Part 6, the word PM will be changed to PM10 for clarification on Table IV-D.
- The marine vessel activity reporting will be modified from monthly to quarterly, shown on Table IV-D. This change reduces the amount of paperwork without having any significant environmental impact.
- The requirements of 40 CFR 64, Compliance Assurance Monitoring, will be added to Table IV-D for S-22.

#### S-24 and S-25, External Floating Roof Tanks:

- Condition 6185, Part 18 will be deleted from Table IV-F because it refers to A-423, Thermal Oxidizer, which has been removed from operation.
- Condition 12677, Part 6, the word PM will be changed to PM10 for clarification on Table IV-F.
- The vapor pressure of products stored in storage tanks will be changed from 8.3 psia to 11.0 psia on Table IV-F, because Regulation 8-5-301 allows non-pressure tanks to store liquids up to 11 psia.
- The marine vessel activity reporting will be modified from monthly to quarterly, shown on Table IV-F. This change reduces the amount of paperwork without having any significant environmental impact.
- The requirements of Regulation 8-5-322.5 and 322.6 will be added to Table IV-A because the company replaced the secondary seals for these tanks in March 10, 2003.

#### S-26, Water Storage Pond:

- Condition 12677, Part 6, the word PM will be changed to PM10 for clarification on Table IV-G.

#### S-27, Marine Vessel Loading:

- Condition 6185, Part 14 deleted the requirement of two hydrocarbon analyzers at each carbon system on Table IV-H. One non-methane hydrocarbon analyzer is adequate because only one carbon bed is in operation at any time.
- The marine vessel activity reporting will be modified from monthly to quarterly on Table IV-H. This change reduces the amount of paperwork without having any significant environmental impact.
- New provisions of Regulation 8-44 Marine Tank Vessel Operations will be added into Table IV-H, because the rule was revised and adopted by the District on December 7, 2005.
- The requirements of 40 CFR 64, Compliance Assurance Monitoring, will be added to Table IV-H for S-27.

S-32 through S-44, Fixed Roof Tanks:

- Condition 6185, Part 14 deleted the requirement of two hydrocarbon analyzers at each carbon system on Table IV-I. One non-methane hydrocarbon analyzer is adequate because only one carbon bed is in operation at a time.
- Condition 6185, Part 18, 21 and 22, all references to A-423 will be removed from Table IV-I.
- Condition 12677, Part 18, the word “no” will be replaced with “yes” for the federal enforceable requirement on Table IV-I.
- Condition 12677, Part 19, the marine vessel activity reporting will be modified from monthly to quarterly, shown on Table IV-I. This change reduces the amount of paperwork without having any significant environmental impact.
- The requirements of 40 CFR 64, Compliance Assurance Monitoring, will be added to Table IV-I for S-32 through S-44.

S-45, Fixed Roof Storage tank, and A-423 Thermal Oxidizer:

- All references to S-45 and A-423 will be removed from Table IV-I since S-45 and A-423 have been removed from service.

S-46, Emergency Diesel Generator:

- Table IV-K will be added to include all specific applicable requirements for emergency diesel generator, which lost its exemption.
- The applicable requirement of Regulation 6-305 will be added to Table IV-K for visible particles at S-46.

**V. Schedule of Compliance**

A schedule of compliance is required in all Major Facility Review 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.”

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. The compliance report is contained in Appendix C of this permit evaluation and statement of basis.

## **VI. Permit Conditions**

The existing permit conditions are derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). Permit conditions may also be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 et seq., an order of abatement pursuant to H&SC § 42450 et seq., or as an administrative revision initiated by District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review. Permit conditions may also be derived from periodic monitoring requirements pursuant to BAAQMD Regulation 2-5-503, Monitoring.

Each permit condition is identified with a unique numerical identifier, up to five digits. Each part of the condition is also identified by a part number and each subpart is identified by a letter (for example, Condition 789, part 1a).

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

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

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

- Many conditions will be reworded to include “Owner/Operator.”

#### Condition 6185

- All references to S-45 will be deleted. Source S-45 was removed from service.
- To clarify hydrocarbon liquids in Parts 2, 3, 4, and 7, the definition of “non-exempt organic compound” will be added as defined in Regulation 2-1-123.

#### Condition 6185, Part 7

- The average benzene concentration will be used to cut down the number of times for laboratory analysis as requested by the plant in Part 7. The District has agreed to the request because it is unlikely that the benzene concentration will exceed the specified level.
- The words “hydrocarbon liquid” will be replaced with “non-exempt organic compounds” for clarification.

#### Condition 6185, Part 10

- The organic/water mixture from the degassing operation is generally loaded into trucks and transported off-site to an authorized disposal facility. Therefore, Part 10 will be changed to add “or transport off-site for disposal at an authorized facility.”

#### Condition 6185, Part 14

- One non-methane hydrocarbon analyzer that measures the concentration by cycling between the two abatement devices (A-421 and A-422) is adequate instead of two as required.
- The infrared combustible gas detectors at the terminal are calibrated using propane. Therefore, this condition will be modified to have the detectors measure and record hydrocarbon concentrations in PPM as propane, not butane.

#### Condition 6185, Parts 17, 19, 20 and 22

- The reference to Thermal Oxidizer (A-423) will be removed from this condition. The company usually hires a contractor to degas tanks. Therefore, the language “or an authorized portable unit” will be added to Parts 17 and 20.

#### Condition 6185, Part 18 and Part 21

- Part 18 and 21 will be deleted because of their references to the Thermal Oxidizer (A-423).

#### Condition 6185, Part 24

- The inlet hydrocarbon concentration record requirement will be deleted. Only the outlet is necessary to verify compliance.

#### Condition 6185, Part 25

- There are only two loading arms at the wharf. This condition will be changed to two loading arms instead of three.

#### Condition 6185, Part 26

- The listing of Crude Oil as one of the transferred materials will be deleted. Ethanol and Methanol materials will be added since the terminal is allowed to load and transfer all hydrocarbon liquids, which includes ethanol and methanol.

Condition 12677, Part 1

- The total POC emission will be corrected to 73 tons/yr instead of 69 tons/yr in Part 1. 69 tons/yr was a typographical error.
- The coast guard does not allow any unsegregated ballast ship to enter the San Francisco Bay in the past 5 years; therefore, any unsegregated ballast reference in Part 1 will be deleted.

Condition 12677, Part 7

- The vapor pressure of products stored in storage tanks will be changed from 8.3 psia to 11.0 psia, because Regulation 8-5-301 allows non-pressure tanks to store liquids with a storage vapor pressure of up to 11 psia.

Condition 12677, Part 8B

- The infrared combustible gas detectors at the terminal are calibrated using propane. Therefore, this condition will be modified to have the detectors measure and record hydrocarbon concentrations in ppm as propane, not butane.

Condition 12677, Part 10

- It is not technically possible to displace the tanks with water before lowering the floating roof. This portion will be deleted from Condition #12677, part 10.

Condition 12677, Part 18H

- The terminal does not handle unsegregated ballast and the recordkeeping requirement will be deleted. Reference to unsegregated ballast from Schedule A and F will also be removed.

Condition 12677, Part 19

- The monthly marine vessel activity report will be modified to quarterly. This reduces the amount of paper work without having any significant environmental impact.

Condition 19215

- This condition will be added for the loss of exemption source S-46, Emergency Diesel Generator.

**VII. Applicable Limits and Compliance Monitoring Requirements**

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

The District has reviewed all monitoring and has determined the existing continuous emission monitoring is adequate. For the vapor recovery system (A-1, A-421 and A-422), the continuous hydrocarbon monitoring system was installed as required.

The tables below contain only the limits for which there is no monitoring or inadequate monitoring in the applicable requirements. The District has examined the monitoring for other limits and has determined that monitoring is adequate to provide a reasonable assurance of compliance. Calculations for potential to emit will be provided in the discussion when no monitoring is proposed due to the size of a source.

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

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

### PM Sources

<b>S# &amp; Description</b>	<b>Emission Limit Citation</b>	<b>Federally Enforceable Emission Limit</b>	<b>Monitoring</b>
S-46, EMERGENCY DIESEL GENERATOR	BAAQMD Regulation 6-303	Ringelmann 2.0 for 3 min. or less/hr	None
S-46, EMERGENCY DIESEL GENERATOR	BAAQMD Regulation 6-305	Visible Particles	None
S-46, EMERGENCY DIESEL GENERATOR	BAAQMD Regulation 6-310	0.15 gr/dscf	None

### **PM Discussion:**

#### BAAQMD Regulation 6 “Particulate Matter and Visible Emissions”

##### S-46, Diesel Emergency Generator

In accordance with the June 24, 1999 “Periodic Monitoring Recommendations for Generally Applicable Requirements” prepared by the CAPCOA/CARB/EPA Region IX periodic monitoring workgroup, no opacity monitoring is required for diesel standby and emergency reciprocating engines. In accordance with the July 2001 “CAPCOA/CARB/EPA Region IX

Recommended Periodic Monitoring for Generally Applicable Grain Loading Standards in the SIP: Combustion Sources,” a facility is not required to monitor the engine exhaust from non-utility distillate-oil-fueled emergency piston-type IC engines, but the facility must maintain records of all engine usage.

### SO<sub>2</sub> Sources

# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-46, EMERGENCY DIESEL GENERATOR	BAAQMD 9-1-301	Ground level concentrations of SO <sub>2</sub> shall not exceed: 0.5 ppm for 3 consecutive minutes AND 0.25 ppm averaged over 60 consecutive minutes AND 0.05 ppm averaged over 24 hours	None
S-46, EMERGENCY DIESEL GENERATOR	BAAQMD 9-1-304	Liquid fuel < 0.5% wt. sulfur	Fuel Certification

#### **SO<sub>2</sub> Discussion:**

##### BAAQMD Regulation 9-1-301

Area monitoring to demonstrate compliance with the ground level SO<sub>2</sub> concentration requirements of Regulation 9-1-301 is at the discretion of the APCO (per BAAQMD Regulation 9-1-501). This facility does not have equipment that emits large amounts of SO<sub>2</sub>. Therefore, the APCO has not required the facility to have ground level monitoring.

The limit for sources that burn liquid fuel is 0.5% of sulfur by weight in fuel according to BAAQMD Regulation 9-1-304. The standard monitoring for this limit is fuel certification. S-46 will burn California Diesel, which has a maximum sulfur content of 0.05% by weigh. Therefore, compliance with this standard is expected.

##### Following is a list of proposed revisions to Section VII:

- The language at the beginning of the section will state that this section is a summary of the limits and monitoring, and that in the case of a conflict between Sections I-VI and Section VII, the preceding sections take precedence.
- The headings at the top of the table will be changed. The "Pollutant" column has been changed to "Type of Limit" because not every limit is a pollutant limit. The first "Emission Limit" column will be changed to "Citation of Limit" because not every limit is an emission limit. The second "Emission Limit" column will be changed to "Limit" because not every limit is an emission limit and the column actually contains a short summary of the limit.
- The “type of limit” will be changed to “opacity” for Regulation 6-301.
- The “type of limit” will be changed to “FP” or “filterable particulate” for Regulation 6-310 and 6-310.3. Filterable particulate is defined as “particulate as measured by BAAQMD

Method ST-15, Particulate.” This is the type of particulate that is regulated by Regulation 6-310.

S-1, S-2, S-3, S-5 and S-6 External Floating Roof Tanks:

- Condition 6185, Part 18 will be deleted because it refers to A-423, Thermal Oxidizer, which has been removed from operation. Accordingly, references to Part 18 will be removed from Table VII-A.
- The vapor pressure of products stored in storage tanks will be changed from 8.3 psia to 11.0 psia in Table VII-A, because Regulation 8-5-301 allows non-pressure tanks to store liquids with a storage vapor pressure of up to 11 psia.

S-11 Internal Floating Roof Tank:

- Condition 6185, Part 18 will be deleted because it refers to A-423 Thermal Oxidizer, which has been removed from operation. Accordingly, references to Part 18 will be removed from Table VII-B.
- The vapor pressure of products stored in storage tanks will be changed from 8.3 psia to 11.0 psia on Table VII-B, because Regulation 8-5-301 allows non-pressure tanks to store liquids with a storage vapor pressure of up to 11 psia.

S-12, S-15 and S-30, External Floating Roof Tanks:

- Condition 6185, Part 18 will be deleted because it refers to A-423 Thermal Oxidizer, which has been removed from operation. Accordingly, references to Part 18 will be removed from Table VII-C.
- The vapor pressure of products stored in storage tanks will be changed from 8.3 psia to 11.0 psia on Table VII-C, because Regulation 8-5-301 allows non-pressure tanks to store liquids with a storage vapor pressure of up to 11 psia.

S-22, Gasoline Loading Racks

- The requirements of Regulation 8-6-301 – Bulk Terminal Limitations and 8-6-304 – Deliveries to Storage Tanks will be added to Table VII-D to reflect the loading operation of organic materials other than gasoline.

S-24 and S-25, External Floating Roof Tanks:

- Condition 6185, Part 18 will be deleted because it refers to A-423, Thermal Oxidizer, which has been removed from operation. Accordingly, references to Part 18 will be removed from Table VII-F.
- The vapor pressure of products stored in storage tanks will be changed from 8.3 psia to 11.0 psia on Table VII-F, because Regulation 8-5-301 allows non-pressure tanks to store liquids with a storage vapor pressure of up to 11 psia.

S-27, Marine Vessels Loading/Unloading Terminal:

- Requirements of Regulation 8-44-304 Marine Tank Vessel Operations will be added to Table VII-G, because the rule was revised and adopted by the District on December 7, 2005.

S-32-S-44, Fixed Roof Tanks:

- Condition 6185, Part 18 will be deleted because it refers to A-423, Thermal Oxidizer, which has been removed from operation. Accordingly, references to Part 18 will be removed from Table VII-H.

#### S-46, Emergency Diesel Generator

- Table VII-J will be added to the permit to reflect all specific applicable requirements for the loss of exemption emergency diesel generator.

### **VIII. Test Methods**

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

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

#### Changes to permit

- Tests method EPA 25, Determination of total gaseous non-methane organic emissions as carbon, and 25A, Determination of total gaseous organic using flame ionization analyzer, will be added to Table VIII for the newly revised Regulation 8-44.
- Tests method 28, Determination of Vapor Pressure of Organic Liquids from Storage Tanks will be added to Table VIII for the newly added Regulation 8-6.

### **IX. Revision History**

Changes in the permit since 2001 will be documented.

### **X. Glossary**

Additions and corrections will be made to the Glossary. See Appendix B.

### **D. Alternate Operating Scenarios:**

No alternate operating scenario has been requested for this facility.

### **E. Permit Shield**

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

The second type of permit shield is allowed by EPA's White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program. The District uses the second type of

permit shield for all streamlining of monitoring, recordkeeping, and reporting requirements in Major Facility Review permits. The District's program does not allow other types of streamlining in Major Facility Review permits.

This facility has no permit shields.

**F. Compliance Status:**

The July 6, 2006 office memorandum from the Director of Compliance and Enforcement, to the Director of Engineering, presents a review of the compliance record of Shore Terminals, LLC (Site #: A581). The Compliance and Enforcement Division staff has reviewed the records for the period from February 1, 2005 through June 28, 2006. This review was initiated as part of the District evaluation of an application by the facility for a Title V permit renewal. During the period subject to review, activities known to the District include:

- The District issued 12 Notices of Violation during this review period
- The District did not receive any complaints alleging Shore Terminals, LLC as the source.
- During this review period no breakdowns or excesses were reported or documented by District staff.
- There are no pending variances or abatement orders for Shore Terminals, LLC.
- In addition, staff reviewed Shore Terminals, LLC's Annual Compliance Certifications for 2001-2005 and found no outstanding compliance issues.

The owner certified that all equipment was operating in compliance from March 12, 2001 to June 28, 2006. No ongoing non-compliance issues have been identified to date. See attached Appendix C.

**APPENDIX A**

**New Source Review Permit Evaluations**

**ENGINEERING EVALUATION  
SHORE TERMINALS LLC**  
Application #4520- Plant #581

**90 San Pablo  
Crockett, CA 94525**

**I. BACKGROUND**

Shore Terminal has applied for a permit due to loss of exemption for the following equipment:

**S-46 Emergency Generator, Caterpillar 3304, 161 HP, 1.02 MMBtu/hr.**

This engine has been in service since August 25, 1986 when it was excluded from District regulation in accordance with Regulation 1-110.2. Because Regulation 1-110.2 was deleted on May 17, 2000, this engine requires permit, although this is neither "new" nor "modified" source as defined in Regulations 2-1-232 and 2-1-234. Therefore, this source is not subject to New Source Review requirements (BACT, cumulative increase, offsets, toxic review, public notification requirements triggered by proximity to a K-12 school.)

In accordance with District policy, the operation of each engine will be limited to no more than 100 hr/yr for "discretionary use" (maintenance and testing). The operation of this engine to provide power during emergencies will not be limited.

**II. EMISSION CALCULATIONS**

Daily emissions from S-46 engine, assuming 24 hr/day operation at full load, will be quantified for information only. These engines are not subject to any requirements based on the level of daily or annual emissions.

**Emissions from engine (S-46):** (based on AP-42 emission factors- Table 3.3-1 for uncontrolled diesel industrial engine)

POC:  $(0.35 \text{ lb/MMbtu})(1.02 \text{ MMBtu/hr})(100 \text{ hr/yr}) = 35.7 \text{ lb/yr}$

NOx:  $(4.41 \text{ lb/MMbtu})(1.02 \text{ MMBtu/hr})(100 \text{ hr/yr}) = 450 \text{ lb/yr}$

CO:  $(0.95 \text{ lb/MMbtu})(1.02 \text{ MMBtu/hr})(100 \text{ hr/yr}) = 97 \text{ lb/yr}$

PM10:  $(0.31 \text{ lb/MMbtu})(1.02 \text{ MMBtu/hr})(100 \text{ hr/yr}) = 32 \text{ lb/yr}$

SO2:  $(0.29 \text{ lb/MMbtu})(1.02 \text{ MMBtu/hr})(100 \text{ hr/yr}) = 30 \text{ lb/yr}$

**I. PLANT CUMULATIVE INCREASE SINCE 4/5/91**

As discussed on page 1 (Background), S-46 is not subject to a cumulative increase.

**IV. TOXIC SCREENING ANALYSIS**

As discussed on page 1 (Background), S-46 is not subject to the District Toxic Risk Management Policy.

**V. BEST AVAILABLE CONTROL TECHNOLOGY**

BACT does not apply for a loss of exemption permit.

**VI. OFFSETS**

Offsets do not apply for a loss of exemption permit.

## VII. STATEMENT OF COMPLIANCE

S-46 in this application is subject to Regulation 9, Rule 8 ("NO<sub>x</sub> and CO from Stationary Internal Combustion Engines"). Like all sources, S-46 is subject to Regulation 6 ("Particulate and Visible Emissions"). This engine is not expected to produce visible emissions or fallout in violation of this regulation and they will be assumed to be in compliance with Regulation 6 pending a regular inspection.

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 project requires only the application of standard permit conditions and standard emission factors in accordance with Permit Handbook Chapter 2.3.

This project is over 1,000 ft from the nearest public school and is therefore not subject to the public notification requirements of Regulation 2-1-412.

A toxic risk screening analysis is not required.

BACT, PSD, NSPS, and NESHAPS are not triggered.

## VIII. CONDITIONS

Permit conditions for S-46, Emergency Generator, Application # 4520, Shore Terminal, Plant # 581.

1. The engine for emergency generator S-46 shall be fired exclusively on diesel fuel having a sulfur content no greater than 0.05% by weight. The sulfur content of the fuel oil shall be certified by the fuel oil vendor. [Basis: Cumulative Increase]

"Emergency Conditions" is defined as any of the following: [Basis: Regulation 9-8-231]

- a. Loss of regular natural gas supply
  - b. Failure of regular electric power supply
  - c. Flood mitigation
  - d. Sewage overflow mitigation
  - e. Fire
  - f. Failure of a primary motor, but only for such time as needed to repair or replace the primary motor
2. S-46 shall only be operated to mitigate emergency conditions or for reliability-related activities. Operation for reliability-related activities shall not exceed 100 hours in any calendar year at this engine. Operation while mitigating emergency conditions is unlimited. [Basis: Regulation 9-8-330, Cumulative Increase]

"Reliability-related activities" is defined as any of the following: [Basis: Regulation 9-8-232]

- a. Operation of an emergency standby engine to test its ability to perform for an emergency use, or
  - b. Operation of an emergency standby engine during maintenance of a primary motor
3. S-46 shall be equipped with either: [Basis: Regulation 9-8-530]
    - a. a non-resettable totalizing meter that measures and records the hours of operation for the engine

**OR**

- b. a non-resettable fuel usage meter; the following factors shall be used to convert fuel usage to hours of operation:  
S-46: 7.5 gal/hr
- 4. The following monthly records shall be maintained in a District-approved log for at least 5 years for S-46 and shall be made available for District inspection upon request: [Basis: Regulations 9-8-530, 1-441]
  - a. Total hours of operation for each engine
  - b. Hours of operation under emergency conditions for each engine and a description of the nature of each emergency condition
  - c. Fuel usage for each engine

**IX. RECOMMENDATION**

Issue conditional Permit to Operate to Shore Terminal LLC. for the following equipment:

**S-46 Emergency Generator, Caterpillar 3304, 161 HP, 1.02 MMBtu/hr.**

\_\_\_\_\_  
*Thu H. Bui*  
*Air Quality Engineer II*  
*Permit Services Division*  
Date: \_\_\_\_\_

THB:disk-s\selbyoil\4520e

**EVALUATION REPORT**  
**ST SHORE TERMINALS-SELBY**  
Application #11861 - Plant #581

90 San Pablo Ave.  
Crockett, CA 94525

**I. BACKGROUND**

Shore Terminal - Selby has applied for a condition change of the Permit to Operate for the following equipment:

- S-32 Fixed Roof Storage Tanks, 6,300,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-33 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-34 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-35 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-36 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-37 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-38 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-39 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-40 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-41 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-42 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-43 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-44 Fixed Roof Storage Tanks, 1,260,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-45 Fixed Roof Storage Tanks, 210,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**

Currently, Condition # 6185, Part 3 and Part 9 require that the liquid loading into storage tanks S-32 through S-45 be less than 145,000 barrels per day and 150 lb/day, respectively. The permittee sought these limits in order to avoid triggering either a BACT or CEQA evaluation required by District Regulation 2-2 in late 1989 or early 1990. Since then, the District's Regulation 2-2 has changed. We no longer have the trigger level at 150 lb/day. Modern tank ships generally carry around 250,000 barrels or larger. In order to accommodate the larger tanker and comply with the permit's throughput limit, the terminal must shut down the marine offloading operation (S-27) when 145,000 barrels daily level is reached. A vessel might idle at the wharf for up to 10-12 hours, until 12:01 AM the next day to resume

transfer operations. As a result, the emissions of NO<sub>x</sub>, SO<sub>x</sub>, CO, POC and PM from hoteling can increase. Shore Terminals may have costs associated with idle vessels and crew also.

ST Shore Terminals is proposing to delete Part 3 of Condition 6185 because there does not appear to be a current regulatory requirement for this limit. Since the District's current practice is to impose a throughput limit to a Title V facility source even though it may be a grandfathered source. It is reasonable for the District to keep the daily limit of liquid loaded into storage tanks S-32 through S-45 but relax the limit to 250,000 barrels per day. The District will delete the emission limit of 150 lb/day in Part 9 of condition 6185 because the limit has been deleted from District's regulation and sources S-32 through S-45, and S-27 meet BACT requirement. Currently, storage tanks are abated by Regenerative Carbon Units (A-421 and A-422) that achieved more than 98.5% control efficiency. This will eliminate the unnecessary combustion emission increases from hoteling, and extra cost to support the idle vessel and crew. Instead of waiting for the Title V permit renewal, Shore Terminals needs to make this conditional change urgently at this time, because as this application is being reviewed, there is a ship on dock that is hoteling, and waiting to offloading its cargoes. The minor modification of the Title V permit for this project is currently under review in Application # 11862.

## II. EMISSION INCREASES

There will be an increase in daily POC emissions as a result of raising the daily throughput from 145,000 barrels/day to 250,000 barrels/day for this project. However, there will not be any annual POC emission increases, because the annual throughput at source S-27 remains the same. There will be emission decreases from hoteling. The following emission reductions are calculated just for information because the daily increases will not affect the annual increases:

The hoteling emission factors for NO<sub>x</sub>, CO, POC, and PM<sub>10</sub> for ship are from Shore Terminal Condition # 12677 calculation method Schedule F.

Assuming 24 vessels per year and 12 hours of hoteling each vessel.

Assuming 12 vessels are less than 60M Dead Weight Ton (DWT), and 12 vessels are larger than 60M DWT.

### Ship emission reductions from 12 hours of hoteling:

	Hrs/day	<60M DWT		12 vessels/yr		> 60MDWT		12 vessels/yr		Total
		Factor (lb/hr)	lb/yr	lb/yr	Factor (lb/hr)	lb/yr	lb/yr			
NO <sub>x</sub>	12	5.4	778	10.8	1555	2333				
CO	12	0.6	86	1.2	173	259				
POC	12	0.6	86	1.8	259	345				
PM	12	4.8	58	9.6	1382	1440				

## III. TOXIC SCREENING ANALYSIS

Toxic risk screening analysis is not required for a project that does not have any emission increases.

## IV. BEST AVAILABLE CONTROL TECHNOLOGY

BACT is required for this application, because the POC emissions are greater than 10 lb/highest day per Regulation 2-2-301. The gasoline that was offloading from the marine vessel is routed to fixed roof tanks S-32 through S-45, which are abated by A-421 and A-422 Regenerative Carbon Units. The latest source tests conducted on January 5, 2005 show that both A-421 and A-422 met BACT(2) requirement with greater than 98.5% control efficiency per BACT Guideline Document 107.1, dated 10/28/91 (see attached source test results). Both S-421 and S-422 achieved 0.009 lbs/1000 gallons loaded, which is much less

than 0.08 lbs/1000 gallons, or equivalently more than 98.5% control efficiency according the attached memorandum from Barry Young on letter dated 6/9/00 for BACT revision of Gasoline Bulk Terminals.

## **V. OFFSETS**

Offsets are not required for this application since there is no annual emission increases per Regulation 2-2-302.

## **VI. PLANT CUMULATIVE INCREASE SINCE 4/5/1991**

No emissions are added to the plant's cumulative increase for this permit application. No new emissions of any pollutant will be generated as a result of daily throughput increase.

## **VII. STATEMENT OF COMPLIANCE**

Source S-32 through S-45 Fixed Roof Storage Tanks of this application is subject and expected to comply with Regulation 8, Rule 5-306, which requires that loading of gasoline into these tanks must have a abatement device with at least 95% control efficiency. Source test from Shore Terminals demonstrated the system met 0.009 lbs/1000 gal loaded, which is equivalent to 99.0% control efficiency. (See attached source test result)

This project is considered to be ministerial under the District's CEQA Regulation 2-1-311 and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emission factors in accordance with Permit Handbook Chapter 4.1.

This project is over 1,000 ft from the nearest public school and is therefore not subject to the public notification requirements of Regulation 2-1-412.

PSD, NESHAPS are not triggered.

## **VIII. CONDITIONS**

### **COND# 6185**

For S-1, S-2, S-3, S-5, S-6, S-12, S-15, S-24, S-25, S-30, S-32 THROUGH S-45, STORAGE TANKS, S-27 MARINE LOADING, AMENDED BY APPLICATION # 11861 AND TITLE V APPLICATION 11862:

1. Storage Tanks S-32 through S-45 and Marine Loading Berth S-27 shall be vented at all times of operation to the properly maintained and properly operated A-421 and A-422 Regenerative Carbon Units. The switching time between carbon canisters for these units shall not exceed 17 minutes while the system is operating. This condition shall not apply to exempt materials. [Basis: Cumulative Increase]
2. The combined total of all hydrocarbon liquids loaded into Storage Tanks S-32 through S-45 shall not exceed 18.8 million barrels in any consecutive 12-month period. [Basis: Cumulative Increase]
3. The combined total of all hydrocarbon liquids loaded into Storage Tanks S-32 through S-45 shall not exceed ~~145,000~~ 250,000 barrels in any calendar day. Daily records of the total liquid loaded into Storage Tanks S-32 through S-45 shall be kept in a District approved log and retained for at least five years from the date of entry. This log shall be kept on site and made available to District staff upon request. [Basis: Cumulative Increase]

4. The combined total of all hydrocarbon liquids loaded into marine vessels at the Marine Loading Terminal S-27 shall not exceed 47.6 million barrels in any consecutive 12-month period. Monthly records of the total hydrocarbon liquid loaded into marine vessels at S-27 shall be kept in a District approved log and retained for at least five years from the date of entry. This log shall be kept on site and made available to District staff upon request. [Basis: Cumulative Increase]
5. Emissions from the A-421 and A-422 Regenerative Carbon Units shall not exceed 1 pound of POC's per 1000 barrels of hydrocarbon liquid transferred at S-27 and S-32 through S-45. [Basis: Cumulative Increase]
- \*6. Benzene emissions from the A-421 and A-422 Carbon Systems combined shall not exceed 0.15 lbs per calendar day. [Basis: Toxics]
- \*7. The average benzene concentration in all hydrocarbon liquids stored in Storage Tanks S-32 through S-45 shall not exceed 2% by weight. The owner/operator of sources S-32 through S-45 shall analyze all materials stored in each of these tanks for benzene concentration at least once every 6 months. Each tank shall be sampled within 30 days of start-up. If the owner/operator can demonstrate that several tanks contain hydrocarbon from a single source (shipment), then a single benzene analysis may be performed for that group of tanks. These records shall be kept on file for at least five years after the date of entry and shall be made available to District personnel upon request. All tests shall be performed in accordance with District approved laboratory procedures. [Basis: Toxics]
8. Start-up source test condition, deleted.
9. The District shall adjust the throughput limits established in permit conditions 2, 3, and 4, and the emission rate limitation in permit condition 5, if the owner/operator of this facility is able to demonstrate, to the satisfaction of the APCO, that an emission rate less than 1 lb POC/1000 bbl is achievable on a consistent basis. The District would then change the above referenced permit conditions before the issuance of the Permit to Operate for this project. Under no circumstances shall the increase in POC emissions from S-27 as a result of this project plus the new emissions from S-32 through S-45 exceed ~~150 lb/day, nor shall the Cumulative Increase from this facility exceed~~ 40 TPY. [Basis: Cumulative Increase]
10. All new hydrocarbon liquid product pumps associated with this project shall be equipped with either double mechanical shaft seals or shall utilize sealless magnetically coupled pumps. These new pumps shall be subject to the inspection and maintenance requirements of District Regulation 8-18 and any future revisions to this rule. [Basis: Reg. 8-18]
11. All new valves and flanges associated with this project shall be subject to the inspection and maintenance criteria of District Regulation 8-18 and any future revisions to this rule. [Basis: Reg. 8-18]
12. Storage Tanks S-32 through S-45 shall be equipped with properly installed and properly operated pressure relief valves which do not open under normal operating conditions and thereby allow bypassing of the A-421/A-422 Carbon System. The S-27 Marine Terminal shall use connection couplings, which minimize fugitive leaks during connection and disconnection of the product loading and vapor recovery piping. [Basis: Reg. 8-18]
13. The owner/operator of this facility shall submit an accounting of all new pumps, valves, and flanges associated with this project, and shall also identify the numbers of existing pumps, valves,

- and flanges, within 60 days of project completion. This accounting shall recalculate fugitive emissions from both these new sources and from existing fugitive sources. The calculations shall also compare the actual new fugitive emissions versus the projected fugitive emissions calculated in the permit application. The District may adjust the plant Cumulative Increase based on the recalculated actual emission rate. [Basis: Cumulative Increase]
14. The owner/operator of the A-421 and A-422 Regenerative Carbon Systems shall install an infrared combustible gas detector or District approved equivalent at the outlet of each of these carbon units. This detector shall continuously measure and record hydrocarbon concentration in PPM as butane. The type and design specifications of this detector shall be approved by the District's Source Test Manager before installation. [Basis: NSPS]
  15. Deleted, extra requirement, continuous hydrocarbon monitor and recorder installed at the tail end of the abatement's outlet is already a good indicator.
  16. The total number of tank degassing operations at this facility shall not exceed 6 in any consecutive 12-month period. [Basis: Cumulative Increase]
  17. The tank degassing operations shall be vented at all times to either the properly maintained and properly operated Carbon Adsorption/Desorption System (A-421 & A-422) or Thermal Oxidizer (A-423). [Basis: Reg. 8-5]
  18. The Thermal Oxidizer (A-423) shall maintain a minimum operating temperature of 1400°F, a minimum residence time of 0.5 seconds, and a maximum blower size of 1100 cfm. [Basis: Cumulative Increase]
  19. The control equipment (A-421, A-422, & A-423) shall cause the tank to operate at negative pressure during tank cleaning operations. Fugitive emissions during tank cleaning operations shall be minimized. This control equipment shall begin operating prior to flushing the tank with water. [Basis: Cumulative Increase]
  20. The storage tank vapors shall be vented to the A-421, A-422, & A-423 control equipment for as long as is necessary to reduce the POC concentration in the vapor stream to less than 1% (vol) or 10,000 ppm. [Basis: Cumulative Increase]
  21. A-423 Thermal Oxidizer shall be equipped with a continuous temperature controller set to maintain the operating temperature above 1400°F as required in condition #18. [Basis: Cumulative Increase]
  22. A-421, A-422, & A-423 shall be equipped with a continuous hydrocarbon concentration monitor and recorder that measures both the inlet and the outlet concentrations at this abatement equipment. [Basis: NSPS]
  23. The owner/operator shall not degas any tanks to the A-421/A-422 Carbon Systems during bulk liquid transfers at any other sources abated by A-421 and A-422. [Basis: Cumulative Increase]
  24. The owner/operator of A-421, A-422, & A-423 shall maintain the following records:
    - a) Number of tank degassing operations,
    - b) Abatement device used for each degassing operation
    - c) The operating temperature of the Thermal Oxidizer (A-423), and
    - d) The hydrocarbon concentration at the inlet and outlet of the abatement device during the venting operation. [Basis: Recordkeeping]

These records shall be kept in a District approved log and retained for at least five years from the date of entry. This log shall be kept on site and made available to District Staff upon request. [Basis: Cumulative Increase]

25. The combined total pumping rate through the three loading arms associated with S-27 shall not exceed 10,000 barrels per hour. [Basis: Cumulative Increase]
26. Only the following materials shall be transferred at Marine Loading Terminal S-27:
  - 1) Crude Oil
  - 2) Gasoline
  - 3) MTBE
  - 4) Any material which is exempt from District permitting requirements (as long as the loading of this exempt material has been properly reported to the District), or any other petroleum hydrocarbon material with a vapor pressure less than unleaded gasoline (6.2 psia at 70 deg F) and toxicity less than unleaded gasoline (4% benzene by weight). [Basis: Cumulative Increase, Toxics]

## **IX. RECOMMENDATION**

It is recommended that a change in condition for Permits to Operate be granted to Shore Terminal - Selby for the following equipment:

- S-32 Fixed Roof Storage Tanks, 6,300,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-33 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-34 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-35 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-36 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-37 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-38 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-39 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-40 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-41 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-42 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-43 Fixed Roof Storage Tanks, 8,022,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-44 Fixed Roof Storage Tanks, 1,260,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**
- S-45 Fixed Roof Storage Tanks, 210,000 gallons capacity, abated by Carbon Adsorption Systems A-421 or A-422, John Zink.**

\_\_\_\_\_  
*Thu H. Bui*  
*Air Quality Engineer II*  
*Engineering Division*  
*Date:* \_\_\_\_\_

THB:Disk-s\Stshore\11861\11861e

## **APPENDIX B**

### **Glossary**

**ACT**

Federal Clean Air Act

**APCO**

Air Pollution Control Officer

**AP-42**

EPA's Compilation of Air Pollutant Emission Factors

**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). Cumulative increase is used to determine whether threshold-based requirements are triggered.

**District**

The Bay Area Air Quality Management District

**dscf**

Dry Standard Cubic Feet

**EPA**

The federal Environmental Protection Agency.

**Excluded**

Not subject to any District regulations.

**Federally Enforceable, FE**

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

**FP**

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

**HAP**

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

**IERC**

Interchangeable Emission Reduction Credit, as defined by BAAQMD Regulation 2-9-212.

**Major Facility**

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

**MFR**

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

**MOP**

The District's Manual of Procedures.

**NAAQS**

National Ambient Air Quality Standards

**NESHAPS**

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

**NMHC**

Non-methane Hydrocarbons (Same as NMOC)

**NMOC**

Non-methane Organic Compounds (Same as NMHC)

**NO<sub>x</sub>**

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, NO<sub>x</sub>, PM<sub>10</sub>, and SO<sub>2</sub>.

**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

**PM<sub>10</sub>**

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.

**SO<sub>2</sub>**

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:**

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 <sup>2</sup>	=	square meter
min	=	minute
mm	=	million
MMbtu	=	million btu
MMcf	=	million cubic feet
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scfm	=	standard cubic feet per minute
yr	=	year

APPENDIX C

BAAQMD Compliance Report