

Bay Area Air Quality Management District

939 Ellis Street
San Francisco, CA 94109
(415) 771-6000

**Permit Evaluation
and
Statement of Basis
for**

**Renewal of
MAJOR FACILITY REVIEW PERMIT**

for
**Pacific Atlantic Terminals, LLC
Facility #A7034**

Facility Address:
2801 Waterfront Road
Martinez, CA 94553

Mailing Address:
2801 Waterfront Road
Martinez, CA 94553

September 2006

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

Application: 13150

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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. Atlantic Pacific Terminals, LLC 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 A7034.

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

The District proposes to approve the application issue the permit renewal with modifications. The District has updated standard sections of the permit to include new standard language used in all Title V permits. The District made corrections to the permit also. The proposed permit shows all changes to the permit in strikeout/underline format.

On July 1, 2005, Valero, LP purchased Shore Terminals LLC, including its facility in Martinez. However, the Federal Trade Commission required that Valero LP divest ownership of the Martinez and Richmond facilities before approving the acquisition. As a result, Valero LP/Shore Terminals transferred the Martinez facility and associated pipelines to Pacific Atlantic Terminals, LLC on September 30, 2005. Therefore, the name of this facility is Pacific Atlantic Terminals, LLC. The primary responsible official, secondary responsible official, and facility contact 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 6 applications since the 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>
4684	Standby Diesel Engines	3/28/02
5850	Internal Floating Roof Tanks	7/22/02
6966	Title V Minor Modification	1/27/03
10493	Internal Floating Roof Tanks	8/02/04
10492	Title V Minor Modification	8/02/04
13150	Title V Permit Renewal	8/08/05

Application 13150 seeks renewal of the Title V permit, which is the subject of this action.

Application 4684 sought a permit to operate two small existing emergency diesel generators that had been in service since 1974 (sources S-74 and S-75). They had been exempt from District regulations pursuant to Regulation 1-110.2. However, Regulation 1-110.2 was deleted on May 17, 2000 and the sources lost their exemption. Therefore these engines require permits to operate.

Application 5850 sought an authority to construct three new internal floating roof tanks (sources S-76, S-77 and S-78). These tanks store gasoline and other petroleum products that are transferred to and from existing pipelines. These tanks would not be connected to the truck loading rack. Therefore, no throughput increases of petroleum product from the upstream or downstream sources would result from the installation of the tanks.

Application 6966 sought a minor modification of the initial Title V permit to incorporate five sources (S-74, S-75, S-76, S-77 and S-78) based on Applications 4684 and 5850. The District issued this minor modification of the Title V permit on May 30, 2003.

Application 10493 sought authority to construct two new internal floating roof tanks (sources S-79 and S-80). These tanks store gasoline and other petroleum products, which would be transferred to and from existing pipelines. These tanks would be connected to the truck loading rack, but the facility is not operating the truck loading rack due to lack of demand. If gasoline transfers to the truck loading rack, the facility must confirm that there is no increase from the upstream source to modify the throughput limits. Accordingly, under present operations no throughput increases of petroleum products from the upstream or downstream sources would result from the installation of the two tanks.

Application 10492 is for incorporation of two new internal floating roof tanks into the Title V permit as a minor modification. This Title V minor modification was issued on July 27, 2005. See Appendix A for New Source Review Permits (Applications 4684, 5850, 10493).

B. Facility Description

The facility is a bulk terminal that receives gasoline and petroleum products, and distributes them either by pipelines or truck racks. Currently, the truck loading rack operation is not being used for gasoline at all because there is no demand for it.

This bulk terminal includes sixteen fixed roof tanks, four external floating roof tanks, five internal floating roof tanks, one tank truck loading rack, one marine loading wharf, one direct fired heater, two oil-water separators, and two emergency diesel generators. The sixteen fixed roof tanks that store gasoline or petroleum products, the truck loading rack, and the marine loading wharf are abated by one common thermal oxidizer (A-1).

As part of its Title V permit renewal application, Shore Terminals requested some clarifications of certain permit conditions to enable better implementation of the conditions by the permittee. The proposed permit condition changes are listed below. Pacific Atlantic Terminals sought to remove diesel fuel from source S-73 the direct-fired heater also because the source can burn natural gas only. The company also has new numbers for some of the tanks. All equipment will remain the same as permitted.

Over the past years, the facility's POC and other regulated emissions have changed. The plant's actual POC emissions are derived from the District's database for the years ending in October 2001 and October 2005. All other emissions calculations are derived from the applicant's Title V permit applications for the years ending in October 2001, October 2005. The changes in emissions are as follows:

Facility Emissions

Year Ending	POC (tons/yr)	NOx (tons/yr)	SO2 (tons/yr)	CO (tons/yr)	PM₁₀ (tons/yr)	Benzene (tons/yr)
October 2001	22.9	52.4	69.11	5.23	8.32	0.24
October 2005	40.8	56.21	69.12	6.24	8.41	0.43
Increase of Emissions	17.9	3.81	0.01	1.01	0.10	0.19

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 of the permit, "Standard Conditions," 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 and Regulation 2. These are the District's General Provisions and Permitting rules.

Changes to permit:

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

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.

II. Equipment

Section II of the permit, "Equipment," 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 in parentheses on Table II, but Pacific Atlantic Terminals wishes to list the old numbers as well.

- S-1, Tank T-1 becomes Tank 8101 (T-1)
- S-2, Tank T-2 becomes Tank 8102 (T-2)
- S-3, Tank T-3 becomes Tank 5003 (T-3)
- S-4, Tank T-4 becomes Tank 5004 (T-4)
- S-5, Tank T-5 becomes Tank 5005 (T-5)
- S-6, Tank T-6 becomes Tank 5006 (T-6)

- S-7, Tank T-7 becomes Tank 5007 (T-7)
- S-8, Tank T-8 becomes Tank 2008 (T-8)
- S-9, Tank T-9 becomes Tank 1109 (T-9)
- S-10, Tank T-10 becomes Tank 310 (T-10)
- S-13, Tank T-13 becomes Tank 50113 (T-13)
- S-14, Tank T-14 becomes Tank 50114 (T-14)
- S-15, Tank T-15 becomes Tank 50115 (T-15)
- S-16, Tank T-16 becomes Tank 50116 (T-16)
- S-27, Tank T-39 becomes Tank 17339 (T-39)
- S-28, Tank T-40 becomes Tank 17340 (T-40)
- S-76, Tank T-11041 becomes Tank 10201 (T-11041)
- S-77, Tank T-11042 becomes Tank 10202 (T-11042)
- S-78, Tank T-11043 becomes Tank 10203 (T-11043)

Source S-73, the direct-fired heater can burn natural gas only. Therefore, the diesel fuel reference will be deleted.

The continuous hydrocarbon concentration monitor requirement for operating parameter of Abatement Device A-1, Thermal Oxidizer, will be deleted as requested. In lieu of continuous hydrocarbon concentration monitor requirement, Condition 1253, Part IV, Section 11 will be added to require annual compliance testing at A-1. The District agreed that source testing once a year along, together with the existing parametric continuous temperature monitoring are sufficient measures to verify the combustion efficiency of the thermal oxidizer.

III. Generally Applicable Requirements

Section III of the permit, “Generally Applicable Requirements,” 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 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 will be 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 5, New Source Review of Toxic Air Contaminants
- California Health and Safety Code Section 93115 et seq., Airborne Toxic Control Measure for Stationary Compression Ignition Engines

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

IV. Source-Specific Applicable Requirements

Section IV of the permit, "Source-Specific Requirements," 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 Pacific Atlantic Terminals, the VOC emissions from the gasoline truck rack (S-20) and marine vessel loading wharf (S-21), prior to abatement by A-1 Thermal Oxidizer, exceed 100 tons per year, then the requirements of 40 CFR 64 Compliance Assurance Monitoring

(CAM) apply. Pacific Atlantic Terminals complies with CAM by having an existing continuous temperature monitoring system on thermal oxidizer (A-1), 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 through S-12, S-18, S-19, S-27, S-28 Fixed Roof Tanks, and S-20 Tank Truck Loading Rack:

- The requirements of 40 CFR 64 - Compliance Assurance Monitoring will be added to the appropriate Table IV for the above tanks and tank truck loading rack.

S-14, S-15 and S-16 External Floating Roof Tank:

- The requirements of Regulation 8-5-322.5 and 322.6 will be added to Table IV-D only for sources S-14, S-15 and S-16 since the company replaced the secondary seals for these tanks.

S-21, Marine Vessel Loading Wharf:

- The continuous hydrocarbon monitoring system and the flow rate will be deleted in Table IV-F.
- The word "source test result" to calculate emissions will be added to Table IV-F in Condition 1253, Part IV, Section 4.
- Condition 1253, Part V and VI will be removed because the equipment was no longer at the facility or other conditions superseded the condition in Part V and VI in Table IV-F.
- New provisions of Regulation 8-44 Marine Tank Vessel Operations will be added into Table IV-F, since the rule was revised and adopted by the District on December 7, 2005.
- The words "Martinez Shore Oil" will be removed from Condition 1253, Schedule D, under Other Volatile Cargos, since the facility has changed its name.
- The requirements of 40 CFR 64 - Compliance Assurance Monitoring will be added to Table IV-F for the marine vessel loading wharf.

S-73, Direct Fired Heater:

- BAAQMD Regulation 9-1-304, Fuel Burning (Liquid and Solid Fuels) requirement will be deleted because the source will not burn fuel oil in Table IV-I.
- The specific applicable requirement for fuel oil at Source S-73 will be replaced by the requirements of natural gas in Table IV-I, Condition 1253, Part IIID, Schedule D.
- The NOx limitation for fuel oil at Source S-73 during emergency will be replaced by the use of natural gas exclusively in Table IV-I, Condition 13720, Part 4.
- The requirements of Regulation 6-301 and 6-304 will be added to Table IV-I since they were omitted from previous issuance.

S-74 and S-75 Emergency Diesel Generators

- The new Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines will be added to Table IV-J for these in-use generators effective January 1, 2006.

- Condition 19308 will be modified to reflect new requirements from the new ATCM.
- The applicable requirement of Regulation 6-305 for visible particles will be added to Table IV-J for S-74 and S-75.

A-1, Thermal Oxidizer:

- The Annual District approved source test will be added to verify compliance with applicable requirement in Table IV-M, Condition 1253, Part IV, Section 11.
- The continuous hydrocarbon monitoring system and the flow rate will be deleted in Condition 1253, Part IV, Section 3c and partially in Section 4, since the annual source test and the parametric continuous temperature monitoring system are sufficient to ensure the combustion efficiency of the thermal oxidizer.

V. Schedule of Compliance

Section V, "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 is also using the following terms for regulatory basis:

- **BACT:** This term is used for a condition imposed by the Air Pollution Control Officer (APCO) to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.
- **Cumulative Increase:** This term is used for a condition imposed by the APCO 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 1253, Part II-D, Section i

- The reference of Regulation 2-2-206 was incorrect and will be removed from the definition of non-exempt organic compound.

Condition 1253, Part III, Section A.3

- The quarterly reporting requirements of the Reid Vapor Pressure of the previous cargo, previous port of call and vessels that were "gas freed" will be deleted because they are unnecessary. Reporting is not required since all information is kept onsite as a record to determine the POC emissions already.

Condition 1253, Schedule D

- The POC, NOx, and SO2 emission factors will be removed as part of Title V renewal because the Direct Fired Heater, S-73 is not using fuel oil. The emission factors for POC, NOx, SO2, and CO for natural gas from EPA-42, Section 1.4 replace the fuel oil's factors.
- Typo correction for definition of Ea and Eg, which should have a decimal in 12.46 instead of a comma in 12,46.
- Typo correction for definition of Et, which should be 12.46 instead 12.47.
- Typo correction for Ship Type (50-59) ship size organic emission factor should be 104.6 instead of 04.6.

- Typo correction for Motor (80-99) ship size particulate emission factor should be 82.6 instead of 2.6.

Condition 1253, Part IV, Marine Vessel Loading Vapor Combustion Unit (A-1)

- The hydrocarbon concentration and flow rate measurement will be deleted in Section 3c, and in Section 4. In lieu of the continuous hydrocarbon concentration monitoring system, Section 11 will be added to require an annual District-approved source test for A-1, thermal oxidizer. A-1 abates the marine vessel loading, fixed roof tanks, and the truck loading rack.

Condition 1253, Part V and VI will be deleted because the equipment is no longer at the facility or other conditions superseded the conditions in Part V and VI.

Condition 13720

- The NO_x requirement when using diesel fuel will be deleted at source S-73 since it is not capable of firing diesel fuel. Natural gas will be used exclusively at S-73, as stated in Condition 13720, Part 4.

Condition 19308

- This condition will be modified to reflect the new requirements from the new ATCM for IC Engines.

Condition 20060

- To clarify hydrocarbon liquids in Part 3, the definition of “non-exempt organic compound” will be added as defined in Regulation 2-1-123.

Condition 22826

- To clarify hydrocarbon liquids in Part 4, the definition of “non-exempt organic compound” will be added as defined in Regulation 2-1-123.
- The average benzene concentration will be used instead of the maximum concentration in order to reduce the number of laboratory analyses requested by the facility in Part 4. The District has agreed to the request because it is unlikely that the benzene concentration will exceed the specified level. This modification makes the requirement consistent with Condition 20060, Part 3.

VII. Applicable Limits and Compliance Monitoring Requirements

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

The District has reviewed all monitoring and has determined the existing continuous emission monitoring is adequate. For the thermal oxidizer, A-1, the annual source test to verify compliance and with the parametric continuous temperature monitoring system are sufficient. Therefore, the continuous hydrocarbon monitoring system is not 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

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-73, Direct Fired Heater	BAAQMD Regulation 6-303.1	Ringelmann 1.0 for less than 3 min/hr	None
S-73, Direct Fired Heater	BAAQMD Regulation 6-304	Ringelmann 2.0 or greater than 40% opacity for less than 3 min/hr during tube cleaning	None
S-73, Direct Fired Heater	BAAQMD Regulation 6-310.1	0.15 gr/dscf	None
S-73, Direct Fired Heater	BAAQMD Regulation 6-310.3	0.15 gr/dscf at 6% O2	None
S-74 AND S-75, EMERGENCY DIESEL GENERATORS	BAAQMD Regulation 6-303	Ringelmann 2.0 for less than 3 min/hr	None
S-74 AND S-75, EMERGENCY DIESEL GENERATORS	BAAQMD Regulation 6-305	Visible Particle	None

PM Sources

# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-74 AND S-75, EMERGENCY DIESEL GENERATORS	BAAQMD Regulation 6-310	0.15 gr/dscf	None

PM Discussion:

BAAQMD Regulation 6 “Particulate Matter and Visible Emissions”

Visible Emissions

The facility is giving up the permit to burn fuel oil and has accepted a condition to burn natural gas exclusively at Source S-73, Direct Fired Heater. In its June 24, 1999 agreement with CAPCOA and ARB, entitled "Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP," EPA agreed that natural-gas-fired combustion sources do not need additional monitoring to verify compliance with Regulation 6, Visible Emissions. Therefore, no monitoring is necessary for this requirement.

Particulate Weight Limitation

BAAQMD Regulation 6-310 limits filterable particulate (FP) emissions from any source to 0.15 grains per dry standard cubic foot (gr/dscf) of exhaust volume. Section 310.3 limits filterable particulate emissions from “heat transfer operations” to 0.15 gr/dscf @ 6% O₂. These are the “grain loading” standards.

S-73, Direct Fired Heater

S-73, Direct-fired Heater is subject to BAAQMD Regulation 6-310.3, 0.15 gr/dscf PM @ 6% O₂. No monitoring has been imposed because the margin of compliance is high, as shown by the following calculation.

Natural Gas

The AP-42 factor for natural gas combustion is 7.6 lb/million standard cubic feet of natural gas (MMscf).

Converting to an emission factor per MMbtu:

$$(7.6 \text{ lb/MMscf}) \times (\text{MMscf}/1,050 \text{ MMbtu}) = 0.00724 \text{ lb/MMbtu}$$

The flue gas production rate for natural gas at 0% oxygen is 8,710 dscf. At 6% oxygen, the production rate is:

$$(20.9/20.9-6) (8710 \text{ dscf}) = 12,217 \text{ dscf}$$

The calculated particulate loading is:

$$(0.00724 \text{ lb PM/MMbtu}) \times (7000 \text{ gr/lb}) / (12,217 \text{ dscf/MMbtu}) = 0.004 \text{ gr/dscf}$$

The ratio of the limit to the calculated grain loading is 37.5:1. Therefore, no additional monitoring is necessary to assure compliance.

S-74 and S-75, Diesel Emergency Generators

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, the facility need not conduct opacity monitoring 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,” the facility need not monitor engine exhaust of non-utility distillate-oil-fueled emergency piston-type IC engines, but must maintain records of all engine usage.

SO₂ Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-73, Direct Fired Heater	BAAQMD 9-1-301	Ground level concentrations of SO ₂ 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-73, Direct Fired Heater	BAAQMD 9-1-302	300 ppm (dry)	None
S-74 AND S-75, EMERGENCY DIESEL GENERATORS	BAAQMD 9-1-301	Ground level concentrations of SO ₂ 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
A-1, Thermal Oxidizer	BAAQMD 9-1-301	Ground level concentrations of SO ₂ 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
A-1, Thermal Oxidizer	BAAQMD 9-1-302	300 ppm (dry)	None

SO₂ Discussion:

BAAQMD Regulation 9-1-301

Area monitoring to demonstrate compliance with the ground level SO₂ 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 SO₂ and therefore is not required to have ground level monitoring by the APCO.

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-74 and S-75 will burn California Diesel with a maximum sulfur content of 0.05% by weight; therefore, compliance with this standard is expected.

All facility combustion sources are subject to the SO₂ emission limitations in District Regulation 9, Rule 1 (ground-level concentration and emission point concentration). In its June 24, 1999 agreement with CAPCOA and ARB, "Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP," EPA agreed that natural-gas-fired combustion sources do not need additional monitoring to verify compliance with Regulation 9, Rule 1, because violations of the regulation are unlikely. Therefore, no monitoring is necessary for this requirement for S-73 Direct Fired Heater, and A-1 thermal Oxidizer, which will exclusively burn natural gas.

Following is a list of revisions to Section VII:

- The language at the beginning of the section will be made clearer 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 will be changed to "Type of Limit" since not every limit is a pollutant limit. The first "Emission Limit" column will be changed to "Citation of Limit" since not every limit is an emission limit. The second "Emission Limit" column will be changed to "Limit" since 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 through S-10, S-12, S-18, S-19, S-27 and S-28 Fixed Roof Tanks

- The reference for continuous hydrocarbon monitor will be replaced with continuous temperature monitor and annual source test requirement under monitoring type on Table VII-A, C and H.

S-20 Truck Loading Rack

- The reference for continuous hydrocarbon monitor will be replaced with continuous temperature monitor and annual source test requirement under monitoring type on Table VII-E.
- The word "record" will be added for monitoring type of NO_x on Table VII-E.

S-21 Marine Vessel Wharf

- The reference for continuous hydrocarbon monitor will be replaced with continuous temperature monitor and annual source test requirement under monitoring type on Table VII-F.
- Requirements of Regulation 8-44-304 Marine Tank Vessel Operations will be added in Table VII-F, because the District adopted revisions and imposed new requirements on December 7, 2005.

S-73 Direct Fired Heater

- The limit of CO will be added to Table VII-I with natural gas emission factor from AP-42.
- The limit of POC will be modified to Table VII-I with natural gas emission factor from AP-42.
- The limit of NOx will be modified to Table VII-I with natural gas emission factor from AP-42.
- The limit of SO2 will be modified to Table VII-I with natural gas emission factor from AP-42.
- The 48 hours non-gaseous testing requirements for NOx and CO will be deleted from Table VII-I.
- The annual source test requirements per BAAQMD Condition 13720, Part 5 for NOx and CO will be added to Table VII-I since they were left blank under monitoring type.
- The visible emission requirement (Ringelmann No. 1) of Regulation 6-301 will be added to Table VII since it was omitted in previous issuance.
- The visible emission requirement during tube cleaning (Ringelmann No. 2) of Regulation 6-304 will be added to Table VII since it was omitted in previous issuance.

S-74 and S-75 Emergency Diesel Generators

- The new Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines will be added to Table VII-J for these in-use generators effective January 1, 2006.
- Regulation 6-310.1 was corrected to Regulation 6-310 in Table VII-J under FP limit.
- The monitoring type will be changed to none instead of N/A under SO2 type of limit in Table VII-J.

A-1, Thermal Oxidizer

- The thermal oxidizer has a reference to Condition 13720 for CO source testing. This condition does not apply to the thermal oxidizer and will be deleted from Table VII-M.
- The words “none” will be added under monitoring type for SO2 since the natural gas fired thermal oxidizer does not expect to have significant SO2 emission.

VIII. Test Methods

Section VIII of the permit, “Test Methods,” lists test methods that are associated with standards in District or other rules. The test methods are 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

- EPA Reference Method 5 (40 CFR 60, Appendix A), Determination of Particulate Emissions from Stationary Sources, will be added as an alternative method for BAAQMD Regulation 6-310 in Table VIII, Test Methods.
- Test methods for non-gaseous fuel will be deleted from Table VIII for NO_x, and CO because the Direct Fired Heater, S-73, cannot use diesel fuel.
- 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.
- Source Test Method 4, Bulk Gasoline Loading Terminals (ST-4) will be deleted and replaced by the improved Method ST-34.

IX. Revision History

Changes to the Title V permit since initial issuance on March 12, 2001 are documented in section IX of the permit.

X. Glossary

Additions and corrections have been 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 follows: (1) A provision in a major facility review permit that identifies and justifies specific federally enforceable regulations and standards 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 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 attached letter dated June 14, 2006 - Office Memorandum from the Director of Compliance and Enforcement to the Director of Engineering presents a review of the compliance record of Pacific Atlantic Terminals, LLC (Site #A7034). The Compliance and Enforcement Division staff has reviewed the records for the period from January 1, 2005 through May 19, 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 21 Notices of Violation during this review period. Twenty of these notices were issued when the facility was being operated by Shore Terminal, the previous owner. One of which was issued for failure to perform the second semi-annual tank Pressure Relief Valve inspections, that was missed during the transition to a new contractor hired, by the new owner Pacific Atlantic Terminals, to perform fugitive leak inspections.
- The District did not receive any complaints alleging Pacific Atlantic Terminals, LLC as the source.
- During this review period, the facility did not report any breakdowns or excesses nor did District staff document any breakdowns or excesses.
- There are no pending variances or abatement orders for Pacific Atlantic Terminals, LLC.
- District staff reviewed Pacific Atlantic Terminals, LLC Annual Compliance Certifications for 2001-2005 and did not find any outstanding compliance issues.

The owner certified that all equipment was operating in compliance from March 12, 2001 to May 19, 2006. No ongoing non-compliance issues have been identified to date. See attached Appendix B.

APPENDIX A

Engineering Evaluation Reports

**ENGINEERING EVALUATION
SHORE TERMINALS LLC
Application #4684- Plant #7034**

**3801 Waterfront Road
Martinez, CA 94553**

I. BACKGROUND

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

S-74 Emergency Generator, Cummins Model 210-IF, 157 HP, 1.2 MMBtu/hr.

S-75 Emergency Generator, Cummins Model 280-IF, 145 HP, 1.1 MMBtu/hr.

These engines have been in service since 1974, when they were excluded from District regulation in accordance with Regulation 1-110.2. Because Regulation 1-110.2 was deleted on May 17, 2000, these engines require permit, although these are neither "new" nor "modified" sources as defined in Regulations 2-1-232 and 2-1-234. Therefore, these sources are 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 200 hr/yr for "discretionary use" (maintenance and testing). The operation of these engines to provide power during emergencies will not be limited.

II. EMISSION CALCULATIONS

Daily emissions from S-74, and S-75 engines, assuming 100 hr/yr 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-74): (based on AP-42 emission factors- Table 3.3-1 for uncontrolled diesel industrial engine)

POC: $(0.35 \text{ lb/MMbtu})(1.2 \text{ MMBtu/hr})(100 \text{ hr/yr}) = 42 \text{ lb/yr}$

NOx: $(4.41 \text{ lb/MMbtu})(1.2 \text{ MMBtu/hr})(100 \text{ hr/yr}) = 529 \text{ lb/yr}$

CO: $(0.95 \text{ lb/MMbtu})(1.2 \text{ MMBtu/hr})(100 \text{ hr/yr}) = 114 \text{ lb/yr}$

PM10: $(0.31 \text{ lb/MMbtu})(1.2 \text{ MMBtu/hr})(100 \text{ hr/yr}) = 37 \text{ lb/yr}$

SO2: $(0.29 \text{ lb/MMbtu})(1.2 \text{ MMBtu/hr})(100 \text{ hr/yr}) = 35 \text{ lb/yr}$

Emissions from engine (S-75): (based on AP-42 emission factors- Table 3.3-1 for uncontrolled diesel industrial engine)

POC: $(0.35 \text{ lb/MMbtu})(1.1 \text{ MMBtu/hr})(100 \text{ hr/yr}) = 39 \text{ lb/yr}$

NOx: $(4.41 \text{ lb/MMbtu})(1.1 \text{ MMBtu/hr})(100 \text{ hr/yr}) = 485 \text{ lb/yr}$

CO: $(0.95 \text{ lb/MMbtu})(1.1 \text{ MMBtu/hr})(100 \text{ hr/yr}) = 105 \text{ lb/yr}$

PM10: $(0.31 \text{ lb/MMbtu})(1.1 \text{ MMBtu/hr})(100 \text{ hr/yr}) = 34 \text{ lb/yr}$

SO2: $(0.29 \text{ lb/MMbtu})(1.1 \text{ MMBtu/hr})(100 \text{ hr/yr}) = 32 \text{ lb/yr}$

I. PLANT CUMULATIVE INCREASE SINCE 4/5/91

As discussed on page 1 (Background), S-74, and S-75 are not subject to a cumulative increase.

IV. TOXIC SCREENING ANALYSIS

As discussed on page 1 (Background), S-74, and S-75 are 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

Sources S-74, and S-75 in this application are subject to Regulation 9, Rule 8 ("NO_x and CO from Stationary Internal Combustion Engines"). Like all sources, S-74, and S-75 are subject to Regulation 6 ("Particulate and Visible Emissions"). These engines are 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-74, and S-75, Emergency Generators, Application # 4684, Shore Terminals Martinez, Plant # 7034.

1. The engines for emergency generators S-74, and S-75 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-74, and S-75 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 each 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-74, and S-75 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-74: 8.75 gal/hr
S-75: 8.0 gal/hr

4. The following monthly records shall be maintained in a District-approved log for at least 5 years for S-74, and S-75 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, Martinez for the following equipment:

S-74 Emergency Generator, Cummins Model 210-IF, 157 HP, 1.2 MMBtu/hr.

S-75 Emergency Generator, Cummins Model 280-IF, 145 HP, 1.1 MMBtu/hr.

Thu H. Bui
Air Quality Engineer II
Permit Services Division
Date: _____

THB:disk-s\martoil\4684e

**EVALUATION REPORT
SHORE TERMINALS-SELBY
Application #5850 - Plant #7034**

**2801 Waterfront Road
Martinez, CA 94553**

I. BACKGROUND

Shore Terminal - Martinez has applied for an Authority to Construct/Permit to Operate for the following equipment:

- S-76 Storage Tank # 11041, fixed roof tank in combination with an internal floating roof, 126 ft Dia., 100,000 barrel capacity.**
- S-77 Storage Tank # 11042, fixed roof tank in combination with an internal floating roof, 126 ft Dia., 100,000 barrel capacity.**
- S-78 Storage Tank # 11043, fixed roof tank in combination with an internal floating roof, 126 ft Dia., 100,000 barrel capacity.**

These tanks will store gasoline and other petroleum products, which will be transferred to and from existing pipelines. These tanks will not be connected to the truck loading rack, so there will not be any increases from the up stream or down stream sources.

II. EMISSION INCREASES

The tanks will have mechanical shoes as primary seal and rim-mounted as the secondary seal. The floating roof deck will be cable supported with a single, center column and there are no adjustable leg fittings for this deck to minimize the emissions during tank degassing. The emissions from these tanks are calculated by EPA Tank 4.0 program using gasoline with Reid Vapor Pressure of 11. (See attached calculations)

Tank Emissions (EPA Tank 4.0):

Throughput = 4,200,000 gal X 25 times/yr = 105,000,000 gal/yr for each tank

	<u>Annual (lb/yr)</u>	<u>Daily (day/yr)</u>	
Rim loss	591.21	1.62	(365 day/yr)
Working loss	159.79	6.39	(25 time/yr)
<u>Deck fitting loss</u>	<u>580.81</u>	<u>1.59</u>	<u>(365 day/yr)</u>
Maximum emissions	1332	9.60	

Fugitive Component Emissions:

Implementation Guidelines for estimating mass Emissions of Fugitive Hydrocarbon Leaks at Facilities – February 1999”. The emissions factors are contained in Table IV-1b, “ 1995 EPA Protocol Marketing Terminal Average Emission Factors”.

Fugitive sources	Number	Emission Factor <u>kg/hr/source</u>	Annual Emissions <u>lbs/yr</u>
Valves – light liquid	109	4.3 X 10 ⁻⁵	90.27
<u>Connectors, Flanges–liq.</u>	<u>31</u>	<u>8.0 X 10⁻⁶</u>	<u>4.78</u>
Total			95.05

Total Emissions = (1332 X 3) + 95 = 4091 lb/yr or 2.046 tpy

III. TOXIC SCREENING ANALYSIS

Sources S-76, S-77 and S-78 required the health risk screening analysis because benzene emissions from three sources exceeded the toxic trigger level assuming the average benzene concentration in the gasoline is at 1.8 % by weight. (See attached vapor % and emission calculation)

<u>Toxic Pollutant</u>	<u>Emission Rate for three tanks</u>	<u>Trigger Level</u>
Benzene	6.5 X 3 = 19.5 lb/yr	6.7 lb/yr

The cancer risk to the maximally exposed industrial receptor is 0.1 in a million. Thus, in accordance with the risk management policy the screen passes since the sources comply with TBACT standards. (See attached toxic report dated 10/16/02)

IV. BEST AVAILABLE CONTROL TECHNOLOGY

BACT is not triggered for this application because VOC emissions from each source S-76, or S-77, or S-78 are less than 10 lb/day. Shore Terminals will also be conditioned to load a maximum 4.2 million gallons of gasoline per day to keep the emission less than 10 lb/highest day.

V. OFFSETS

Offsets are required for source S-76, S-77 and S-78 because the potential to emit from this facility is greater than 50 ton/yr. Shore Terminal – Martinez will provide offsets at a ratio of 1.15:1 for this application.

Offsets: 2.046 tpy X 1.15 = 2.352 tpy for this application
 Shore Terminals – Martinez had submitted the company’s Banking Certificate of Deposit # 652 to provide offsets for this project.

Banking Certificate of Deposit # 652 currently has 10.802 tpy POC and 11.352 tpy NO₂. Thus, the Banking Certificate will be reissued to Shore Terminal in the amount of 8.450 tpy POC and 11.352 tpy NO₂.

POC = 10.802 tpy – 2.352 tpy = 8.450 tpy

VI. PLANT CUMULATIVE INCREASE SINCE 4/5/1991

	<u>Current</u> <u>Ton/yr</u>	<u>New</u> <u>Ton/yr</u>	<u>New Total</u> <u>Lbs/yr</u>	<u>Tons/yr</u>
POC =	0.00	2.046	0.00	0.00
NO_x =	0.00	0.00	0.00	0.00
SO₂ =	0.00	0.00	0.00	0.00
CO =	0.00	0.00	0.00	0.00
NPOC =	0.00	0.00	0.00	0.00

TSP =	0.00	0.00	0.00	0.00
PM₁₀ =	0.00	0.00	0.00	0.00

VII. STATEMENT OF COMPLIANCE

This application is subject and expected to comply with Regulation 8, Rule 5-304.2 and 304.3, which requires that storage tanks larger than 39 thousand gallons be equipped with an internal floating roof with primary and secondary seals specified in Regulation 8-5-321 and 322.

Sources S-76, S-77 and S-78 are subject and expected to comply with Regulation 10 - Standard of Performance for New Stationary, 40 CFR 60, Subpart Kb – Volatile Organic Liquid Storage Vessels – for a fixed roof tank in combination with an internal floating roof.

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.

BACT, PSD, NESHAPS are not triggered.

VIII. CONDITIONS

Condition for Sources S-76, S-77 and S-78, fixed roof tanks in combination with internal floating roofs, Application # 5850, Plant # 7034 Shore Terminals-Martinez.

1. The gasoline or other hydrocarbon liquids loaded into each storage tank (S-76, or S-77, or S-78) shall not exceed 105 million gallons in any consecutive 12 month period. [Basis: Cumulative Increase]
2. The gasoline or other hydrocarbon liquids loaded into each storage tank (S-76, or S-77, or S-78) shall not exceed 4.2 million gallons during any calendar day. [Basis: Avoid Best Available Control Technology]
3. The average benzene concentration in all hydrocarbon liquids stored in Storage Tanks S-76, S-77 and S-78 shall not exceed 1.8 % by weight. The owner/operator of sources S-76, S-77 and S-78 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 5 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: Cumulative Increase]

4. 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]
5. Sources S-76, S-77 and S-78 shall meet all applicable requirements of District Regulation 8-5 and NSPS, 40 CFR 60, Subpart Kb. [Basis: Reg. 8-5, NSPS]
6. In order to demonstrate compliance with the above conditions, the owner/operator of tanks S-76, S-7, and S-78 shall maintain the following records in a District approved log. These records shall be kept on site and made available for District inspection for a period of five years from the date that the record was made. [Basis: Record keeping]
 - a. The type and VOC content of all materials stored and the dates that the materials were stored.
 - b. The total daily throughput of each material stored, summarized on a monthly and annual basis.

IX. RECOMMENDATION

It is recommended that conditional Authority to Construct be granted to Shore Terminal - Martinez for the following equipment:

- S-76 Storage Tank # 11041, fixed roof tank in combination with an internal floating roof, 126 ft Dia., 100,000 barrel capacity.**
- S-77 Storage Tank # 11042, fixed roof tank in combination with an internal floating roof, 126 ft Dia., 100,000 barrel capacity.**
- S-78 Storage Tank # 11043, fixed roof tank in combination with an internal floating roof, 126 ft Dia., 100,000 barrel capacity.**

Thu H. Bui
Air Quality Engineer II
Permit Services Division

Date: _____

THB:Disk-s\Stshore\5850\5850e

**EVALUATION REPORT
SHORE TERMINALS-SELBY
Application #10943 - Plant #7034**

**2801 Waterfront Road
Martinez, CA 94553**

I. BACKGROUND

Shore Terminals - Martinez has applied for an Authority to Construct/Permit to Operate for the following equipment:

- S-79 Storage Tank # 20001, internal floating roof tank, 166 ft Dia., 200,000 barrels capacity.**
- S-80 Storage Tank # 20002, internal floating roof tank, 166 ft Dia., 200,000 barrels capacity.**

These tanks will store gasoline and other petroleum products, which will be transferred to and from existing pipelines. These tanks will also be connected to the truck loading rack; however, it will not be used at this time. In fact, the truck loading rack operation is not being used at this time at all because there is no demand for it. In the future, if gasoline from sources S-79 and S-80 are routed to the truck loading rack, Shore Terminals will need to review its truck loading rack operation and apply for any increases from the upstream sources.

Shore Terminals has also applied to modify its Title V permit due to the addition of these two new tanks (Application # 10492). This permit is under review at this time.

II. EMISSION INCREASES

The tanks will have a fixed roof on top, and an internal floating roof design. The floating roof deck will be cable supported with a single, center column and there are no adjustable leg fittings for this deck to minimize the emissions during tank degassing. The emissions from these tanks are calculated by EPA Tank 4.0 program using gasoline with Reid Vapor Pressure of 11 and Sacramento meteorological data. (See attached calculations)

Tank Emissions (EPA Tank 4.0):

Throughput = 8,400,000 gal X 24 times/yr = 201,600,000 gal/yr for each tank

	<u>Annual (lb/yr)</u>	<u>Daily (day/yr)</u>	
Rim loss	860.08	2.36	(365 day/yr)
Working loss	241.19	9.65	(25 time/yr)
<u>Deck fitting loss</u>	<u>3163.13</u>	<u>8.67</u>	(365 day/yr)
Maximum emissions	4264.23	20.68	

Fugitive Component Emissions:

Implementation Guidelines for estimating mass Emissions of Fugitive Hydrocarbon Leaks at Facilities – February 1999”. The emissions factors are contained in Table IV-1b, “ 1995 EPA Protocol Marketing Terminal Average Emission Factors”.

Fugitive sources	Number	Emission Factor kg/hr/source	Annual Emissions lbs/yr
Valves – light liquid	16	4.3 X 10 ⁻⁵	6.03
Flanges–liq.	68	8.0 X 10 ⁻⁶	4.77
Pump seals - liquid	4	5.4 X 10 ⁻⁴	18.92
Total			29.72

Total Emissions = (4,264.23 X 2) + 29.72 = 8,558.18 lb/yr or 4.28 tpy

III. TOXIC SCREENING ANALYSIS

Sources S-79, and S-80 required the health risk screening analysis because benzene emissions from three sources exceeded the toxic trigger level assuming the maximum vapor benzene concentration in the gasoline is at 1.4 % by weight. (See attached letter dated September 9, 2004 for benzene fraction)

The toxic risk was performed based on the cumulative impacts from all related projects permitted within the last two years. The emissions from tanks S-76, S-77 and S-78 were included because they were given Permit to Operate in November 2003 under application # 5850.

<u>Toxic Pollutant</u>	<u>Benzene Emission Rate</u>	<u>Trigger Level</u>
S-79	59.9 lb/yr	6.7 lb/yr
S-80	59.9 lb/yr	6.7 lb/yr
S-76	6.7 lb/yr	6.7 lb/yr
S-77	6.7 lb/yr	6.7 lb/yr
S-78	6.7 lb/yr	6.7 lb/yr

The cancer risk to the maximally exposed industrial receptor is 0.13 in a million. Thus, in accordance with the risk management policy the screen passes since the sources comply with TBACT standards. (See attached toxic report dated 10/5/04)

Note: The results of toxics risk screen analysis dated 10/5/04 were based on the benzene emission rate of 66.32 lb/yr. The above risks were prorated because the actual benzene emission rate of all 5 tanks is 139.9 lb/yr.

IV. BEST AVAILABLE CONTROL TECHNOLOGY

BACT is triggered for this application because VOC emissions from each source S-79, or S-80 are more than 10 lb/day. Sources S-79 and S-80 are equipped with BACT(2) level with the installation of the internal floating roofs. Both tanks are equipped with BAAQMD approved roof with primary seal and zero gap secondary seal, all meeting design criteria of Reg. 8, Rule 5. Also, no ungasketed roof penetrations, no slotted pipe guide pole unless equipped with float and wiper seals, and no adjustable roof legs unless fitted w/ vapor seal boots or equivalent.

V. OFFSETS

Offsets are required for source S-79, and S-80 because the potential to emit from this facility is greater than 50 ton/yr. Shore Terminal – Martinez will provide offsets at a ratio of 1.15:1 for this application.

Offsets: $4.28 \text{ tpy} \times 1.15 = 4.922 \text{ tpy}$ for this application
 Shore Terminals – Martinez had submitted the company’s Banking Certificate of Deposit # 852 to provide offsets for this project.

Banking Certificate of Deposit # 852 currently has 8.468 tpy POC and 11.352 tpy NO₂. Thus, the Banking Certificate will be reissued to Shore Terminal in the amount of 3.546 tpy POC and 11.352 tpy NO₂.

$$\text{POC} = 8.468 \text{ tpy} - 4.922 \text{ tpy} = 3.546 \text{ tpy}$$

VI. PLANT CUMULATIVE INCREASE SINCE 4/5/1991

	<u>Current</u> <u>Ton/yr</u>	<u>New</u> <u>Ton/yr</u>	<u>New Total</u> <u>Lbs/yr</u>	<u>Tons/yr</u>
POC =	0.00	4.28	0.00	0.00
NO_x =	0.00	0.00	0.00	0.00
SO₂ =	0.00	0.00	0.00	0.00
CO =	0.00	0.00	0.00	0.00
NPOC =	0.00	0.00	0.00	0.00
TSP =	0.00	0.00	0.00	0.00
PM₁₀ =	0.00	0.00	0.00	0.00

X. STATEMENT OF COMPLIANCE

This application is subject to Regulation 8, Rule 5-305.2 and 305.3, 320, 321, 322, and 328, which requires that storage tanks larger than 39 thousand gallons be equipped with either liquid mounted or metallic shoe primary seals and a secondary subject to Regulation 8-5-321 and 322, respectively. Section 8-5-305.3 requires that tanks must be equipped with at least 3 viewing ports in the fixed roof of the tank. Section 8-5-328 requires that tank-degassing operations be controlled. Sources S-79 and S-80 are expected to comply with the standards of Regulation 8, Rule 5 since the sources will have:

- (a) Internal floating roof with either liquid or mechanical primary seal, and rim mounted secondary seal.
- (b) Minimum of 3 viewing ports.
- (c) Tank degassing with at least 90% control efficiency.

Sources S-79, and S-80 are subject and expected to comply with Regulation 10 - Standard of Performance for New Stationary, 40 CFR 60, Subpart Kb - Volatile Organic Liquid Storage Vessels. The internal floating roof will be equipped with either a liquid or mechanical shoe primary and rim mounted secondary seals.

This application is subject to NESHAP 40 CFR 63, Subpart R - National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals). The sources will comply with Section 63.432, which requires compliance with NSPS subpart Kb (Section 60.112b).

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 is not triggered.

XI. CONDITIONS

Condition for Sources S-79, and S-80, internal floating roof tanks, Application # 10493, Plant # 7034 Shore Terminals-Martinez.

3. The owner/operator of S-79 and S-80 shall not exceed 403,200,000 gallons of material throughput during any consecutive 12 month period. [Basis: Cumulative Increase]
4. Only gasoline, diesel and jet fuel shall be stored in S-79 and S-80. [Basis: Cumulative Increase]
 - a. A liquid other than those specified above may be stored in S-79 and S-80, provided that both of the following criteria are met:
 - i. POC emissions, based on the maximum throughput Part 1, do not exceed 8,558 pounds per year
 - ii. Toxics emissions in pound per year, based on the maximum throughput in Part 1, do not exceed any risk screening trigger level.
3. Sources S-79 and S-80 shall be equipped with a liquid mounted primary seal and a zero-gap secondary seal. There shall be no ungasketed roof fittings. Except for roof legs and guide poles/wells, each roof fitting shall be of the design, which yields the minimum roof fitting losses (per EPA Compilation of Air Pollution Emission Factors, AP-42, Supplement E, Section 12.3.2, Table 12.3-11). The following list indicates the type of control required for a variety of typical roof fittings. Control techniques for roof fittings not included in this list shall be subject to District approval, prior to installing the roof on the tank.

<i>Fitting Type</i>	<i>Control Technique</i>
Access hatch	Bolted cover, gasketed
Guide pole / Well	Unslotted guide pole, gasketed sliding cover,

	or Slotted with controls per API 2517 Addendum (See Note 1)
Gauge float well	Bolted cover, gasketed
Gauge hatch / Sample well	Weighted mechanical actuation, gasketed
Vacuum breaker	Weighted mechanical actuation, gasketed
Roof drain	Roof drain does not drain water into product
Roof leg	Fixed or adjustable with vapor seal boot or gasket between roof leg and leg sleeve
Rim vent	Weighted mechanical actuation, gasketed

Note 1: Slotted Guide Pole Control Configuration, per Addendum to API Publication 2517, May 1994, shall include the following components:

- a. Sliding cover.
 - b. Well gasket.
 - c. Pole sleeve with pole wiper approximately 6 inches above sliding cover, or District approved equivalent.
 - d. Float with float wiper approximately 1 inch above the sliding cover, or alternately a float with multiple wipers.
(Basis: BACT)
4. The maximum vapor benzene concentration in all hydrocarbon liquids stored in Storage Tanks S-79, and S-80 shall not exceed 1.4 % by weight. The owner/operator of sources S-79, and S-80 shall analyze gasoline 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 5 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]
 5. 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]
 6. No gasoline shall be transferred from S-79 and S-80 to the tank truck loading rack (S-20). [Basis: Cumulative Increase]
 7. In order to demonstrate compliance with the above conditions, the owner/operator of tanks S-79, and S-80 shall maintain the following records in a District approved log.

These records shall be kept on site and made available for District inspection for a period of at least five years from the date that the record was made. [Basis: Record keeping]

- a. The type and VOC content of all materials stored and the dates that the materials were stored.
- b. The total daily throughput of each material stored, summarized on a monthly and annual basis.

XII. RECOMMENDATION

It is recommended that conditional Authority to Construct be granted to Shore Terminal - Martinez for the following equipment:

- S-79 Storage Tank # 20001, internal floating roof tank, 166 ft Dia., 200,000 barrel capacity.**
- S-80 Storage Tank # 20002, internal floating roof tank, 166 ft Dia., 200,000 barrel capacity.**

Thu H. Bui
Air Quality Engineer II
Permit Services Division

Date: _____

THB:Disk-s\Stshore\10493\10493e

APPENDIX B

BAAQMD Compliance Report

APPENDIX C

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_x

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_x, 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:

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
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