

Bay Area Air Quality Management District

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

**Permit Evaluation
and
Statement of Basis
for
Minor Revision of the
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

April 2008

Application Engineer: Xuna Cai
Site Engineer: Xuna Cai

Application: 14726 and 17214

TABLE OF CONTENTS

A.	Background	1
B.	NSR Permit Evaluations	2
C.	Permit Content	2
I.	Standard Conditions	2
II.	Equipment	2
III.	Generally Applicable Requirements	2
IV.	Source-Specific Applicable Requirements	2
V.	Schedule of Compliance	3
VI.	Permit Conditions	3
VII.	Applicable Limits and Compliance Monitoring Requirements	4
VIII.	Test Methods	4
IX.	Revision History	4
X.	Glossary	4
	APPENDIX A GLOSSARY	5
	APPENDIX B NSR PERMIT EVALUATION for application 13774	10
	APPENDIX C NSR PERMIT EVALUATION for application 15163	17

Title V Statement of Basis

A. Background

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

Current Permit Action

- In Application 14726, Pacific Atlantic Terminals applied to modify its Title V permit due to the addition of ten new internal floating roof tanks under District’s Application Numbers 13774 and 15163. The District granted the Authority to Construct on February 3, 2006 and December 19, 2006, respectively.
- In Application 17214, Pacific Atlantic Terminals applied to modify its Title V permit due to the changes in source descriptions for seven existing storage tanks.
- The revision in Application 14726 is considered to be a minor revision because the tanks are new tanks, not modified as defined by 40 CFR 60, Subpart A, Section 14(a). The addition of the tanks to the permit does not qualify as a significant revision under regulation 2-6-226. Therefore, it is considered to be a minor revision.
- The revision in Application 17214 is considered to be an administrative amendment because they consist of changes in source descriptions that are not alterations of applicable requirements for seven existing storage tanks.

B. NSR Permit Evaluations

See Appendix B and C

C. Permit Content

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities.

No changes in this action

II. Equipment

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

Changes in this action

- The descriptions of ten new internal floating roof tanks, S-81 through 90, and their capacities will be added to Table II A- Permitted Sources.
- The tank numbers in the descriptions of seven existing storage tanks, S-27, S-28, and S-76 through 80, will be modified in Table II A-Permitted Sources.

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit.

No changes in this action

IV. Source-Specific Applicable Requirements

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

Complex Applicability Determinations

This action did not require any complex applicability determinations.

Other changes in this action

- Table IV-M will be added to specify the source specific requirements for S-81 through 83, internal floating roof tanks.
- Table IV-N will be added to specify the source specific requirements for S-84 through 90, internal floating roof tanks.
- The total POC emission will be changed from 71.426 to 94.811 tons per year in Condition # 1253, Part IB at all source specific applicable requirements Table IV, to reflect the emission increase due to ten additional tanks.

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 which provides that a major facility review permit shall contain the following information and provisions:

“409.10 A schedule of compliance containing the following elements:

- 10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;
- 10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and
- 10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.”

Since the District has not determined that the facility is out of compliance with an applicable requirement, the schedule of compliance for this permit contains only sections 2-6-409.10.1 and 2-6-409.10.2.

There have been no changes in compliance status since the last permit application.

VI. Permit Conditions

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.

All 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.

Additional monitoring has been added, where appropriate, to assure compliance with the applicable requirements.

Changes in this action

- Modification of Condition 1253, Part IB and Schedule A to reflect the new POC emission limit (94.811 tpy) due to additional tanks.
- Condition 22788 will be added for Sources S-81 through 83, internal floating roof tanks.
- Condition 23338 will be added for Sources S-84 through 90, internal floating roof tanks.

VII. Applicable Limits and Compliance Monitoring Requirements

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

Changes in this action

- Table VII-M will be added to specify the applicable limits and compliance monitoring requirements for three new internal floating roof tanks, S-81 through S-83.
- Table VII-N will be added to specify the applicable limits and compliance monitoring requirements for seven new internal floating roof tanks, S-84 through S-90.
- The total POC emission will be changed from 71.426 to 94.811 tons in Condition # 1253, Part IB at all source specific applicable requirements Table VII, to reflect the emission increase due to ten additional tanks.

VIII. Test Methods

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

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

IX. Revision History

The Revision History will be updated to reflect the proposed minor revision and administrative amendments to the permit.

X. Glossary

This section contains terms that may be unfamiliar to the general public or EPA.

APPENDIX A

GLOSSARY

ACT

Federal Clean Air Act

APCO

Air Pollution Control Officer

ARB

Air Resources Board

BAAQMD

Bay Area Air Quality Management District

BACT

Best Available Control Technology

Basis

The underlying authority 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

CEM

Continuous Emission Monitor

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.

FDOC

Final Determination of Compliance (FDOC), prepared pursuant to District Regulation 2, Rule 3, Power Plants.

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.

HRSG

Heat Recovery Steam Generator

Major Facility

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

MFR

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

MOP

The District's Manual of Procedures.

NAAQS

National Ambient Air Quality Standards

NESHAPS

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

NMHC

Non-methane Hydrocarbons (Same as NMOC)

NMOC

Non-methane Organic Compounds (Same as NMHC)

NOx

Oxides of nitrogen.

NSPS

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

NSR

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

Offset Requirement

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

Phase II Acid Rain Facility

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

POC

Precursor Organic Compounds

PM

Particulate Matter

PM10

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

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.

PUC

Public Utilities Commission (California)

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

Permit Evaluation and Statement of Basis: Site A7034, Pacific Atlantic Terminals, LLC, 2801 Waterfront Road, Martinez, CA 94553

APPENDIX B

NSR Permit Evaluation for Application 13774

**EVALUATION REPORT
Pacific Atlantic Terminals, LLC
Application #13774 - Plant #17559**

**2801 Waterfront Road
Martinez, CA 94553**

I. BACKGROUND

Pacific Atlantic Terminals, LLC has applied for an Authority to Construct/Permit to Operate for the following equipment:

- S-81 Internal Floating Roof Tank # 15001, 150 ft Dia., 150,000 barrels capacity.**
- S-82 Internal Floating Roof Tank # 15002, 150 ft Dia., 150,000 barrels capacity.**
- S-83 Internal Floating Roof Tank # 15003, 150 ft Dia., 150,000 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-81, 82 and S-83 are routed to the truck loading rack, Pacific Atlantic Terminals will need to review its truck loading rack operation and apply for any increases from the upstream sources.

Pacific Atlantic Terminals has not applied to modify its Title V permit due to the addition of these three new tanks. The applicant has been notified to submit the Title V modification as soon as possible.

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 15 psi and Sacramento meteorological data. (See attached calculations)

Tank Emissions (EPA Tank 4.0):

Throughput = 6,300,000 gal X 24 times/yr = 151,200,000 gal/yr for each tank
3 tanks total = 151,200,000 gal/yr X 3 = 453,600,000 gal/yr for 3 tanks.

	<u>Annual (lb/yr)</u>	<u>Daily (lb/day)</u>	
Rim loss	1,164.33	3.19	(365 day/yr)
Working loss	201.52	8.40	(24 time/yr)
<u>Deck fitting loss</u>	<u>3,152.35</u>	<u>8.64</u>	<u>(365 day/yr)</u>
Maximum emissions	4,518.20	20.23	

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	4.3×10^{-5}	13.29
Flanges–liq.	84	8.0×10^{-6}	12.98
Pump seals - liquid	1	5.4×10^{-4}	10.43
Total			36.70

Total Emissions = (4,518.20 X 3) + 36.70 = 13,591.30 lb/yr or 6.796 tpy

III. TOXIC SCREENING ANALYSIS

Sources S-81, S-81, and S-83 required the health risk screening analysis because benzene emissions from three sources exceeded the chronic toxic trigger level assuming the maximum vapor benzene concentration in the gasoline is at 1.4 % by weight (see attached benzene calculation). The tank emissions did not exceed the benzene acute trigger level.

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-79 and S-80 were included because the last one was given a Permit to Operate in November 2005 under application # 10493.

<u>Toxic Pollutant</u>	<u>Benzene Emission Rate</u>	<u>Trigger Level</u>
S-79	23.1 lb/yr	6.4 lb/yr
S-80	23.1 lb/yr	6.4 lb/yr
S-81	63.4 lb/yr	6.4 lb/yr
S-82	63.4 lb/yr	6.4 lb/yr
S-83	63.4 lb/yr	6.4 lb/yr

The cancer risk to the maximally exposed residential receptor is 0.0045 in a million and to the worker is 0.03 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 12/14/06)

IV. BEST AVAILABLE CONTROL TECHNOLOGY

BACT is triggered for this application because VOC emissions from each source S-81, S-82, or S-83 are more than 10 lb/day per Regulation 2-2-301. Sources S-81, S-82 and S-83 are equipped with BACT(2) level with the installation of the internal floating roofs. These tanks are equipped with BAAQMD approved roof with metallic shoe primary seal and zero gap secondary seal, all meeting design criteria of Reg. 8, Rule 5. The metallic shoe primary seal is considered as equivalent to the liquid mounted primary seal by the District since the metallic shoe lasts longer in the long run and the emission increase is not significant. Also, no ungasketed roof penetrations, and no slotted pipe guide pole are allowed unless equipped with float and wiper seals, and no adjustable roof legs are allowed unless fitted w/ vapor seal boots or equivalent.

V. OFFSETS

Offsets are required for source S-81, S-82 and S-83 because the potential to emit from this facility is greater than 35 ton/yr per Regulation 2-2-302. Pacific Atlantic Terminals will provide offsets at a ratio of 1.15:1 for this application.

Offsets: $6.796 \text{ tpy} \times 1.15 = 7.815 \text{ tpy}$ for this application

Pacific Atlantic Terminals had submitted the company's Banking Certificate of Deposit # 958 to provide offsets for this project.

Banking Certificate of Deposit # 958 currently has 8.00 tpy POC. Thus, the Banking Certificate will be reissued to Pacific Atlantic Terminals in the amount of 0.185 tpy POC.

$$\text{POC} = 8.00 \text{ tpy} - 7.815 \text{ tpy} = 0.185 \text{ tpy}$$

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	6.796	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 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-81, S-82 and S-83 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-81, S-82 and S-83 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.

VIII. CONDITIONS

Condition for Sources S-81, S-82 and S-83, internal floating roof tanks, Pacific Atlantic Terminal, LLC, Application # 13774, Plant # 17559.

1. The owner/operator of S-81, S-82 and S-83 shall not exceed 453,600,000 gallons of non-exempt organics (defined in Regulation 2-1-123) throughput during any consecutive 12 month period. [Basis: Cumulative Increase]
2. The Owner/Operator shall store only gasoline, diesel and jet fuel in S-81, S-82 and S-83. [Basis: Cumulative Increase]
 - a. A liquid other than those specified above may be stored in S-81, S-82 and S-83, provided that both of the following criteria are met:
 - i. POC emissions, based on the maximum throughput Part 1, do not exceed 13,591 pounds per year
 - ii. Toxics emissions in pounds per year, based on the maximum throughput in Part 1, do not exceed any risk screening trigger level.
3. The Owner/Operator shall equip Sources S-81, S-82 and S-83 with a metallic shoe 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-81, S-82 and S-83 shall not exceed 1.4 % by weight. The owner/operator of sources S-81, S-82 and S-83 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. The Owner/Operator shall inspect and maintain all valves, flanges and pumps associated with this project according to the criteria of District Regulation 8-18 and any future revisions to this rule. [Basis: Reg. 8-18]
6. The Owner/Operator shall not transfer any gasoline from S-81, S-82 and S-83 to the tank truck loading rack (S-20). [Basis: Cumulative Increase]
7. In order to demonstrate compliance with the above Parts, the Owner/Operator of tanks S-81, S-82 and S-83 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.

IX. RECOMMENDATION

It is recommended that conditional Authority to Construct be granted to Pacific Atlantic Terminals, LLC for the following equipment:

- S-81 Internal Floating Roof Tank # 15001, 150 ft Dia., 150,000 barrels capacity.**
S-82 Internal Floating Roof Tank # 15002, 150 ft Dia., 150,000 barrels capacity.
S-83 Internal Floating Roof Tank # 15003, 150 ft Dia., 150,000 barrels capacity.

Thu H. Bui
Air Quality Engineer II
Permit Services Division

Permit Evaluation and Statement of Basis: Site A7034, Pacific Atlantic Terminals, LLC, 2801 Waterfront Road, Martinez, CA 94553

Date: _____

APPENDIX C

NSR Permit Evaluation for Application 15163

**EVALUATION REPORT
Pacific Atlantic Terminals, LLC
Application #15163 - Plant #17559**

**2801 Waterfront Road
Martinez, CA 94553**

I. BACKGROUND

Pacific Atlantic Terminals, LLC has applied for an Authority to Construct/Permit to Operate for the following equipment:

S-84 Internal Floating Roof Tank 15004, 150' DIA X 53' H, 150,000 bbl capacity
S-85 Internal Floating Roof Tank 15005, 150' DIA X 53' H, 150,000 bbl capacity
S-86 Internal Floating Roof Tank 15006, 150' DIA X 53' H, 150,000 bbl capacity

S-87 Internal Floating Roof Tank 10204, 127' DIA X 50' H, 100,000 bbl capacity
S-88 Internal Floating Roof Tank 10205, 127' DIA X 50' H, 100,000 bbl capacity
S-89 Internal Floating Roof Tank 10206, 127' DIA X 50' H, 100,000 bbl capacity
S-90 Internal Floating Roof Tank 10207, 127' DIA X 50' H, 100,000 bbl capacity

These tanks will store gasoline and other petroleum products, which will be transferred to and from existing pipelines and marine vessels. Pacific Atlantic Terminals confirmed that the anticipated increase in vessel traffic would not exceed its existing permitted NOx, CO, SO2, PM10 and POC limits. These tanks will also be connected to the truck loading rack; however, it will not be used at this time. In fact, Pacific Atlantic Terminals has requested to shut down the truck loading rack operation because there is no demand for it. In the future, if the gasoline from sources S-84 through S-90 is transferred to the truck loading rack, Pacific Atlantic Terminals will need to review its truck loading rack operation and apply for an Authority to Construct/Permit to Operate.

Pacific Atlantic Terminals has applied to modify its Title V permit under Application 15222.

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 4.09d program using gasoline with Reid Vapor Pressure of 15 psi and Sacramento meteorological data. (See attached calculations)

For 150,000 bbls - Tank Emissions (EPA Tank 4.09d):

Throughput = 6,300,000 gal X 24 times/yr = 151,200,000 gal/yr for each tank
3 tanks total = 151,200,000 gal/yr X 3 = 453,600,000 gal/yr for 3 tanks.

	<u>Annual (lb/yr)</u>	<u>Daily (lb/day)</u>	
Rim loss	659.79	1.81	(365 day/yr)
Working loss	201.52	8.40	(24 time/yr)
Deck fitting loss	3,939.21	10.79	(365 day/yr)
Maximum emissions (1 tank)	4,800.52	21.00	

For 100,000 bbls - Tank Emissions (EPA Tank 4.09d):

Throughput = 4,200,000 gal X 24 times/yr = 100,800,000 gal/yr for each tank
4 tanks total = 100,800,000 gal/yr X 4 = 403,200,000 gal/yr for 4 tanks.

	<u>Annual (lb/yr)</u>	<u>Daily (lb/day)</u>	
Rim loss	558.62	1.53	(365 day/yr)
Working loss	160.30	6.68	(24 time/yr)
<u>Deck fitting loss</u>	<u>3,939.21</u>	<u>10.79</u>	(365 day/yr)
Maximum emissions (1 tank)	4,658.13	19.00	

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	127	4.3 X 10 ⁻⁵	105.24
Flanges– light liquid	181	8.0 X 10 ⁻⁶	27.91
Pump seals – light liquid	1	5.4 X 10 ⁻⁴	10.42
Total			143.57

Total Emissions = (4,800.52 X 3) + (4,658.13 X 4) + 143.57 = 33,177.65 lb/yr or 16.589 tpy

III. TOXIC SCREENING ANALYSIS

Sources S-84 through S-90 required a health risk screening analysis because benzene emissions from seven sources exceeded the chronic toxic trigger level assuming the maximum vapor benzene concentration in the gasoline is at 1.4 % by weight (see attached benzene calculation). The tank emissions did not exceed the benzene acute trigger level.

The toxic risk was performed based on the cumulative impacts from all related projects permitted within the last two years per Regulation 2-5. The emissions from tanks S-79 and S-80 were included because the last one was given a Permit to Operate in November 2005 under application # 10493. The emissions from tanks S-81 through S-83 were included because they are in the process of installing them in October 2006 under application # 13774.

<u>Toxic Pollutant</u>	<u>Benzene Emission Rate</u>	<u>Trigger Level</u>
S-79	23.1 lb/yr	6.4 lb/yr
S-80	23.1 lb/yr	6.4 lb/yr
S-81	63.4 lb/yr	6.4 lb/yr
S-82	63.4 lb/yr	6.4 lb/yr
S-83	63.4 lb/yr	6.4 lb/yr
S-84	67.5 lb/yr	6.4 lb/yr
S-85	67.5 lb/yr	6.4 lb/yr
S-86	67.5 lb/yr	6.4 lb/yr
S-87	65.5 lb/yr	6.4 lb/yr
S-88	65.5 lb/yr	6.4 lb/yr
S-89	65.5 lb/yr	6.4 lb/yr
S-90	65.5 lb/yr	6.4 lb/yr

The cancer risk to the maximally exposed residential receptor is 0.6 in a million. The chronic hazard index is 0.0004 and an acute hazard index is 0.4. Thus, in accordance with Regulation 2-5, the screen passes and the sources also comply with TBACT standards. (See attached toxic report dated 10/12/06)

IV. BEST AVAILABLE CONTROL TECHNOLOGY

BACT is triggered for this application because a VOC emission from each source (S-84 through S-90) is more than 10 lb/day per Regulation 2-2-301. Sources S-84 through S-90 are equipped with BACT(2) level with the installation of the internal floating roofs. These tanks are equipped with BAAQMD approved roof with metallic shoe primary seal and zero gap secondary seal, all meeting design criteria of Reg. 8, Rule 5. The metallic shoe primary seal is considered as equivalent to the liquid mounted primary seal by the District since the metallic shoe lasts longer in the long run and the emission increase is not much more. 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-84 through S-90 because the potential to emit from this facility is greater than 35 ton/yr per Regulation 2-2-302. Pacific Atlantic Terminals will provide offsets at a ratio of 1.15:1 for this application.

Offsets: 16.589 tpy X 1.15 = 19.077 tpy for this application

Pacific Atlantic Terminals had submitted the following Banking Certificate of Deposit to provide offsets for this project:

- Certificate # 997 for 16.395 tons of POC
- Certificate # 964 for 3.546 tons of POC and 11.352 tons of NOx
- Certificate # 965 for 0.185 ton of POC

Pacific Atlantic Terminals surrendered total 20.126 tons of POC. Thus, the Banking Certificate will be reissued to Pacific Atlantic Terminals in the amount of 1.049 tons of POC.

$$\text{POC} = 20.126 \text{ tpy} - 19.077 \text{ tpy} = 1.049 \text{ tpy}$$

VI. PLANT CUMULATIVE INCREASE SINCE 4/5/1991

	<u>Current</u> Ton/yr	<u>New</u> Ton/yr	<u>New Total</u> Lbs/yr	<u>Tons/yr</u>
POC =	0.00	16.589	33,178	16.589
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 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-81, S-82 and S-83 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-84 through S-90 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. However, Pacific Atlantic Terminals is exercising its Use Permit for the marine terminal expansion. The City of Martinez (CEQA lead agency) issued the final approved EIR, State Clearinghouse # 93091072, on November 10, 1994. The proposed seven new tanks in this project appeared to be consistent with the original proposed tank storage capacity and throughput. Therefore, this application may be deemed complete for CEQA purpose.

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.

VIII. CONDITIONS

Condition for Sources S-84 through S-90, internal floating roof tanks, Pacific Atlantic Terminal, LLC, Application # 15163, Plant # 17559.

1. The owner/operator of S-84 through S-90 shall not exceed 856,800,000 gallons of non-exempt organics (defined in Regulation 2-1-123) throughput during any consecutive 12-month period. [Basis: Cumulative Increase]
2. The Owner/Operator shall store only gasoline, diesel and jet fuel in S-84 through S-90. [Basis: Cumulative Increase]
 - a. A liquid other than those specified above may be stored in S-84 through S-90, provided that both of the following criteria are met:
 - i. POC emissions, based on the maximum throughput Part 1, do not exceed 33,178 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. The Owner/Operator shall equip Sources S-84 through S-90 with a metallic shoe 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. 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-84 through S-90 shall not exceed 1.4 % by weight. The owner/operator of sources S-84 through S-90 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. The Owner/Operator shall inspect and maintain all valves, flanges and pumps associated with this project according to the criteria of District Regulation 8-18 and any future revisions to this rule.
[Basis: Reg. 8-18]
 6. The Owner/Operator shall not transfer any gasoline from S-84 through S-90 to the tank truck loading rack (S-20). [Basis: Cumulative Increase]
 7. In order to demonstrate compliance with the above Parts, the Owner/Operator of tanks S-84 through S-90 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.

IX. RECOMMENDATION

It is recommended that conditional Authority to Construct be granted to Pacific Atlantic Terminals, LLC for the following equipment:

- S-84 Internal Floating Roof Tank 15004, 150' DIA X 53' H, 150,000 bbl capacity**
- S-85 Internal Floating Roof Tank 15005, 150' DIA X 53' H, 150,000 bbl capacity**
- S-86 Internal Floating Roof Tank 15006, 150' DIA X 53' H, 150,000 bbl capacity**

- S-87 Internal Floating Roof Tank 10204, 127' DIA X 50' H, 100,000 bbl capacity**
- S-88 Internal Floating Roof Tank 10205, 127' DIA X 50' H, 100,000 bbl capacity**
- S-89 Internal Floating Roof Tank 10206, 127' DIA X 50' H, 100,000 bbl capacity**
- S-90 Internal Floating Roof Tank 10207, 127' DIA X 50' H, 100,000 bbl capacity**

Thu H. Bui
Senior Air Quality Engineer
Permit Services Division

Date: _____