Bay Area Air Quality Management District

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San Francisco, CA 94109
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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

September 13, 2007

Application Engineer: Xuna Cai
Site Engineer: Xuna Cai

Application: 14653

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Title V Statement of Basis

A. Background

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

- Pacific Atlantic Terminals applied to modify its Title V permit due to the change of Condition # 1253 under District's Application # 14653. The District granted the change of permit condition on 06/05/07.

- Several typographical errors will be corrected and some clarifications will be incorporated into Condition # 1253 based on the plant inspector's comments.

- This revision is considered to be a minor revision because the change of Condition # 1253 is neither a significant permit revision nor an administrative permit amendment as defined in Regulation 2-6-201 and 2-6-226, respectively.

B. NSR Permit Evaluation

See Appendix B

C. Permit Content

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. No changes are proposed for this section.

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

- Typographical errors in the source description of S-13 through 16 will be corrected in Table II-A.

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 are proposed for this section.

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 or EPA 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.

Changes in this action

- The annual source test requirement in Condition # 13720 Part 5 will be corrected to be federally enforceable in Table IV-I since the basis for the requirement is Regulation 9, Rule 7, which has been adopted in California's Air Quality State Implementation Plan by EPA.

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.

Changes in this action

- Condition # 1253, Part II D will be modified to add the allowance of temporary use of the portable John Zink unit or equivalent equipment.
- Condition # 1253, Part IV 3 and 8 will be modified to provide clarity based on the plant inspector's comments. The clarifications do not substantially change the conditions.
- A typo error when referencing a section in Regulation 8, Rule 44 will be corrected in Condition # 1253, Part IV 6.

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

- The temperature limit in Condition # 1253 Part II D will be added to Table VII-A, Table VII-B, VII-C, VII-F, and VII-H.

- The NOx limits in Regulation 9-7-301.1, 9-7-305.1, and 9-7-306.1 and the CO limits in Regulation 9-7-301.2, 9-7-305.2, and 9-7-306.2 will be corrected to be federally enforceable in Table VII-I since Regulation 9, Rule 7 has been adopted in California's Air Quality State Implementation Plan by EPA.

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.

No changes are proposed for this section.

IX. Revision History

The Revision History will be updated.

X. Glossary

This section contains terms that may be unfamiliar to the general public or EPA. No changes are proposed for this section.

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

APPENDIX B

NSR PERMIT EVALUATION

EVALUATION REPORT
Pacific Atlantic Terminals, LLC
Application #14652 - Plant #17559

2801 Waterfront Road
Martinez, CA 94553

I. BACKGROUND

Pacific Atlantic Terminals, LLC has applied for a change of condition to the Permit to Operate for the following equipment:

A-2 Trailer Mounted Combustor, 42.3 million BTU/hr, John Zink, PECS Unit, temporarily abating S-1 through S-12, S-18, S-19, S-27, and S-28 Fixed Roof Tanks.

This temporary Trailer Mounted Combustor (A-2) was used to abate POC emissions from sources S-1 through S-12, S-18, S-19, S-27, and S-28 fixed roof tanks while maintenance was performed on the permanent A-1 Thermal Oxidizer for 21 days. This was necessary because the existing oxidizer's stack was damaged and needed immediate repair. Pacific Atlantic Terminals (PAT) also likes the flexibility of using an equivalent abatement device to abate the tanks (S-1 through S-12, S-18, S-19, S-27 and S-28) such as A-2 for temporarily replacement while the permanent thermal oxidizer is in service in the future.

The proposed A-2 (42.3 MMBtu/hr) used natural gas and had a much smaller capacity than the existing A-1 (235 MMBtu/hr) thermal oxidizer. Therefore, the secondary combustion emissions such as NOx, CO, SO2, and PM10 were expected to decrease as a result of this temporary replacement. The John Zink portable thermal oxidizer was permitted by the District under original Application # 2374, and was modified by Application # 13650 along with the operating Condition # 17984.

The Trailer Mounted Combustor (A-2) was brought on site on May 17, 2006 to abate the POC emission from the tanks, while the marine vessel wharf was not in use. Best Environment performed the source tests with A-2 in place on May 23, 2006. The test results were submitted to the District's Source Test Section in July 2006. The temporary John Zink Thermal Oxidizer (A-1) complied with its portable condition # 17984, which are the RACT levels, 50 ppmvd of NOx @ 15% oxygen and 350 ppmvd of CO @ 15% oxygen. The average NOx concentration from the source test was 35 ppmvd at 15% oxygen and the CO concentration was 18 ppmvd at 15% oxgen. In addition, the source test results also complied with Pacific Atlantic Terminals' condition # 1252, which required a minimum 95% POC control efficiency. The destruction efficiency from the test result was 99.998% for A-2. See attached memorandum dated July 31, 2006 from the Source Test Section.

The District has revised Condition # 1253, Part II D, Section i to add the allowance of temporary use of the portable John Zink unit or equivalent equipment. Condition # 1253, Part II D, Section i was changed from 1.5 psig to 1.5 inches of water column to reflect the actual reading as request by inspector Scott Applin on October 5, 2006. In addition, Condition # 1253, Part II D, Section iii was added to specify the minimum operating temperature of 1400 ^{o}F for A-1, since the operating temperature was not included any where in the existing condition for abating the fixed roof tanks.

Pacific Atlantic Terminals submitted a minor modification for their Title V permit under application # 14653 for this condition change.

II. EMISSION INCREASES

The proposed condition change will not increase emissions of criteria pollutants or toxic air contaminants above the currently permitted limits at PAT.

IV. BEST AVAILABLE CONTROL TECHNOLOGY

BACT does not apply to the abatement's change of condition in this application because it is not considered as a new or modified source.

V. OFFSETS

N/A.

VI. PLANT CUMULATIVE INCREASE SINCE 4/5/1991

N/A.

VII. STATEMENT OF COMPLIANCE

Sources S-1 through S-12, S-18, S-19, S-27, S-28 Fixed Roof Storage Tanks, and S-21 marine Vessel Wharf of this application is subject and expected to comply with Regulation 8, Rule 5-306, which requires that loading of gasoline into these tanks must have a abatement device with at least 95% control efficiency.

- Sources S-1 through S-10, S-12, S-18 and S-19 Fixed Roof storage Tanks are subject to and expected to continue to comply with the following Regulation 10: New Source Performance Standards (NSPS) and NESHAPS:

- ***40 CFR, Part 60, Subpart K - Standards of Performance for Volatile Organic Liquid Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978.***
- NESHAPS 40 CFR, Part 63, Subpart R - National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)
- 40 CFR 64 - Compliance Assurance Monitoring

- Sources S-27 and S-28 Fixed Roof storage Tanks are subject to and expected to continue to comply with the following Regulation 10: New Source Performance Standards (NSPS) and NESHAPS:

- NSPS Part 60 Subpart Ka - Standards of Performance for Storage Vessels For Petroleum Liquid for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984
- NESHAPS 40 CFR, Part 63, Subpart R - National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)

- 40 CFR 64 - Compliance Assurance Monitoring

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 and 3.1.

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.

NSR, BACT, Offsets, PSD, are not applicable.

VIII. CONDITIONS

Condition # 1253

For S-1 THROUGH S-16, S-18, S-19, STORAGE TANKS; S-21, MARINE VESSEL WHARF; S-23, S-24, OILY WATER SEPARATORS; S-27, S-28, FIXED ROOF TANKS; S-73, DIRECT FIRED HEATER; S-76, S-77, S-78, S-79 AND S-80 INTERNAL FLOATING ROOF TANKS; AND A-1 THERMAL OXIDIZER; (EXCLUDE S-74, S-75 DIESEL IC EMERGENCY GENERATORS):

I. EMISSION LIMITATIONS

A) Deleted, obsolete.

B) The Owner/Operator shall ensure that total facility emissions from all sources, including organic loading emissions, shall not exceed the following levels during any calendar year. (Revised July 1, 1991) [Basis: Cumulative Increase]

Organic Compounds:	71.426 tons/year (Revised 4/21/2003)
Carbon Monoxide:	52.2 tons/year
Oxides of Nitrogen:	129.5 tons/year
Sulfur Dioxide:	83.5 tons/year
Particulate Matter:	25.8 tons/year

II. GENERAL TERMINAL AND WHARF CONDITIONS

A) The Owner/Operator shall not allow a tanker that is calling exclusively at the terminal shall, while in California Coastal waters, to engage in any maintenance, repair, inspection, washing, purging and gas freeing, or lightering of cargo tanks or any other operation (excepting loading and offloading, ballasting, and bunkering) that results in the escape of hydrocarbon vapor to the atmosphere, except that this does not prohibit emergency repairs. All of these activities shall be recorded on a District approved log and be made available to the District representative upon request. Any failure by the Owner/Operator to report the activities listed above will subject them to appropriate enforcement action. Any emissions resulting from these unauthorized activities will be charged to the Owner/Operator emissions cap. [Basis: Cumulative Increase]

B) The Owner/Operator shall inspect pumps, compressors, pump manifolds and pressure relief valves for visible vapor or liquid leaks on a daily basis. [Basis: Regulation 8, Rule –18, Section 403]

C) The Owner/Operator shall follow the leak check procedures, testing methods, calibration procedures, definition of a leak, repair techniques, record keeping and

report requirements in accordance with the Federal NSPS for equipment leaks of VOC from onshore natural gas processing plants. [Basis: Cumulative Increase]

D) The Owner/Operator of the following sources shall use A-1, Thermal Oxidizer, as an abatement device during all of the following events:

i. When non-exempt organic compounds (as defined in District Regulation 2, Rule 1, Section 123) are being stored in or transferred to storage tanks S-1 through S-12, S-18, S-19, S-27 and S-28, and when A-1 is automatically turned on every time the pressure in the tank farm vapor line reached 1.5 inches of water column as determined by monitoring and recording of the tank farm vapor pressure return line on a continuous basis. (A-1 may temporarily be replaced by the John Zink Trailer Mounted Combustor (PECS Unit) or equivalent equipment during periods of breakdown or maintenance). [Basis: Cumulative Increase, BACT]

ii. When regulated organic liquids (as defined in District Regulation 8-44-222) are loaded at marine wharf S-21, and when A-1 is manually turned on. [Basis: BACT]

iii. The owner/operator shall operate A-1 at an oxidation temperature of at least 1400 degrees F. The District may adjust this minimum temperature, if source test data demonstrates that an alternate temperature is necessary for or capable of maintaining compliance with 95% overall system efficiency or greater when A-1 is abating the fixed roof tanks. [Basis: BACT]

III. REPORTING REQUIREMENTS

A) The Owner/Operator shall report the following to the Director of Enforcement of the District on the quarterly basis: [Basis: Cumulative Increase]

1. The total volume of gasoline throughput at the truck rack.
2. The total volume of liquids processed through the oil/water separators during the quarter.

B) Once the onshore vapor recovery system including vessel interconnection at the wharf is in operation, the Owner/Operator shall report to the Director of Enforcement of the District within 15 days after the close of each calendar quarter on the number of vessels that have been loaded at its marine terminal. These reports shall specify the percentage of said vessels that were hooked up to the Owner/Operator's onshore vapor recovery system during said quarter. With respect to those vessels into which organic liquids were loaded without being hooked up to said system, these reports shall summarize the reasons given by Owner/Operator's customers for their inability to secure vessels built or retrofitted to accommodate hook-up to said system. [Basis: Cumulative Increase]

C) The Owner/Operator shall keep records to document compliance with the valve, pump, and compressor inspection and maintenance requirements of condition II (C) above. [Basis: Cumulative Increase]

D) The Owner/Operator shall maintain all records required under this permit for at least 5 years and made available to a District representative upon request. [Basis: Regulation 2, Rule –6, Section 501]

SCHEDULE A

ORGANIC COMPOUND EMISSION CALCULATIONS

The Owner/Operator shall ensure that the sum of the following emission categories do not exceed 71.426 tons, per calendar year of organic compounds.

Cargo Loading Emission + Tanker Transit Emissions + Tanker Hoteling Emissions + Tanker Pumping Emission + Vapor Control Equipment Emission + Ballast Emissions + Tug Combustion Emissions + Tank Standing Losses + Fugitive Emissions + Tank Withdrawal Losses.

All calculations shall be performed in accordance with the procedures specified in Schedule D. [Basis: Cumulative Increase]

SCHEDULE B

OXIDES OF NITROGEN EMISSIONS CALCULATIONS

The Owner/Operator shall ensure that the sum of the following emission categories do not exceed 129.5 tons per calendar year of oxides of nitrogen.

Tug Combustion Emissions + Tanker Hotelling Emissions + Tanker Transit Emissions + Tanker Pumping Emissions + Vapor Control Equipment Combustion + Direct Fire Heater Combustion (excluding emergency diesel generators S-74 and S-75).

All calculations shall be performed in accordance with the procedures specified in Schedule D. [Basis: Cumulative Increase]

SCHEDULE C

SULFUR DIOXIDE EMISSION CALCULATIONS

The Owner/Operator shall ensure that the sum of the following emission categories do not exceed 83.5 tons per calendar year of sulfur dioxide.

Tug Combustion Emissions + Tanker Hotelling Emissions + Tanker Transit Emissions + Tanker Pumping Emissions + Vapor Control Equipment Combustion + Direct Fire Heater Combustion (excluding emergency diesel generators S-74 and S-75).

All calculations shall be performed in accordance with the procedures specified in Schedule E. [Basis: Cumulative Increase]

SCHEDULE D

FUGITIVE EMISSION CALCULATIONS

Emission factors from AP-42, with 80% control due to the Inspection and Maintenance program required under condition III (C). [Basis: Cumulative Increase]

Existing Sources	Number	Emission Factor lbs/hr/source	Fugitive HC
Mixer & Pump Seals	17	0.045	0.782
Flanges	175	0.00056	0.098
Pipeline Valves	145	0.0005	0.0725
Open Ended Valves	95	0.005	0.4750
Pressure Relief Valves	1	0.36	0.36

Uncontrolled total, lbs/hr = 1.7875
Uncontrolled total, tons/yr = 7.83
Emissions at 80% control, tons/yr = 1.57

New Sources	Number(a)	Emission Factor lbs/hr/source	Fugitive HC
Mixer & Pump Seals	5	0.046	A x 0.046
Flanges	703	0.00056	B x 0.00056
Pipeline Valves	227	0.0005	C x 0.0005
Open Ended Valves	0	0.005	D x 0.005
Pressure Relief Valves	0	0.36	E x 0.36

Uncontrolled total, Total
Emissions at 80% control, Total x 0.2

a) Values for A, B, C, D & E to be determined from "as Installed" drawings or inspection.

VAPOR CONTROL EQUIPMENT/VAPOR RECOVERY SYSTEM EMISSIONS

During operation of the thermal oxidizer its emissions (based on District Source Testing Data) will be assumed to be as follows: [Basis: Cumulative Increase]

NOx: 9.68 lb/day + 0.1744 lb/1,000 barrels of all materials received into tanks attached to the vapor recovery unit.

Organics: 1.44 lb/1,000 barrels of all materials received into tanks attached to the vapor recovery unit.

FURNACE EMISSION CALCULATIONS (S-73 Direct Fired Heater)
(EPA AP-42, Section 1.4)

Organic Compounds	5.5 lb/MMcu.ft. of natural gas burned
NOx	100 lb/MMcu.ft. of natural gas burned
SO2	0.6 lb/MMcu.ft. of natural gas burned
CO	84 lb/MMcu.ft. of natural gas burned

TANK STANDING EMISSION CALCULATIONS (Tanks 13-16 only)

Calculate using equation 4 from AP-42 p 4.3-16 (9/85)
Where:

L(s) = K(s) x Vn x P* x D x M(v) x K(c)
L(s) = standing losses, lb/year of organics
K(s) = seal factor 1.2 for metallic shoe primary seal; 0.2 for rim mounted secondary seal.
V = average wind speed = 13 miles per hour
N = wind speed exponent = 1.5 for metallic shoe seal
P* = vapor pressure function

Note:
P for crude oils will be determined by monthly composite samples.
P for FCC feedstock, all gas oils and fuel oils = 0 for purpose of this calculation.
PA = atmospheric pressure = 14.7 psia
D = tank diameter = 237 feet
M(v) = molecular weight of vapor, 58 for gasoline and crude oil, 190 for No. 6 and all other products
K(c) = product factor = 0.4 for crude oil; = 1.0 for all other materials

TANK WITHDRAWAL EMISSION CALCULATIONS

Calculate using equation 5 from AP-42 d 4-3-16 (9/85):

L(w) = 0.943 QCW/D
where:
L(w) = withdrawal losses = lb/yr of organics
Q = throughput, bbl/year
C = shell clingage factors = 0.006
W = liquid density, lb/gal
Use:
8.2 for San Joaquin Valley Crude Oil and
7.8 for all other products if unknown
D = tank diameter = 237 feet

CARGO LOADING EMISSION CALCULATIONS

A) UNCONTROLLED LOADING

Crude Oil Cargos

The three following procedures are taken from API Publication 2514A Second Edition, September 1981 and are described on pp 1-3 of that document as "Correlations for Estimating Emissions from Loading and Ballasting of Crude Oil Tankers".

1. Cargos with no vapor pressure data available:

   If information on the prior cargo and compartment status during ballast voyage as well as volatility of the crude of which the Owner/Operator loaded is unknown, the following emission factors shall be used.

   All vessels: 1.0 pounds of VOC per 1,000 gallons of liquid transferred.
2. For crude oil cargos with vapor pressure greater than 1.5 psia:

   a) When the prior cargo or arrival condition of the vessel is unknown and the volatility of the crude oil, which the Owner/Operator loaded is known, an arrival emission factor, Ea, of .86 lb/1,000 gallon loaded will be used. Generated emission shall be calculated as:

      Eg = 1.84 x (0.44 x (TVP) - 0.42) x MxG/T
      where:
      Eg = generated emission, lb/1,000 gallon
      TVP= true vapor pressure of loaded crude oil, psia
      M = molecular weight of vapor, use 58 lb/lb-mole
      G = vapor growth factor, use 1.02
      T = loading temperature, Rankine

      Total emission shall be calculated as:
      Et = Ea + Eg
      where:
      Et = total loading emission, lb/1,000 gallon
      Ea = arrival component
      Eg = generated component

   b) If adequate information is available about a specific previous cargo the following calculation procedures shall be used. These procedures require a characterization of the previous cargo as either "volatile" or "non-volatile" at loading conditions. "Volatile" has been defined as having a true vapor pressure at loading conditions in excess of 1.5 psia. Any crude stream that has a flash point in excess of 130F or initial boiling point excess of 302F shall be deemed to be "non-volatile" at loading conditions. The Owner/Operator shall be permitted to determine that crude oils not meeting this test are "non-volatile" by any of the three procedures described below:

      i. The ship owner or charterer may inform the Owner/Operator in writing of the true vapor pressure at loading conditions, that the true vapor pressure did not exceed 1.5 psia, or of the Reid Vapor Pressure and loading temperature; or

ii. The vessel owner, charterer or prior load terminal operator may inform the Owner/Operator of the identity of the crude stream in the prior load. The crude stream may be characterized by reference to typical samples of assays of such streams along with the prior loading temperature to determine the true vapor pressure; or

iii. The ship owner, charterer, or terminal operator for the prior load may provide assay data or samples to determine Reid Vapor Pressure. Data for loading conditions from a knowledgeable source shall be used to determine true vapor pressure at loading conditions.

Emissions from loading shall be calculated as:

Et = Ea + Eg
where:
Et = total loading emission, lb/1,000 gallon
Ea = arrival component
Eg = generated component

Arrival Emission Factor, lb/1000 gallon

Previous Cargo	Condition of Compartment	Arrival Emission factor	
Non-Volatile	Any	0.33	
	Volatile	Washed or Gas Freed	0.33
	Volatile	Ballasted	0.46
	Volatile	Uncleaned	0.86

If the prior cargo is unknown, it shall be assumed to be volatile. If the condition of the compartment is unknown, it shall be assumed to be uncleaned.

Eg = 1.84 x (0.44 x (TVP) - 0.42) x MxG/T
where:

Eg = generated emission, lb/1,000 gallon
TVP= true vapor pressure of loaded crude oil, psia
M = molecular weight of vapor, use 58 lb/lb-mole
G = vapor growth factor, use 1.02
T = loading temperature, Rankine

3. For crude oil Cargos with true vapor pressure less than 1.5 psia, emissions from loading non-volatile crude oils shall be calculated as:

Et = Ea + Eg
where:
Et = Total loading emission, lb/1,000 gallon
Ea = Arrival Emission

Eg = Generated Emissions
Ea = 12.46 SPaM/T
Eg = 12.46 SPgM/T
Where:
S = 0.2 for ships and ocean barges 0.5 for barges
Pa = True vapor pressure of prior cargo, psia = zero if tank has been water washed or gas freed = 0.75 psia if no data available.
Pg = true vapor pressure of crude oil loaded, psia
M = molecular weight or vapors, use 58 lb/lb-mole
T = loading temperature, Rankine

Gasoline Cargos

1. If information on the vessels' prior cargo and ballast voyage treatment is unknown the following emission factors shall be used.

	Total Loading Emission lb/1,000 gallon
Gasoline - Tanker/Ocean Barges	2.6
Gasoline – Barges	3.9

Note: Ocean barges are assumed to have a capacity greater than 100,000 bbls.

2. If adequate information is available, the following loading factors shall be used:

			Total Loading Emissions (lbs VOC/1,000 bbl loaded)		
Type of Vessel	Prior Cargo	Condition of Compartment	minimum ullage less than 10ft	minimum ullage between 10&20ft	minimum ullage more than 20ft
Tanker/Ocean Barge	Volatile	Uncleaned	109.2	94.5	79.8
		Ballasted	71.4	56.7	42.0
		Cleaned (washed)	63.0	48.3	33.6
		Gas Freed	29.4	4.7	0.0
	Non-Volatile	All	29.4	14.7	0.0
Barge less than 100,000 barrels capacity					
	Volatile	Uncleaned	163.8	163.8	163.8
		Ballasted	84.0	84.0	84.0
		Cleaned (washed)	84.0	84.0	84.0
		Gas Freed	84.0	84.0	84.0
	Non-Volatile	All	84.0	84.0	84.0

Volatile liquid is any hydrocarbon liquid with a true vapor pressure greater than 1.5 psia.

An Uncleaned compartment has had no treatment of any kind except routine heel washing.

A Ballasted compartment is an uncleaned cargo compartment that has been loaded with ballast water.

A cleaned compartment has been water washed.

A gas-freed compartment has been cleaned and airblown, such that the compartment is suitable for entry and hot work (such as welding).

Distillate Fuels

1. If adequate information on the vessel's prior cargo and ballast voyage treatment is available, the following emission factors shall be used to calculate emissions from loading diesel fuel and kerosene based jet fuels:

Total Loading Emissions
(lbs VOC/1,000 bbl loaded)

Type of Vessel	Prior Cargo	Condition of Compartment	Emission Factor
Tanker/Ocean Barge	Volatile	Uncleaned	79.8
		Ballasted	42.0
		Cleaned (washed)	33.6
		Gas Freed	0.0
	Non-Volatile	All	0.0
Barge less than 100,000 barrels capacity			
	Volatile	Uncleaned	163.8
		Ballasted	84.0
		Cleaned (washed)	84.0
		Gas Freed	0.0
	Non-Volatile	All	0.0

Volatile liquid is any hydrocarbon liquid with a true vapor pressure greater than 1.5 psia.

Definitions for compartment condition are the same as set forth above under gasoline cargos.

2. If any of the information necessary to ascertain the prior cargo or compartment condition of the vessels being loaded is unknown, the applicable worst-case assumption from the table above shall be used.

Other Volatile Cargos

Volatile organic compounds, other than gasoline or volatile crude oil, may be loaded at the terminal. Emissions from loading those materials shall be calculated as follows:

Et = 12.46 SPM/T
where:

Et = Total loading emission, lb/1,000 gallon loaded
S = 0.2 for ships and ocean barges 0.5 for barges
P = True vapor pressure of prior cargo, psia
M = molecular weight of vapors, use 58 lb/lb-mole
T = loading temperature, Rankine

For naphtha-based jet fuels, P will depend on the type of product (see AP-42, Table 4.3.2, Physical Properties of Typical Organic Liquids)

For other volatile organic liquids, the Owner/Operator shall obtain the data.

Volatile liquid is any hydrocarbon liquid with a true vapor pressure greater than 1.5 psia.

Fuel Oil and Other Non-Volatile Cargos

Non-volatile organic materials other than non-volatile crude oils and distillate fuels may be loaded at the terminal.

1. If adequate information on the vessel's prior cargo and ballast voyage treatment is available, the Owner/Operator shall use the following emission factors to calculate emissions from the loading of fuel oil and other non-volatile cargos:

Total Loading Emissions
(lbs VOC/1000 bbl loaded)

Prior Cargo:	Crude Oil		Gasoline/ Other Volatile Organics	Diesel/ Kero Jet Fuel	Fuel Oil Other Non-Volatile Organics
	Volatile	Non-Volatile			
Condition of Compartment					
Uncleaned	30.7	11.8	79.8	0	0
Ballasted	16.4	11.8	42.0	0	0
Water Washed	11.8	11.8	33.6	0	0
Gas Freed	0	0	0	0	0

Volatile liquid is any hydrocarbon liquid with a true vapor pressure greater than 0.5 psia.

Definitions for compartment condition are the same as set forth above under gasoline cargos

2. If any of the information necessary to ascertain the prior cargo of compartment condition of the vessels being loaded is unknown, the applicable worst-case assumption from the table above shall be used.

B) CONTROLLED LOADING

For all cargos carried on vessels for which vapor emissions during loading are controlled either by connection to the onshore vapor recovery system or by use of onboard vapor processing equipment the emissions after control shall be based on the uncontrolled emissions level modified by a factor representing redaction. Such factors shall be determined by source tests, approved by the APCO, and shall reflect operating characteristics of the actual vapor control equipment.

$a + BEt$

where:

a = a constant independent of the cargo loaded or uncontrolled loading emissions.

b = a constant

Et = uncontrolled level of loading emissions

BALLASTING EMISSION CALCULATIONS

Gasoline and Gasoline Components

1.6 lb/1,000 gallons unsegregated ballast water

Unsegregated Ballast Volume M-gallons =

42 x 7.5 x MDWT x (.15 - % segregate ballast/100)

MDWT = ship's displacement in thousands of dead-weight tons

CARGO PUMPING EMISSIONS

Emissions (lbs) = factor x (volume of cargo offloaded, Mbbls)

	Factor lb/Mbbls	
Ship Size	Organic	NOx
For Steam Vessels	0.09	0.67
For Other Vessels	0.09	1.08
For Barges	0.39	1.08

SOx emissions for cargo pumping shall be calculated as shown in Schedule E.

TRANSIT EMISSION CALCULATIONS

Ship Type	Fuel Consumption	Total Fuel Used 9 hrs		Emissions During 9 hrs Transit & Maneuvering		
Ship Size	Gal/hr	Transit	Part	Org	NOx	CO
20	210	1890	35.9	5.9	91.1	5.0
20- 29	341	3069	58.3	9.5	147.9	8.0
30- 39	394	3546	67.4	11.0	170.9	9.3
40- 49	459	4131	78.5	12.8	199.1	10.8
50- 59	630	4959	94.2	15.4	239.0	13.0
60- 79	761	5670	107.7	17.6	273.3	14.9
80- 99	840	6849	130.1	21.2	330.1	17.9
100-139	906	7560	143.6	23.4	364.4	19.8
Motor						
20	105	945	18.9	31.0	355.3	53.8
20- 29	236	2124	42.5	69.7	779.5	120.9
30- 39	289	2600	52	85.3	954.2	147.9
40- 49	341	3070	61.4	100.7	1126.7	174.7
50- 59	354	3190	63.8	104.6	1170.7	181.5
60- 79	394	3546	70.9	116.3	1301.4	201.8
80- 99	405	4131	82.6	135.5	1516.1	235.1
100-139	551	4959	99.2	162.7	1819.9	282.2

SOx emissions for ship transit shall be calculated according to the procedures specified in Schedule E.

Ships calling at Bay Area Locations other than Pacific Atlantic Terminals during the same trip shall be charged only one half of the transit emissions from the above tables.

HOTELLING EMISSION CALCULATIONS

Emission = factor x hours at dock

	Factor lb/hr	
Ship Size	Organic	NOx
less than 60 MDWT	.13	1.53
greater than 60 MDWT	.27	3.06

For Motor Vessels and Others

less than 70 MDWT	.22	2.28
greater than 70 MDWT	.44	4.57
for barges, all sizes	0	0

SOx emission for hotelling shall be calculated as shown in Schedule E.

TUG EMISSION CALCULATIONS

For ships, Emission = factor x for all vessel calls

For barges, Emissions = factor for barges calling at other Bay Area Location
= factor x2, for barges calling only at the Pacific Atlantic Terminals

		Factor lb/call	
Ship	Organic	NOx	SOx
less than 50 MDWT	3.41	150	18.6
greater than 50 MDWT	6.81	299	37.2
Barges			
less than 100,000 barrels capacity	5.11	224	27.9
greater than 100,000 barrels capacity (Ocean Barges)	10.22	449	55.8

SCHEDULE E

Sulfur emissions will be based on the actual sulfur content fuels burned where possible. The Owner/Operator shall have three alternative procedures available for establishing the sulfur content of fuels. First, the Owner/Operator may provide fuel of known sulfur content to the ship. Second, the Owner/Operator may sample the ship's fuel for analysis by an outside laboratory qualified to perform Sulfur analyses on marine fuels. Third, in the absence of either of the two procedures mentioned above, assumed values below shall be used.

If the Owner/Operator elects to provide low sulfur fuel to a particular ship, a certified fuel analysis of the Sulfur content shall be used to establish SO2 emissions. The terminal manager shall instruct the ship's captain or his designated to burn only that fuel while within the District waters. The amount of fuel provided shall be adequate to fuel all the ship's requirements for hotelling, pumping and transit. A sample of the fuel provided shall be retained by the Owner/Operator for District analysis until at least 90 days following delivery of the quarterly report including that particular ship call. Records of the quantity of fuel provided, sulfur content, and burning instructions shall be retained by Permit for at least five year following the ship call.

If the Owner/Operator elects to sample the fuel from a particular ship, such sample shall be gathered by the ship's personnel and delivered to the Owner/Operator. This sample shall contain at least one-quart volume. After analysis the remaining portion of the samples shall be retained at the terminal and made available to the district for their independent analysis. All such samples shall be retained for at least 90 days following delivery of the quarterly report to the District. Samples for a calendar quarter may be combined by blending thoroughly equal parts of each sample gathered for each type of ship, that is one composite sample for steam ships and one composite sample for motor and other ships. At the Owner/Operator's option, each ship sample may be analyzed separately. An independent laboratory shall analyze such samples and the results of those analyses shall be used to establish sulfur emissions. The Owner/Operator shall report to the Director of Enforcement of the District results of all analyses performed. Any failure by the Owner/Operator to report the sulfur analyses will subject them to an appropriate enforcement action.

If the Owner/Operator neither samples the fuel from any given ship, nor provides fuel to the ship, the sulfur content of that fuel shall be assumed to be 3.34% in the case of steam ships, or 1.5% in the case of motor ships and other ships. In the event that the Owner/Operator samples and cause to be analyzed fuels from at least 66.67% of all ships calling at terminal in a calendar year to which fuel was not provided, the weighted average of sample results may be used in the following calendar year in lieu of the assumed sulfur values described in the preceding paragraph. In calculating the weighted average, each analysis shall be weighted by the number of ships represented by that analysis, i.e., one if the sample was an individual ship sample or more than one if the sample was composite sample. The results of such analyses are subject to verification by the District and samples shall be available upon demand for that purpose. If the Owner/Operator samples and reports fewer than 66.67% of all ships to which fuel was not provided in a given calendar year, the assumptions for the following year shall be 3.34% for steam ships and 1.5% for motor and other ships. [Basis: Reg. 9-1-303]

TRANSIT EMISSION CALCULATIONS

Emissions per call = factor x fuel sulfur index
(for vessels calling at other Bay Area locations)

Emissions per call = factor x fuel sulfur index x 2
(for vessels calling only at Terminal)

Factors

Ship size	MDWT	Steam Vessels	Motor & Other
less than	30	244	75
	30-40	282	169
	40-50	328	207
	50-60	394	244
More than	60	451	254

CARGO PUMPING EMISSION CALCULATIONS

Sulfur oxide emissions for offloading cargos from marine vessels to shore tanks shall be calculated as follows:

$$\text{Emissions} = \frac{\text{fuel sulfur index}}{3.34} \times \frac{315 \text{ lb SO2}}{\text{M gal fuel}} \times \frac{32 \text{ lb S}}{64 \text{ lb SO2}}$$

HOTELLING EMISSION CALCULATIONS

Barges have no hotelling emissions.

Hotelling emissions will be calculated for ship as follows:

Emissions = R-factor x Hotelling time (hours) x R-Fuel
Sulfur Index + D-factor x Hotelling time x
D-Fuel Sulfur Index
Hotelling time = Hours from time the vessel is secure at the wharf until the time the last line is cast off.

	Steam Ships		Motor & Other	
Ship size,MDWT	R-Factor	D-Factor	R-Factor	D-Factor
less than 60	6.68	0.0	6.68	3.34
60-70	13.36	0.0	6.68	3.34
Greater Than 70	13.36	0.1	13.36	6.68

IV MARINE VESSEL LOADING VAPOR COMBUSTION UNIT (A-1)

1. Deleted, startup source test.

2. The Owner/Operator shall perform necessary source tests to establish a specific range of combustion zone temperatures which will ensure that the emissions of precursor organic compounds are reduced at least 95% by weight from uncontrolled conditions, or that the POC emissions do not exceed 2 lbs per 1000 barrels loaded. [Basis: Cumulative Increase]

3. The Owner/Operator shall install instrumentation to monitor and record the following: [Basis: Cumulative Increase]

   a. Static pressure developed in the marine tank vessel; and
   b. Oxidizer exhaust temperature.

4. The Owner/Operator shall calculate uncontrolled emissions as specified in Schedule D of the Permit Conditions established as part of application number 31329, and use a 95% (by weight) reduction factor to determine controlled emissions. The overall collection and control efficiency, as determined by source test, may be used in lieu of the 95% factor for determining controlled emissions. [Basis: Cumulative Increase]

5. Deleted, startup monitoring plan.

6. The Owner/Operator shall not load or permit the loading of a regulated organic liquid, as defined in Regulation 8, Rule 44, Section 204, into a marine tank vessel within the District whenever the marine vapor recovery system is not fully operational, except for operations specifically exempt from Regulation 8, Rule 44. The vapor recovery system shall be maintained to be leak free, gas tight, and in good working order. For the purposes of this condition, "fully operational" shall mean the system is achieving the reductions required by Part No. 2 above. [Basis: Cumulative Increase]

7. The Owner/Operator shall maintain the Thermal Oxidizer (A-1) minimum incinerator temperature of at least 1400^{o}F. The vapor recovery system is not “fully operational” at any lower temperature. This minimum temperature may be adjusted by the District if source test data demonstrate that an another minimum incinerator temperature is necessary for, or capable of, maintaining compliance with Part No. 2 above. [Basis: Reg. 2-1-403]

   The Owner/Operator may conduct a source test for the purpose of lowering the minimum temperature requirement provided that the following has occurred:
   a. The facility has applied to the Engineering Division for a change of conditions.
   b. The Source Test Section was notified at least seven days prior to testing and the test protocol was deemed acceptable.
   c. The results of the test demonstrate that A-1 is capable of meeting the emission factor limits imposed in Part No. 2 for POC at the lower operating temperature. [Basis: Reg. 2-1-403]

8. The Owner/Operator shall conduct a leak test on all vessels loading under positive pressure prior to loading more than 20% of the cargo. The leak test is not intended to impede the loading of a gas-tight tank vessel. The leak test shall include all vessel relief valves, hatch covers, gauging connections, and vapor recovery hose connections. Leak test results shall be included in the quarterly reporting already required of the Owner/Operator. [Basis: Regulation 8, Rule 44]

9. The Owner/Operator shall not exceed a loading pressure greater than 80% of the lowest relief valve set pressure, including vessel relief valves, while loading a controlled marine vessel. [Basis: Cumulative Increase]

10. The Owner/Operator shall keep all maintenance records required for the vapor recovery system at this facility, which are subject to Regulation 8, Rule 44, shall be

kept on site for five years and made available to the District upon request. [Basis: Regulation 2, Rule 1, Section 403]

11. The Owner/Operator shall conduct the District approved source test at A-1 on an annual basis to verify compliance with all applicable requirements specified in Part 2. The Owner/Operator of A-1 shall submit the source test report to the District within 30 days of the test. The result shall be kept on site for five years and made available to the District upon request. [Basis: Cumulative Increase]

IX. RECOMMENDATION

It is recommended that a change of permit condition be granted to Pacific Atlantic Terminals, LLC for the following equipment:

A-2 Trailer Mounted Combustor, 42.3 million BTU/hr, John Zink, PECS Unit, temporarily abating S-1 through S-12, S-18, S-19, S-27, and S-28 Fixed Roof Tanks.

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

EVALUATION REPORTADDENDUM
Pacific Atlantic Terminals, LLC
Application #14652 - Plant #17559

2801 Waterfront Road
Martinez, CA 94553

Pacific Atlantic Terminals, LLC was acquired by Plains All American Pipeline since this evaluation was written. When the minor revision to the Title V permit was written and reviewed by the new owners, there was new suggested language for Permit Condition 1253, Part II.D. This language provides clarity and does not change the substance of the conditions:

D) Thermal Oxidizer Operation.

1. The Owner/Operator shall use A-1, Thermal Oxidizer, as an abatement device during the events specified in paragraphs D.1.i and D.1.ii below:
   i. When non-exempt organic compounds (as defined in District Regulation 2, Rule 1, Section 123) are being stored in or transferred to storage tanks S-1 through S-12, S-18, S-19, S-27 and S-28. Under these conditions, the thermal oxidizer shall either automatically turn on or be manually turned on to be in operation when the pressure in the tank farm vapor line system reaches a positive pressure of not more than 1.5 inches of water column. (A-1 may temporarily be replaced by the John Zink Trailer Mounted Combustor (PECS Unit) or equivalent equipment during periods of breakdown or maintenance). [Basis: Cumulative Increase, BACT]
   ii. When regulated organic liquids (as defined in District Regulation 8-44-222) are being loaded at marine wharf S-21. Under these conditions, the thermal oxidizer

shall be placed in operation automatically or manually and shall remain in operation for the duration of the loading event. [Basis: BACT]

2. A-1 Thermal oxidizer specifications and monitoring
   i. The pressure in the tank farm vapor line system shall be monitored and recorded on a continuous basis.
   ii. The owner/operator shall operate A-1 at an oxidation temperature of at least 1400 degrees F, as determined by monitoring and recording the A-1 operating temperature on a continuous basis. The District may adjust this minimum temperature, if source test data demonstrates that an alternate temperature is necessary for or capable of maintaining compliance with 95% overall system efficiency or greater when A-1 is abating the fixed roof tanks. [Basis: BACT]

Art Valla
Air Quality Engineer II
5Jun07