

Bay Area Air Quality Management District

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**Permit Evaluation
and
Statement of Basis
for
MAJOR FACILITY REVIEW PERMIT**

for

**San Francisco International Airport
Facility # A1784**

Facility Address:

SFO, International Airport
San Francisco, CA 94128

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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, more than 100 tons per year of a regulated air pollutant.

Major Facility Operating permits (Title V permits) must meet specifications contained in 40 CFR Part 70. The permits must contain all applicable requirements (as defined in 40 CFR § 70.2), 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 number that consists of a letter and a 4-digit number. This facility number is also considered to be the identifier for the permit.

B. Facility Description

The San Francisco International Airport is an airport facility where aircraft can land and take off, equipped with hangars, facilities for refueling and repair, and accommodations for passengers. In addition to the airport, the facility has a wastewater treatment facility and numerous emergency diesel generators to provide power in the event of a power outage. The main sources of emissions are boilers, emergency generators, and the small sewage treatment plant.

C. Permit Content

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

I. Standard Conditions

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

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

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

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).

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

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

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device is identified by an A and a number (e.g., A24). If a source is also an abatement device, such as when an engine controls VOC emissions, it will have an “S” number.

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

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

The following sources (emergency generators for airport runway lights) received District permits between the time that facility originally applied for a Title V permit and the permit proposal date:

S#	Description
270	1850 HP Diesel Field Lighting Generator #1
280	1135 HP Diesel Field Lighting Generator #2

The following sources (emergency generators for other electrical systems at airport) lost permit exemptions and received District permits between the time that the facility originally applied for a Title V permit and the permit proposal date:

S#	Description
290	Emergency Generator
300	Emergency Generator
310	Emergency Generator
320	Emergency Generator
330	Emergency Generator
340	Emergency Generator
360	Emergency Generator
370	Emergency Generator
380	Emergency Generator
390	Emergency Generator
400	Emergency Generator
410	Emergency Generator
420	Emergency Generator
430	Emergency Generator
440	Emergency Generator
450	Emergency Generator
460	Emergency Generator
470	Emergency Generator
480	Emergency Generator
490	Emergency Generator
500	Emergency Generator
510	Emergency Generator
520	Emergency Generator
530	Emergency Generator
540	Emergency Generator
550	Emergency Generator
560	Emergency Generator
570	Emergency Generator
580	Emergency Generator
590	Emergency Generator
600	Emergency Generator
610	Emergency Generator
620	Emergency Generator
630	Emergency Generator

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or

significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound), are placed in this section.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Title V permit if they are considered a significant source pursuant to the definition in BAAQMD Rule 2-6-239. This facility has no unpermitted sources that are significant.

IV. Source-Specific Applicable Requirements

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

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

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District’s or EPA’s websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

This permit did not require any complex applicability determinations.

V. Schedule of Compliance

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

“409.10 A schedule of compliance containing the following elements:

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

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

The BAAQMD Compliance and Enforcement Division has conducted a review of compliance over the past year and has no records of compliance problems at this facility. The compliance report is contained in Appendix A of this permit evaluation and statement of basis.

VI. Permit Conditions

During the Title V permit development, the District has reviewed the existing permit conditions, deleted the obsolete conditions, and as appropriate, revised the conditions for clarity and enforceability. Each permit condition is identified with a unique numerical identifier, up to five digits.

Where necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting has been added to the permit.

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; all “underline” language will be retained.

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

For sources without existing throughput limits (i.e., limits on usage of materials or fuels), emissions have been calculated based on the capacity of the equipment. In order to ensure that emissions will not increase as a result of a replacement or modification that increases the capacity of a permitted source without a proper preconstruction permit review, conditions have been added to limit the daily and annual throughput of each source of the Title V permit.

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

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

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

VII. Applicable Limits and Compliance Monitoring Requirements

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

The District has the authority to impose additional monitoring where: (1) the existing applicable requirement does not require monitoring AND (2) monitoring is necessary to assure compliance with such applicable requirement.

The tables below show the limits, which, prior to incorporation in the Title V permit, lack periodic monitoring requirements. Additional monitoring, if any, imposed pursuant to Title V is shown in the last column. The basis for the monitoring decision is present in the discussion following each table. Applicable limits not shown in the following tables have adequate monitoring, and so no additional monitoring is being proposed in the Title V permit.

NOX Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S7, S11, S12, S13 High Temperature Hot Water Generators	BAAQMD 9-7-301.1	30 ppmv @ 3%O2, dry, 3-hr average	Annual Source Test
S7, S11, S12, S13 High Temperature Hot Water Generators	BAAQMD 9-7-305.1	150 ppmv @ 3%O2, dry, 3-hr average	None
S7, S11, S12, S13 High Temperature Hot Water Generators	BAAQMD 9-7-306.1	150 ppmv @ 3%O2, dry, 3-hr average	None
S7 High Temperature Hot Water Generators	Condition # 7506 Part 1	30 ppmv @ 3%O2, dry, 3-hr average	Annual Source Test
S13 High Temperature Hot Water Generator	Condition # 14614 Part 1	25 ppmv @ 3%O2, dry, 3-hr average	Annual Source Test
S13 High Temperature Hot Water Generator	Condition # 14614 Part 2	60 ppmv @ 3%O2, dry, 3-hr average	None

NOx Discussion:

Permit conditions have been added to existing conditions for sources S7, S11, S12, and S13 to require annual source testing to verify the applicable emission limits cited above for natural gas combustion. Since the sources generally burn natural gas (and only burn fuel oil during natural gas curtailment), no testing has been required for NOx emissions during combustion of fuel oil.

CO Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S7, S11, S12, S13 High Temperature Hot Water Generators	BAAQMD 9-7-301.2	400 ppmv @ 3%O ₂ , dry, 3-hr average	Annual Source Test
S7, S11, S12, S13 High Temperature Hot Water Generators	BAAQMD 9-7-305.2	400 ppmv @ 3%O ₂ , dry, 3-hr average	None
S7, S11, S12, S13 High Temperature Hot Water Generators	BAAQMD 9-7-306.2	400 ppmv @ 3%O ₂ , dry, 3-hr average	None
S13 High Temperature Hot Water Generator	Condition # 14614 Part 1	100 ppmv @ 3%O ₂ , dry, 3-hr average	Annual Source Test
S13 High Temperature Hot Water Generator	Condition # 14614 Part 2	100 ppmv @ 3%O ₂ , dry, 3-hr average	None

CO Discussion:

Permit conditions have been added to existing conditions for sources S7, S11, S12, and S13 to require annual source testing to verify the applicable emission limits cited above. Since the sources generally burn natural gas (and only burn fuel oil during natural gas curtailment), no testing has been required for CO emissions during combustion of fuel oil.

SO₂ Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S1 Sludge Gas Burner (Flare)	BAAQMD 9-1-302	300 ppm	Weekly monitoring of sulfur content of digester gas
S7, S11, S12, S13 High Temperature Hot Water Generators S270 - 1850 HP Diesel Field Lighting Generator #1 S280 - 1135 HP Diesel Field Lighting Generator #2 S-290 through S-340 and S-360 through S630 Emergency Generators	BAAQMD 9-1-301	Ground level concentrations of SO ₂ shall not exceed: 0.5 ppm for 3 consecutive minutes AND 0.25 ppm averaged over 60 consecutive minutes AND 0.05 ppm averaged over 24 hours	None
S7, S11, S12, S13 High Temperature Hot Water Generators S270 - 1850 HP Diesel Field Lighting Generator #1 S280 - 1135 HP Diesel Field Lighting Generator #2 S-290 through S-340 and S-360 through S630 Emergency Generators	BAAQMD 9-1-302	300 ppm (dry)	None
S7, S11, S12, S13 High Temperature Hot Water Generators S270 - 1850 HP Diesel Field Lighting Generator #1 S280 - 1135 HP Diesel Field Lighting Generator #2 S-290 through S-340 and S-360 through S630 Emergency Generators	BAAQMD 9-1-304	Sulfur content of fuel < 0.5% by weight	Fuel Oil Certification
S7 High Temperature Hot Water Generator	Condition # 7506 Part 3	Sulfur Content of Fuel Oil ≤ 0.2 wt%	Fuel Oil Certification
S170 Anaerobic Digesters	Condition # 18329	Sulfur Content Digester Gas ≤ 2,250 ppm	Digester Gas Sampling

SO₂ Discussion:

BAAQMD Regulation 9-1-301

Area monitoring to demonstrate compliance with the ground level SO₂ concentration requirements of Regulation 9-1-301 is at the discretion of the APCO (per BAAQMD Regulation 9-1-501). This facility does not have equipment that emits large amounts of SO₂ and therefore is not required to have ground level monitoring by the APCO.

All facility combustion sources are subject to the SO₂ emission limitations in District Regulation 9, Rule 1 (ground-level concentration and emission point concentration). In EPA's June 24, 1999 agreement with CAPCOA and ARB, "Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP", EPA has agreed that natural-gas-fired combustion sources do not need additional monitoring to verify compliance with Regulation 9, Rule 1, since violations of the regulation are unlikely. Therefore, no monitoring is necessary for this requirement.

To address the fuel oil sulfur content limitation when liquid fuel is used during natural gas curtailment, permit conditions will be added requiring the facility to demonstrate compliance by collecting vendor certifications of sulfur content with each fuel delivery.

Digester Gas: As shown in the calculation that follows, the federally enforceable emission limit of 300 ppm SO₂ in the exhaust gas (BAAQMD Regulation 9-1-302) is equivalent to a total reduced sulfur concentration of 2,250 ppmv in the digester gas. This was derived from a District source test (performed on April 10, 2003) which demonstrated that at a total reduced sulfur concentration of 1,692 ppm, the resulting sulfur dioxide emissions were 230 ppm. According to that same source test, hydrogen sulfide made up more than 99% of the total sulfur (hydrogen sulfide was 1,689 ppm vs 1,692 ppm for total reduced sulfur). We estimated that as long as the digester gas sulfur concentration does not exceed 2,250 ppm, the 300 ppm sulfur dioxide emission standard will not be exceeded:

Sulfur in digester gas (300 ppm SO₂ exhaust): $[300E-6 \text{ cu ft SO}_2/\text{cu ft flue gas}][1 \text{ cu ft S/cu ft SO}_2][160,500 \text{ cu ft flue gas}/21,400 \text{ cu ft digester gas}][1E6] = 2,250 \text{ ppmv of total reduced sulfur in digester gas.}$

A condition has been written for the digester source S-170 limiting the hydrogen sulfur content to 2,250 ppm. Further, a part will be included in the new condition requiring digester gas monitoring at least once a week. We do not expect this facility to have any problem meeting the 300-ppm sulfur content limitation. In addition, we do not expect this facility to have any problem meeting the ground level H₂S limitation of Regulation 9-2 either. As a result, no H₂S ground level monitoring is recommended.

PM Sources

# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S1 Sludge Gas Burner (Flare)	BAAQMD Regulation 6-301	Ringelmann 1.0	None
S7, S11, S12, S13 High Temperature Hot Water Generators	BAAQMD Regulation 6-301	Ringelmann 1.0	Visible Inspection
S270 - 1850 HP Diesel Field Lighting Generator #1 S280 - 1135 HP Diesel Field Lighting Generator #2 S-290 through S-340 and S-360 through S630 Emergency Generators	BAAQMD Regulation 6-301	Ringelmann 1.0	None
S7, S8 Spray Booths	BAAQMD Regulation 6-301	Ringelmann 1.0	None
S1 Sludge Gas Burner (Flare)	BAAQMD Regulation 6-303	Ringelmann 2.0	None, operated infrequently
S7, S8 Spray Booths	BAAQMD Regulation 6-305	0.15 gr/dscf	None
S270 - 1850 HP Diesel Field Lighting Generator #1 S280 - 1135 HP Diesel Field Lighting Generator #2 S-290 through S-340 and S-360 through S630 Emergency Generators	BAAQMD Regulation 6-310	0.15 gr/dscf	None
S7, S11, S12, S13 High Temperature Hot Water Generators	BAAQMD Regulation 6-310.3	0.15 gr/dscf at 6% O2	Visible Inspection
S270 - 1850 HP Diesel Field Lighting Generator #1 S280 - 1135 HP Diesel Field Lighting Generator #2 S-290 through S-340 and S-360 through S630 Emergency Generators	BAAQMD Regulation 6-311	$4.10P^{0.67}$ lb/hr, where P is process weight, ton/hr	None

PM Discussion:

BAAQMD Regulation 6 “Particulate Matter and Visible Emissions”

Visible Emissions

BAAQMD Regulation 6-301 limits visible emissions to no darker than 1.0 on the Ringelmann Chart (except for periods or aggregate periods less than 3 minutes in any hour). Visible emissions are normally not associated with combustion of gaseous fuels, such as natural gas.

Except for the emergency generators (S270 through S630), the combustion sources at the facility use primarily natural gas. However, in the event of natural gas curtailment, S7, S11, S12, S13 High Temperature Hot Water Generators can also be fired on fuel oil. In general, we do not expect there to be significant particulate emissions from these sources when they are operated firing natural gas. It is widely understood that no permit conditions are needed to achieve compliance with a Ringelmann 1 limitation when firing natural gas. However, for fuel oil firing permit conditions have been added to require visible emissions monitoring and recordkeeping for the High Temperature Hot Water Generators (S7, S11, S12, and S13). However, CAPCOA guidance recommends no monitoring for emergency generators (S270 through S630).

Particulate Weight Limitation

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

Exceedances of the grain loading standards are normally not associated with combustion of gaseous fuels, such as natural gas. These are combustion sources using primarily natural gas. However, in the event of natural gas curtailment, they can also be fired on fuel oil. In general, we do not expect there to be significant particulate emissions from these sources when they are operated firing natural gas. It is widely understood that no permit conditions are needed to achieve compliance with a 0.15 gr/dscf limitation when firing natural gas. However, for fuel oil firing permit conditions have been added to require visible emissions monitoring and recordkeeping. However, CAPCOA guidance recommends no monitoring for emergency generators (S270 through S630).

The quantity of coating sprayed in S7 and S8 Booths is minimal. In addition, the booths are contained within buildings, and any “overspray” of paint is not expected to be emitted from the building. As a result, no particulate monitoring is required.

All PM emissions are assumed to be PM₁₀.

It is presumed that the AP-42 emission factor contains condensable particulate matter, while the District standard does not. Therefore, the margin of compliance is higher.

POC Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S7, S8 Spray Booths	BAAQMD 8-19-302	Air-Dried Coatings VOC \leq 340 g/l (2.8 lb/gal)	Records
S7, S8 Spray Booths	BAAQMD 8-19-312.2	Specialty Coating High Gloss VOC \leq 420 g/l (3.5 lb/gal);	Records
S7, S8 Spray Booths	BAAQMD 8-19-312.3	Specialty Coating Heat Resistant VOC \leq 420 g/l (3.5 lb/gal);	Records
S7, S8 Spray Booths	BAAQMD 8-19-312.4	Specialty Coating High Performance Architectural VOC < 420 g/l (3.5 lb/gal);	Records
S7, S8 Spray Booths	BAAQMD 8-19-312.5	Specialty Coating Metallic Topcoat VOC \leq 420 g/l (3.5 lb/gal);	Records
S7, S8 Spray Booths	BAAQMD 8-19-312.7	Specialty Coating Pretreatment Wash Primer VOC \leq 420 g/l (3.5 lb/gal);	Records
S7, S8 Spray Booths	BAAQMD 8-19-312.8	Specialty Coating Silicone Release VOC \leq 420 g/l (3.5 lb/gal);	Records
S7, S8 Spray Booths	BAAQMD 8-19-312.9	Specialty Coating Solar Absorbant VOC \leq 420 g/l (3.5 lb/gal);	Records
S7, S8 Spray Booths	BAAQMD 8-19-312.12	Specialty Coating Extreme Performance VOC < 420 g/l (3.5 lb/gal);	Records

POC Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S7, S8 Spray Booths	BAAQMD 8-19-312.13	Specialty Coating High Temperature VOC < 420 g/l (3.5 lb/gal);	Records
S7, S8 Spray Booths	Condition # 7502 Part 1	Coating Usage ≤ 250 gals/yr	Records
S7, S8 Spray Booths	Condition # 7502 Part 2	Net Clean-up Solvent Usage < 125 gals/yr	Records
S100 - Water Quality Control Plant S110 - Preliminary Treatment S120 - Preliminary Treatment S130 - Secondary Treatment S140 - Secondary Clarifiers S150 - Sludge Handling Processes S160 - Sludge Handling Processes S170 - Anaerobic Digesters S180 - Reclamation S200 - Industrial Wastewater Plant S210 - Primary Treatment S220 - Flow Equalization S230 - Secondary Treatment S240 - Secondary Clarifiers S250 - Disinfection S260 - Sludge Handling Processes	BAAQMD 8-2-301	Emissions may not exceed 300 ppm total carbon, dry, and 15 lb/day/source	None

POC Discussion:

The applicable District rules for these sources are found in Regulation 8-1 (General Solvent & Surface Coating) and 8-19 (Surface Coating of Miscellaneous Metal Parts and Products).

Included in these regulations are VOC limits for coatings, equipment limitations, loss minimization methods, recordkeeping, and general solvent clean-up requirements.

Permit conditions already exist in Condition # 7502, which limit coating and cleanup solvent usage. In addition, parts #3 and 6 of Condition # 7502 requires recordkeeping to verify compliance with the limits.

Potential POC emission sources include the combustion sources as a result of incomplete combustion of any organics that may be in the digester gas (trace amounts) and the precursor organics that may result from the wastewater processes. A source test was performed on the Digester Gas Flare in April 2003 to measure the inlet concentration of the digester gas. The results of the source test using Source Test Method ST-7 indicated a Non-Methane Organic Compounds (POC) inlet rate of 200 ppm (as C₁). If the inlet concentration of POC is less than 200 ppm (as C₁), then the outlet concentration of POC (after control by the S-1 Flare) should be much less than 200 ppm (as C₁). The S-1 Flare is estimated to have an abatement efficiency of at least 90%. Since the potential to emit POC from digester gas combustion sources is estimated to be less than 200 ppm (as C₁) after abatement by the S-1 Flare, no compliance assurance monitoring of POC emissions from S-1 Flare is needed.

Wastewater Sources: The PTE for organics from the wastewater sources is based on emission factors developed from the AB-2588 programs for sewage treatment plants. The maximum plant liquid flow rate is 2.2 MM gpd with an uncontrolled POC emission factor of 243 lb/yr per million gallon per day. The PTE for POCs from the wastewater processes is:

$$\text{PTE} = (2.2 \text{ E6 gpd})(243 \text{ lb/yr-1E6 gpd}) = 535 \text{ lb/yr (2 lb/day throughout wastewater sources, all combined)}$$

The emissions of POCs occur at numerous locations, at numerous liquid sources throughout the wastewater processes and are typically represented in high volume, highly dilute vapor streams, spread out over many liquid processes that are difficult to capture and control. Modern grassroots POTWs are increasingly being covered and vented to high efficiency control systems, but the costs associated with such retroactive controls are not cost effective. There are no conditions to control and/or monitor POC emissions from any of the liquid wastewater sources. We do not expect any wastewater POC emission source to have a concentration approaching 300 ppm, hence no monitoring is needed.

VIII. Test Methods

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

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

IX. Permit Shield:

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

The second type of permit shield is allowed by EPA's White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program. The District uses the second type of permit shield for all streamlining of monitoring, recordkeeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

This facility has no permit shields.

This permit has no streamlining.

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

E. Compliance Status:

A December 1, 2003 office memorandum from the Director of Compliance and Enforcement, to the Director of Permit Services, presents a review of the compliance record of San Francisco International Airport (Site #: A1784). The Compliance and Enforcement Division staff has reviewed the records for the San Francisco International Airport for the period between November 25, 2002 through November 25, 2003. This review was initiated as part of the District evaluation of an application by San Francisco International Airport for a Title V permit. During the period subject to review, activities known to the District include:

- There were no Notices of Violation issued during this review period.
- The District did not receive any alleged complaints.
- The facility is not operating under a Variance or an Order of Abatement from the District Board.
- There were no monitor excesses or equipment breakdowns reported or documented by District staff.

The owner certified that all equipment was operating in compliance on October 24, 1995. No non-compliance issues have been identified to date.

F. Differences between the Application and the Proposed Permit:

The Title V permit application was originally submitted on October 23, 2000. This version is the basis for constructing the proposed Title V permit. Revisions were made to the application 1943 as a result of changes at the facility that were made pursuant to Permit Application 2286 and 3454. Changes to the permit conditions include the following:

Throughput limits (identified by a basis of Regulation 2-1-234.3) have been added to all sources with no existing throughput or emission limits.

S-100 through S180, Water Quality Control Plant and related sources

There was no pre-existing BAAQMD permit condition for these sources. This source has been assigned condition # 18329. The new conditions will establish throughput limitations for industrial wastewater and sanitary sewer flow, as well as monitoring, recordkeeping and reporting.

S-170 Anaerobic Digesters

There was no pre-existing BAAQMD permit condition for this source. This source has been assigned condition # 18329. This addresses the following: 1) abatement of digester gas emissions (by combustion by flare), 2) digester gas sulfur content, 3) flaring recordkeeping.

S-200 through S260, Industrial Wastewater Plant and related sources

There was no pre-existing BAAQMD permit condition for these sources. This source has been assigned condition # 18329. The new condition will establish a throughput limitation, as well as address issues of public nuisance (odors) and monitoring, recordkeeping and reporting.

As described in Section C.11 of this permit evaluation/Statement of Basis, S270 and S280, Emergency Generators were permitted pursuant to Application # 2286, and S290 through S630, Emergency Generators were permitted pursuant to Application # 3454.

APPENDIX A
BAAQMD COMPLIANCE REPORT

APPENDIX B
GLOSSARY

ACT

Federal Clean Air Act

APCO

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

ARB

Air Resources Board

BAAQMD

Bay Area Air Quality Management District

BACT

Best Available Control Technology

Basis

The underlying authority which allows the District to impose requirements.

CAA

The federal Clean Air Act

CAAQS

California Ambient Air Quality Standards

CAPCOA

California Air Pollution Control Officers Association

CEQA

California Environmental Quality Act

CFR

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

CO

Carbon Monoxide

Cumulative Increase

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

District

The Bay Area Air Quality Management District

dscf

Dry Standard Cubic Feet

EPA

The federal Environmental Protection Agency.

Excluded

Not subject to any District regulations.

Federally Enforceable, FE

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

FP

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

HAP

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

Major Facility

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

MFR

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

MOP

The District's Manual of Procedures.

NAAQS

National Ambient Air Quality Standards

NESHAPS

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

NMHC

Non-methane Hydrocarbons (Same as NMOC)

NMOC

Non-methane Organic Compounds (Same as NMHC)

NO_x

Oxides of nitrogen.

NSPS

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

NSR

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

Offset Requirement

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

Phase II Acid Rain Facility

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

POC

Precursor Organic Compounds

PM

Particulate Matter

PM10

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

PSD

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

SIP

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

SO2

Sulfur dioxide

THC

Total Hydrocarbons (NMHC + Methane)

Title V

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

TOC

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

TPH

Total Petroleum Hydrocarbons

TRMP

Toxic Risk Management Plan

TSP

Total Suspended Particulate

VOC

Volatile Organic Compounds

Units of Measure:

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