Bay Area Air Quality Management District

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

Permit Evaluation
and
Statement of Basis
for
RENEWAL of

MAJOR FACILITY REVIEW PERMIT

for

United Airlines – San Francisco Maintenance Center
Facility #A0051

Facility Address:
Maintenance Base Bldg 49-2 - SFOMP
San Francisco International Airport
San Francisco, CA 94128-3800

Mailing Address:
Same As Above

Application Engineer: Fred Tanaka
Site Engineer: Fred Tanaka

Application 10678

November 2010

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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 Title 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 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.

Pursuant to Regulation 2, Rule 6, section 416, the District has reviewed the terms and conditions of this Major Facility Review permit and determined that they are still valid and correct. This review included an analysis of applicability determinations for all sources, including those that have been modified or permitted since the issuance of the initial Major Facility Review Permit. The review also included an assessment of all monitoring in the permit for sufficiency to determine compliance.

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 A0051.

This facility received its initial Title V permit on March 17, 2000. This application is for a permit renewal. It was submitted to the District on August 31, 2004. Although the current permit expired on February 28, 2005, it continues in force until the District takes final action on the permit renewal. The proposed permit includes new standard language used in all Title V permits and shows all changes to the permit in strikeout/underline format.

United Airlines' Title V Operating permit was revised only one time since its initial issuance on March 17, 2000. The revision involved the removal of sources, addition of new sources, updating of standard language and generally applicable requirements, addition of new applicable requirements, and the correction of errors. The revised Title V permit was issued on October 22, 2003. The Statement of Basis for this significant permit revision describes the revisions in detail and is available upon request. Also, a summary of the revisions is described in section "X Revision History" of the Title V permit.

B. Facility Description

United Airlines has a major hub located at the San Francisco International Airport. It has a maintenance center located on-site for their fleet.

United Airlines San Francisco Maintenance Center services and maintains airplanes and airplane parts for their fleet. This facility's main permitted operations include aerospace coating operations, engine maintenance operations (e.g. chrome plating, thermal spraying), engine testing and other supporting activities.

The following table is a comparison of approved emissions from the year of initial issuance, 1999, and this permit renewal, 2009. Approved emissions are one year behind the current year.

	1999	2009
Particulate Matter	35 tons/year	23.6 tons/year
Organic	111.2 tons/year	83.8 tons/year
Nitrogen Oxide	83 tons/year	92.5 tons/year
Sulfur Dioxide	2 tons/year	1.8 tons/year
Carbon Monoxide	62 tons/year	35.6 tons/year

The main differences in emissions are attributed to a reduction of contributing sources, a reduction of operation from a number of current sources and normal changes in business operation.

C. Permit Content

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

I. Standard Conditions

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.

Changes to permit:

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

BAAQMD Regulation 2, Rule 5 - New Source Review of Toxic Air Contaminants and SIP Regulation 2, Rule 6 - Permits, Major Facility Review have been added to Standard Condition 1.A.

The following language was added to Standard Condition I.B.1: "If the permit renewal has not been issued by February 28, 2005, but a complete application for renewal has been submitted in accordance with the above deadlines, the existing permit will continue in force until the District takes final action on the renewal application." This is the "application shield" pursuant to BAAQMD Regulation 2-6-407.

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

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

The first sentence of Standard Condition I.F has been changed from "All required monitoring reports must be submitted to the District at least once every six months." to "Reports of all required monitoring must be submitted to the District at least once every six months, except where an applicable requirement specifies more frequent reporting." to conform to BAAQMD Regulation 2-6-409.18.

Standard Condition I.H was modified to conform to the current standard.

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

Standard Condition I.J, Accidental Release, has been changed to Condition I.K.

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 per year of a "regulated air pollutant" (as defined in BAAQMD Rule 2-6-222) or 400 pounds per year of a "hazardous air pollutant" (as defined in BAAQMD Rule 2-6-210).

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A-24). If a source is also an abatement device, such as when an engine controls VOC emissions, it will be listed in the abatement device table but will have an "S" number. An abatement device may also be a source (such as a thermal oxidizer that burns fuel) of secondary emissions. If the primary function of a device is to control emissions, it is considered an

abatement (or "A") device. If the primary function of a device is a non-control function, the device is considered to be a source (or "S").

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 the permitted sources table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

Changes to permit:

Following are explanations of the differences in the equipment list between the time that the Title V permit was revised on 10/22/2003 and the proposed renewal permit.

Source Number	Description	Permit Action	Application #	Comments
24	Chrome Plate Tank #48	Deleted	N/A	Archived as requested by United, 6/19/07
25	Chrome Plate Tank #50	Deleted	N/A	Archived as requested by United, 6/19/07
48	Dry Lube Spray Booth PV 90206	Deleted	N/A	Archived as requested by United, 8/13/02
79	Paint Spray Booth, PV 90205	Deleted	N/A	Archived as requested by United, 12/31/07
106	Paint Spray Booth, AC0030	Deleted	N/A	Archived as requested by United, (7/9/10)
114	Paint Spray Booth, PV 90201	Deleted	N/A	Archived as requested by United, (7/9/10)
115	Paint Spray Booth, PV 90202	Deleted	N/A	Archived as requested by United, (7/9/10)
120	Solvent Spray Booth, PV 90101	Deleted	N/A	Archived as requested by United, 12/31/06
125	Wheel Shop Paint Booth, PV90214	Deleted	N/A	Archived as requested by United, 9/23/04
148	Adhesive Application Booth PV90203	Deleted	N/A	Archived as requested by United, 9/23/04
149	Paint Booth	Deleted	N/A	Archived as requested by United, 9/23/04
142	Kirksite Melting Pot	Deleted	N/A	Archived as requested by United, 7/12/10
143	Lead Melting Pot	Deleted	N/A	Archived as requested by United, 7/12/10
150	Solvent Spray Booth, PV 90102	Deleted	N/A	Archived as requested by United, (6/10/04)
152	Paint Spray Booth, PV 90208	Deleted	N/A	Archived as requested by United, (7/9/10)
189	Curing Oven, PV 52160	Deleted	N/A	Archived as requested by

Source Number	Description	Permit Action	Application #	Comments
				United, 7/14/10
216	Acid Stripping Tank	Deleted	N/A	Archived as requested by United, 5/26/04
217	Fresh Acid Storage Tank	Deleted	N/A	Archived as requested by United, 5/26/04
218	Spent Acid Accumulation Tank	Deleted	N/A	Archived as requested by United, 5/26/04
225	Acid Stripping Tank	Deleted	N/A	Archived as requested by United
246	Chromic Acid Anodizing Tank #70	Deleted	N/A	Archived as requested by United, 6/19/07
261	Varnish Curing and Burn-Off Oven (Electric)	Deleted	N/A	Archived as requested by United, 7/2/02
269	Corrosion Inhibitor Spray Booth, PV90102	Deleted	N/A	Archived as requested by United, 12/31/06
276	Soil Vapor Extraction System	Deleted	N/A	Archived as requested by United, 3/7/08
278	Soil Vapor Extraction System	Deleted	N/A	Archived as requested by United, 3/7/08
279	Soil Vapor Extraction System	Deleted	N/A	Archived as requested by United, 8/16/04
286	Recycling Parts Washer	Deleted	N/A	Archived as requested by United, (6/10/04)
287	Recycling Parts Washer	Deleted	N/A	Archived as requested by United, (6/10/04)
295	Emergency Standby Engine	Added	4772	District permit issued 7/18/02
296	Emergency Standby Engine	Added	4772	District permit issued 7/18/02
297	Emergency Standby Engine	Added	4772	District permit issued 7/18/02
299	Emergency Standby Engine	~~Added~~Deleted	4772	~~District permit issued~~ Archived as requested by United, ~~7/18/02~~12/8/10
300	Emergency Standby Engine	Added	4772	District permit issued 7/18/02
301	Emergency Standby Engine	Added	4772	District permit issued 7/18/02
302	Standby Generator	Added	4772	District permit issued 7/18/02
303	Standby Generator	Added	4772	District permit issued 7/18/02
304	Emergency Standby Engine	Added	4772	District permit issued 7/18/02
305	Emergency Standby Engine	Added	4772	District permit issued 7/18/02
306	Emergency Standby Engine	Added	4772	District permit issued 7/18/02
307	Emergency Standby Engine	Added	4772	District permit issued 7/18/02
308	Emergency Standby Engine	Added	4772	District permit issued 7/18/02
309	Emergency Standby Engine	Added	4772	District permit issued 7/18/02
310	Emergency Standby Engine	Added	4772	District permit issued 7/18/02
311	Emergency Standby Engine	Added	4772	District permit issued 7/18/02
312	Emergency Standby Engine	Added	4772	District permit issued 7/18/02
313	Emergency Standby Engine	Added	4772	District permit issued 7/18/02
314	Emergency Standby Engine	Added	4772	District permit issued 7/18/02
315	Emergency Standby Engine	Added	4772	District permit issued 7/18/02
316	Thermal Spray Booth	Added	13533	District permit issued 9/26/06
317	Thermal Spray Booth	Added	13533	District permit issued 9/26/06
318	Thermal Spray Booth	Added	13533	District permit issued 9/26/06
319	Thermal Spray Booth	Added	13533	District permit issued 9/26/06
320	Thermal Spray Booth	Added	13533	District permit issued 9/26/06
321	Thermal Spray Booth	Added	13533	District permit issued 9/26/06

Source Number	Description	Permit Action	Application #	Comments
322	Thermal Spray Booth	Added	13533	District permit issued 9/26/06
323	Thermal Spray Booth	Added	13533	District permit issued 9/26/06
326	Emergency Diesel Engine	Added	14663	District permit issued 7/26/06
327	Aircraft Generator Repair Station	Added	14027	District permit issued 4/4/06
328	Parts Cleaner	Added	15451	District permit issued 4/23/07
329	Parts Cleaner	Added	15451	District permit issued 4/23/07
330	Parts Cleaner	Added	14655	District permit issued 9/4/07
331	Parts Cleaner	Added	16635	District permit issued 10/4/07
333	Emergency Diesel Engine	Added	22014	District permit issued 12/8/10
32000	Minor Combustion Sources	Deleted	N/A	Archived as requested by United, (7/9/10)

The following table lists changes to the Abatement Device List since the permit was last revised on 12/23/03.

Abatement Device Number	Description	Permit Action	Application #	Comments
123	3-Stage Dry Filtration System	Added	10700	District permit issued 8/1/04
216	Dry Scrubber with 3-Stage Kimre Composite Mesh Pads	Added	14291	District permit issued 5/22/07
217	Dry Scrubber with 3-Stage Kimre Composite Mesh Pads	Added	14291	District permit issued 5/22/07
218	Dry Scrubber with 3-Stage Kimre Composite Mesh Pads	Added	14291	District permit issued 5/22/07
219	Dry Scrubber with 3-Stage Kimre Composite Mesh Pads	Added	14291	District permit issued 5/22/07
220	Dry Scrubber with 3-Stage Kimre Composite Mesh Pads	Added	14291	District permit issued 5/22/07
221	Dry Scrubber with 3-Stage Kimre Composite Mesh Pads	Added	14291	District permit issued 5/22/07
222	Dry Scrubber with 3-Stage Kimre Composite Mesh Pads	Added	14291	District permit issued 5/22/07
223	Dry Scrubber with 3-Stage Kimre Composite Mesh Pads	Added	14291	District permit issued 5/22/07
278	Carbon Adsorption System, 2 Carbon Canisters in Series	Deleted	N/A	Archived as requested by United, 3/7/08
316	Donaldson Torit Downflo II w/ HEPA	Added	13533	District permit issued 9/26/06
317	Donaldson Torit	Added	13533	District permit issued 9/26/06

Abatement Device Number	Description	Permit Action	Application #	Comments
	Downflo II w/ HEPA			
318	Donaldson Torit Downflo II w/ HEPA	Added	13533	District permit issued 9/26/06
319	Donaldson Torit Downflo II w/ HEPA	Added	13533	District permit issued 9/26/06
320	Donaldson Torit Downflo II w/ HEPA	Added	13533	District permit issued 9/26/06
321	Donaldson Torit Downflo II w/ HEPA	Added	13533	District permit issued 9/26/06
322	Donaldson Torit Downflo II w/ HEPA	Added	13533	District permit issued 9/26/06
323	Donaldson Torit Downflo II w/ HEPA	Added	13533	District permit issued 9/26/06
416	HEPA filters model Camfil Farr Filtra 2000	Added	14291	District permit issued 5/22/07
418	HEPA filters model Camfil Farr Filtra 2000	Added	14291	District permit issued 5/22/07
420	HEPA filters model Camfil Farr Filtra 2000	Added	14291	District permit issued 5/22/07
422	HEPA filters model Camfil Farr Filtra 2000	Added	14291	District permit issued 5/22/07

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 "significant sources" as defined in BAAQMD Rule 2-6-239.

Changes to permit:

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

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

- BAAQMD Regulation 6, Particulate Matter and Visible Emissions has been designated as SIP Regulation 6, since the rule has been renamed and renumbered as Regulation 6, Rule 1, Particulate Matter, General Provisions
- Regulation 8, Rule 2, Miscellaneous Operations
- BAAQMD Regulation 8, Rule 40 Aeration of Contaminated Soil and Removal of Underground Storage Tanks
- BAAQMD Regulation 8, Rule 47, Air Stripping and Soil Vapor Extraction Operations
- SIP Regulation 8, Rule 51, Adhesive and Sealant Products
- California Health and Safety Code Section 41750 et seq., Portable Equipment
- California Health and Safety Code Section 44300 et seq., Air Toxics "Hot Spots" Information and Assessment Act of 1987
- California Health and Safety Code Section 93115 et seq., Airborne Toxic Control Measure for Stationary Compression Ignition Engines
- 40 CFR Part 61, Subpart M, National Emission Standards for Hazardous Air Pollutants – National Emission Standard for Asbestos

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

IV. Source-Specific Applicable Requirements

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

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

Section IV of the permit contains citations to all of the applicable requirements. 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. 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.

Complex Applicability Determinations:

CAM: 40 CFR Part 64 Compliance Assurance Monitoring

As shown in the table below all of the abated sources at United Airlines have pre-abatement emissions less than 100 tpy. Therefore, CAM does not apply.

Source #	Abatement #	Pollutant	Preabatement Emissions (TPY)	CAM Applicability (Applicable if emissions > 100 TPY)
16	216	PM10	3.30E-02	None
	416			
17	217	PM10	3.30E-02	None
	416			
18	218	PM10	3.30E-02	None
	418			
19	219	PM10	3.30E-02	None
	418			
20	220	PM10	3.30E-02	None
	420			
21	221	PM10	3.30E-02	None
	420			
22	222	PM10	3.30E-02	None
	422			
23	223	PM10	3.30E-02	None
	423			
123	123	Org, POC	5.79E-02	None
195	33	CO	91.25*	None
196	33	CO	91.25*	None
316	213	PM10	27.20	None
317	317	PM10	27.20	None
318	318	PM10	27.20	None
319	319	PM10	27.20	None
320	320	PM10	27.20	None
321	321	PM10	27.20	None
322	322	PM10	27.20	None
323	323	PM10	27.20	None

*combined emissions for S195 and S196 because they exhaust through common stack

NESHAPS

United Airlines continues to be subject to 40 CFR Part 63, Subpart GG, "National Emission Standards for Aerospace Manufacturing and Rework Facilities." No new NESHAPS apply.

Acid Rain: 40 CFR Part 72

S195 Gas Turbine and S196 Duct Burner are not subject to Acid Rain permitting because United is designated as a "Qualifying Facility" under Section 3(17)(C) of the Federal Power Act.

Changes to Permit:

The following part IV tables will be deleted or consolidated with other part IV tables. The tables have been re-lettered as necessary.

The following part IV Tables will be deleted because the source(s) has/have been removed from service or meet permit exemption requirements:

IV-C S48 Dry Lube Spray Booth
IV-G S106, S114, S115 and S152 Aerosol Can Paint Spray Booths
IV-J S142, S143 Kirksite/Lead Melting Pots
IV-O S148 Adhesive Application Booth
IV-T S216, S225 Acid Stripping Tanks
IV-U S217, S218 Acid Storage/Accumulation Tanks
IV-AA S261 Varnish Curing and Burn-off Oven
IV-CC S269 Aerospace Corrosion Inhibitor Stray Booth
IV-EE S276 Soil Vapor Extraction System
IV-FF S277 Soil Vapor Extraction System
IV-GG S279 Soil Vapor Extraction System
IV-KK S286, S287 Recycling Parts Washers

The following part IV Tables will be deleted and consolidated with other part IV tables because of a significant overlap of applicable requirements:

IV- E S56 Spray Cleaning has been added to **Table IV-A**
IV- G S90 Engine Test Cell has been added to **Table IV-F**
IV- J S97, S98, S99, S100, S101, S102, S103, S104 AIRCRAFT PAINTING DOCKS have been added to **Table IV-D**
IV- X S240 Miscellaneous Resin Laminating has been added to **Table IV-L**
IV- Z S258 Oil Cooler Flush Cart has been added to **Table IV-A**
IV- BB S262 Adhesive Application and Stripping Operation has been added to **Table IV-L**
IV- DD S275 Paint Spray Booth has been added to **Table IV-D**
IV- HH S280 Paint Spray Booth has been added to **Table IV-D**
IV- II S284 Oil Cooler Flush Cart has been added to **Table IV-A**
IV- LL S288, S289, S290 Recycling Parts Washers have been added to **Table IV-A**
IV- MM S291, S292, S293 Recycling Parts Washers have been added to **Table IV-A**

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."

The BAAQMD Compliance and Enforcement Division has conducted a review of compliance since initial permit issuance on March 21, 2000. The compliance report is contained in Appendix A of this permit evaluation and statement of basis. The report concludes that the facility has been in intermittent compliance over this time period. 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.

Changes to permit:
None

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.

When necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting requirements have 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 and all "underline" language will be retained, subject to consideration of comments received.

The existing permit conditions are derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). Permit conditions may also be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 et seq., an order of abatement pursuant to H&SC § 42450 et seq., or as an administrative revision initiated by

District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

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

Conditions have also been deleted due to the following:
- Redundancy in recordkeeping requirements.
- Redundancy in other conditions, regulations and rules.
- The condition has been superseded by other regulations and rules.
- The equipment has been taken out of service or is exempt.
- The event has already occurred (i.e. initial or start-up source tests).

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.

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

Changes to permit:
The following tables describe all changes to permit conditions that have occurred since the Title V permit was last revised on 10/22/03.

Code	Change
A	Archived sources deleted from condition
B	"Basis" citations updated
C	Regulatory citations removed from condition
D	Condition deleted
E	Error corrected
F	Condition format updated (No substantive change)
R	Condition replaced
U	Unenforceable citation removed

Condition #	Sources	Code	Archived sources (if applicable)	Notes
440	95, 96, 195, 196	R	N/A	Replaced with Condition #23670
5487	239	F	N/A	
5696	244	C, F	N/A	
6465	16, 17, 18, 19, 20, 21, 22, 23	R, A	24, 25, 26	Replaced with Condition #23542. Updated with new ATCM requirements.
8016	258	C, F	N/A	
8277	238	C, F	N/A	
8533	-	D, A	261	
9044	1, 9, 10, 57, 64, 78, 80, 105, 112, 128, 140, 150	A, C, F	54, 120, 150	United requested archive of S120 on 2/28/07
9078	262	F	N/A	
10369	-	D, A	269	
14315	90	A, E, F	N/A	Deleted engine models CFM 56-3c-1, JT9D-7J, and JT9D-7R4 from Part 3 table at request of United
15072	-	D, A	276	
15769	-	D, A	278	
15778	280	R, C	N/A	Replaced with Condition #24442
16558	87, 88, 89	A, E, F	N/A	
18250	284	B, F	N/A	
18260	291, 292, 293	B, F	N/A	
18484	288, 289, 290	A, B, F	286, 287	Deleted S286 and S287
19533	295, 296, 297, ~~299,~~ 300, 301, 315	R	N/A	Replaced with Standard Condition #22820
19533	304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314	R	N/A	Replaced with Standard Condition #22851
19533	302, 303	C, D	N/A	These sources are not diesel fired engines and are not subject to the diesel ATCM
21946	123	B, C, F	N/A	

Condition #	Sources	Code	Archived sources (if applicable)	Notes
22820	295, 296, 297, ~~299,~~ 300, 301, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 415	B	N/A	
22850	326, 333	B	N/A	
22851	304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314	B	N/A	
23499	275	F	N/A	
23500	328, 329	F	N/A	
23504	316, 317, 318, 319, 320, 321, 322, 323	B, F	N/A	
23542	16, 17, 18, 19, 20, 21, 22, 23	F	N/A	
23670	95, 96, 195, 196	F	N/A	
24242	332	F	N/A	
24442	280	C, F	N/A	

VII. Applicable Limits and Compliance Monitoring Requirements

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

The District has reviewed all monitoring and has determined the existing monitoring is adequate with the following exceptions.

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

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

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

The tables below show all the sources that require no monitoring.

Table VII – D
Applicable Limits and Compliance Monitoring Requirements
S87, S88: APU TEST CELLS
S89, S90: ENGINE TEST CELLS

Type of limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
FP	BAAQMD Regulation 6-1-310	N		0.15 gr/dscf	None	N	N/A
FP	SIP Regulation 6-310	Y		0.15 gr/dscf	None	N	N/A

Table VII – D
Applicable Limits and Compliance Monitoring Requirements
S87, S88: APU TEST CELLS
S89, S90: ENGINE TEST CELLS

Type of limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
SO2	BAAQMD Regulation 9-301	Y		Ground Level Concentrations: 0.5 ppm for 3 consecutive minutes, 0.25 ppm averaged over 60 consecutive minutes, 0.05 ppm averaged over 24 hours	BAAQMD Regulation 9-501	N (unless requested by APCO)	N/A

Table VII – F
Applicable Limits and Compliance Monitoring Requirements
S95, S96: BOILERS

Type of limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
FP	BAAQMD Regulation 6-1-310	N		0.15 gr/dscf @ 6% O2	None	N	N/A
FP	SIP Regulation 6-310	Y		0.15 gr/dscf @ 6% O2	None	N	N/A
NOx	BAAQMD Regulation 9-7-301.1	Y		Gaseous Fuel: 30 ppmv @ 3% O2 (dry)	None	N	N/A
SO2	BAAQMD Regulation 9-1-301	Y		Ground Level Concentrations: 0.5 ppm for 3 consecutive minutes, 0.25 ppm averaged over 60 consecutive minutes, 0.05 ppm averaged over 24 hours	BAAQMD Regulation 9-1-501	N (unless requested by APCO)	N/A

Table VII – F
Applicable Limits and Compliance Monitoring Requirements
S95, S96: BOILERS

Type of limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
SO2	BAAQMD Regulation 9-1-302	Y		300 ppm (dry) general emission limitation	None	N	N/A
CO	BAAQMD Regulation 9-7-301.2	Y		400 ppmv @ 3% O2 (dry)	None	N	N/A

Table VII – L
Applicable Limits and Compliance Monitoring Requirements
S195: COMBUSTION TURBINE

Type of limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
FP	BAAQMD Regulation 6-1-310	N		0.15 gr/dscf @ 6% O2	None	N	N/A
FP	SIP Regulation 6-310	Y		0.15 gr/dscf @ 6% O2	None	N	N/A
SO2	BAAQMD Regulation 9-1-301	Y		Ground Level Concentrations: 0.5 ppm for 3 consecutive minutes, 0.25 ppm averaged over 60 consecutive minutes, 0.05 ppm averaged over 24 hours	BAAQMD Regulation 9-1-501	N (unless requested by APCO)	N/A
SO2	BAAQMD Regulation 9-1-302	Y		300 ppm (dry) general emission limitation	None	N	

Table VII – M
Applicable Limits and Compliance Monitoring Requirements
S196: DUCT BURNER

Type of limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
FP	BAAQMD Regulation 6-1-310	N		0.15 gr/dscf @ 6% O2	None	N	N/A
FP	SIP Regulation 6-310	Y		0.15 gr/dscf @ 6% O2	None	N	N/A
FP	BAAQMD Condition # 23670, Part 9	Y		25 tons/year Combined Limit: S-195, S-196	None	N	N/A
SO2	BAAQMD Regulation 9-1-301	Y		Ground Level Concentrations: 0.5 ppm for 3 consecutive minutes, 0.25 ppm averaged over 60 consecutive minutes, 0.05 ppm averaged over 24 hours	BAAQMD Regulation 9-1-501	N (unless requested by APCO)	N/A
SO2	BAAQMD Regulation 9-1-302	Y		300 ppm (dry) general emission limitation	None	N	N/A

Table VII - O
Applicable Limits and Compliance Monitoring Requirements
S238: VARNISH REMOVAL OVEN

Type of limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Opacity	BAAQMD Regulation 6-1-301	N		Ringelmann 1.0	None	N	N/A
Opacity	SIP Regulation 6-301	Y		Ringelmann 1.0	None	N	N/A

Table VII - O
Applicable Limits and Compliance Monitoring Requirements
S238: VARNISH REMOVAL OVEN

Type of limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
FP	BAAQMD Regulation 6-1-310	N		0.15 gr/dscf	None	N	N/A
FP	SIP Regulation 6-310	Y		0.15 gr/dscf	None	N	N/A

Table VII - P
Applicable Limits and Compliance Monitoring Requirements
S239: SOLVENT RECOVERY STILL

Type of limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VOC	BAAQMD Regulation 8-2-301	Y		No emission >15 lb/day and >300 ppm (total carbon)	None	N	N/A

Table VII - Q
Applicable Limits and Compliance Monitoring Requirements
S244: DISSOLVED AIR FLOTATION UNIT

Type of limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Usage	BAAQMD Condition #5696, Part 2	Y		Wastewater Treatment Rate: $\leq$700 gal/min	None	N	N/A

Table VII - S
Applicable Limits and Compliance Monitoring Requirements
S295, S296, S297, S~~299, S~~300, S301, S315, S326, S333: EMERGENCY STANDBY ENGINE (DIESEL)
S302, S303: EMERGENCY STANDBY ENGINE (PROPANE)

Type of limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Opacity	BAAQMD 6-1-303.1	N		Ringelmann No. 2 for no more than 3 minutes in any hour or equivalent opacity	None	N	N/A
Opacity	SIP 6-303.1	Y		Ringelmann No. 2 for no more than 3 minutes in any hour or equivalent opacity	None	N	N/A
FP	BAAQMD 6-1-310	N		0.15 grain/dscf	None	N	N/A
FP	SIP 6-310	Y		0.15 grain/dscf	None	N	N/A

Table VII - T
Applicable Limits and Compliance Monitoring Requirements
S304, S305, S306, S307, S308, S309, S310, S311, S312, S313, S314: EMERGENCY STANDBY ENGINE, FIRE PUMP ENGINE

Type of limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Opacity	BAAQMD 6-1-303.1	N		Ringelmann No. 2 for no more than 3 minutes in any hour or equivalent opacity	None	N	N/A
Opacity	SIP 6-303.1	Y		Ringelmann No. 2 for no more than 3 minutes in any hour or equivalent opacity	None	N	N/A
FP	BAAQMD 6-1-310	N		0.15 grain/dscf	None	N	N/A
FP	SIP 6-310	Y		0.15 grain/dscf	None	N	N/A

SO_2 Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
87 APU Test Cell 88 APU Test Cell 89 Engine Test Cell 90 Engine Test Cell 95 Boiler 96 Boiler 195 Combustion Turbine	BAAQMD 9-1-301	Ground level concentrations of SO2 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
196 Duct Burner	BAAQMD 9-1-302	300 ppm (dry)	None
295, 296, 297, ~~299,~~ 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 326 Emergency Standby Engines	BAAQMD 9-1-304	Sulfur content of fuel < 0.5% by weight	None

SO2 Discussion:

BAAQMD Regulation 9-1-301

All facility combustion sources are subject to the SO_2 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 Regulation 9, Rule 1 for sources 95 and 96 Boilers, 195 Combustion Turbine, and 196 Duct Burner since they are all fired exclusively on natural gas.

Sources 87 and 88 APU Test Cells and 89 and 90 engine test cells are fired on API-92 spec jet fuel with a maximum sulfur content of 0.3 percent by weight.

The emergency standby engines listed above are fired exclusively on California Ultra-low sulfur diesel fuel with a maximum sulfur content of 15 ppm or 0.0015% by weight. The engines are fired on an infrequent basis for the purpose of reliability testing. Therefore, they are not expected to contribute to excesses of the ground level concentration limits of Regulation 9-1-301.

BAAQMD Regulation 9-1-302 and 9-1-304

This regulation limits SO_2 emissions from sources to 300 ppm. However, it does not apply to sources fired on liquid fuels. These sources are subject to 9-1-304 that limits the fuel sulfur content to 0.5% by weight.

The emergency standby diesel engines listed in the table above are fired exclusively with California Ultra-low sulfur diesel fuel with maximum sulfur content of 15 ppm or 0.0015% by

weight. Therefore, those sources are not subject to 9-1-302 and will always comply with 9-1-304 since no other diesel fuel is available in California. Therefore, monitoring is not necessary for this requirement for the standby diesel engines.

Sources 87 and 88 APU Test Cells and 89 and 90 Engine Test Cells are fired on API-92 spec jet fuel with a maximum sulfur content of 0.3 percent by weight. Therefore, those sources are not subject to 9-1-302 and will always comply with 9-1-304 since no other jet fuel is available in California. Therefore, monitoring is not necessary for this requirement for sources 87, 88, 89, and 90.

PM Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
87 APU Test Cell 88 APU Test Cell 89 Engine Test Cell 90 Engine Test Cell 295, 296, 297, ~~299,~~ 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 326, 333 Emergency Standby Engines	BAAQMD Regulation 6-1-301	Ringelmann 1.0	None
87 APU Test Cell 88 APU Test Cell 89 Engine Test Cell 90 Engine Test Cell 95 Boiler 96 Boiler 195 Combustion Turbine 196 Duct Burner 295, 296, 297, ~~299,~~ 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 326, 333 Emergency Standby Engines	BAAQMD Regulation 6-1-310	0.15 gr/dscf	None

PM Discussion:

BAAQMD Regulation 6-1 "Particulate Matter and Visible Emissions"

Visible Emissions

BAAQMD Regulation 6-1-301 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. Per the EPA's June 24, 1999 agreement with CAPCOA and ARB titled "Summary of Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP", no monitoring is required to assure compliance with this limit.

Particulate Weight Limitation

BAAQMD Regulation 6-1-310 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% O_2. 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. Sources 142, 143 and 196 burn natural gas exclusively, therefore, per the EPA's July 2001 agreement with CAPCOA and ARB entitled "CAPCOA/CARB/EPA Region IX Recommended Periodic Monitoring for Generally Applicable Grain Loading Standards in the SIP: Combustion Sources: Summary of Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP", no monitoring is required to assure compliance with this limit for these sources.

NOx Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-95 and S-96 Boilers	BAAQMD Regulation 9-7-301.1	Gaseous Fuel: 30 ppmv @ 3% O2 (dry)	None

NOx Discussion:

The boilers are currently not subject to an annual source testing requirement for NOx. However, pursuant to Regulation 9, Rule 7, section 506, United Airlines will be required to perform periodic source tests on S-95 and S-96 Boilers beginning on January 1, 2012.

Changes to permit:

The standard language at the beginning of the section has been updated.

A note has been added at the beginning of the section to clarify that this section is a summary of the limits and monitoring, and that in the case of a conflict between Sections I-VI and Section VII, the preceding sections take precedence.

The headings at the top of the tables have been updated. "Pollutant" has been changed to "Type of Limit" since every limit is not a pollutant limit. "Emission Limit Citation" has been changed to "Citation of Limit" since not every limit is an emission limit. "Emission Limit" has been changed to "Limit" since not every limit is an emission limit.

The description of the BAAQMD 6-1-301 limit in Section VII has been corrected to say "for < 3 min/hr."

The "type of limit" has been changed to "Opacity" for BAAQMD Regulation 6-1-301, since it is an opacity standard.

The "type of limit" has been changed to "FP" for BAAQMD Regulation 6-1-310 and 6-1-311, since it is a filterable particulate standard.

The following part VII tables will be deleted or consolidated with other part VII tables. The tables have been re-lettered as necessary.

The following part VII Tables will be deleted because the source or sources has been removed from service or meet permit exemption requirements:

VII-C S48 Dry Lube Spray Booth
VII-J S106, S114, S115, S152 Aerosol Can Paint Spray Booths, S142, S143 Kirksite/Lead Melting Pots
VII-O S148 Adhesive Application Booth
VII-T S216, S225 Acid Stripping Tanks
VII-U S217, S218 Acid Storage/Accumulation Tanks
VII-AA S261 Varnish Curing and Burn-off Oven
VII-CC S269 Aerospace Corrosion Inhibitor Stray Booth
VII-EE S276 Soil Vapor Extraction System
VII-FF S277 Soil Vapor Extraction System
VII-GG S279 Soil Vapor Extraction System
VII-KK S286, S287 Recycling Parts Washers

The following part VII Tables will be deleted and consolidated with other part VII tables because of a significant overlap of applicable requirements:

VII- E S56 Spray Cleaning has been added to **Table VII-A**
VII- G S90 Engine Test Cell has been added to **Table VII-F**
VII- J S97, S98, S99, S100, S101, S102, S103, S104 Aircraft Painting Docks have been added to **Table VII-D**
VII- X S240 Miscellaneous Resin Laminating has been added to **Table VII-L**
VII- Z S258 Oil Cooler Flush Cart has been added to **Table VII-A**
VII- BB S262 Adhesive Application and Stripping Operation has been added to **Table VII-L**

VII- DD S275 Paint Spray Booth has been added to **Table VII-D**
VII- HH S280 Paint Spray Booth has been added to **Table VII-D**
VII- II S284 Oil Cooler Flush Cart has been added to **Table VII-A**
VII- LL S288, S289, S290 Recycling Parts Washers have been added to **Table VII-A**
VII- MM S291, S292, S293 Recycling Parts Washers have been added to **Table VII-A**

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" as defined by Regulation 2-6-202.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section IV 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 explaining that specific federally enforceable regulations and standards do not apply to a source or group of sources, or (2) A provision in a major facility review permit explaining that specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting 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 the first type of permit shield.

This permit has no streamlining.

Following is the detail of the permit shields that were requested by the applicant.

1. No requested permit shields were disallowed.

2. The following permit shields are allowed:

Source #	Source Description	Requirements Not Applicable	Basis
56	Spray Cleaning – Preclean Room	BAAQMD Regulation 8-16	Cleaning process is not a vapor degreaser, conveyorized cleaner or cold cleaner

Source #	Source Description	Requirements Not Applicable	Basis
95, 96	Boilers	40 CFR 60, Subpart Da	Electric Utility Steam Generating Unit Constructed or Modified after September 18, 1978, with a Heat Input >250 MMBTU/hr: Not subject due to construction date (1971) and heat input (96 MMBTU/hr).
137	Miscellaneous Coating Paint Booths	BAAQMD Regulation 8-29-310	Spray Application Equipment Limitations: No spray application performed at these paint booths
155, 156, 157	Non-Aerospace Paint Booths	40 CFR 63, Subpart JJ	40 CFR 63, Subpart JJ 63.800(a): Incidental Wood Furniture Manufacturing (not primarily engaged in wood furniture manufacturing, <100 gal/month of wood furniture finishing material used)
155, 156, 157, 191	Non-Aerospace Paint Booths	BAAQMD Regulation 8-29	Spray Booths are not used for Aerospace Components
195	Combustion Turbine	40 CFR 60 Subpart Da	Electric Utility Steam Generating Unit Constructed or Modified after September 18, 1978, with a Heat Input >250 MMBTU/hr: Not subject due construction before the applicability date of 9/17/78 and heat input less than the applicable threshold of 250 MM BTU/hr.
195	Combustion Turbine	40 CFR 68 Subpart F	40 CFR 68, Subpart F, 68.115, Chemical Accident Prevention Provisions (Risk Management Plan): Threshold Determination. United's ammonia storage tanks have a maximum physical capacity of 10,200 lbs.
195	Combustion Turbine	40 CFR 72	Exemption, Acid Rain Program – Unaffected Unit: Designated as a "Qualifying Facility" under Section 3(17)(C) of the Federal Power Act.
195	Combustion Turbine	BAAQMD Regulation 2-6-302	Major Facility Review Requirements for Phase II Acid Rain Facilities: Facility is exempt as a "Qualifying Facility" as defined per Section 2-6-217.2.
195	Combustion Turbine	BAAQMD Regulation 2, Rule 7	Exemption, Acid Rain Program – Unaffected Unit: Designated as a "Qualifying Facility" under Section 3(17)(C) of the Federal Power Act.

Source #	Source Description	Requirements Not Applicable	Basis
196	Duct Burner	40 CFR 60 Subpart Da	Electric Utility Steam Generating Unit Constructed or Modified after September 18, 1978, with a Heat Input >250 MMBTU/hr: Not subject due to heat input (20 MMBTU/hr).
196	Duct Burner	40 CFR 68 Subpart F	40 CFR 68, Subpart F, 68.115, Chemical Accident Prevention Provisions (Risk Management Plan): -Threshold Determination. United's ammonia storage tanks have a maximum physical capacity of 10,200 lbs.
196	Duct Burner	40 CFR 72	Exemption, Acid Rain Program – Unaffected Unit: Designated as a "Qualifying Facility" under Section 3(17)(C) of the Federal Power Act.
196	Duct Burner	BAAQMD Regulation 2-6-302	Major Facility Review Requirements for Phase II Acid Rain Facilities: Facility is exempt as a "Qualifying Facility" as defined per Section 2-6-217.2.
196	Duct Burner	BAAQMD Regulation 2, Rule 7	Exemption, Acid Rain Program – Unaffected Unit: Designated as a "Qualifying Facility" under Section 3(17)(C) of the Federal Power Act.
262	Adhesive Application and Stripping Operation	40 CFR 63 Subpart GG	National Emission Standards for Aerospace manufacturing and Rework Facilities: This Subpart is not applicable to use of specialty coatings, adhesives, adhesive bonding primers or sealants
262	Adhesive Application and Stripping Operation	BAAQMD Regulation 8-29	Aerospace Assembly and Component Coating Operations: Application of adhesives are exempt from the rule per 8-29-116.
275	Paint Spray Booth	40 CFR 63 Subpart GG	40 CFR 63.741(f), Applicability. This Subpart is not applicable to use of specialty coatings, adhesives, adhesive bonding primers or sealants. These sources only apply coatings as defined in Appendix A to Subpart GG.
S-295, 296, 297, 300~~299~~ through 315~~ and~~, 326 and 333	Emergency Standby Engine	40 CFR 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines: 40 CFR 60.4230, Applicability. This Subpart is not applicable since none of the internal combustion engines at the facility are spark ignition as defined in Subpart 63.4248.

Changes to permit:
The standard language in the Section IX, Permit Shield, was updated.

X. Glossary

Changes to permit:
The glossary was updated.

XI. Appendix A - State Implementation Plan

Changes to permit:
This section has been deleted. The address for EPA's website is now found in Sections III and IV.

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

E. Compliance Status:

The inter-office memorandum dated August 17, 2010 from the Director of Enforcement to the Director of Engineering presents a review of the compliance record of United Airlines – San Francisco Maintenance Center, Site # A0051. Enforcement Division staff has reviewed the District compliance records for United Airlines for the period from August 1, 2009 through July 31, 2010. This review was initiated as part of the District evaluation of an application by United Airlines for a renewal Title V permit. During the period subject to review, activities known to the District include:

- The District did not issue any Notices of Violation during this review period.
- The District did not receive air pollution complaints alleging United Airlines as the source.
- The facility is not operating under any enforcement agreements, variances, or orders of abatement from the District Board.
- The District did not receive any notifications for Reportable Compliance Activities.

The owner certified that all equipment was operating in compliance on October 24, 1995. The District has not identified any issues of non-compliance to date.

F. Differences between the Application and the Proposed Permit:

The Title V permit application to renew the permit was submitted on August 31, 2004. This version is the basis for constructing the proposed Title V permit. Revisions were made to this renewal application 10678 as a result of changes at the facility that were made pursuant to

District New Source Review (NSR) permit applications 4772, 10700, 13533, 14027, 14291~~, and~~, 14633, and 22014. The applications resulted in the addition of the following sources and abatement devices to the permit:

Application	Description
4772	Permit to operate 21 "loss of exemption" emergency standby diesel engines Sources 295, 296, 297, ~~299,~~ and 300 through 315
10700	Authority to construct and permit to operate S-123 Spray Booth
13533	Authority to construct and permit to operate eight thermal spray booths abated by dry filter/HEPA Filtration systems. Sources 316 through 323

Application	Description
14027	Authority to construct and permit to operate S-323 Aircraft Engine Repair Station Parts cleaner, 4-stage acid/solvent cleaning station, spray operations
14291	Authority to construct seven dry scrubbers to replace two wet packed bed scrubbers abating chrome plating operations A-217 through A-223
14633	Authority to construct and permit to operate S-326 Emergency Standby Generator Diesel Engine
22014	Authority to construct and permit to operate S-333 Emergency Standby Generator Diesel Engine

APPENDIX A

BAAQMD COMPLIANCE REPORT

COMPLIANCE & ENFORCEMENT DIVISION

Inter-Office Memorandum

December 16, 2010

TO: BRIAN BATEMAN – DIRECTOR OF ENGINEERING Jean Ortellado for B. Bateman 12/20/10

FROM: KELLY WEE – DIRECTOR OF ENFORCEMENT R Lee for K. Wee

SUBJECT: REVIEW OF COMPLIANCE RECORD OF:

UNITED AIRLINES MAINTENANCE FACILITY, A0051

Background

This review was initiated as part of the District evaluation of an application by United Airlines Maintenance Facility, for a Title V Permit Renewal. It is standard practice of the Compliance and Enforcement Division to undertake a compliance record review in advance of a renewal of a Title V Permit to Operate. The purpose of this review is to assure that any non-compliance problems identified during the prior five-year permit term have been adequately addressed, or, if non-compliance persists, that a schedule of compliance is properly incorporated into the Title V permit compliance schedule. In addition, the review checks for patterns of recurring violation that may be addressed by additional permit terms. Finally, the review is intended to recommend, if necessary, any additional permit conditions and limitations to improve compliance.

Compliance Review

Staff reviewed the United Airlines Maintenance Facility Annual Compliance Certifications and Monitoring Reports from March 21, 2000 through January 1, 2010 and found no ongoing non-compliance and no recurring pattern of violations.

Staff conducted a compliance review of 48 Notices of Violation (NOVs) issued to United Airlines from March 21, 2000 through January 1, 2010. There were 15 emissions related violations, 32 administrative violations, and 1 permit violation. It is important to note that no violations have occurred at the facility since 2006 and that all of the violations which had occurred have been brought back into compliance. There are no ongoing violations and no pattern of recurring violations that would require a compliance schedule.

Understanding how the District handles the violations associated with the NOVs is important to understanding how the District evaluated the facility's compliance status- Whenever the District discovers a violation, it begins a two-step process. The first step is to end the violation and bring the alleged violator back into compliance. Once

compliance is achieved, the second step is to proceed with penalty assessment. It is District policy to not proceed with penalty assessment until compliance has been achieved. If a facility has not achieved compliance in a timely fashion, the District proceeds with additional enforcement action. The vast majority of Notice of Violation penalties are resolved through settlement negotiations.

Staff also reviewed the District compliance records for United Airlines Maintenance Facility from December 9, 2009 through December 9, 2010. During this period United Airlines Maintenance Facility activities known to the District include:

The District did not issue any Notices of Violation.

The District did not receive any Air Pollution Complaints alleging United Airlines Maintenance Facility as the source.

The District did not receive any Reportable Compliance Activities (RCA).

There are no enforcement agreements, open variances, or open abatement orders for United Airlines Maintenance Facility.

Conclusion

The Compliance and Enforcement Division has made a determination that for the 10 year period United Airlines was in intermittent compliance. There is no evidence of on-going non-compliance and no recurring pattern of violations that would warrant consideration of a Title V permit compliance schedule.

H:\Enforcement\United Airline Maintenance Facility\United Airlines Maintenance facility 10 year renewal 16Dec10.doc

APPENDIX B

NSR Permit Evaluation Reports

EVALUATION REPORT
United Airlines, San Francisco Maintenance Center
Application #10700 - Plant #51 (Site #A0051)
San Francisco International Airport
San Francisco, CA 94218

BACKGROUND
United Airlines has a major hub located at the San Francisco International Airport. It has a maintenance center located on-site for their fleet. United Airlines is applying for an Authority to Construct/Permit to Operate to modify following:

S-123 Spray Booth

which is controlled by new abatement equipment:

A-123 3-Stage Dry Filtration System

This source is primarily used to paint aircraft components such as landing gear with primers and topcoat. Source 123 was previously abated by an integrated waterwash system. The source is not expected to operate differently than current operation. The spray booth is also being moved from Building 15 to Building 84. Moving the source does not constitute a new permit. HAP emissions are reduced by a series of fibrous layers, which captures the over-spray in a 3-stage system. The new abatement system is expected to meet 95% filtration efficiency to reduce HAP emissions.

EMISSION CALCULATIONS
Since the new abatement equipment is as efficient as the old system and the operation of Source 123 will not change, the organic emissions from Source 123 are not expected to change. HAP emissions are currently not counted in the District's inventory for Source 123.

PLANT CUMULATIVE INCREASE (since 4/5/91)
There is no expected increase in emissions from this project since the source is not modified and the abatement equipment is equal or more effective than the previous equipment.

TOXIC SCREENING ANALYSIS
Toxic levels in Table 2-1-316 of Regulation 2, Rule 1 are not triggered by this operation as applied.

BEST AVAILABLE CONTROL TECHNOLOGY
S-123 does not trigger BACT since the POC emission increase from the source is below 10 pounds of emission per highest day.

OFFSETS
Offsets are not required since emissions are less than 15 tons per year.

STATEMENT OF COMPLIANCE

The owner/operator is expected to continue to meet the requirements of Regulation 8, Rule 29 for Aerospace Assembly and Component Coating Operations. The VOC requirements in Regulation 8, Rule 29 meet at least the requirements of Subpart GG of CFR Part 63 (NESHAPs). The owner/operator is expected to comply with Permit Condition #21946 (outlined in Section VIII).

Since the abatement device is a dry particulate filter system, the abatement device is exempt from CFR 63.743(b) for a startup, shutdown and malfunction plan requirement since the device will be operated per the manufacturer's instructions. The system is expected to meet control system requirements in CFR 63.745(d) of 81% control efficiency of HAP and VOC emissions.

The engineering review is consistent with similar projects. Standard permit conditions were applied and standard emission factors were used in accordance with Permit Handbook, Section 5. This project is considered to be ministerial and therefore is not subject to CEQA review.

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

PSD and NSPS are not triggered.

CONDITIONS

In addition to the requirements of Regulation 8, Rule 29 for Aerospace Assembly and Component Coating Operations, the owner/operator shall comply with the following conditions for Source 123 (S-123, Spray Booth) and Abatement Device 123 (A-123, 3-Stage Dry Filtration System).

1. The owner/operator shall operate A-123 at all times during coating operations at S-123.

[Basis: Cumulative increase, toxic risk screen]

2. The owner/operator shall cease operation immediately if the pressure drop across A-123 filter banks is below 0.35 inches of water or exceeds 2.0 inches of water as recorded pursuant to Part 3d of this condition.

[Basis: Cumulative increase, CFR 63.743(g)(3)]

3. The owner/operator shall comply with the following for A-123:
    a. Operate and maintain A-123 in good working order as defined by manufacturer's specifications.
    b. Install a differential pressure gauge across A-123 filter banks.
    c. Continuously monitor the pressure differential across A-123 filter banks.
    d. Record the pressure drop across A-123 filter banks at least once per shift, including the date the reading was taken. If coating has not commenced at the beginning of a shift, the reading shall be taken prior to the commencement of any coating operation.

e. Record the date and corrective action taken when A-123 deviates from allowed pressure differential limits specified in Part 2 of this condition.

f. Retain and make available for inspection records for the previous 24-months.

[Basis: CFR 63.743(g)(2)(iv), recordkeeping]

RECOMMENDATION

I recommend the Authority to Construct be waived and a Permit to Operate be issued to Intel Corporation for:

S-123 Spray Booth
A-123 3-Stage Dry Filtration System

_____

Fred Tanaka
Air Quality Engineer II
Engineering Division

Date: _____

REVISED EVALUATION REPORT
United Airlines, San Francisco Maintenance Center
Application #13533 - Plant #51 (Site #A0051)
San Francisco International Airport
San Francisco, CA 94218

BACKGROUND

United Airlines Maintenance Center is one of the largest airline maintenance facilities on the west coast. They have eight thermal spray booths that are used to repair (build up metal) on airline engine parts to specifications. Thermal spraying is used for restoring dimensions, improving abrasion, improving temperature resistance and improving corrosion protection. United Airlines is applying for a Permit to Operate for the following:

S-316 Thermal Spray Booth
Booth 2, PV90356, Plasma/Dual Arc
S-317 Thermal Spray Booth
Booth 3, PV90357, Plasma/Dual Arc
S-318 Thermal Spray Booth
Booth 5, PV90359, Plasma/Dual Arc
S-319 Thermal Spray Booth
Booth 7, PV90122, Plasma
S-320 Thermal Spray Booth
Booth 8, PV90362, Plasma
S-321 Thermal Spray Booth
Booth 9, PV90363, Plasma
S-322 Thermal Spray Booth
Booth 10, PV90364, HVOF
S-323 Thermal Spray Booth
Booth 11, PV90354, Plasma

Each booth is abated by HEPA filtration.

A-316 Dry Filter/HEPA Filtration Abatement For S-316

Downflo II Model 4-48, Praxair TFC 4-144 Baghouse, HEPA Ultra-Lok System with Ultra-Web Filters, 99.97% efficiency

A-317 Dry Filter/HEPA Filtration Abatement For S-317

Downflo II Model 4-48, Praxair TFC 4-144 Baghouse, HEPA Ultra-Lok System with Ultra-Web Filters, 99.97% efficiency

A-318 Dry Filter/HEPA Filtration Abatement For S-318

Downflo II Model 4-48, Praxair TFC 4-144 Baghouse, HEPA Ultra-Lok System with Ultra-Web Filters, 99.97% efficiency

A-319 Dry Filter/HEPA Filtration Abatement For S-319

Praxair/TAFA Baghouse, Model 4-48, HEPA Ultra-Lok System with Ultra-Web Filters, 99.97% efficiency

A-320 Dry Filter/HEPA Filtration Abatement For S-320

Downflo II Model 4-48, Praxair TFC 4-192 Baghouse, HEPA Ultra-Lok System with Ultra-Web Filters, 99.97% efficiency

A-321 Dry Filter/HEPA Filtration Abatement For S-321

Downflo II Model 4-48, Praxair TFC 4-192 Baghouse, HEPA Ultra-Lok System with Ultra-Web Filters, 99.97% efficiency

A-322 Dry Filter/HEPA Filtration Abatement For S-322

Downflo II Model 4-48, Praxair TFC 4-192 Baghouse, HEPA Ultra-Lok System with Ultra-Web Filters, 99.97% efficiency

A-323 Dry Filter/HEPA Filtration Abatement For S-323

Downflo II Model 4-48, Praxair TFC 4-192 Baghouse, HEPA Ultra-Lok System with Ultra-Web Filters, 99.97% efficiency

The facility began thermal spray operations in 1968. Because of the new ATCM for Reducing Emissions of Hexavalent Chromium and Nickel from Thermal Spraying, which went into effect on September 30, 2005, the facility was required to obtain a Permit to Operate by January 1, 2006. Since this deadline was not achieved, the facility submitted a variance application (Docket #3508), which was granted with conditions. Booth 7 did not require modifications to the abatement system. The order required as much work as possible to be shifted to Booth 7. The other booths were on a restricted schedule to minimize the toxic risk. The facility was ordered to expedite the permitting process (provide information for completeness) for Booth 7.

These sources typically operate 16 hours per day, 5 days per week, and 50 weeks per year. The maximum usage is around the clock operation.

EMISSION CALCULATIONS

Emission calculations are not required for loss of exemption applications.

PLANT CUMULATIVE INCREASE (since 4/5/91)

There is no cumulative increase because this is a loss of exemption.

TOXIC SCREENING ANALYSIS

A toxic risk screen is not required for loss of exemption.

BEST AVAILABLE CONTROL TECHNOLOGY

BACT is not applicable for loss of exemption.

OFFSETS

Offsets are not required.

STATEMENT OF COMPLIANCE

The owner/operator is expected to meet the requirements of Regulation 6, Rule 1 for Visible Emissions. The owner/operator is expected to comply with Permit Condition #23504 which replaces A/C Condition #23185 (outlined in Section VIII).

CEQA review is not required pursuant to Regulation 2, Rule 1, Section 312.2 and 312.3.

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

PSD, NSPS, and NESHAPS are not triggered.

CONDITIONS
The owner/operator shall comply with the following condition for Sources 316, 317, 318, 319, 320, 321, 322 and 323 (Thermal Spray Booths 2, 3, 5, 7, 8, 9, 10, and 11, respectively).

1. The owner/operator shall not exceed a combined total for all sources of 54,400 pounds of spray material containing chromium or nickel compounds in any consecutive 12-month period. [Basis: Cumulative Increase, Toxic Risk Management Policy]

2. The owner/operator shall control the emissions at all times during operation from S-316, S-317, S-318, S-319, S-320, S-321, S-322 and S-323 with A-316, A-317, A-318, A-319, A-320, A-321, A-322 and A-323, dry filtration unit (baghouse) and HEPA filter systems, respectively, with an overall control efficiency of at least 99.97% by weight at 0.3 microns. [Basis: CCR, Title 17, Section 93102.5(c)(1)(A), Toxic Risk Management Policy]

3. The owner/operator shall not exceed maximum hourly emissions of 0.1 pounds for nickel from each booth. [Basis: CCR, Title 17, Section 93102.5(c)(1)(A)(2)]

4. The owner/operator shall meet the following spray booth enclosure standards:

    a. The enclosure exhaust shall ventilate such that a continuous inward flow of air is maintained from all designed make-up air openings during thermal spraying operation.

    b. Using a District-approved alternative method for establishing inward face velocity, the inward face velocity shall be defined as the average air velocity at the capture hood and the booth interface. The face velocity is calculated by dividing the total volumetric exhaust flow by the dimensional area at the plane of the exhaust hood interface. The inward face velocity shall be measured at least once per calendar year and whenever the control system is changed in any way that may have an impact on airflow to ensure that the ventilation system is working properly.

    c. The average inward face velocity shall be at least 200 feet per minute.

    d. When thermal spraying is being performed, all air inlets and access openings shall be covered to prevent the escape of dust or mist contaminants into areas outside the enclosure. This requirement does not apply to any designed or intended make-up air vents or openings.

    e. The owner/operator shall keep the booth door closed at all times during thermal spraying.

    f. Before the enclosure is opened, thermal spraying shall cease and the exhaust system shall be run for at least 38 seconds to remove contaminated air within the enclosure.

g. The alternate method for establishing inward face velocity as approved by the District shall be kept on file at all times. Any change in the alternative method shall have written District approval before taking effect.

[Basis: BAAQMD Regulation 2-1-412, CCR, Title 17, Section 93102.5 (c)(1)(B)]

5. The owner/operator shall meet the following spray booth ventilation standards:
   a. The ventilation systems shall be properly maintained and kept in good operating condition at all times. Any leak, as determined by a visual leak inspection conducted in accordance with Appendix 3 of the CARB ATCM entitled "Airborne Toxic Control Measure to Reduce Emissions of Hexavalent Chromium and Nickel from Thermal Spraying" is a violation of this condition. The owner/operator shall conduct visual inspections at least once every 90 days to ensure that no leaks are present in the control device or ventilation system.
   b. Material collected by the control system shall be discharged into closed containers or an enclosed system that is completely sealed to prevent dust emissions.
   c. The dust collector for the control device shall be maintained in a manner that prevents emissions of particulate matter into the ambient air.

   [Basis: CCR, Title 17, Section 93102.5 (c)(1)(C)]

6. The owner/operator shall ensure that a pressure differential gauge continuously monitors pressure drop across each dry filter (baghouse) and each HEPA filter of the abatement system used to control emissions while conducting thermal spraying with the following standards:
   a. A pressure differential gauge shall continuously monitor pressure drop across the dry filter while conducting thermal spraying.
   b. The gauge shall have a high and low setting for the pressure drop and shall trigger an alarm system when the high or low set points are exceeded.
   c. The gauge shall be designed to accurately measure pressure drops within the expected range and have an accuracy of at least +/- 5% of full scale.
   d. The gauge shall be located so that it can be easily visible and in clear sight of the operation or maintenance personnel.
   e. The pressure drop across the dry filter shall be maintained between 0.3” to 4.5”.
   f. The pressure drop across the HEPA filter shall be maintained between 1” to 4”
   g. If the pressure drop is outside of the acceptable limits, the owner/operator shall safely shut down the thermal spraying operation immediately and take corrective action. The thermal spraying operation shall not be resumed until the pressure drop is within the specified limits.

   [Basis: CCR, Title 17, Section 93102.5 (e)(1) & (e)(2)]

7. The owner/operator shall record the pressure drop reading at each abatement device once per calendar week while conducting thermal spraying. If no thermal spraying occurs in any calendar week, the pressure drop record will not be required for that week. [Basis: CCR, Title 17, Section 93102.5 (e)(1) Table (A)]

8. The owner/operator shall keep the following records.
   a. Weekly records of pressure drop with the allowable range on each record sheet.
   b. Visual inspections. The record shall identify:
      1. The date and time of the inspection,
      2. The name or description of the device inspected,
      3. A brief description of the working condition of the device during the inspection,
      4. All maintenance activities performed on the components of the air pollution control system,
      5. The actions taken to correct deficiencies, and
      6. The person that conducted the inspection.
   c. Date when filter(s) are replaced in accordance with manufacturer's instructions
   d. Annual measurement of average inward face velocity.
   e. The name and quantity of materials containing chromium and nickel used each month.
   f. A cumulative total of the material used for each 12-month period specified in Part 8e above.
   g. Records of any occurrence, duration, cause (if known), and action taken for each equipment malfunction and/or failure. This recordkeeping requirement applies only to equipment malfunctions or failures that cause or may cause uncontrolled emissions to be released.

   The records shall be retained for at least 5 years from the date of entry and be made available for inspection. [Basis: Recordkeeping, CCR, Title 17, Section 93102.5 (f)]

RECOMMENDATION

I recommend Permit to Operate be issued to United Airlines SFOPV for:

S-316 Thermal Spray Booth
Booth 2, PV90356, Plasma/Dual Arc
S-317 Thermal Spray Booth
Booth 3, PV90357, Plasma/Dual Arc
S-318 Thermal Spray Booth
Booth 5, PV90359, Plasma/Dual Arc
S-319 Thermal Spray Booth
Booth 7
S-320 Thermal Spray Booth
Booth 8, PV90362, Plasma
S-321 Thermal Spray Booth
Booth 9, PV90363, Plasma
S-322 Thermal Spray Booth
Booth 10, PV90364, HVOF
S-323 Thermal Spray Booth
Booth 11, PV90354, Plasma
A-316 Dry Filter/HEPA Filtration Abatement For S-316
Praxair/TAFA, Model 4-48, 99.97% efficiency
A-317 Dry Filter/HEPA Filtration Abatement For S-317
Praxair/TAFA, Model 4-48, 99.97% efficiency

A-318 Dry Filter/HEPA Filtration Abatement For S-318
Praxair/TAFA, Model 4-48, 99.97% efficiency

A-319 Dry Filter/HEPA Filtration Abatement For S-319
Praxair/TAFA, Model 4-48, 99.97% efficiency

A-320 Dry Filter/HEPA Filtration Abatement For S-320
Praxair/TAFA, Model 4-48, 99.97% efficiency

A-321 Dry Filter/HEPA Filtration Abatement For S-321
Praxair/TAFA, Model 4-48, 99.97% efficiency

A-322 Dry Filter/HEPA Filtration Abatement For S-322
Praxair/TAFA, Model 4-48, 99.97% efficiency

A-323 Dry Filter/HEPA Filtration Abatement For S-323
Praxair/TAFA, Model 4-48, 99.97% efficiency

Permit Condition #23504 replaces Condition #23185.

_____

Fred Tanaka

Senior Air Quality Engineer
Engineering Division

Date: _____

EVALUATION REPORT
United Airlines, San Francisco Maintenance Center
Application #14027 - Plant #51 (Site #A0051)
San Francisco International Airport
San Francisco, CA 94128

BACKGROUND
United Airlines has a major hub located at the San Francisco International Airport. It has a maintenance center located on-site for their fleet. United Airlines is applying for an Authority to Construct/Permit to Operate to modify following:

S-323 Aircraft Engine Repair Station
Parts cleaner, 4-stage acid/solvent cleaning station, spray operations

This source is used to repair aircraft engine components, specifically Integrated Drive Generators and Constant Speed Drives. This source is comprised of a Parts cleaner, 4-stage acid/solvent cleaning system, and spray operations. This source is expected to operate 365 day per year.

EMISSION CALCULATIONS
Material Usage
Emissions were estimated using the following methodology.

$$\left(\frac{X\ \text{gallons}}{\text{year}}\right)*\left(\frac{Y\ \text{pounds}}{\text{gallon}}\right)*\left(\frac{\text{week}}{7\ \text{day}}\right)*\left(\frac{\text{year}}{52\ \text{week}}\right)=\frac{\text{pounds of VOC}}{\text{day}}$$

X is the usage and, Y is the VOC content or density.

Material	X	Y	POC, lb/day
Alcohol/Mineral spirits	300	7	5.8
WD-40	100	3.43	0.9
Primer	100	2.9	0.8
Top Coat	75	3.5	0.7

PLANT CUMULATIVE INCREASE (since 4/5/91)
The permitted POC emissions are 1.5 tons per year.

TOXIC SCREENING ANALYSIS
Toxic levels in Regulation 2, Rule 5 are not triggered by this operation as applied. Xylene emissions from the primer would be less than 27,000 pounds per year.

BEST AVAILABLE CONTROL TECHNOLOGY
S-323 does not trigger BACT since the POC emission increase from the source is below 10 pounds of emission per highest day.

OFFSETS

Offsets are required since facility POC emissions are greater than 35 tons per year. The offsets for 1.5 tons per year of POC emissions are 1.72 tons (1.5 tons x 1.15). The facility has submitted Certificate of Deposit #857 to cover these offsets.

STATEMENT OF COMPLIANCE

The owner/operator is expected to meet the requirements of Regulation 8, Rule 29 for Aerospace Assembly and Component Coating Operations. The VOC requirements in Regulation 8, Rule 29 meet at least the requirements of Subpart GG of CFR Part 63 (NESHAPs). The owner/operator is expected to comply with Permit Condition #22985 (outlined in Section VIII).

The cleaning operations are expected to meet Regulation 8, Rule 16. The operation is exempt from Section 303.5 (aerospace components).

The engineering review is consistent with similar projects. Standard permit conditions were applied and standard emission factors were used in accordance with Permit Handbook, Section 5.1 and 6.1. This project is considered to be ministerial and therefore is not subject to CEQA review.

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

PSD and NSPS are not triggered.

CONDITIONS

In addition to the requirements of Regulation 8, Rule 16 (Solvent Cleaning Operations) and Regulation 8, Rule 29 (Aerospace Assembly and Component Coating Operations), the owner/operator shall comply with the following conditions for Source 323 (S-323, Aircraft Engine Repair Station consisting of a parts cleaner, 4-stage acid/solvent cleaning station, spray operations).

1. Unless Part 3 below of this condition is met, the owner/operator shall not exceed the following limits, in any consecutive 12-month period:

Alcohol & mineral spirits	300 gallons
WD-40	100 gallons
Primer	100 gallons
Top coat	75 gallons

[Basis: Cumulative increase, toxic risk screen]

2. To demonstrate compliance with Part 1 above, the owner/operator shall maintain records in accordance with Regulation 8, Rules 16 and 29. The owner/operator shall total records on a monthly basis and on a rolling 12-month basis in the categories specified in Part 1 above. [Basis: CFR 63.52, recordkeeping]

3. This condition is effective only if the owner/operator uses coatings other than those specified in Part 1. The owner/operator shall comply with the following:

g. Precursor organic compound (POC) emissions shall not exceed 3,000 pounds in any consecutive 12- month period;

h. Toxic emissions shall not exceed any toxic trigger level in Regulation 2, Rule 5; and

i. In addition to recordkeeping requirements of Regulation 8, Rules 16 and 29, the owner/operator shall calculate POC emissions monthly and total the emissions on a rolling 12-month basis.

[Basis: CFR 63.752, recordkeeping]

RECOMMENDATION

I recommend the Authority to Construct be waived and a Permit to Operate be issued to United Airlines for:

S-323 Aircraft Engine Repair Station

_____

Fred Tanaka
Air Quality Engineer II
Engineering Division

Date: _____

AMENDED EVALUATION REPORT
United Airlines, San Francisco Maintenance Center
Application #14291 - Plant #51 (Site #A0051)
San Francisco International Airport
San Francisco, CA 94218

BACKGROUND
United Airlines operates a chrome plating operation for various airplane parts. They are proposing to replace the current abatement set up to individual abatement systems dedicated for each chrome system. The previous abatement system was Packed Bed Scrubber, A1 & A2, to a Fiberbed Mist Eliminator with Composite Mesh Pad, A48 & A49. United Airlines is applying for an Authority to Construct/ Permit to Operate for the following:

A-216 Dry Scrubber with 3-Stage Kimre Composite Mesh Pads
A-217 Dry Scrubber with 3-Stage Kimre Composite Mesh Pads
A-218 Dry Scrubber with 3-Stage Kimre Composite Mesh Pads
A-219 Dry Scrubber with 3-Stage Kimre Composite Mesh Pads
A-220 Dry Scrubber with 3-Stage Kimre Composite Mesh Pads
A-221 Dry Scrubber with 3-Stage Kimre Composite Mesh Pads
A-222 Dry Scrubber with 3-Stage Kimre Composite Mesh Pads
A-223 Dry Scrubber with 3-Stage Kimre Composite Mesh Pads

The systems are manufactured by ScrubAir, Model SCSV with a capacity of 10,000 cfm. The expected control efficiency is 99.8%.

After review, United Airlines determined that the abatement devices listed above would not reduce emissions in compliance with all requirements. On September 9, 2006, United Airlines amended their application to put add-on controls after the scrubbers. United Airlines amended their application to include the following:
A-416 HEPA Filtration
Camfil Farr Filtra 2000, Model FA 1560-01-01, 2400 cfm
A-418 HEPA Filtration
Camfil Farr Filtra 2000, Model FA 1560-01-01, 2400 cfm
A-420 HEPA Filtration
Camfil Farr Filtra 2000, Model FA 1560-01-01, 2400 cfm
A-422 HEPA Filtration
Camfil Farr Filtra 2000, Model FA 1560-01-01, 2400 cfm

These sources are subject to the Hexavalent Chromium Air Toxic Control Measure (ATCM) for Chrome Plating and Chromic Acid Anodizing Operations. This application does not address possible requirements in current ATCM modification efforts.

These devices abate the following sources:

S#	Description	A#	A#
16	Chrome Tank #35	216	416
17	Chrome Tank #37	217	416
18	Chrome Tank #38	218	418
19	Chrome Tank #40	219	418
20	Chrome Tank #41	220	420
21	Chrome Tank #44	221	420
22	Chrome Tank #45	222	422
23	Chrome Tank #47	223	422

Sources 24, 25, and 246 were archived as requested.

EMISSION CALCULATIONS

Emission calculations are not required for abatement equipment replacement. The previous permitted limit was 109.5 million amp-hours per year covering Sources 16 to 25. The facility has decided to reduce this limit to 60 million amp-hours per year so that an additional provision of the ATCM is not triggered.

Chrome Emissions

Scenario, mg/amp-hr	Throughput, amps-hrs	Pounds
Before (0.006)	109.0E6	1.44
After (0.03)	60.0E6	3.97

PLANT CUMULATIVE INCREASE (since 4/5/91)

Hexavalent chromium emissions potentially would increase 2.53 pounds (0.001 tons).

TOXIC SCREENING ANALYSIS

A toxic risk screen is required since the annual hexavalent chromium emissions potentially would increase 2.53 pounds. The annual trigger is 1.3E-3 pounds. See Risk Screen memo from Jane Lundquist dated January 11, 2007. Based on the risk screen analysis, the project meets acceptable risk level provided TBACT is met. Since the owner/operator is expected to meet the ATCM standards, the operation meets TBACT.

BEST AVAILABLE CONTROL TECHNOLOGY

BACT is not triggered.

OFFSETS

Offsets are not required.

STATEMENT OF COMPLIANCE

The owner/operator is expected to meet the requirements of Regulation 11, Rule 8 and the Airborne Toxics Control Measure Hexavalent Chromium. The owner/operator is expected to comply with Permit Condition #23542 (outlined in Section VIII) which replaces A/C Permit

Condition #23187. Permit condition adds language for the secondary add-on controls (HEPA filters) and includes acceptable differential pressure ranges in Part 6.

The engineering review is consistent with similar projects. Standard permit conditions were applied and standard emission factors were used in accordance with Permit Handbook, Chapter 10.1. This project is considered to be ministerial and therefore is not subject to CEQA review.

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

PSD and NSPS are not triggered. California districts have delegation for the California statewide chromium electroplating ATCM in lieu of the chromium electroplating MACT standard (NESHAP).

CONDITIONS

The owner/operator shall comply with the following condition for Sources 16, 17, 18, 19, 20, 21, 22 and 23 (Chrome Plate Tanks #35, 37, 38, 40, 41, 44, 45, and 47, respectively).

1. The owner/operator shall not exceed a total combined net annual throughput of 60 million amp-hr in any consecutive twelve month period from the S-16, S-17, S-18, S-19, S-20, S-21, S-22 and S-23. (Basis: Toxic Risk Management)

2. The owner/operator shall install non-resettable totalizing amp-hr meters on all rectifiers serving the chrome plating and anodizing tanks. A rectifier shall not be operated unless its associated totalizing amp-hr meter is recording properly. (Basis: Toxic Risk Management, "Hexavalent Chromium Airborne Toxic Control Measure For Chrome Plating And Chromic Acid Anodizing Operations", Section 93102(e)(1))

3. The owner/operator shall not allow emissions of hexavalent chromium to exceed 0.03 mg/amp-hr after abatement. (Basis: ATCM Section 93102(c)(1)(A))

4. The owner/operator shall abate at all times during operation of S-16, S-17, S-18, S-19, S-20, S-21, S-22, and S-23 with A-216, A-217, A-218, A-219, A-220, A-221, A-222 and A-223 (Dry Scrubber with 3-Stage Composite Mesh Pads), respectively. The ventilation and abatement systems shall be properly maintained and kept in good operating condition. (Basis: TBACT)

5. The owner/operator shall abate at all times the flow from A-216 & A-217 with A-416 (HEPA filter), A-218 & A-219 with A-418 (HEPA filter), A-220 & A-221 with A-420 (HEPA filter), and A-222 & A-223 with A-422 (HEPA filter). The ventilation and abatement systems shall be properly maintained and kept in good operating condition. (Basis: TBACT)

6. The owner/operator shall operate all abatement systems within the following differential pressure range as established by the most recent District-approved performance test.

   A-216 0.2" to 2.2"
   A-217 0.2" to 2.2"
   A-218 0.4" to 2.4"
   A-219 0.3" to 2.3"
   A-220 0.4" to 2.4"
   A-221 0.5" to 2.5"
   A-222 0.5" to 2.5"
   A-223 0.4" to 2.4"
   A-416 0.5" to 2.1"

A-418 0.6" to 2.2"
A-420 0.5" to 2.1"
A-422 0.5" to 2.1"

(Basis: Basis: ATCM Section 93102 (e)(2) and Toxic Risk Management)

7. The owner/operator shall continuously monitor the pressure differential across A-216, A-217, A-218, A-219, A-220, A-221, A-222, A-223, A-416, A-418, A-420 and A-422. Each monitor shall be equipped with an alarm to indicate when the pressure differential falls outside of the allowed range as indicated in Part 6. The owner/operator shall safely shutdown operations of the affected source immediately and take corrective action when the pressure differential fails to meet this requirement. (Basis: ATCM Section 93102 (e)(2) and Toxic Risk Management)

8. In order to demonstrate compliance with Parts 6 and 7 above, the owner/operator shall record the pressure drop across A-216, A-217, A-218, A-219, A-220, A-221, A-222, A-223, A-416, A-418, A-420 and A-422 at least once per week. The owner/operator shall record all pressure monitor alarms and periods the pressure monitors are inoperative. All parametric monitoring notifications as required by Regulation 1 shall be made to the Compliance and Enforcement Division. Records shall be kept onsite for at least 5 years from the date the entry was made. (Basis: Regulation 1-523, Toxic Risk Management and ATCM Section 93102 (h)(4)(B))

9. In order to demonstrate compliance with Part 1 above, the owner/operator shall keep monthly records of the electrical current applied to these sources integrated over time, in units of amp-hrs. Monthly records shall be totaled every rolling 12-month period and be kept onsite for at least 5 years from the date the entry was made. (Basis: ATCM Section 93102 (h)(4)(A) and Toxic Risk Management)

10. The owner/operator shall perform the Inspections and Maintenance requirements (e.g. visual inspections) pursuant to ATCM Section 93102 (f) on A-216, A-217, A-218, A-219, A-220, A-221, A-222, A-223, A-416, A-418, A-420 and A-422 at least once per quarter and conduct washdowns of the systems per manufacturer's recommendation. (Basis: ATCM Section 93102 (f) and Toxic Risk Management)

11. In order to demonstrate compliance with Part 10, the owner/operator shall record the equipment being inspected, date, brief description of the working condition of the device during the inspections, any maintenance activities performed on the components of the air pollution control systems, and any actions taken to correct deficiencies found during the inspection. Records shall be kept onsite for at least 5 years from the date of entry. (Basis: ATCM Section 93102 (h)(1) and Toxic Risk Management)

12. In order to demonstrate compliance with the emission limit in Part 3, the owner/operator shall conduct District-approved source test on A-216, A-217, A-218, A-219, A-220, A-221, A-222, A-223, A-416, A-418, A-420 and A-422. The owner/operator shall perform the source test using the following schedule:
    - ***a. The initial source test required by this part shall be conducted no later than 180 days of initial startup.***
    - ***b. Unless Part 11(c) is satisfied, subsequent testing shall be performed no sooner than 12 months and no later than 24 months from the date of the previous District approved source test demonstrating compliance.***
    - ***c. If the previous two source tests demonstrate compliance, the subsequent test shall be performed no later than 48 months from the previous test.***
    - ***d. If a source test demonstrates non-compliance and the owner/operator must re-test to demonstrate compliance, then the re-test does not count as a "source test demonstrating compliance" as referenced in 11(b).***

    The owner/operator shall contact the Source Test Section of the District at least 14 days in advance of each source test to obtain approval of the test procedures. The owner/operator shall notify the Source Test Section at least 7 days in advance of each scheduled source test. The owner/operator shall submit the source test report within 45 days of the test date to the Source Test Section. A copy of all source tests results shall be kept on-site for at least 5 years from the date the record was made. (Basis: ATCM Section 93102(d) and Regulation 2-1-304)

RECOMMENDATION

I recommend Permits to Operate be issued to United Airlines for:

A-216 Dry Scrubber with 3-Stage Kimre Composite Mesh Pads

A-217 Dry Scrubber with 3-Stage Kimre Composite Mesh Pads

A-218 Dry Scrubber with 3-Stage Kimre Composite Mesh Pads

A-219 Dry Scrubber with 3-Stage Kimre Composite Mesh Pads

A-220 Dry Scrubber with 3-Stage Kimre Composite Mesh Pads

A-221 Dry Scrubber with 3-Stage Kimre Composite Mesh Pads

A-222 Dry Scrubber with 3-Stage Kimre Composite Mesh Pads

A-223 Dry Scrubber with 3-Stage Kimre Composite Mesh Pads

A-416 HEPA Filtration
Camfil Farr Filtra 2000, Model FA 1560-01-01, 2400 cfm

A-418 HEPA Filtration
Camfil Farr Filtra 2000, Model FA 1560-01-01, 2400 cfm

A-420 HEPA Filtration
Camfil Farr Filtra 2000, Model FA 1560-01-01, 2400 cfm

A-422 HEPA Filtration
Camfil Farr Filtra 2000, Model FA 1560-01-01, 2400 cfm

Sources 24, 25, 240 shall be archived.
Abatement Devices 1, 2, 48, and 49 shall be archived.
Previous Permit Condition #6465 was archived.
A/C Permit Condition #23187 was archived.
Permit Condition #23542 applies to all equipment.

_____

Fred Tanaka
Senior Air Quality Engineer
Engineering Division

Date: _____

Amended EVALUATION REPORT
United Airlines, San Francisco Maintenance Center
Application #14663 - Plant #51 (Site #A0051)
San Francisco International Airport
San Francisco, CA 94218

BACKGROUND
United Airlines is applying for an Authority to Construct/Permit to Operate for the following:

S-326 Emergency Diesel Engine
Cummins, Model 750DQFAA, 1102 HP, 750 kW, 9.3 MMBTU/hr, Model Year: 2006

This source will be used during losses of power. This source will be replacing S-298 (1300 hp, model 1979, installed 1980)

EMISSION CALCULATIONS
Per Division policy, non-emergency operation usage is counted towards emission calculations for standby engines. Operation during possible emergency events is not considered.

Wt% sulfur = 0.05
Engine rating = 9.3 MMBTU/hour
Diesel heating value = 137,000 BTU/gallon
Horse power = 1102

Pollutant	Emission Factor, g/(bhp*hr)	Emissions, pounds/year
Particulate	0.082	10
POC	0.090	11
CO	0.522	63
NO_X	3.97	482
SO_X	NA	24

Emission calculation for PM, POC, CO and NO_X

$$(\text{Emission Factor})*(1102\,\text{hp})*\left(\frac{50\,\text{hours}}{\text{year}}\right)*\left(\frac{\text{pounds}}{453.6\,\text{grams}}\right)=\frac{\text{X pounds}}{\text{year}}$$

Emission calculation for SO_2 per engine

$$\left(\frac{7.05\,\text{lb}}{\text{gal}}\right)*\left(\frac{\text{gal}}{137000\,\text{BTU}}\right)*\left(\frac{9.3\text{E}6\,\text{BTU}}{\text{hour}}\right)*\left(\frac{50\,\text{hr}}{\text{year}}\right)*\left(\frac{\text{mole SO}_2}{\text{mole S}}\right)*\left(\frac{64\,\text{lb/mole SO}_2}{32\,\text{lb/mole S}}\right)*(0.0005)=\frac{24\ \text{lb of SO}_2}{\text{year}}$$

PLANT CUMULATIVE INCREASE (since 4/5/91)
The cumulative increase in tons for particulate matter, precursor organic compound, carbon monoxide, nitrogen oxides, and sulfur oxides are 0.005, 0.005, 0.03, 0.24, and 0.012, respectively. The net emissions with the shutdown of S-298 in tons per year are tons per year are

-0.041, -0.040, -0.33, -1.3, and -0.014 for particulate matter, precursor organic compound, carbon monoxide, nitrogen oxides, and sulfur oxides, respectively.

TOXIC SCREENING ANALYSIS
A toxic risk screen was required for diesel particulate emissions. See Risk Screen memo from Jane Lundquist dated July 24, 2006. Based on the risk analysis, these sources would be allowed 50 hours of non-emergency operation based on the current ATCM.

BEST AVAILABLE CONTROL TECHNOLOGY
Daily emissions may exceed 10 pounds per highest day. This source shall be required to comply with BACT2 emission limits.

OFFSETS
Emissions from S-326 were offset with contemporaneous emissions from the shutdown of S-298, which had greater permitted leves. The shutdown of S-298 would reduce net tons per year emissions of particulate matter, precursor organic compound, carbon monoxide, nitrogen oxides, and sulfur oxides by -0.041, -0.040, -0.33, -1.3, and -0.014, respectively.

STATEMENT OF COMPLIANCE
The owner/operator is expected to meet the requirements of Regulation 6 for Visible Emissions, Regulation 9-8-330 for hours of operation and Section 93115, title 17, California Code of Federal Regulation (Airborne Toxic Control Measure for Stationary Compression Ignition Engine). The owner/operator is expected to comply with monitoring and recordkeeping requirements of Regulation 9-8-530, and standard Permit Condition #22850 (outlined in Section VIII).

The engineering review is consistent with similar projects. Standard permit conditions were applied and standard emission factors were used in accordance with Permit Handbook, Chapter 2.3.1. This project is considered to be ministerial and therefore is not subject to CEQA review.

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

PSD, NSPS, and NESHAPS are not triggered.

CONDITIONS

COND# 22850 ----------

1. Operating for reliability-related activities is limited to 50 hours per year per engine.
   [Basis: Regulation 2-5]

2. The owner or operator shall operate each emergency standby engine only for the following purposes: to mitigate emergency conditions, for emission testing to demonstrate compliance with a District, state or Federal emission limit, or for reliability-related activities

(maintenance and other testing, but excluding emission testing). Operating hours while mitigating emergency conditions or while emission testing to show compliance with District, state or Federal emission limits is not limited.

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(2)(A)(3) or (e)(2)(B)(3)]]

3. The owner/operator shall operate each emergency standby engine only when a non-resettable totalizing meter (with a minimum display capability of 9,999 hours) that measures the hours of operation for the engine is installed, operated and properly maintained.

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(4)(G)(1)]

4. Records: The owner/operator shall maintain the following monthly records in a District-approved log for at least 36 months from the date of entry (60 months if the facility has been issued a Title V Major Facility Review Permit or a Synthetic Minor Operating Permit). Log entries shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the District staff upon request.
   a. Hours of operation for reliability-related activities (maintenance and testing).
   b. Hours of operation for emission testing to show compliance with emission limits.
   c. Hours of operation (emergency).
   d. For each emergency, the nature of the emergency condition.
   e. Fuel usage for each engine(s).

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(4)(I), (or Regulation 2-6-501)]

5. At School and Near-School Operation:
If the emergency standby engine is located on school grounds or within 500 feet of any school grounds, the following requirements shall apply:

The owner or operator shall not operate each stationary emergency standby diesel-fueled engine for non-emergency use, including maintenance and testing, during the following periods:

a. Whenever there is a school sponsored activity (if the engine is located on school grounds).
b. Between 7:30 a.m. and 3:30 p.m. on days when school is in session "School" or "School Grounds" means any public or private school used for the purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in a private home(s). "School" or "School Grounds" includes any building or structure, playground, athletic field, or other areas of school property but does not include unimproved school property.

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(2)(A)(1)] or (e)(2)(B)(2)]

RECOMMENDATION

I recommend the Authority to Construct be waived and a Permit to Operate be issued to United Airlines for:

S-326 Emergency Diesel Engine
Cummins, Model 750DQFAA, 1102 HP, 750 kW, 9.3 MMBTU/hr, Model Year: 2006

S-298 shall be archived.

_____

Fred Tanaka
Air Quality Engineer II
Engineering Division

Date: _____

EVALUATION REPORT
United Airlines, San Francisco Maintenance Center
Application #15451 - Plant #51 (Site #A0051)
San Francisco International Airport
San Francisco, CA 94218

BACKGROUND
United Airlines has a major hub located at the San Francisco International Airport. It has a maintenance center located on-site for their fleet. United Airlines is applying for Change of Condition for the following:

275 Tire Shop Maintenance and Repair
Binks CPFR 6-7-T-LH, Binks Spray Booth, Pre-wash, Corrosion Inhibitor, Post-wash-Assembly & Maintenance

And an Authority to Construct/Permit to Operate for the following:

328 Parts Cleaner
Safety Kleen, Model 81, Aqueous Agitating, 77 gallon
329 Parts Cleaner
Safety Kleen, Model 81, Aqueous Agitating, 77 gallon

This operation involves wipe cleaning, solvent cleaning in enclosed systems and coating of wheel parts. S-275 was originally permitted under Application #17384 (see attached). The facility plans to redesign their process, which would result in an increase in solvent and coating usage. Per policy, solvent cleaners cannot be combined with S-275.

EMISSION CALCULATIONS
See attached spreadsheet for emission calculations. Calculations are based on mass balance of 100% evaporation of VOC materials.

PLANT CUMULATIVE INCREASE (since 4/5/91)
The cumulative increase from this application is 7.79 tons per year of POC emissions.

TOXIC SCREENING ANALYSIS
Toxic levels of IPA, MEK, toluene and xylene in Table 2-5-1 are not triggered by this operation as applied. See attached spreadsheet.

BEST AVAILABLE CONTROL TECHNOLOGY
Because the organic emissions from this source are estimated to exceed 10 pounds per day, a Best Available Control Technology (BACT) review is required. BACT for wipe cleaning would require venting emissions from a building into a control device. Using a recently submitted estimation of a large wipe cleaning cost analysis for Application #15271, the annualized cost is approximately $150,000/year. 6.4 tons of POC emissions per year would need to be controlled, which equates to over $23,000 per ton reduced. BACT1 of $17,500 per ton is not cost-effective. The owner/operator operates the equipment minimizing emissions thus meeting BACT2.

OFFSETS

Offsets for POC are required on a 1.15:1 ratio. Based on the cumulative increase of 7.79 tons/year of POC, POC offsets of 8.96/year tons are required. The applicant was submitted Banking Certificate #967, which has a balance of 31.56 tons/year of POC, to cover the offsets.

STATEMENT OF COMPLIANCE

The owner/operator is expected to continue to meet the requirements of Regulation 8, Rule 29 for Aerospace Assembly and Component Coating Operations. This source uses primer (350 g/l), topcoat (420 g/l) and sealant (600 g/l). The corrosion inhibitor is considered a sealant. The VOC requirements in Regulation 8, Rule 29 meet at least the requirements of Subpart GG of CFR Part 63 (NESHAPs). The owner/operator is expected to comply with Permit Condition #23499 (outlined in Section VIII).

For S-328 and S-329, the owner/operator is expected to meet the requirements of Regulation 8-16-303.1 (General Operating Requirements), 303.2 (Cold Cleaning Operating Requirements) and 303.3 (Equipment Requirements). The owner/operator has stated that the cleaners comply with Section 8-16-304.4 under Sub-subsection 5 (enclosed design). The cold cleaner is not used for repair and maintenance cleaning (Section 8-16-303.5). The owner/operator is expected to comply with Permit Condition #23500 (outlined in Section VIII).

The engineering review is consistent with similar projects. Standard permit conditions were applied and standard emission factors were used in accordance with Permit Handbook, Section 5.1 and 6.3. This project is considered to be ministerial and therefore is not subject to CEQA review.

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

PSD and NSPS are not triggered.

CONDITIONS

<u>Permit Condition #23499</u>

For Source: S-275 (Tire Shop Maintenance and Repair)

In addition to regulatory requirements of Regulation 8, Rule 29 (Aerospace Assembly and Component Coating Operations), the owner/operator shall comply with the following Permit Conditions for Source 275:

1. The owner/operator shall not use materials that cause emissions of total precursor organic compounds (POC) to exceed 14,780 pounds during any consecutive 12-month period. [Basis: Cumulative increase, BACT]

2. The owner/operator shall not use materials that would result in any toxic air contaminant emissions in excess of their respective trigger levels in Table 2-5-1 of Regulation 2, Rule 5. [Basis: Regulation 2, Rule 5]

3. In order to demonstrate compliance with Parts 1 and 2, the owner/operator shall maintain the following records:
   a. Maintain a list of all coatings and solvents used, including VOC content;
   b. Weekly quantities of each type of coating and mix ratio, as applied;
   c. Monthly net usage of each solvent;
   d. Calculations of POC emissions on a monthly basis and totaled on a rolling 12-month basis;
   e. Calculations demonstrating that no toxic air contaminant emissions exceed their respective trigger levels; and
   f. All records shall be retained on-site for five years, from the date of entry, and made available to District staff upon request.

   [Basis: Regulation 8-29-501, Recordkeeping]

Applies to S-328 and S-329
Permit Condition #23500
For Sources: S-328 and S-329 (Parts Washers)

In addition to regulatory requirements of Regulation 8, Rule 16 (Solvent Cleaning Operations), the owner/operator shall comply with the following Permit Conditions for S-328 and S-329:

1. Owner/operator shall not allow precursor organic compound (POC) emissions from solvent used at each source to exceed 650 pounds during any consecutive 12-month period. [Basis: Cumulative increase, BACT]

2. The owner/operator shall not use materials that would result in any toxic air contaminant emissions in excess of their respective trigger levels in Table 2-5-1 of Regulation 2, Rule 5. [Basis: Regulation 2, Rule 5]

3. In order to demonstrate compliance with Parts 1 and 2 above, the owner/operator shall maintain the following records:
   a. Monthly quantities of each type of solvent used at this source;
   b. Monthly quantities of each type of solvent recovered for disposal or recycling;
   c. Monthly net usage of each type of solvent;
   d. Calculations of POC emissions on a monthly basis and totaled on a rolling 12-month basis;
   e. Calculations demonstrating that no toxic air contaminant emissions exceed their respective trigger levels; and
   f. All records shall be retained on-site for five years, from the date of entry, and made available to District staff upon request.

   [Basis: Regulation 8-16-501, Recordkeeping]

RECOMMENDATION
I recommend a change of conditions be issued to United Airlines for:

275 Tire Shop Maintenance and Repair
Binks Spray Booth, Pre-wash, Corrosion Inhibitor, Post-wash-Assembly & Maintenance

Condition #15151 shall be archived.
Condition #23499 shall be linked to S-275.

I recommend that Authorities to Construct be waived and Permits to Operate be issued for the following:

328 Parts Cleaner
Safety Kleen, Model 81, Aqueous Agitating, 77 gallon

329 Parts Cleaner
Safety Kleen, Model 81, Aqueous Agitating, 77 gallon

Condition #23500 shall be linked to S-328 and S-329.

_____
Fred Tanaka
Senior Air Quality Engineer
Engineering Division

Date: _____

EVALUATION REPORT
United Airlines, San Francisco Maintenance Center
Application #10700 - Plant #51 (Site #A0051)
San Francisco International Airport
San Francisco, CA 94128

BACKGROUND
United Airlines has a major hub located at the San Francisco International Airport. It has a maintenance center located on-site for their fleet. United Airlines is applying for a Change of Conditions for the following:

S-95 Boiler No. 1
Babcock & Wilcox FMD;96.0E6 BTU/HR

S-96 Boiler No. 2
Babcock & Wilcox FMD;96E6 BTU/HR

S-195 Combustion Turbine, Cogeneration
251MM BTU/hr max, Natural Gas, Jet 'A',
GE LM2500-33; 228.11E6 BTU/HR

S-196 Duct Burner
251MM BTU/hr max, Natural Gas, Jet 'A',

The changes include aligning the requirements with Regulation 9, Rule 9, correcting an error in NO_X concentration level for jet fuel A, clarifying when jet fuel A is allowed, removing obsolete requirements and modifying to the standard format.

EMISSION CALCULATIONS
There is no change in emissions.

PLANT CUMULATIVE INCREASE (since 4/5/91)
There is no change in emissions.

TOXIC SCREENING ANALYSIS
An HRSA is not required.

BEST AVAILABLE CONTROL TECHNOLOGY
BACT is not required.

OFFSETS
Offsets are not required.

STATEMENT OF COMPLIANCE

The owner/operator is expected to comply with Permit Condition #23670 (outlined in Section VIII) which will replace Condition #440.

The engineering review is consistent with similar projects. This project is considered to be ministerial and therefore is not subject to CEQA review.

PSD, NSPS and school notification are not triggered.

CONDITIONS

In addition to the requirements of Regulation 9, Rule 9 for Nitrogen Oxides at Stationary Gas Turbines, the owner/operator shall comply with the following conditions for Sources: 95, 96 (Boilers), 195 (Combustion Turbine), and 196 (Duct Burner)

1. The owner/operator shall not operate S-95 or S-96 when S-195 and or S-196 are in operation, except during start-up or shutdown periods of S-195. [Basis: Offsets, Regulation 9-9-217 and Regulation 9-9-218]

2. For S-195, the owner/operator shall not exceed three (3) hours for start-up or one (1) hour for shutdown. [Basis: Cumulative Increase]

3. The owner/operator shall abate emissions from S-195 and S-196 with A-33 (Selective Catalytic Reduction/Carbon Monoxide Oxidation Catalyst) during all periods of operation. The owner/operator shall abate emissions from S-195 with water injection during all periods of operation. [Basis: BACT]

4. When firing natural gas, the owner/operator shall not operate S-195 or S-196 such that the nitrogen oxides (NOx) concentration in the exhaust exceeds 9 ppmvd corrected to 15% oxygen averaged over any three-hour period except during start-up or shutdown periods of S-195. [Basis: Regulation 9-9-114, Regulation 9-9-301.1.3]

5. The owner/operator shall operate S-195 with only natural gas except for any of the following scenarios:

   i. During a force majeure natural gas curtailment,

   ii. A power outage from the owner/operator's designated electric utility supplier preventing operation with natural gas; or

   iii. An unforeseeable failure or malfunction of natural gas equipment, which is out of the control of the owner/operator; or

   iv. Minor Inspection & Maintenance Work (e.g. Jet A fuel readiness testing).

   Force majeure natural gas curtailment is defined as an interruption in natural gas service, such that the daily fuel needs cannot be met with natural gas available, due to one of the following reasons:

a. An unforeseeable failure or malfunction, not resulting from an intentional act or omission that the governing state, federal, or local agency finds to be due to an act of gross negligence on the part of the owner or operator; or
b. A natural disaster; or
c. The natural gas is curtailed pursuant to governing state, federal, or local agency rules or orders; or
d. The serving natural gas supplier provides notice to the District that, with forecasted natural gas supplies and demands, natural gas service is expected to be curtailed pursuant to governing state, federal, or local agency rules or orders.

[Basis: Cumulative Increase, Regulation 9-9-115]

6. Pursuant to Part 5, the owner/operator shall be allowed to operate S-195 with Jet A fuel for up to 2495 hours in any consecutive 12-month period. The owner/operator shall switch back to natural gas as soon as the natural gas supply and equipment can be safely restored by following current procedures and or guidelines to switch from Jet A fuel to natural gas. The procedure and or guidelines shall be made available for inspection upon request. [Basis: Cumulative Increase]

7. When firing Jet A fuel, the owner/operator shall not operate S-195 or S-196 such that the NOx concentration in the exhaust exceeds 16 ppmvd corrected to 15% oxygen averaged over any three hour period except during start-up or shutdown periods. [Basis: BACT]

8. The owner/operator shall not operate S-195 and or S-196 such that NOx emissions (calculated as NO2) from the full load operation of the gas turbine and duct burner exceed daily emissions of 365 lb/day when firing natural gas or 391 lb/day when firing Jet A fuel. [Basis: Offsets]

9. The owner/operator shall not cause SO2 emissions to exceed 40 tons and total suspended particulate (TSP) emissions to exceed 25 tons in any consecutive 12-month period. To demonstrate compliance, the owner/operator shall not be allowed to use Jet A fuel with a sulfur content exceeding 0.12% (by weight). The maximum sulfur content of the Jet A fuel shall be demonstrated by vendor certification or District-approved laboratory analysis. [Basis: Cumulative Increase, 40 CFR 60.334(b)]

10. For S-195 and S-196, the owner/operator shall not cause emissions of carbon monoxide (CO) to exceed 500 lb/day unless the CO Oxidation Catalyst is achieving 80 percent reduction efficiency or greater. [Basis: BACT, Cumulative Increase]

11. The owner/operator shall install, calibrate and operate District-approved continuous in-stack emission monitors and recorders for NOx, CO, and either oxygen or carbon dioxide from S-195 and S-196. The owner/operator shall report daily emissions to the District on a monthly basis, the format of which shall be subject to approval by the APCO. [Basis: Regulation 9-9-501, 40 CFR 60.334(b)]

12. The owner/operator shall provide stack sampling ports and platforms for the S-95, S-96, S-195 and S-196, the location of which shall be subject to APCO approval. [Basis: Manual of Procedures Volume IV, 1.2.4]

13. To demonstrate compliance with Parts 5 and 6 for Jet A operation, the owner/operator shall keep monthly records of the date, start time, end time, duration of operation, the sulfur content of the Jet A fuel and the reason for Jet A use. The owner/operator shall keep any documentation of natural gas curtailments. Monthly records of the hours of operation using Jet A fuel shall be totaled on a rolling 12-month basis. Records shall be kept for at least 5 years and be made available for inspection. [Basis: Cumulative increase, Recordkeeping]

14. To demonstrate compliance with Part 5, Subsections 5ii, 5iii or 5a, the owner/operator shall notify the APCO within 24 hours of any unforeseeable failure or malfunction resulting in operation with Jet A fuel. The notification shall include the date, time and cause of the event. [Basis: Cumulative increase, Reporting]

RECOMMENDATION
I recommend Change of Conditions be issued to United Airlines for:

S-95 Boiler No. 1
S-96 Boiler No. 2
S-195 Combustion Turbine, Cogeneration
S-196 Duct Burner

The new condition is #23670. Condition #440 was archived.

_____
Fred Tanaka
Senior Air Quality Engineer
Engineering Division

Date: _____

EVALUATION REPORT
United Airlines, San Francisco Maintenance Center
Application #16455 - Plant #51 (Site #A0051)
San Francisco International Airport
San Francisco, CA 94128

BACKGROUND
United Airlines has a major hub located at the San Francisco International Airport. It has a maintenance center located on-site for their fleet. United Airlines is applying for an Authority to Construct/Permit to Operate for the following:

330 Parts Cleaner (Bearing Inspection Shop)
Magnus Miji, Model 24-1X, 85 gallon

The Bearing Inspection Shop is responsible for inspection and cleaning of bearings in turbine engines, which typically get coated with carbon residue from use.

EMISSION CALCULATIONS
See attached spreadsheet for emission calculations. Calculations are based on mass balance of 100% evaporation of VOC materials.

PLANT CUMULATIVE INCREASE (since 4/5/91)
The cumulative increase from this application is 0.160 tons per year of POC emissions.

TOXIC SCREENING ANALYSIS
The solvent does not contain any chemicals in Table 2-5-1.

BEST AVAILABLE CONTROL TECHNOLOGY
Organic emissions from this source are estimated be less than 10 pounds per highest day. Best Available Control Technology (BACT) review is not required.

OFFSETS
Offsets for POC are required on a 1.15:1 ratio. Based on the cumulative increase of 0.160 tons per year of POC, POC offsets of 0.184 per year tons are required. The applicant was submitted Banking Certificate #1036, which has a balance of 22.601 tons per year of POC, to cover the offsets.

STATEMENT OF COMPLIANCE
For S-330, the owner/operator is expected to meet the requirements of Regulation 8-16-303.1 (General Operating Requirements), 303.2 (Cold Cleaning Operating Requirements) and 303.3 (Equipment Requirements). The owner/operator has stated that the cleaners comply with Section 8-16-304.4 under Sub-subsection 5 (enclosed design). The cold cleaner is not used for repair and maintenance cleaning (Section 8-16-303.5). The owner/operator is expected to comply with Permit Condition #23707 (outlined in Section VIII).

The engineering review is consistent with similar projects. Standard permit conditions were applied and standard emission factors were used in accordance with Permit Handbook, Section 6.3. This project is considered to be ministerial and therefore is not subject to CEQA review.

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

PSD and NSPS are not triggered.

CONDITIONS
Permit Condition #23707

In addition to regulatory requirements of Regulation 8, Rule 16 (Solvent Cleaning Operations), the owner/operator shall comply with the following Permit Conditions:

1. Owner/operator shall not allow precursor organic compound (POC) emissions from solvent used at each source to exceed 320 pounds during any consecutive 12-month period. [Basis: Cumulative increase, BACT]

2. The owner/operator shall not use materials that would result in any toxic air contaminant emissions in excess of their respective trigger levels in Table 2-5-1 of Regulation 2, Rule 5. [Basis: Regulation 2, Rule 5]

3. In order to demonstrate compliance with Parts 1 and 2 above, the owner/operator shall maintain the following records:
   a. Monthly quantities of each type of solvent used at this source;
   b. Monthly quantities of each type of solvent recovered for disposal or recycling;
   c. Monthly net usage of each type of solvent;
   d. Calculations of POC emissions on a monthly basis and totaled on a rolling 12-month basis; and
   e. Calculations demonstrating that no toxic air contaminant emissions exceed their respective trigger levels.

   All records shall be retained on-site for five years, from the date of entry, and made available to District staff upon request.
   [Basis: Regulation 8-16-501, Recordkeeping]

RECOMMENDATION

I recommend that Authorities to Construct be waived and Permits to Operate be issued for the following:

330 Parts Cleaner (Bearing Inspection Shop)
Magnus Miji, Model 24-1X, 85 gallon

Condition #23707 shall be linked to S-330.

Offsets of 0.184 tons per year shall be deducted from Banking Certificate #1036.

_____

Fred Tanaka
Senior Air Quality Engineer
Engineering Division

Date: _____

EVALUATION REPORT
United Airlines, San Francisco Maintenance Center
Application #16635 - Plant #51 (Site #A0051)
San Francisco International Airport
San Francisco, CA 94128

BACKGROUND
United Airlines has a major hub located at the San Francisco International Airport. It has a maintenance center located on-site for their fleet. United Airlines is applying for an Authority to Construct/Permit to Operate for the following:

331 Parts Cleaner (Landing Gear Shop)
Safety Kleen, Model 81, 77-gallon capacity

The Landing Gear Shop is responsible for inspection and cleaning of landing gear components, including bearings, bolts, washers and other fasteners.

EMISSION CALCULATIONS
See attached spreadsheet for emission calculations. Calculations are based on mass balance of 100% evaporation of VOC materials, typically mineral spirits.

PLANT CUMULATIVE INCREASE (since 4/5/91)
The cumulative increase from this application is 0.322 tons per year of POC emissions.

TOXIC SCREENING ANALYSIS
The solvent does not contain any chemicals in Table 2-5-1.

BEST AVAILABLE CONTROL TECHNOLOGY
Organic emissions from this source are estimated be less than 10 pounds per highest day. Best Available Control Technology (BACT) review is not required.

OFFSETS
The current plant cumulative POC emissions balance is zero. Offsets for POC are required on a 1.15:1 ratio. Based on the cumulative increase of 0.322 tons per year of POC from this application, POC offsets of 0.370 per year tons are required. The applicant has submitted Banking Certificate #1036 to cover the offsets.

STATEMENT OF COMPLIANCE
The owner/operator is expected to meet the requirements of Regulation 8-16-303.1 (General Operating Requirements), 303.2 (Cold Cleaning Operating Requirements) and 303.3 (Equipment Requirements). The owner/operator has stated that the cleaners comply with Section 8-16-304.4 under Sub-subsection 5 (enclosed design). The cold cleaner is not used for repair and maintenance cleaning (Section 8-16-303.5). The owner/operator is expected to comply with Permit Condition #23737 (outlined in Section VIII).

The engineering review is consistent with similar projects. Standard permit conditions were applied and standard emission factors were used in accordance with Permit Handbook, Section 6.3. This project is considered to be ministerial and therefore is not subject to CEQA review.

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

PSD and NSPS are not triggered.

CONDITIONS
Permit Condition #23707

In addition to regulatory requirements of Regulation 8, Rule 16 (Solvent Cleaning Operations), the owner/operator shall comply with the following Permit Conditions:

1. Owner/operator shall not allow precursor organic compound (POC) emissions from solvent used at each source to exceed 644 pounds during any consecutive 12-month period. [Basis: Cumulative increase, BACT]

2. The owner/operator shall not use materials that would result in any toxic air contaminant emissions in excess of their respective trigger levels in Table 2-5-1 of Regulation 2, Rule 5. [Basis: Regulation 2, Rule 5]

3. In order to demonstrate compliance with Parts 1 and 2 above, the owner/operator shall maintain the following records:
   a. Monthly quantities of each type of solvent used at this source;
   b. Monthly quantities of each type of solvent recovered for disposal or recycling;
   c. Monthly net usage of each type of solvent;
   d. Calculations of POC emissions on a monthly basis and totaled on a rolling 12-month basis; and
   e. Calculations demonstrating that no toxic air contaminant emissions exceed their respective trigger levels.

   All records shall be retained on-site for five years, from the date of entry, and made available to District staff upon request.
   [Basis: Regulation 8-16-501, Recordkeeping]

RECOMMENDATION

I recommend that Authorities to Construct be waived and Permits to Operate be issued for the following:

331 Parts Cleaner (Landing Gear Shop)
Safety Kleen, Model 81, 77-gallon capacity

Condition #23737 shall be linked to S-331.

Offsets of 0.370 tons per year shall be deducted from Banking Certificate #1036.

_____

Fred Tanaka
Senior Air Quality Engineer
Engineering Division

Date: _____

Engineering Evaluation Report
United Airlines, SFO, P#51
UAL SF Maintenance Center F-12 Room, San Francisco
Application #19352

Background

United Airlines ("Applicant") submitted an application for an Authority to Construct and Permit to Operate a pilot groundwater remediation system to evaluate vapor extraction technology for treatment of chlorinated volatile organic compound (VOC) contaminated groundwater at the UAL SF Maintenance Center.

The Applicant has proposed to install 2 extraction wells, and the extraction will be accomplished by means of a 20 hp vacuum pump/blower with a liquid flowrate of 12 gallons/hour and air flowrate of 300 acfm, maximum. The vacuum system will also be equipped with a 200 gallon liquid knockout vessel, an air flowmeter, and totalizing liquid flowmeter. The condensate from the extraction system will be transferred to a 1,000 gallon poly holding tank for storage of the groundwater until it is removed from the site for disposal.

The condensate will contain less than 1% VOC by weight, and therefore the tank is exempt per Section 2-1-123.2. The knockout vessel will be exempt per Section 2-1-123.1, as the volume of the vessel will be less than 260 gallons.

S-332, Groundwater Remediation System, consisting of a vacuum pump/blower, 12 gallons/hr liquid flowrate, 300 acfm maximum air flowrate, and associated piping

Knockout Vessel, 260 gallon capacity, exempt per Section 2-1-123.1
Storage Tank, 1000 gallon capacity, exempt per Section 2-1-123.2

The applicant originally proposed this project with a Granulated Activated Carbon System, US Filter/Westates, Two carbon beds in series, 1,000 lb carbon minimum. The applicant revised the project since the emission levels met the exemption in Section 8-47-113. Template condition #23643 was used for unabated soil remediation systems.

Note: This operation was originally identified as being located at a new plant, Plant #12885. However, during the attempts to establish a plant contact for this facility, United Airlines identified that this source will be located at the existing Plant #51, which is a Title V facility.

Emission Calculations

For a worst-case estimate of annual emissions, the calculations assume that the extraction system is operated constantly for the entire year with an inlet chlorinated VOC concentration corresponding to the highest concentration measured in the 15 groundwater samples subject to laboratory analysis.

Unabated VOC Emissions:
(0.2 gal/min)*(60 min/hr)*(0.137 g/L)*(3.785 L/gal)*(1 lbs/453.6 g)*(24 hrs/day) = 0.33 lbs/day

Cumulative Increase

The District tracks increases in emissions from each facility. Plant #51 is an existing facility with banked emission credits. The post 1991 emission increases have been offset, so the existing cumulative emission increase for the facility is zero. The following emissions will be attributed to this new source, but the emission increases will be deducted from the banked emission credits.

Pollutant	Existing, tpy	Increase, tpy	Credits, tpy
POC	0	0.060	-0.069

Compliance Determination

Regulation 1, "General Provisions and Definitions"

The facility is subject to Regulation 1, Section 301, which prohibits discharge of air contaminants resulting in public nuisance. Low levels of emissions are expected from this operation, so it is not expected to be a source of public nuisance.

Public Notice Requirements, Regulation 2, Rule 1

The public notification requirements of Regulation 2-1-412 apply to modifications which result in an increase in toxic air contaminant or hazardous air contaminant emission at facilities within 1,000 feet of the boundary of a K-12 school. The applicant has reported no K-12 school within that radius of this facility, and the District's database confirms that the closest K-12 school, Belle Air Elementary, is located 0.77 mile (4,074 feet) from the facility. Therefore, the public notice requirements do not apply.

California Environmental Quality Act (CEQA) Requirements, Regulation 2, Rule 1

District Regulation 2, Rule 1, Section 310 specifies that all proposed new and modified sources subject to District permit requirements must be reviewed in accordance with CEQA requirements except for ministerial projects or projects exempt from CEQA under Section 2-1-312. This project is considered to be ministerial 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 9.1, Air Stripping.

Best Available Control Technology (BACT) Requirements, Regulation 2, Rule 2

Reasonably Available Control Technology (RACT) Requirements, Regulation 2, Rule 2

Per Regulation 2, Rule 2, BACT is triggered when the maximum emissions from a source are 10 lbs per day or more. The emissions from this operation are expected to be less than 1 lb per day, therefore BACT review is not triggered.

Emission Offsets and Prevention of Significant Deterioration (PSD), Regulation 2, Rule 2

The precursor organic compound (POC) emission offset requirements are specified in District Regulation 2, Rule 2, Section 302. POC emission offsets must be provided for new or modifies sources located at a facility that will emit or will be permitted to emit 10 tons of POC per year or more. The POC emissions from this facility are greater than 10 tons per year (85 tons per year in the approved 2008 inventory), therefore POC emission offsets are required. As this facility has banked emission credits, the emissions from this new operation will be deducted from the banked credits and the balance of the credits reissued. Offsets for POC are required on a 1.15:1 ratio. Based on the cumulative increase of 0.060 tons per year of POC, POC offsets of 0.069 per year tons are required. Banking Certificate #1036 will be used to cover the offsets.

The PSD requirements in District Regulation 2, Rule 2, Section 304 apply to major modifications at a major facility. The proposed operation is not a major modification, therefore the PSD requirements do not apply.

Health Risk Assessment Requirements, Regulation 2, Rule 5

The District's regulation concerning toxic air contaminant emissions is codified in Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants (TAC). All TAC emissions from new and modified sources are subject to risk assessment review, if emissions of any individual TAC exceed either the acute or chronic emission thresholds defined in Table 2-5-1.

The Applicant submitted laboratory analysis summaries performed on 15 groundwater samples collected in the vicinity of the proposed operation. The analysis determined that the groundwater does contain several compounds listed as TACs. For a worst case analysis of the potential TAC emissions from the proposed operation, the highest value for each compound was used to calculate the following unabated emissions. These worst-case emission estimates are summarized below with the acute and chronic emission thresholds from Table 2-5-1 of Regulation 2, Rule 5:

Constituent	Measured GW Level (microgr/l)	Hourly Emissions (lbs/hr)	Annual Emissions (lbs/yr)	Acute Trigger Level (lbs/hr)	Chronic Trigger Level (lbs/yr)
Benzene	292	2.92E-5	2.56E-1	2.9	6.4
Chlorobenzene	10,100	1.01E-3	8.86	—	3.90E+4
1,1-Dichloroethane	74,600	7.47E-3	65.4	—	1.10E+2
p-Dichlorobenzene	936	9.37E-5	8.21E-1	—	1.60E+1
Methylene chloride	0.35	3.51E-8	3.07E-4	31	1.80E+2
1,1,1-Trichloroethane	3,800	3.81E-4	3.33	1.50E+2	3.90E+4
Trichloroethylene	82	8.21E-6	7.19E-2	—	9.10E+1
Toluene	33.7	3.37E-6	2.96E-2	8.20E+1	1.20E+4
Vinyl Chloride	14,800	1.48E-3	13	4.00E+2	2.4

The calculated TAC emissions are significantly less than the acute and chronic risk screening trigger levels. These emissions alone would therefore not require a Health Risk Screening Analysis under Regulation 2, Rule 5. However, the facility has submitted a number of permit applications within the last 2 years, and those emissions must also be considered in evaluating the current project should undergo a Health Risk Screening Analysis. The definition of "Project" in Regulation 2, Rule 5, Section 216 specifies:

> *"All new or modified sources of TACs in a single permit application will be considered a project. In addition, in order to discourage circumvention that might be achieved by breaking a project into smaller pieces and submitting more than one permit application over a period of time, a project shall include those new or modified sources of TACs at a facility that have been permitted within the two-year period immediately preceding the date a complete application is*

received, unless the applicant demonstrates to the satisfaction of the APCO that construction or modification of the sources included in the current application was neither (1) a reasonably foreseeable consequence of the previous project, , nor (2) a critical element or integral part of the previous project … "

This application was deemed complete on 12/24/2008. In the 2 years prior to this date, the following applications were received and processed:

Applic'n #	Action	Sources Affected
14027	Waived A/C, 4/4/06	New, S-327, Aircraft Generator Repair Station
14663	Waived A/C, 7/27/06	New S-326, Emergency Diesel Engine
14291	Waived A/C, 8/10/06	New Abatement Devices for Chrome Tanks
13533	Waived A/C, 9/26/06	Loss of Exemption, S-316 through 323, Thermal Spray Booths
15451	Waived A/C, 4/23/07	New, S-328, S-329, Parts Cleaners; Modification of S-275, Tire Shop Maintenance
16455	Waived A/C, 9/4/07	New S-330, Parts Cleaner
16635	Waived A/C, 10/4/07	New S-331, Parts Cleaner
15522	Waived A/C, 6/18/08	Change of Conditions, S-95, S-96, Boilers; S-195, Combustion Turbine; and S-196, Duct Burner
19105	Waived A/C, 11/19/08	Change of Conditions, S-16 through S-23, Chrome Plate Tanks

Several applications involved permitting of new sources, with associated increases in TAC emissions. None of these previous applications included sources that would be defined as a project pursuant to Regulation 2-5-216.

Major Facility Review, Regulation 2, Rule 6
This regulation codifies the federal operating permit requirements in 40 CFR Part 70. This facility is a major facility subject to 40 CFR Part 70 (see discussion below), so this new operation will be added to the facility's Title V permit under a separate application.

Regulation 8, Rule 47, "Organic Compounds – Air Stripping and Soil Vapor Extraction Operations"
The facility is expected to comply with Regulation 8, Rule 47, which regulates air stripping operations. This operation is exempt from Section 8-47-302 because emissions satisfy the exemption in Section 113. Section 8-47-501 specifies the groundwater analysis records and control device monitoring records that must be maintained. Section 8-47-601 requires water sampling and analysis once per day for the first 3 days of operation, minimum and one sample each calendar month thereafter. Compliance with these requirements is expected and will be included in the permit conditions for this source.

40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS):

40 CFR Part 60 does not have any standards of performance that apply to air stripping operations, therefore the proposed operation is not subject to this regulation.

40 CFR Part 61, National Emission Standards for Hazardous Air Pollutants (NESHAPs):
Subpart F, National Emission Standard for Vinyl Chloride
Subpart FF, National Emission Standard for Benzene Waste Operations
Subpart F applies to plants which produce ethylene dichloride, vinyl chloride, and/or one or more polymers containing any fraction of polymerized vinyl chloride. This operation will emit small levels of vinyl chloride, but is not subject to this Subpart.

Subpart FF applies to chemical manufacturing plants, coke by-product recovery plants, petroleum refineries, and hazardous waste treatment, storage, and disposal facilities. This operation will emit a low level of benzene, but is not subject to this Subpart.

40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories/Maximum Achievable Control Technology (MACT) Standards:
Subpart GGGGG, National Emission Standards for Hazardous Air Pollutants – Site Remediation
Subpart GGGGG does not apply because United Airlines is not a major source of HAPs.

40 CFR Part 70, State Operating Permit Programs (Title V):
40 CFR Part 70 requires major facilities and designated facilities to obtain and operate under a federal operating permit. This facility is subject to the operating permit requirements of 40 CFR Part 70 and is operating unter a federal Title V/Major Facility Review Permit. The original permit was issued on March 17, 2000 and a significant revision was issued in October 2003. The facility submitted an application for renewal of this permit as required in August 2004; that application is complete and pending the District's proposal of a renewed permit. The addition of this new operation to the Title V/Major Facility Review Permit will be addressed under the permit renewal application, Application #10678.

Permit Condition #24242
In addition to the requirements of Regulation 8, Rule 47, the owner/operator shall comply with the following:

1. The owner/operator shall not operate such that the soil vapor flow rate exceeds 300 acfm. [Basis: Cumulative increase]

2. The owner/operator shall not allow toxic air contaminant emissions to the atmosphere from this source to be in excess of their respective trigger levels in Table 2-5-1, including the following limits:

Compound	Emissions (lb/day)
Benzene	1.75E-2
Methylene Chloride	4.93E-1
Perchloroethylene	8.22E-2

Trichloroethylene	2.49E-1
Vinyl Chloride	6.58E-3

[Basis: Toxic risk screen, 8-47-113]

3. The owner/operator shall not allow emissions of total volatile organic compounds to not exceed 10 pounds per day. [Basis: Reg. 2-2-301]

4. To determine compliance with Parts 2 and 3, the owner/operator of this source shall:
   a. Analyze exhaust gas to determine the concentration of the compounds listed in Part 2 and the total volatile organic compounds present for each of the first two days of operation. Thereafter, the exhaust gas shall be analyzed to determine the concentration of the compounds listed in Part 2 and total volatile organic compounds present quarterly (at least once every 92 days of operation).
   b. Calculate emissions in pounds per day for those compounds listed in Part 2 as well as the total volatile organic compounds.
   c. Submit to the District's Engineering Division the test results and emission calculations for the first two days of operation within one month of the testing date. Samples shall be analyzed according to modified EPA test methods TO-15 or equivalent to determine the concentrations those compounds listed in Part 2 as well as the total volatile organic compounds.

   [Basis: Toxic risk screen, Reg. 2-2-301, Reg. 8-47-113]

5. The owner/operator of this source shall maintain the following records in a District-approved log for each month of operation of the source:
   a. dates of operation;
   b. exhaust flow rate:
   c. exhaust sampling date;
   d. analysis results; and
   e. calculated emissions of POC and listed compounds in pounds per day.

[Basis: Reg. 1-523]

6. The owner/operator shall report any non-compliance with these conditions to the Compliance and Enforcement Division at the time that it is first discovered. The submittal shall detail the corrective action taken and shall include the data showing the exceedance as well as the time of occurrence. [Basis: Reporting]

7. The owner/operator shall maintain a file containing all measurements, records and other data that are required to be collected pursuant to the various provisions of this conditional Authority to Construct/Permit to Operate. All measurements, records and data required to be maintained shall be retained for at least two years following the date the data is recorded. [Basis: Reg. 1-523]

8. Upon final completion of this remediation project, the owner/operator shall notify the District within two weeks of decommissioning the operation. [Basis: Reporting]

Recommendations
I recommend issuing an Authority to Construction for the following:
S-332, Groundwater Remediation System, consisting of a vacuum pump/blower, 12 gallons/hr liquid flowrate, 300 acfm maximum air flowrate, and associated piping

I recommend issuing Letters of Exemption for the following:

Knockout Vessel, 260 gallon capacity, exempt per Section 2-1-123.1
Storage Tank, 1000 gallon capacity, exempt per Section 2-1-123.2

Banking Certificate #1036 was used to offset 0.069 tons of POC credits

_____
Fred Tanaka
Senior Air Quality Engineer
Engineering Division

Date: _____

SITE: 0051
APPLICATION #: 4772

BACKGROUND

UNITED AIRLINES--SAN FRANCISCO MAINTENANCE CENTER has applied for a Permit to Operate for 21 emergency standby engines, for use in emergency power generation and fire pumping applications. They were all installed well before May 17, 2000; at the time of installation, the engines were excluded from all District rules and regulations. As of May 17, 2000 the engines were excluded under Regulation 2, Rule 1, Section 114.2.3.1, but lost their exemption status as of the changes that occurred on September 01, 2001. These engines are thus loss-of-exemption sources as of the September 01, 2001 changes.

Per the District's Toxic Risk Management Policy (as outlined in an email from B. Young on 10/23/01), S-295, 296, 297, 301, 302, 303, and 314 are not subject to any limitation on operating hours since they were installed well before May 17, 2000 and are rated below 250 hp.

S-295 Emergency Generators/Fire Pump; Detroit Diesel engine; Model: 3-53; 150 hp; Maximum Firing Rate: 2,000,000 Btu/hr

S-296 Emergency Generators/Fire Pump; Detroit Diesel engine; Model: 3-53; 150 hp; Maximum Firing Rate: 2,000,000 Btu/hr

S-297 Emergency Generators/Fire Pump; Detroit Diesel engine; Model: 6-71; 230 hp; Maximum Firing Rate: 2,000,000 Btu/hr

S-301 Emergency Generators/Fire Pump; Isuzu diesel engine; 230 hp; Maximum Firing Rate: 2,000,000 Btu/hr

S-302 Emergency Generators/Fire Pump; Dayton diesel engine; Model: 4W118C; 80 hp; Maximum Firing Rate: 1,000,000 Btu/hr

S-303 Emergency Generators/Fire Pump; Dayton diesel engine; Model: 4W118C; 80 hp; Maximum Firing Rate: 1,000,000 Btu/hr

S-314 Emergency Generators/Fire Pump; Hatz diesel engine; Model: D108N; 51 hp; Maximum Firing Rate: 1,000,000 Btu/hr

In accordance with District policy, the operation of S-298, 299, 300, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, and 315 is limited to 100 hrs/yr for "discretionary use" (maintenance and testing). There is no limit to engine usage to provide power during emergencies.

S-298 Emergency Generators/Fire Pump; Detroit Diesel engine; Model: 16V-149; 1300 hp; Maximum Firing Rate: 13,000,000 Btu/hr

S-299 Emergency Generators/Fire Pump; Detroit Diesel engine; Model: 16V-92; 800 hp; Maximum Firing Rate: 8,000,000 Btu/hr

S-300 Emergency Generators/Fire Pump; Detroit Diesel engine; Model: 8V-92; 400 hp; Maximum Firing Rate: 4,000,000 Btu/hr

S-304 Emergency Generators/Fire Pump; Cummins diesel engine; Model: NT380; 380 hp; Maximum Firing Rate: 4,000,000 Btu/hr

S-305 Emergency Generators/Fire Pump; Cummins diesel engine; Model: NT380; 380 hp; Maximum Firing Rate: 4,000,000 Btu/hr

S-306 Emergency Generators/Fire Pump; Cummins diesel engine; Model: NT380; 380 hp; Maximum Firing Rate: 4,000,000 Btu/hr

S-307 Emergency Generators/Fire Pump; Cummins diesel engine; Model: NT380; 380 hp; Maximum Firing Rate: 4,000,000 Btu/hr

S-308 Emergency Generators/Fire Pump; Cummins diesel engine; Model: NT380; 380 hp; Maximum Firing Rate: 4,000,000 Btu/hr

S-309 Emergency Generators/Fire Pump; Cummins diesel engine; Model: NT380; 380 hp; Maximum Firing Rate: 4,000,000 Btu/hr

S-310 Emergency Generators/Fire Pump; Cummins diesel engine; Model: NT380; 380 hp; Maximum Firing Rate: 4,000,000 Btu/hr

S-311 Emergency Generators/Fire Pump; Cummins diesel engine; Model: NT380; 380 hp; Maximum Firing Rate: 4,000,000 Btu/hr

S-312 Emergency Generators/Fire Pump; Cummins diesel engine; Model: NT380; 380 hp; Maximum Firing Rate: 4,000,000 Btu/hr

S-313 Emergency Generators/Fire Pump; Cummins diesel engine; Model: C464; 300 hp; Maximum Firing Rate: 3,000,000 Btu/hr

S-315 Emergency Generators/Fire Pump; Detroit Diesel engine; Model: 12V-92TA; 947 hp; Maximum Firing Rate: 10,000,000 Btu/hr

TOXIC RISK SCREENING ANALYSIS

These sources do not trigger a toxic risk screen, as they were installed before May 17, 2000. Risk screens only apply to new or modified sources, or sources installed on or after May 17, 2000, per the District Toxic Risk Management Policy.

CUMULATIVE INCREASE

The emissions from these sources do not count toward the facility's cumulative increase, as they are not "new or modified sources."

BACT

These sources are not subject to BACT requirements pursuant to Regulation 2, Rule 2, Section 301, as they are loss-of-exemption sources.

OFFSETS

Offsets are not required because offsets apply only to new or modified sources, as made explicit in Regulation 2, Rule 2, Section 302; these are loss-of-exemption sources.

STATEMENT OF COMPLIANCE

District regulations that govern the operation of I.C. engines with the exclusion of Reg. 2-1-301 and 2-1-302 include:
Reg. 6 – Particulate matter and visible emissions standards;

Reg. 9, Rule 1 – Inorganic Gaseous Pollutants – Sulfur Dioxide; and
Reg. 9, Rule 8 – NOx and CO emissions

This application is considered to be ministerial under the District's proposed CEQA guidelines (Regulation 2-1-311) and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emission factors in accordance with Permit Handbook Chapter 2.3.

Reg. 6-303 applies to I.C Engines with a displacement of less than 25 liters (1500 in ^{3}) or to engines solely used as a standby source of motive power. The Ringelmann No. 2 Opacity Limitation contained in Reg. 6-303 limits visible emissions to a period or periods aggregating no more than three Chart, or of such minutes in any hour, a visible emission as dark or darker than No. 2 on the Ringelmann opacity as to obscure an observer's view to an equivalent or greater degree, nor shall the said emission, as perceived by an opacity sensing device in good working order, where such device is required by District regulations, be equal to a greater than 40% opacity.

Reg. 9-1-301 sets limits on the ground level concentration of SO2 from sources other than ships, to ground level concentrations that are less than 0.5 ppm continuously for 3 consecutive minutes or 0.25 ppm averaged over 60 consecutive minutes, or 0.05 ppm averaged over 24 hours.

Fuels mandated for use by the state of California meet the requirements of Regulation 9, Rule 1, Section 304 (Sulfur content); Sulfur content is below the 0.5% (by weight) limit.

Since S-295 through S-315 are standby engines (as defined in Regulation 9, Rule 8, Section 230), they are exempt from the provisions of Regulation 9, Rule 8, Sections 301, 302, and 502, which limits the emissions of carbon monoxide and nitrogen oxides from stationary internal combustion engines.

S-295 through S-315 are subject to the new standards adopted as of the September 01, 2001 rule change, namely 9-8-230, 231, 232, 330 and the monitoring requirement of 9-8-530. These applicable sections are given below:

9-8-230 Emergency Standby Engine: Any engine that is exclusively operated:
230.1 For emergency use; and
230.2 For reliability-related activities.

9-8-231 Emergency Use: The use of an emergency standby engine during any of the following:
231.1 In the event of loss of regular natural gas supply;
231.2 In the event of failure of regular electric power supply;
231.3 Flood mitigation;
231.4 Sewage overflow mitigation;
231.5 Fire;
231.6 Failure of a primary motor, but only for such time as needed to repair or replace the primary motor.

9-8-232 Reliability-related activities: Either:
232.1 Operation of an emergency standby engine to test its ability to perform for an emergency use; or
232.2 Operation of an emergency standby engine during maintenance of a primary motor.

9-8-330 Emergency Standby Engines, Hours of Operation: A person may only operate an emergency standby engine under the following circumstances:

330.1 For emergency use for an unlimited number of hours; and
330.2 For reliability-related activities so long as total hours of operation for this purpose do not exceed 100 hours in a calendar year, or limitations contained in a District permit, whichever is lower.

9-8-530 Emergency Standby Engines, Monitoring and Recordkeeping: Each emergency standby engine shall be equipped with a non-resettable totalizing meter that measures hours of operation or fuel usage. All records shall be kept for at least two years, and shall be available for inspection by District staff upon request. The operator shall keep a monthly log of usage that shall indicate the following:
530.1 Hours of operation (total)
530.2 Hours of operation (emergency)
530.3 For each emergency, the nature of the emergency condition.

S-295 through S-315 are expected to comply with the applicable rules (listed above), as permit conditions have been added to ensure this.

PERMIT CONDITIONS

APPLICATION **4772; UNITED AIRLINES--SAN FRANCISCO MAINTENANCE CENTER;** PLANT **0051;** CONDITIONS FOR YYY:

1. Hours of Operation: The emergency standby engines (S-295, S-296, S-297, S-301, S-302, S-303, S-314) shall only be operated to mitigate emergency conditions or for reliability-related activities. Operation while mitigating emergency conditions is unlimited. No time limit is imposed on thier operation for reliability-related activities. [Basis: 9-8-330; 9-8-331]

2. Hours of Operation: The emergency standby engines (S-298, S-299, S-300, S-304, S-305, S-306, S-307, S-308, S-309, S-310, S-311, S-312, S-313, and S-315) shall only be operated to mitigate emergency conditions or for the reliability-related activities. Operation for reliability-related activities shall not exceed 100 hours in any calendar year. Operation while mitigating emergency conditions is unlimited. [Basis: 9-8-330; 9-8-331]

3. "Emergency Conditions" is defined as any of the following: [Basis: Reg. 9-8-231]
a. Loss of regular natural gas supply.
b. Failure of regular electric power supply.
c. Flood mitigation.
d. Sewage overflow mitigation.
e. Fire.
f. Failure of a primary motor, but only for such time as needed to repair or replace the primary motor.

4. "Reliability-related activities" is defined as any of the following: [Basis: Reg. 9-8-232]
a. Operation of an emergency standby engine to test its ability to perform for an emergency use, or
b. Operation of an emergency standby engine during maintenance of a primary motor.

5. The emergency standby engines shall be equipped with either: [Basis:

Reg. 9-8-530]
a. a non-resettable totalizing meter that measures and records the hours of operation for the engine.
b. a non-resettable fuel usage meter.

6. Records: The following monthly records shall be maintained in a District-approved log for at least 2 years and shall be made available for District inspection upon request: [Basis: Reg. 9-8-530, 1-441]
a. Total hours of operation.
b. Hours of operation under emergency conditions and a description of the nature of each emergency condition.

RECOMMENDATION

Waive Authority to Construct and issue a Permit to Operate to UNITED AIRLINES--SAN FRANCISCO MAINTENANCE CENTER for:

S-295 Emergency Generators/Fire Pump; Detroit Diesel engine; Model: 3-53; 150 hp; Maximum Firing Rate: 2,000,000 Btu/hr

S-296 Emergency Generators/Fire Pump; Detroit Diesel engine; Model: 3-53; 150 hp; Maximum Firing Rate: 2,000,000 Btu/hr

S-297 Emergency Generators/Fire Pump; Detroit Diesel engine; Model: 6-71; 230 hp; Maximum Firing Rate: 2,000,000 Btu/hr

S-298 Emergency Generators/Fire Pump; Detroit Diesel engine; Model: 16V-149; 1300 hp; Maximum Firing Rate: 13,000,000 Btu/hr

S-299 Emergency Generators/Fire Pump; Detroit Diesel engine; Model: 16V-92; 800 hp; Maximum Firing Rate: 8,000,000 Btu/hr

S-300 Emergency Generators/Fire Pump; Detroit Diesel engine; Model: 8V-92; 400 hp; Maximum Firing Rate: 4,000,000 Btu/hr

S-301 Emergency Generators/Fire Pump; Isuzu diesel engine; 230 hp; Maximum Firing Rate: 2,000,000 Btu/hr

S-302 Emergency Generators/Fire Pump; Dayton diesel engine; Model: 4W118C; 80 hp; Maximum Firing Rate: 1,000,000 Btu/hr

S-303 Emergency Generators/Fire Pump; Dayton diesel engine; Model: 4W118C; 80 hp; Maximum Firing Rate: 1,000,000 Btu/hr

S-304 Emergency Generators/Fire Pump; Cummins diesel engine; Model: NT380; 380 hp; Maximum Firing Rate: 4,000,000 Btu/hr

S-305 Emergency Generators/Fire Pump; Cummins diesel engine; Model: NT380; 380 hp; Maximum Firing Rate: 4,000,000 Btu/hr

S-306 Emergency Generators/Fire Pump; Cummins diesel engine; Model: NT380; 380 hp; Maximum Firing Rate: 4,000,000 Btu/hr

S-307 Emergency Generators/Fire Pump; Cummins diesel engine; Model: NT380; 380 hp; Maximum Firing Rate: 4,000,000 Btu/hr

S-308 Emergency Generators/Fire Pump; Cummins diesel engine; Model: NT380; 380 hp; Maximum Firing Rate: 4,000,000 Btu/hr

S-309 Emergency Generators/Fire Pump; Cummins diesel engine; Model: NT380; 380 hp; Maximum Firing Rate: 4,000,000 Btu/hr

S-310 Emergency Generators/Fire Pump; Cummins diesel engine; Model: NT380; 380 hp; Maximum Firing Rate: 4,000,000 Btu/hr

S-311 Emergency Generators/Fire Pump; Cummins diesel engine; Model: NT380; 380 hp; Maximum Firing Rate: 4,000,000 Btu/hr

S-312 Emergency Generators/Fire Pump; Cummins diesel engine; Model: NT380; 380 hp; Maximum Firing Rate: 4,000,000 Btu/hr

S-313 Emergency Generators/Fire Pump; Cummins diesel engine; Model: C464; 300 hp; Maximum Firing Rate: 3,000,000 Btu/hr

S-314 Emergency Generators/Fire Pump; Hatz diesel engine; Model: D108N; 51 hp; Maximum Firing Rate: 1,000,000 Btu/hr

S-315 Emergency Generators/Fire Pump; Detroit Diesel engine; Model: 12V-92TA; 947 hp; Maximum Firing Rate: 10,000,000 Btu/hr

By: _____

Mujtaba T. Saifuddin
Air Quality Technician

MTS:mts
4772.doc

ENGINEERING EVALUATION

United Airlines – San Francisco Maintenance Center
Plant: 51
Application: 22014

800 S. Airport Blvd
San Francisco, CA 94128-3800

BACKGROUND

United Airlines SFMC has applied to obtain an Authority to Construct (AC) and/or a Permit to Operate (PO) for the following equipment:

S-333
Emergency Standby Diesel Generator Set
2009 Caterpillar, model: C18
900 BHP, 5.85 MMBTU/hr

The Emergency Diesel Engine Generator Set (S-333) is equipped with the best available control technology (BACT) for minimizing the release of air borne criteria pollutants and harmful air toxins due to fuel combustion. The criteria pollutants are nitrogen oxides (NOx), carbon monoxide (CO), precursor organic compounds (POC) from unburned diesel fuel, sulfur dioxide (SO_2) and particulate matter (PM10). All of these pollutants are briefly discussed on the District's web site at www.baaqmd.gov.

The engine meets the Environmental Protection Agency and California Air Resources Board (EPA/CARB) Tier 2 Off-road standard. The engine will burn commercially available California low sulfur diesel fuel. The sulfur content of the diesel fuel will not exceed 0.0015% by weight. The operation of the engine should not pose any health threat to the surrounding community or the public at large.

EMISSIONS

S-333 has been certified by CARB to be a cleaner burning engine. Except for SO_2, the emission factors for this engine are from the CARB Certification (CARB Executive Order # U-R-001-0355). The SO_2 emissions were calculated based on the maximum allowable sulfur content (0.0015 wt% S) of the diesel fuel with assumption that all of the sulfur present will be converted to SO_2 during the combustion process. The POC emission factor is assumed to be 5% of the total CARB's certified NOx and POC (NMHC+NOx) factor based on District Policy.

Basis:
- 900 hp output rating
- 50 hr/yr operation for testing and maintenance
- 42.7 gallons/hr max fuel use rate
- NMHC + NOx, CO and PM10 emission factors provided by CARB Certification with Executive Order # U-R-001-0355
- POC is assumed to be 5% of NMHC + NOx
- NOx is assumed to be 95% of NMHC + NOx
- The SO_2 emission factor was derived from EPA AP-42

Annual Emissions:
Annual emissions are calculated based on the number of hours per year of operation for testing and maintenance. See Table 1.

Daily Emissions:
Daily emissions are calculated to establish whether a source triggers the requirement for BACT (10 lb/highest day total source emissions for any class of pollutants). 24-hr/day of operation will be assumed since no daily limits are imposed on intermittent and unexpected operations.

Table 1. Annual and Daily Emissions

Pollutant	Emission Factor (g/kw-hr)	Emission Factor (g/hp-hr)	Annual Emissions (lb/yr)	Annual Emissions (TPY)	Max. Daily (lb/day)
NOx	5.51	4.11	407.42	0.204	195.56
POC	0.29	0.22	21.44	0.011	10.29
CO	0.80	0.60	59.15	0.030	28.39
PM10	0.08	0.06	5.92	0.003	2.84
SO_2		0.01	0.55	0.000	0.26

PLANT CUMULATIVE INCREASE
United Airlines SFMC at 800 S. Airport Blvd in San Francisco, CA 94128 is an existing facility. Therefore, the District's database contains information on existing emissions at the plant. Table 2 summarizes the cumulative increase in criteria pollutant emissions that will result at Plant 51 from the operation of S-333.

Table 2. Plant Cumulative Increase

Pollutant	Current Emissions (since April 5, 1991) (TPY)	Increase with this application (TPY)	Cumulative emissions (Current + Increase) (TPY)
NOx	0	0.204	0.204
CO	1	0.030	1.030
POC	0	0.011	0.011
PM10	1.903	0.003	1.906
SO_2	0.319	0.000	0.319

TOXIC RISK SCREENING ANALYSIS
This application required a Toxics Risk Screen because the diesel particulate emissions are greater than the toxic trigger level. See Table 3.

Table 3. Diesel Exhaust Particulate Matter Emissions

Toxic Pollutant Emitted	Emission Rate (lb/yr)	Risk Screening Trigger (lb/yr)
PM_{10} (Diesel Particulate)	5.92	0.34

S-333 meets Best Available Control Technology for toxics (TBACT) since the diesel particulate emissions are less than 0.15 g/bhp-hr. For an engine that meets the TBACT requirement, it must also pass the toxic risk screening level of less than ten in a million. Estimates of residential risk assume exposure to annual average toxic air contaminant concentrations occur 24 hours per day, 350 days per year, for a 70-year lifetime. Risk estimates for offsite workers assume exposure occurs 8 hours per day, 245 days per year, for 40 years. Risk estimates for students assume a higher breathing rate, and exposure is assumed to occur 10 hours per day, 36 weeks per year, for 9 years.

Based on 50 hours per year of operation, the emergency generator passed the Health Risk Screening Analysis (HRSA) conducted on June 11, 2010 by the District's Toxic Evaluation Section. The sources pose no significant toxic risk, since the increased cancer risk to the maximally exposed receptor (worker) is 0.6 in a million with a hazard index for of 0.0004. The increased cancer risk to residents is 0.02 in a million with a hazard index of 0.000006. The source is not located near students. In accordance with the District's Regulation 2, Rule 5, this risk level is considered acceptable, as it has been determined that S-333 meets the current TBACT standards.

BACT

In accordance with Regulation 2, Rule 2, Section 301, BACT is triggered for any new or modified source with the potential to emit 10 pounds or more per highest day of POC, NPOC, NOx, CO, SO_2 or PM_{10}.

BACT is triggered for NOx, POC, and CO since the maximum daily emissions of these pollutants exceeds 10 lb/day. Please refer to the discussion on "Daily Emissions" in page 1 of this evaluation. BACT for this source is presented in the current BAAQMD BACT/TBACT Workbook for IC Engine – Compression Ignition: Stationary Emergency, non-Agricultural, non-direct drive fire pump, Document # 96.1.3, Revision 6 dated 4/13/2009. For NOx, POC, and CO, BACT(2) is the current off-road tier standard for the horsepower. BACT(1) has not been determined. S-333 meets the current tier emissions standard, and is certified to Tier 2.

Source Category

Source:	***IC Engine – Compression Ignition: Stationary Emergency, non-Agricultural, non-direct drive fire pump***	**Revision:**	***6***
		Document #:	***96.1.3***
Class:	***> 50 BHP Output***	**Date:**	***04/13/2009***

POLLUTANT	**BACT** **1. Technologically Feasible/ Cost Effective** **2. Achieved in Practice** **3. TBACT**	**TYPICAL TECHNOLOGY**
POC	*1. n/s[d]* *2. Current tier standard for POC at applicable horsepower rating.*	*1. n/s[d]* *2. Any engine certified or verified to achieve the applicable standard.[a,b]*
NOx	*1. n/s[d]* *2. Current tier[a,b] standard for NOx at applicable horsepower rating.*	*1. n/s[d]* *2. Any engine certified or verified to achieve the applicable standard.[a,b]*
CO	*1. n/s[d]* *2. The more stringent of either 2.75 g/bhp-hr [319 ppmvd @ 15% O_2][c] or the current Tier[a,b] standard.*	*1. n/s[d]* *2. Any engine certified or verified to achieve the applicable standard.*

References

a. Current tier standard (listed on http://www.baaqmd.gov/pmt/bactworkbook/96-1-2.pdf): The current CARB or EPA off-road tier standard for the pollutant of concern within the appropriate horsepower range. Where NMHC + NOx is listed (with no individual standards for NOx or NMHC) as the standard, the portions may be considered 95% NOx and 5% NMHC. For the purposes of determining BACT NMHC = POC. Any engine which has been certified or demonstrated to meet the current year tier standard may be considered a current certified engine for that pollutant.

a. For pollutants NOx, POC and CO, an engine which does not meet the current EPA or CARB off-road tier standard may represent BACT2, providing 1) the engine met the most stringent EPA Tier Standard in effect at the time of installation (Tier 1 minimum) or 2) the engine met the most stringent EPA Tier Standard in effect prior to the Tier change for that horsepower rating with the permit application submitted within 6 months of the effective date of the Tier change. [Source: California Health & Safety Code Section 93116.3(b)(7)]

b. Previous BACT determination dated 01/11/02.

c. Cost effectiveness analysis must be based on lesser of 50 hr/yr or as limited by toxic risk screen.

It can be seen from above that S-333 satisfies the current BACT 2 standard for NOx, POC, and CO (4.56 g/hp-hr, 0.24 g/hp-hr, and 2.6 g/hp-hr, respectively). The more restrictive BACT 1 standard is not applicable to this engine because it will be limited to operation as an emergency standby engine.

OFFSETS

Offsets must be provided by the facility for any new or modified source at a facility that emits more than 35 tons/yr of POC or NOx per Regulation 2-2-302. S-333 triggers offsets for NOx, POC and PM_{10}. Since the facility does not emit more than 100 tons of PM10 per year, offsets are not required for PM10 according to Regulation 2-2-303. Offsets for NOx and POC are required on a 1.15:1 ratio. Based on the cumulative increase of 0.2037 tons per year of NOx from this application, NOx offsets of 0.2343 tons per year are required. Based on the cumulative increase of 0.0107 tons per year of POC from this application, POC offsets of 0.0123 tons per year are required. This applicant has submitted Banking Certificate # 894 to cover the offsets.

NSPS

The engine is subject to 40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines because it was manufactured after April 1, 2006, as required by Section 60.4200(a)(2)(i).

The engine has a total displacement of 18.13 liters and has 4 cylinders, so each cylinder has a volume of less than 10 liters. The engine is a 2009 model year engine and is not a fire pump. Section 60.4205(b) requires these engines to comply with the emission standards in Section 60.4202, which refers to 40CFR89.112 and 40CFR89.113 for all pollutants. For engines greater than 750 hp, these standards are:

NMHC+NOx: 4.8 g/hp-hr
CO: 2.6 g/hp-hr
PM: 0.15 g/hp-hr
20% opacity during acceleration mode
15% opacity during lugging mode
50% opacity during peaks in acceleration or lugging mode

According to CARB Executive Order U-R-001-0355, the engine will comply with the standards.

Sections 60.4206 and 60.4211(a) require that the owner/operator operate and maintain the engine according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine. The owner/operator is expected to comply with this requirement.

Section 60.4207(a) requires that by October 1, 2007, the owner/operator must use fuel that complies with 40 CFR 80.510(a). This means that the fuel must have a sulfur content of 500 parts per million (ppm) maximum, a cetane index of 40 or a maximum aromatic content of 35 volume percent. The owner/operator is expected to comply with this requirement because CARB diesel is required to be used in California.

Section 60.4207(b) requires that by October 1, 2010, the owner/operator must use fuel that complies with 40 CFR 80.510(b). This means that the fuel must have a sulfur content of 15 parts per million (ppm) maximum, and the same cetane index or aromatic content as above. The owner/operator is expected to comply with this requirement because CARB diesel is required to be used in California.

Section 60.4209(a) requires a non-resettable hour meter. This requirement is already in the standard permit conditions.

The engine will comply with the requirements of Section 60.4211(c) because it has been certified in accordance with 40 CFR Part 89.

The engine will comply with the requirement in Section 60.4211(e) to run for less than 100 hours per year for maintenance checks and readiness testing, and the prohibition of running for any reason other than emergency

operation, maintenance, and testing because they are limited by permit condition to 50 hours per year for reliability testing and otherwise may only operate for emergencies.

The owner/operator is not required to perform tests in accordance with Section 60.4212 or 60.4213.

Section 60.4214 states that owner/operators do not have to submit an initial notification to EPA for emergency engines.

Because the engine does not have a diesel particulate filter, the owner/operator is not subject to Section 60.4214(c).

The owner/operator is required to comply with certain sections of 40 CFR 60, Subpart A, General Provisions. The owner/operator is expected to comply with this requirement.

NESHAP

This engine is not subject to the emission or operating limitations in 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, because it is an emergency stationary reciprocating internal combustion engine (40 CFR 63.6600(c)).

CARB STATIONARY DIESEL ENGINE ATCM

The State Office of Administrative Law approved the Airborne Toxic Control Measure (ATCM) on November 8, 2004. State law requires the local Air Districts to implement and enforce the requirements of the ATCM. Effective January 1, 2005, there is a prohibition on the operation of new diesel emergency standby engines greater than 50 bhp unless the following operating requirements and emission standards are met:

"Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations.

Diesel PM – General Requirements

1. Meet 0.15 g/bhp-hr PM standard
2. Operate 50 hours per year, or less, for maintenance and testing (except emergency use and emissions testing)

or

1. Meet 0.01 g/bhp-hr PM standard
2. Operate up to 100 hours per year for maintenance and testing (except emergency use and emissions testing), upon approval by the District.

HC,NOx, NMHC+NOx, CO

1. Meet standards for off-road engines of the same model year and horsepower rating as specified in the OFF-Road Compression Ignition Engine Standards;

or if no standards have been established

2. Meet the Tier 1 standards for an off-road engine for the same maximum rated power.

HC, NOx, NMHC+NOx, CO

1. Meet standards for off-road engines of the same model year and horsepower rating as specified in the OFF-Road Compression Ignition Engine Standards;
   or if no standards have been established
2. Meet the Tier 1 standards for an off-road engine for the same maximum rated power.

This emergency standby diesel engine (S-333) is in compliance with the above ATCM requirements. The diesel engine will operate for no more than 50 hours per year for maintenance and reliability testing. This engine is subject to the EPA Tier 2 off-road CI engine standards for HC, NOx, NMHC+NOx and CO. As shown in the Table 5, the engine meets these requirements.

Table 5. ATCM Tier 2 Compliance

	CARB Certified	ATCM Tier 2

	g/bhp-hr	g/bhp-hr
NMHC+NOx	4.33	4.77
NOx	N/A	N/A
NMHC (POC)	N/A	N/A
CO	0.60	2.6
PM_{10}	0.06	0.15

STATEMENT OF COMPLIANCE

S-333 will be operated as an emergency standby engine and therefore is not subject to the emission rate limits in Regulation 9, Rule 8 ("NOx and CO from Stationary Internal Combustion Engines"). S-333 is exempt from the requirements of Sections 9-8-301 through 305, 501 and 503 per Reg. 9-8-110.5 (Emergency Standby Engines). S-333 is subject to and expected to comply with 9-8-330 (Emergency Standby Engines, Hours of Operation) since non-emergency hours of operation will be limited in the permit conditions to 50 hours per year. S-333 is also subject to and expected to comply with monitoring and record keeping requirements of Regulation 9-8-530 and the SO_2 limitations of 9-1-301 (ground-level concentration) and 9-1-304 (0.5% by weight in fuel). Regulation 9-8-530 requirements are incorporated into the proposed permit conditions. Compliance with Regulation 9, Rule 1 is very likely since diesel fuel with a 0.0015% by weight sulfur is mandated for use in California. Like all combustion sources, S-333 is subject to Regulation 6, Rule 1 ("Particulate Matter"). Regulation 6-1-303.1 limits opacity from internal combustion engines to Ringelmann 2. This engine is not expected to produce visible emissions or fallout in violation of this regulation and will be assumed to be in compliance with Regulation 6-1.

This application is considered to be ministerial under the District's Regulation 2-1-311 and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emission factors in accordance with Permit Handbook Chapter 2.3.

This facility is greater than 1,000 feet from the nearest school and therefore is not subject to the public notification requirements of Regulation 2-1-412.

PSD is not triggered.

Major Facility Review, Regulation 2, Rule 6

This regulation codifies the federal operating permit requirements in 40 CFR Part 70. This facility is a major facility subject to 40 CFR Part 70 (see discussion below), so this new operation will be added to the facility's Title V permit under a separate application.

40 CFR Part 70, State Operating Permit Programs (Title V):

40 CFR Part 70 requires major facilities and designated facilities to obtain and operate under a federal operating permit. This facility is subject to the operating permit requirements of 40 CFR Part 70 and is operating unter a federal Title V/Major Facility Review Permit. The original permit was issued on March 17, 2000 and a significant revision was issued in October 2003. The facility submitted an application for renewal of this permit as required in August 2004; that application is complete and pending the District's proposal of a renewed permit. The addition of this new operation to the Title V/Major Facility Review Permit will be addressed under the permit renewal application, Application #10678.

PERMIT CONDITIONS

CONDITION 22850

1. Operating for reliability-related activities is limited to 50 hours per year per engine.
[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(2)(A)(3) or (e)(2)(B)(3)]

2. The owner or operator shall operate each emergency standby engine only for the following purposes: to mitigate emergency conditions, for emission testing to demonstrate compliance with a District, state or Federal emission limit,

or for reliability-related activities (maintenance and other testing, but excluding emission testing). Operating hours while mitigating emergency conditions or while emission testing to show compliance with District, state or Federal emission limits is not limited.
[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(2)(A)(3) or (e)(2)(B)(3)]

3. The owner/operator shall operate each emergency standby engine only when a non-resettable totalizing meter (with a minimum display capability of 9,999 hours) that measures the hours of operation for the engine is installed, operated and properly maintained. [Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(4)(G)(1)]

4. Records: The owner/operator shall maintain the following monthly records in a District-approved log for at least 36 months from the date of entry (60 months if the facility has been issued a Title V Major Facility Review Permit or a Synthetic Minor Operating Permit). Log entries shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the District staff upon request.

a. Hours of operation for reliability-related activities (maintenance and testing).
b. Hours of operation for emission testing to show compliance with emission limits.
c. Hours of operation (emergency).
d. For each emergency, the nature of the emergency condition.
e. Fuel usage for each engine(s).

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(4)(I), (or Regulation 2-6-501)]

5. At School and Near-School Operation: If the emergency standby engine is located on school grounds or within 500 feet of any school grounds, the following requirements shall apply:

The owner or operator shall not operate each stationary emergency standby diesel-fueled engine for non-emergency use, including maintenance and testing, during the following periods:

a. Whenever there is a school-sponsored activity (if the engine is located on school grounds).
b. Between 7:30 a.m. and 3:30 p.m. on days when school is in session "School" or "School Grounds" means any public or private school used for the purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in a private home(s). "School" or "School Grounds" includes any building or structure, playground, athletic field, or other areas of school property but does not include unimproved school property. [Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(2)(A)(1)] or (e)(2)(B)(2)]

End of Conditions

RECOMMENDATION

Issue an Authority to Construct to United Airlines SFMC for:

S-333
Emergency Standby Diesel Generator Set
2009 Caterpillar, model: C18
900 BHP, 6.21 MMBTU/hr

_____

Elisha Ezersky Date
Air Quality Engineer

APPENDIX C

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 which allows the District to impose requirements.

CAA
The federal Clean Air Act

CAAQS
California Ambient Air Quality Standards

CAM
Compliance Assurance Monitoring per 40 CFR Part 64

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

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)

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.

PTE
Potential to Emit as defined by BAAQMD Regulation 2-6-218

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
cu. ft.	=	cubic foot
cfm	=	cubic feet per minute
dscf	=	dry standard cubic foot
dscfm	=	dry standard cubic foot per minute
g	=	gram
gal	=	gallon
gpm	=	gallons per minute
gr	=	grain
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inch
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

tpy	=	tons per year
yr	=	year