

Bay Area Air Quality Management District

375 Beale Street, Suite 600

San Francisco, CA 94105

(415) 749-5000

**Permit Evaluation
and
Statement of Basis
for
RENEWAL of**

MAJOR FACILITY REVIEW PERMIT

for

**United Airlines, Inc. – San Francisco Maintenance Center
Facility #A0051**

Facility Address:

Maintenance Base Bldg. 49-2 - SFOEN

San Francisco International Airport

San Francisco, CA 94128-3800

Mailing Address:

Same As Above

Application Engineer: Krishnan Balakrishnan

Site Engineer: Krishnan Balakrishnan

Application 27728

January 2018

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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. United is a “major facility” for POC (criteria pollutant) as defined in Regulation 2-6-212.

Major Facility Operating permits (Title V permits) must meet specifications contained in 40 CFR Part 70 as contained in BAAQMD Regulation 2, Rule 6. The permits must contain all “applicable requirements” (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

Each facility in the Bay Area is assigned a facility identifier that consists of a letter and a 4-digit number. This identifier is also considered to be the identifier for the permit. The identifier for this facility is A0051.

This facility received its initial Title V permit on March 17, 2000. United Airlines, Inc.’s Title V Operating permit was revised only once 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.

United Airlines’ Title V Operating permit was last renewed on July 22, 2011. This operating permit was administratively amended on April 2, 2015, the purpose of which was to change the Facility’s Responsible Official.

Since United last renewed its Title V Operating permit, NSR applications 23893, 24102, 24990, 26509, 26609, 27393 and 27643 for new equipment and permit condition changes were issued that resulted in minor revisions to the Title V permit. Table 1 below identifies these applications and their final actions. The detailed evaluation reports for these applications are provided in Appendix B.

The current Title V permit application 27728 was submitted to the District on January 21, 2016. This application is for a permit renewal. Although the current Title V operating permit expired on July 21, 2016, pursuant to BAAQMD Regulation 2-6-410.1, it continues in force until the District takes final action on the permit renewal application. Based on the District’s application review,

the District proposes the draft 2017 Title V renewal operating permit that shows all changes to the existing Title V permit in strikeout/underline format.

Table 1. Summary of NSR Applications

NSR Application	Description	Title V Revision	New Sources	Outcome
23893	New Parts Cleaner to be located in the Tire Shop repair area of the facility.	Minor	1	A/C Issued on 11/21/2011 for <ul style="list-style-type: none"> • S-334 New Permit Condition <ul style="list-style-type: none"> • Condition #25111 A/C cancelled on 7/12/2012 (source never installed)
24102	Alterations to existing equipment S-95 and S-96	Minor	0	Alterations approved on 03/07/2012 for <ul style="list-style-type: none"> • S-95 and S-96
24990	New abatement devices A-195 and A-196 (Selective Catalytic Reduction w/Ammonia Injection)	Minor	0	A/C issued on 01/18/2013 for <ul style="list-style-type: none"> • A-195 and A-196 to abate NOx emissions from S-95 and S-96, respectively New Permit Condition <ul style="list-style-type: none"> • Condition #25429 P/O Issued on 03/27/2014
26509	Modify permit condition 21946 to remove the numerical pressure drop limits and replace them with filter's manufacturer recommended limits.	Minor	0	P/O issued for the Approved Modification of Permit Condition on 10/09/2014 for <ul style="list-style-type: none"> • Condition #21946 associated with • S-123 abated by A-123
26609	A/C to install Phase I Morrison Brothers EVR at an existing aboveground gasoline tank (S-285)	Minor	0	A/C issued on 10/27/2014 for installation of Phase I Morrison Brothers EVR at <ul style="list-style-type: none"> • S-285 Permit Conditions Associated with S-285 <ul style="list-style-type: none"> • Condition #18349 • Condition #18135 • Condition #25723 P/O Issued on 03/10/15

Table 1. Summary of NSR Applications

NSR Application	Description	Title V Revision	New Sources	Outcome
27393	Changes to existing permit conditions for S-90 (in order to streamline the requirements for the testing of different engine models at Test Cell #5), S-95 and S-96 (update condition to remove reference to low fuel usage), archive a condition since the sources associated with this condition are no longer operational), group several sources into one source in order to consolidate non-booth coating operations, and update source descriptions for several sources.	Minor	0	<p>P/O for requested changes issued on 08/15/2016</p> <p>Permit Condition Change</p> <ul style="list-style-type: none"> • Condition #s 14315 and 25429 <p>Permit Condition Archived</p> <ul style="list-style-type: none"> • Condition #23670 <p>Grouped Sources S-97 through S-104 and unpermitted backshops into single Source</p> <ul style="list-style-type: none"> • S-400 <p>Updated Source Descriptions for Several Sources</p>
27643	A/C to install S-401 (Fuel Quantity Process Units Repair and Refurbish Station)	Minor	1	<p>A/C Issued on 08/08/2016 for</p> <ul style="list-style-type: none"> • S-401 <p>New Permit Condition</p> <ul style="list-style-type: none"> • Condition #26311 <p>P/O Issued on 06/12/17</p>

B. Facility Description

United Airlines operates a major hub located at the San Francisco International Airport. Adjacent to the airport is the United Airlines maintenance center that services its 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 last permit renewal, 2009, and this permit renewal, 2016. Approved emissions are one year behind the current year.

	2009	2016
Particulate Matter	23.6 tons/year	3.7 tons/year
Organic	83.8 tons/year	35.4 tons/year
Nitrogen Oxide	92.5 tons/year	54.5 tons/year
Sulfur Dioxide	1.8 tons/year	0.8 tons/year
Carbon Monoxide	35.6 tons/year	15.9 tons/year

The main differences in emissions are attributed to a reduction of contributing sources from those that operated in 2009 to those that currently operate, a reduction of operation (hrs/yr) from a number of current sources, the installation of pollution control equipment, 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 Part 68) programs apply, this section of the permit 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.

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 last renewed on 07/22/2011 and the proposed renewal permit.

Source Number	Description	Permit Action	Application #	Comments
56	Spray Cleaning – Preclean Room	Source Description Changed	N/A	N/A
61	Paint Spray Booth, PV 90207, with 3 Electric Drying Ovens	Source Description Changed	27393	District permit issued on 08/15/2016
92	Aircraft Wash Area	Source Description Changed	N/A	N/A
97 through 104	Docks 1 through 7 Touch Up Painting and B29 Touch Up Painting	Sources S-97 through S-104 and unpermitted backshops grouped into single Source S-400	27393	District permit issued on 08/15/2016
110	Varnish Dip Tank, with associated Electric Curing Ovens	Deleted	N/A	Archived as requested by United, 04/30/14
123	Paint Spray Booth, PV 90213, with Electric Drying Oven	Source Description Changed	27393	District permit issued on 08/15/2016
126	Bonding Shop Paint Booth, PV 90132, with associated Electric Drying Oven	Source Description Changed	N/A	N/A
146	Paint Spray, Cabin Equipment, PV 90211, with Dry Room	Source Description Changed	27393	District permit issued on 08/15/2016
152	Spray Booth, Aerosol Can	Source Description Changed	27393	District permit issued on 08/15/2016

Source Number	Description	Permit Action	Application #	Comments
155-157	Spray Booth, HVLP	Source Description Changed	27393	District permit issued on 08/15/2016
189	Curing Oven, PV 52160	Deleted	N/A	Archived as requested by United, 7/14/10
191	Varnish Dip Tank, with associated Electric Curing Oven	Deleted	N/A	Archived as requested by United, 10/1/09
195	Combustion Turbine	Deleted	N/A	Archived as requested by United, 01/27/12
196	Duct Burner	Deleted	N/A	Archived as requested by United, 01/27/12
198	Facility-wide Wipe Cleaning Operation	Source Description Changed	N/A	N/A
240	Facility-wide Miscellaneous Resin Laminating	Source Description Changed	N/A	N/A
244	Separating – DAF processing	Source Description Changed	27393	District permit issued on 08/15/2016
258	Oil Cooler Flush Cart	Source Description Changed	27393	District permit issued on 08/15/2016
262	Adhesive Layup Table	Source Description Changed	27393	District permit issued on 08/15/2016
275	Tire Shop Maintenance and Repair	Deleted	N/A	Archived as requested by United, 01/01/14
280	Paint Spray Booth	Deleted	N/A	Archived as requested by United, 05/01/12
284	Oil Cooler Flush Cart, PV 12129	Source Description Changed	27393	District permit issued on 08/15/2016
285	Non-retail GDF #916	Source Description Changed	27393	District permit issued on 08/15/2016
316 - 323	Plasma Metal Application	Source Description Changed	27393	District permit issued on 08/15/2016
291	Parts Washer, PV90141	Deleted	N/A	Archived as requested by United, 04/30/14
292	Parts Washer, PV90143	Deleted	N/A	Archived as requested by United, 04/30/14
293	Parts Washer, PV90125	Deleted	N/A	Archived as requested by United, 04/30/14
302	Standby Generator	Deleted	N/A	Archived as requested by United, 04/01/13

Source Number	Description	Permit Action	Application #	Comments
315	Emergency Standby CI Engine	Deleted	N/A	Archived as requested by United, 01/27/12
326	Emergency Standby Engine	Source Description Changed	27393	District permit issued on 08/15/2016
327	Aircraft Generator Repair Station	Deleted	N/A	Archived as requested by United, 04/30/14
328	Parts Cleaner	Deleted	N/A	Archived as requested by United, 03/31/14
329	Parts Cleaner	Deleted	N/A	Archived as requested by United, 03/31/14
333	Emergency Standby Engine	Source Description Changed	27393	District permit issued on 08/15/2016
400	Facility-wide Non-Booth Aerospace Coating Operations	Added	27393	Sources S-97 through S-104 and unpermitted backshops grouped into single Source S-400. District permit issued on 08/15/2016.
401	Fuel Quantity Process Units (FQPU) Repair and Refurbish Station Includes hot plates, electric oven, and ultrasonic bath system Capacity: 42 FQPU/ year	Added	27643	District permit issued on 08/08/2016 District issued P/O on 06/12/2017

The following table lists changes to the Abatement Device List since the permit was last renewed on 07/22/2011.

Abatement Device Number	Description	Permit Action	Application #	Comments
33	SCR NO _x control with CO catalyst	Archived	N/A	N/A
195	Selective Catalytic Reduction (SCR) w/ Ammonia injection	Added	24990	District permit issued on 03/27/2014
196	Selective Catalytic Reduction (SCR) w/ Ammonia injection	Added	24990	District permit issued on 03/27/2014

III. Generally Applicable Requirements

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

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

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Title V permit if they are considered a significant source pursuant to the definition in BAAQMD Rule 2-6-239.

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.

Section IX of the permit contains any permit shields. The District rules allow two types of permit shields: (1) A provision in a major facility review permit explaining that specific federal

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 will assure compliance with all emission limits. A discussion of permit shields applicable to this permit is included in Section C.IX of this permit evaluation/statement of basis.

Complex Applicability Determinations:

Applicability of 40 CFR 64, Compliance Assurance Monitoring

Per 40 CFR 64.2(a), emission units (as defined in 40 CFR Parts 64.1 and 70) will be subject to 40 CFR 64, Compliance Assurance Monitoring, if the units are subject to a federally enforceable requirement for a pollutant, the pollutant is controlled by an abatement device, and the emissions of the pollutant before abatement are more than 100% of the major source thresholds.

The definition of emission unit used in 40 CFR 64 is as follows:

Emissions unit means any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act. This term is not meant to alter or affect the definition of the term “unit” for purposes of title IV of the Act.

It is not exactly equivalent to the BAAQMD’s definition of source in BAAQMD Regulation 2-1-221, which states:

Source: Any article, machine, equipment, operation, contrivance or related groupings of such which may produce and/or emit air pollutants.

In this case, the emission unit is similar to the “related groupings.” Various sources are controlled by one abatement device. Some of the emission limits apply to a group of sources that are abated by one abatement device. This “grouping” will be considered to be an emission unit for the purposes of 40 CFR 64.

The boilers S-95 and S-96 utilize selective catalytic reduction (SCR) with ammonia injection (abatement equipment) to reduce NOx emissions. Based on pre-control potential NOx emissions, the boilers are not subject to 40 CFR 64 requirements. Although CO emissions from the boilers are greater than 100 tpy per unit major source threshold, the boilers do not utilize abatement equipment to control CO emission and, therefore, are not subject to 40 CFR 64 requirements.,

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	Pre-abatement Emissions (TPY)	CAM Applicability (Applicable if emissions > 100 TPY)
16	216	PM ₁₀	5.16E-03	None
	416			

Source #	Abatement #	Pollutant	Pre-abatement Emissions (TPY)	CAM Applicability (Applicable if emissions > 100 TPY)
17	217	PM ₁₀	3.85E-03	None
	416			
18	218	PM ₁₀	1.37E-03	None
	418			
19	219	PM ₁₀	2.12E-03	None
	418			
20	220	PM ₁₀	1.13E-04	None
	420			
21	221	PM ₁₀	3.85E-04	None
	420			
22	222	PM ₁₀	7.52E-04	None
	422			
23	223	PM ₁₀	8.14E-03	None
	423			
95	195	NOx	2.88E+00	None
96	196	NOx	2.88E+00	None
123	123	PM ₁₀	1.72E-02	None
316	316	PM ₁₀	3.14E-06	None
317	317	PM ₁₀	5.60E-06	None
318	318	PM ₁₀	1.90E-08	None
319	319	PM ₁₀	2.65E-07	None
320	320	PM ₁₀	2.97E-07	None
321	321	PM ₁₀	3.10E-07	None
322	322	PM ₁₀	5.04E-07	None
323	323	PM ₁₀	5.66E-07	None

NESHAPS

United Airlines continues to be subject to 40 CFR Part 63, Subpart GG, “National Emission Standards for Aerospace Manufacturing and Rework Facilities”. At the time this NESHAP was adopted, the United facility was a major source of HAPs, although operations have been reduced so that the facility has emissions below major source HAP thresholds today. Despite this, the Aerospace NESHAP is still an applicable requirement because of EPA’s “once in always in” policy regarding NESHAP applicability.

40 CFR Part 63, Subpart ZZZZ-National Emission Standards for Hazardous Air Pollutants from Stationary Reciprocating Internal Combustion Engines: This standard applies to Reciprocating Internal Combustion Engines located at Area and Major Sources of Hazardous Air Pollutants. The facility operates several diesel engines shown below that are subject to this standard.

S-295, Emergency Standby Engine, Detroit Diesel, 150 hp.

S-296, Emergency Standby Engine, Detroit Diesel, 150 hp.
S-297, Emergency Standby Engine, Detroit Diesel, 230 hp.
S-300, Emergency Standby Engine, Detroit Diesel, 400 hp.
S-301, Emergency Standby Engine, Isuzu, 200 hp.
S-304, Emergency Standby Engine, Fire Pump, Cummins, 380 hp.
S-305, Emergency Standby Engine, Fire Pump, Cummins 380 hp.
S-306, Emergency Standby Engine, Fire Pump, Cummins 380 hp.
S-307, Emergency Standby Engine, Fire Pump, Cummins 380 hp.
S-308, Emergency Standby Engine, Fire Pump, Cummins, 380 hp.
S-309, Emergency Standby Engine, Fire Pump, Cummins, 380 hp.
S-310, Emergency Standby Engine, Fire Pump, Cummins, 380 hp.
S-311, Emergency Standby Engine, Fire Pump, Cummins, 380 hp.
S-312, Emergency Standby Engine, Fire Pump, Cummins, 380 hp.
S-313, Emergency Standby Engine, Fire Pump, Cummins, 300 hp.
S-314, Emergency Standby Engine, Fire Pump, Hatz, 51 hp.
S-333, Emergency Standby CI Engine, Caterpillar, 900 hp.

40 CFR Part 63, Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants Industrial, Commercial, and Institutional Boilers and Process Heaters: This standard applies to an Industrial, Commercial, or Institutional boiler or process heater that is located at, or is part of, a Major Source of Hazardous Air Pollutants. This facility operates two boilers shown below that are subject to this standard since the status of these two boilers changed from backup to full time in 2012. Since the two boilers are natural gas-fired, applicable requirements in Subpart DDDDD include the work practice standards pursuant to 40 CFR 63.7500 and Table 3.

S-95, Boiler #8006, B&W FM, 96 MMBTU/hr – Natural Gas Fired.
S-96, Boiler #8007, B&W FM, 96 MMBTU/hr – Natural Gas Fired.

Changes to Permit:

Section IV has been modified to state that SIP standards are now found on EPA's website and are not included as part of the permit.

The following part IV tables are new tables.

IV-C: The applicable requirements listed in the existing Title V Permit for Source 56 (Preclean Room), S-92 (Aircraft Wash Area), and S-198 (Wipe Cleaning) have been edited to better align with the operations at these sources. Based on a review of BAAQMD's Regulation 8 rules, these three sources each should be subject to BAAQMD Rules 8-1, 8-16, and 8-29. Thus, these sources were deleted from their respective tables and combined.

S-56 is a room where aqueous cleaning solutions are spray-applied to aircraft parts or subassemblies and would not be considered a cold cleaner. S-92 is a similar operation for the cleaning of aircraft. S-198 is the facility-wide wipe cleaning source that uses various solvent-based products. Hence, BAAQMD Regulation 8-4 (General Solvent and Surface Coating Operations) does not apply to these three sources. Instead, BAAQMD Regulations 8-1 (General Provisions), 8-16 (Solvent Cleaning Operations), and 8-29 (Aerospace Assembly and Component Coating Operations) apply to them. Wipe cleaning activities are also exempt from Regulation 8-16-301 through 304. Applicability of Regulation 8-16 is limited to only the recordkeeping portion as these sources are not “cold cleaners”.

IV-D: S61, S123, S126, S146 Aerospace Paint Spray Booths with Associated Drying Ovens; S400 Facility-Wide Non-Booth Aerospace Coating Operations. S-400 was created under Application No. 27393 and is composed of previously permitted sources S-97 through S-104 (docks) and all non-point source coating operations (i.e., backshops).

IV-H: S240 (Facility-Wide Miscellaneous Resin Laminating): Regulation 8-50 was updated in 2009 and is now applicable to S240. Thus this source is included in a separate table than S262.

IV-I: S262 (Adhesive Application and Stripping Operation): Because the requirements for S240 changed, this source (S262) was placed into a separate table here.

IV-O: S401 (Fuel Quantity Process Units (FQPU)s Repair and Refurbish Station): Includes hot plates, electric oven, and ultrasonic bath system; Capacity: 42 FQPU/ year; S401 was added under Application No. 27643.

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

IV-A: S56 (Spray Cleaning – Preclean Room): Source S-56 is now included in Table IV-C.

IV-A: S291, S292, S293 (Parts Washers): Sources S-291, S-292, and S-293 were archived on April 30, 2014.

IV-A: S328, S329 (Parts Cleaners): Sources S-328 and S-329 were archived on March 31, 2014

IV-C: It is now called IV-D.

IV-D: It is now called IV-E.

IV-H: It is now called IV-G.

IV-K: It is now called IV-J.

IV-L: It is now called IV-K.

IV-M: It is now called IV-L.

IV-N: It is now called IV-M.

IV-O: It is now called IV-N.

The following Part IV Tables or sections of Part IV Tables from the previous Title V permit will be deleted because the source(s) has/have been removed from service, consolidated into another source, or meet permit exemption requirements:

IV-D: S97 through S104 (Aircraft Painting Docks): Sources S97 through S104 and unpermitted backshops grouped into single source S400 under Permit Application #27393.

IV-D: S275 (Tire Shop Maintenance and Repair): Source S275 archived on January 01, 2014.

IV-D: S280 (Paint Spray Booth): Source S280 archived on May 01, 2012.

IV-D: S327 (Aircraft Generator Repair Station): Source S327 archived on April 30, 2014.

IV-E: S92 (Aircraft Wash Area): Source S92 is now included in Table IV-C.

IV-G: S110, S191(Varnish Dip Tanks, With Associated Electric Curing Ovens); S240 (Miscellaneous Resin Laminating); S262 (Adhesive Application and Stripping Operation): S110 and S191 have been permanently removed from the facility and the PTO cancelled. The Applicable Requirements for Sources S240 and S262 have been moved to a different table.

IV-I: S195 (Combustion Turbine); S196 (Duct Burner): Sources S195 and S196 (Combustion turbine and Duct burner) are no longer in operation and have been permanently removed from the facility and the PTO cancelled.

IV-J: S198 (Wipe Cleaning): The applicable requirements for Source S198 has been moved and is now part of Table IV – C.

IV-L: S302 (Emergency Standby Engine (Propane)): S302 is no longer in operation or permitted. Source S-302 archived on April 01, 2013.

Changes to Source-specific Applicable Requirements in Tables

Table IV-A

- Added BAAQMD Regulation 8-1-322 (Spray Equipment Clean-up Limitation).

- Added BAAQMD Regulation 8-16-123 (Limited Exemption, Specific Cleaning Operations), which provides an exemption from the requirements of Section 8-16-303.5 for solvent use associated with aerospace parts (Regulation 8-16-123: “Effective June 1, 2003, Section 8-16-303.5 shall not apply to (i) the cleaning of aerospace components”).
- Added BAAQMD Regulations 8-29-304, 8-29-304.1, 8-29-304.2, and 8-29-304.3.
- Deleted BAAQMD Condition #18260 (Permit Condition for S-291, S-292, and S-293 since these sources have been archived).
- Deleted BAAQMD Condition #23500 (Permit Condition for S-328 and S-329) since these sources have been archived.

Table IV-B

- Added CCR, Title 17, Sections 93102.4(b)(2)(A)(2): Measurement from centroid of the stack to the property line of the nearest sensitive receptor and 93102.4(b)(2)(B): Must use an add-on air pollution control device(s) to control hexavalent chromium.
- The material incorporated in Chapter 5 of the California Regulatory Requirements Applicable to the Air Toxics Program (California Code of Regulations, Title 17, section 93102) pertains to the chromium electroplating and anodizing source category in the State of California, and has been approved under the procedures in §63.93 to be implemented and enforced in place of subpart N—National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks (40 CFR 63.99(a)(5)(ii)E).

Table IV-C

- The requirements listed in the existing Title V Permit for S-56 (Preclean Room), S-92 (Aircraft Wash Area), and S-198 (Wipe Cleaning) have been edited to better align with the operations at these sources. These three sources should be subject to BAAQMD Rules 8-1, 8-16, and 8-29. Thus, these sources were deleted from their respective tables and combined in a new table.

Table IV-D

- Added EPA 40 CFR Part 63, Subpart GG Exemptions 63.745(f)(3): Application Equipment Exemptions, 63.745(f)(3)(iv): Airbrush Application Exemption, 63.745(f)(3)(v): Handheld Spray Gun Application Exemption, and 63.745(f)(3)(vi): Touch-up and Repair Exemption.
- Deleted BAAQMD Permit Condition #23499 (Permit Condition for S-275) since S-275: Tire Shop Maintenance and Repair has been archived.
- Deleted BAAQMD Permit Condition #24442 (Permit Condition for S-280) since S-280: Paint Spray Booth has been archived.
- Deleted BAAQMD Permit Condition #22985 (Permit Condition for S-327) since S-327: Aircraft Generator Repair Station has been archived.

Table IV-E

- Added SIP Regulations 9-1-301 (Limitations on Ground Level Concentrations) and 9-1-304 (Liquid and Solid Fuels).

Table IV-F

- Added SIP Regulations 9-1-301 (Limitations on Ground Level Concentrations), 9-1-302 (General Emissions Limitation) and 9-1-304 (Fuel Burning – Liquid Fuels).
- S-95 and S-96 no longer qualify for the low use exemption and are abated by SCR, so applicable requirements were updated appropriately (certain sections of SIP Regulation 9, Rule 7 and BAAQMD Regulation 9, Rule 7) were deleted.
- Added 40 CFR Part 63, Subpart DDDDD (Boiler MACT) as applicable due to the boilers (S-95 and S-96) status change from backup to full time when Cogen facility was retired.
- Deleted BAAQMD Condition #23670 and added BAAQMD Condition #25429.

Table IV-G

- Added BAAQMD Regulations 8-32-320.3 (Mixing and Storage Equipment Cleanup Requirements) and 8-32-321 (Surface Preparation Standards).
- Updated the Applicable Requirements of SIP Regulation 8, Rule 32 (Organic Compounds – Wood Products Coatings).
- Updated the Applicable Requirements of BAAQMD Regulation 8, Rule 45 (Organic Compounds – Motor Vehicle and Mobile Equipment Coating Operations).
- Deleted SIP Regulation 8-45-301 (Coating VOC Limits).

Table IV-H

- New Table. Regulation 8-50 was updated in 2009 and is now applicable to S-240. Thus this source is included in a separate table than S-262.

Table IV-I

- New Table. Because the requirements for S-240 changed, S-262 (Adhesive Application and Stripping Operations) was placed into a separate table here.

Table IV-J

- Table for S-244. Was Table IV-K in the prior Title V permit.

Table IV-K

- Deleted SIP Regulation 8, Rule 7 requirements since the SIP version of this rule is the same as the current BAAQMD rule.
- Deleted BAAQMD Condition #'s 25107 and 16516 since these are archived conditions.
- Added Executive Orders G-70-187, VR-402-A and VR-301-A.

Table IV-L

- Updated the requirements of BAAQMD Regulation 9, Rule 1.
- Added the requirements of SIP Regulation 9, Rule 1.
- Deleted BAAQMD Regulation 9-8-330.2 (Emergency Standby Engines, Hours of operation – 100 hrs limit) because engines are now subject to 50-hour limit per BAAQMD Regulation 9-8-330.3.
- Deleted Table 2c 6.a. to Subpart ZZZZ: Schedule for oil and filter change (applied to S-302 only), since S-302 is no longer in operation or permitted.
- Deleted Table 6 9.a. to Subpart ZZZZ (Work or Management Practices) which applied to S-302 only, since S-302 is no longer in operation or permitted.
- Deleted the requirements of 40 CFR Part 63, Subpart ZZZZ for S-302 since S-302 is no longer in operation or permitted.
- Added the requirements of 40 CFR Part 60, Subpart A and 40 CFR Part 60, Subpart IIII for S-333 only.
- Updated the references to the ATCM for Stationary Compression Ignition Engines (5/19/2011) applicable to S-326 and S-333 to be consistent with the current version.

Table IV-M

- Added SIP Regulation 9, Rule 1.
- Updated CCR, Title 17, Section 93115 requirements.
- Updated BAAQMD Condition No. 22851 requirements.
- Deleted BAAQMD Regulation 9-8-330.2 requirement (See Table IV-L note).

Table IV-N

- Updated CCR, Title 17, Section 93101.5 requirements.
- Updated BAAQMD Condition No. 23504 requirements.

Table IV-O

- New Table for Source S-401 (Fuel Quantity Process Units Repair and Refurbish Station).
- Added BAAQMD Regulation 8, Rule 1 requirements.
- Added BAAQMD Regulation 8, Rule 4 requirements.
- Added BAAQMD regulation 8, Rule 29 requirements.
- Added BAAQMD Condition No. 26311 requirements.

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:

“409.10A schedule of compliance containing the following elements:

- 10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;

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

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

Changes in this action

There are no changes to this section in this action.

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 bases:

- **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.

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.

Any condition that is preceded by an asterisk is not federally-enforceable.

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

Changes in this action

Condition No. 14315:

- Modified Part 3 of the Condition for Source 90 (Engine Test Cell #5) under Application No. 27393.

Condition No. 24442:

- Removed the Condition since this is an Archived Condition. Source 280 (Paint Spray Booth) was archived on May 01, 2012.

Condition No. 16516:

- Removed this Condition since it no longer applies to Source 285 (Gas Station) and is no longer in the Permit to Operate.

Condition No. 18135:

- This Condition for Source 285 (Gas Station) was added since it is a Current Condition that applies to S-285.

Condition No. 18260:

- Removed this Condition since it is an Archived Condition. Sources 291, 292, and 293 (Parts Washers) were archived on April 30, 2014.

Condition No. 18349:

- This Condition for Source 285 (Gas Station) was added since it is a Current Condition that applies to S-285.

Condition No. 21946:

- Updated this Condition for Source 123 (Spray Booth) to remove pressure drop specificity and replace with language consistent with 40 CFR 63.745(g)(3). Part 3.f was added to require United to keep documentation from the filter manufacturer..

Condition No. 22820:

- Updated the Basis for the different parts of the Condition for Sources 295, 296, 297, 300, and 301 (Emergency Standby Engines).
- Removed the reference to Source 315 (Emergency Standby Engine) from the Condition. Source S-315 was archived on January 27, 2012.

Condition No. 22850:

- Updated the Basis for the different parts of the Condition for Sources 326 and 333 (Emergency Standby Engines).

Condition No. 22851:

- Updated the Basis for the different parts of the Condition for Sources 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314 (Emergency Standby Engine, Fire Pump).

Condition No. 22985:

- Removed this Condition since it is an Archived Condition. Source 327 (Aircraft Generator Repair Station) was archived on April 30, 2014.

Condition No. 23499:

- Removed this Condition since it is an Archived Condition. Source 275 (Tire Shop maintenance and Repair) was archived on January 01, 2014.

Condition No. 23500:

- Removed this Condition since it is an Archived Condition. Sources 328 and 329 (Parts Washers) was archived on March 31, 2014.

Condition No. 23670:

- Removed this Condition since it is an Archived Condition. United submitted a PTO modification application to remove this Condition as Sources 195 (Combustion Turbine) and 196 (Duct Burner) have been permanently removed. This action was completed under Application No. 27393. Sources S-195 and S-196 were archived on January 27, 2012.

Condition No. 25107:

- Removed this Condition since it no longer applies to Source 285 (Gas Station) and has been archived and replaced with Condition No. 25723 under Application No. 26609.

Condition No. 25429:

- Modified Part 1 of this Condition. The change was made under Application #27393.

Condition No. 25723:

- Added this Condition since it is a current condition applying to Source 285 (Gas Station) per Application No. 26609.

Condition No. 25111:

- Removed this Condition. This Condition applied to Source 334 which was never installed.

Condition No. 26311:

- Added this Condition. This Condition applies to Source 401 (Fuel Quantity Process Units (FQPUs) Repair and Refurbish Station) which was permitted under Application No. 27643.

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. 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) the 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 changes to the monitoring requirements to sources that required no monitoring when United Airlines' Title V Operating permit was last renewed on July 22, 2011.

SO₂ 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	BAAQMD 9-1-301	Ground level concentrations of SO ₂ shall not exceed: 0.5 ppm for 3 consecutive minutes AND 0.25 ppm averaged over 60 consecutive minutes AND 0.05 ppm averaged over 24 hours	None
295, 296, 297, 300, 301, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 326, 333	BAAQMD 9-1-302	300 ppm (dry)	None
Emergency Standby Engines	BAAQMD 9-1-304	Sulfur content of fuel < 0.5% by weight	None

SO₂ Discussion:**BAAQMD Regulation 9-1-301**

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

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

Therefore, no monitoring is necessary for Regulation 9, Rule 1 for sources 95 and 96 Boilers, 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 SO₂ 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, 300, 301, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 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 295, 296, 297, 300, 301, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 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% O₂. These are the “grain loading” standards.

Exceedances of the grain loading standards are normally not associated with combustion of gaseous fuels, such as natural gas. Sources 95 and 96 Boilers 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.

This limitation also applies to the test cells and the emergency standby engines. These engines are not expected to produce visible emissions or fallout in violation of this regulation and will be assumed to be in compliance with BAAQMD Regulation 6-1.

NOx Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-95 and S-96 Boilers	SIP Regulation 9-7-301.1	Gaseous Fuel: 30 ppmv @ 3% O ₂ (dry)	None

NOx Discussion:

NOx emissions from S-95 and S-96 Boilers are now abated by A-195 (Selective Catalytic Reduction w/ Ammonia Injection) and A-196 (Selective Catalytic Reduction w/Ammonia Injection), respectively and comply with the BAAQMD Regulation 9-7-307.6 NOx limit of 5 ppmv @ 3% O₂ (dry) which has been effective since January 1, 2012 and is more

stringent than SIP Regulation 9-7-301.1. The BAAQMD Regulation 9-7-403 (initial demonstration) and 9-7-506 (periodic demonstration) requires United Airlines to source test the boilers. Because the rule requires periodic source testing to demonstrate compliance with BAAQMD Regulation 9-7-307.6, BAAQMD Permit Condition #25429 does not explicitly cite emission limits and/or require source testing. Since BAAQMD Regulation 9-7-307.6 has a more stringent limit, no monitoring is necessary for the 30 ppmv @ 3% O₂ (dry) limit of SIP Regulation 9-7-301.1.

Discussion of Other Pollutants:

CO Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-95 and S-96 Boilers	SIP Regulation 9-7-301.2	Gaseous Fuel: 400 ppmv @ 3% O ₂ (dry)	None

CO Discussion:

CO emissions from S-95 and S-96 Boilers comply with the BAAQMD Regulation 9-7-307.6 CO limit of 400 ppmv @ 3% O₂ (dry) which has been effective since January 1, 2012 and is as stringent as SIP Regulation 9-7-301.2. Therefore, no monitoring is necessary for the 400 ppmv @ 3% O₂ (dry) limit of SIP Regulation 9-7-301.2. The BAAQMD Regulation 9-7-403 (initial demonstration) and 9-7-506 (periodic demonstration) requires United Airlines to source test the boilers. Because the rule requires periodic source testing to demonstrate compliance with BAAQMD Regulation 9-7-307.6, BAAQMD Permit Condition #25429 does not explicitly cite emission limits and/or require source testing.

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.
- Deleted following sources: S110, S191, S195, S196, S275, S280, S291, S292, S293, S302, S315, S327, S328, and S329 are no longer in service. Renumbered the tables after deleting above sources.
- Previously permitted sources S-97 through S-104 have been grouped into single source S-400.
- Added following new sources: S400 and S401.
- Updated the permit condition numbers in the citation of limit section and in monitoring requirement citation.

Table VII-A

- Deleted S56 (Spray Cleaning - Preclean Room) from Table VII-A. S56 is now included in Table VII-C.
- Deleted S291, S292, S293 (Parts Washers) from Table VII-A. Sources S291, S292, and S293 were archived on April 30, 2014.
- Deleted S328 and S329 (Parts Cleaners) from Table VII-A. Sources S328 and S329 were archived on March 31, 2014.
- Deleted citation of BAAQMD Condition No. 18260, Part 1 (Solvent usage for S291, S292, and S293).
- Deleted citation of BAAQMD Condition No. 23500, Part 1 (Solvent usage for S328 and S329).

Table VII-C (New Table)

- The requirements listed in the existing Title V Permit for Source 56 (Preclean Room), S-92 (Aircraft Wash Area), and S-198 (Wipe Cleaning) have been edited to better align with the operations at these sources. Based on a review of BAAQMD's Regulation 8 rules, these three sources should be subject to BAAQMD Rules 8-1, 8-16, and 8-29. Thus, these sources were deleted from their respective tables and combined into a new table.

Table VII-D (Table VII-C in the previous Title V permit)

- Sources S-97 through S-104 (Aircraft Painting Docks) and unpermitted backshops grouped into single source S-400 (Facility-Wide Non-Booth Coating Operations) under Permit Application No. 27393.
- Sources S275, S280, and S-327 deleted from Table VII-D. Source S-275 archived on January 01, 2014. Source S-280 archived on May 01, 2012. Source S-327 archived on April 30, 2014.
- Removed POC limit for S275 (Citation: Condition No. 23499, Part 1), POC limit for S280 (Condition No. 24442, Part 1) and POC limit for S327 (Citation: Condition No. 22985, Part 1).

Table VII-E (Table VII-D in the previous Title V permit)

- Deleted FP Limits (SIP Regulation 6-310 and BAAQMD Regulation 6-1-310) from Table VII-E.
- Added SO₂ limit (SIP Regulation 9-1-301) and Sulfur content limit (SIP Regulation 9-1-304).

Table VII-E (Deleted) (Table from previous Title V permit)

- S92 (Aircraft Wash Area) is now included in Table VII-C. Therefore, deleting above table.

Table VII-F

- The NO_x and CO limits have been updated for the boilers (S-95 and S-96) to account for the recently installed Selective Catalytic Reduction (SCR) control equipment, which was installed to achieve compliance with BAAQMD Rule 9-7 limits.
- SO₂ limits from SIP Regulation 1-301 and SIP Regulation 9-1-302 have been added.
- Sulfur limit from SIP Regulation 9-1-304 has been added.
- Ammonia limit BAAQMD Condition No. 25429, Part 1 has been added.

Table VII-G (Deleted) (Table from previous Title V permit)

- S110 (Varnish Dip Tank with Associated Electric Curing Oven) archived on 30 April 2014. S191 (Varnish Dip Tank with Associated Electric Curing Oven) archived on October 01, 2009. S240 (Miscellaneous Resin Laminating) now included in Table VII H. S262 Adhesive Application and Stripping Operation now included in Table VII I. Therefore, deleting above table.

Table VII-G (Table VII-H in the previous Title V permit)

- Deleted VOC limit (BAAQMD Regulation 8-49-301) from Table VII-G.
- Added VOC limit (SIP Regulation 45-308.4) in Table VII-G
- Added Usage limit (SIP Regulation 8-45-314) in Table VII-G.

Table VII-H (New Table)

- BAAQMD Regulation 8-50 was updated in 2009 and is now applicable to S240 (Facility-Wide Miscellaneous Resin Laminating). Thus this source is included in a separate table (Table VII-H) than S262 (Adhesive Application and Stripping Operation).

Table VII-I (New Table)

- Because the requirements for S240 (Facility-Wide Miscellaneous Resin Laminating) changed, S262 (Adhesive Application and Stripping Operation) was separated and put into its own table (Table VII-I).

Table VII-I (Deleted) (Table from previous Title V permit)

- S195 (Combustion Turbine) and S196 (Duct Burner) are no longer in operation or permitted. Per Databank, S195 and S196 were archived on January 27, 2012. Hence, the above table was deleted.

Table VII-J (Deleted) (Table from previous Title V permit)

- S198 (Wipe Cleaning) is now included in Table VII-C. Hence, the above table was deleted.

Table VII-K (Table from previous Title V permit)

- Table VII-K for S244 (Dissolved Air Flotation Unit) is now renumbered to Table VII-J.

Table VII-L (Table from previous Title V permit)

- Table VII-L for S285 (Non-Retail Gasoline Dispensing Facility) is now renumbered to Table VII-K.

Table VII-M (Table from previous Title V permit)

- Table VII-M is now renumbered to Table VII-L.
- Source S315 (Emergency Standby Engine – Diesel) removed from new Table VII-L. It was archived on January 27, 2012.
- Source S302 (Emergency Standby Engine – Propane) removed from new Table VII-L. It was archived on April 01, 2013.
- SO₂ limits (SIP Regulations 9-1-301 and 9-1-302) added to new Table VII-L.
- Sulfur limit (SIP Regulation 9-1-304) added to new Table VII-L.
- Hours of Operation limit (BAAQMD Regulation 9-8-330.2) deleted from new Table VII-L.
- Opacity, PM, NMHC + HC, CO limits (40 CFR 60.4205(b)) for S333 (Emergency Standby Engine – Diesel) added to new Table VII-L.
- Fuel Sulfur Content and Other Limits (40 CFR 60.4207(b)) for S333 added to new Table VII-L.
- Operating Hours limit (40 CFR 60.4211(f)(2)) for S333 added to new Table VII-L.
- Schedule for oil and filter change limit (Table 2c.6.a to 40 CFR Part 63 Subpart ZZZZ) for S302 (Emergency Standby Engine – Propane) removed from new Table VII-L since S302 archived on April 01, 2013.

Table VII-N (Table from previous Title V permit)

- Table VII-N is now renumbered to Table VII-M.

Table VII-O (Table from previous Title V permit)

- Table VII-O is now renumbered to Table VII-N.

Table VII-O (New Table)

- Table VII-O lists the Applicable Limits and Compliance Monitoring Requirements for S401: Fuel Quantity Process Units (FQPUs) Repair and Refurbish Station Includes hot plates, electric oven, and ultrasonic bath system, Capacity: 42 FQPU/ year. S401 was permitted under application No. 27643.

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.

The test methods have been updated to reflect the changes to the sources at the facility.

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
S-1, 9, 10, 57, 64, 78, 80, 105, 112, 128, 140	Solvent Cleaning Operations	BAAQMD Reg 8-16-303.5	Reg 8-16-123 Limited Exemption, Specific Cleaning Operations: These sources involve the cleaning of aerospace components.
S-87, 88, 89, 90	APU Test Cells and Engine Test Cells	BAAQMD Reg 9-9 – Inorganic Gaseous Pollutants - Nitrogen Oxides from Stationary Gas Turbines	Reg 9-9-111.1; Exemption, General; Testing of aircraft gas turbine engines for flight certification.
95, 96	Boilers	BAAQMD Reg 8-2-301 – Standards; Miscellaneous Operations	Reg 8-2-110 – Exemption, Natural Gas; Natural gas is the only fuel used.

Source #	Source Description	Requirements Not Applicable	Basis
		40 CFR 60, Subpart Db (NSPS) – Standards of Performance for Industrial - Commercial-Institutional Steam Generating Units	40 CFR 60.40b(a): Sources were constructed before the applicability date of 6/16/84 and heat input is less than applicable thresholds (between 100 to 250 MMBtu/hr).
		40 CFR 60, Subpart Dc (NSPS) – Standards of Performance for Small Industrial - Commercial - Institutional Steam Generating Units	40 CFR 60.40c(a): Sources were constructed before the applicability date of 6/9/89.
		40 CFR 63, Subpart DDDDD – NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters – Emissions. Boilers S-95 and S-96 are not subject to the emission limits in Tables 1 and 2 or 11 through 13, or the operating limits in Table 4 of 40 CFR 63, Subpart DDDDD. 40 CFR 63.7500.	40 CFR 63, Subpart DDDDD. 40 CFR 63.7500(e). Boilers S-96 and S-96 combust only natural gas. Under this Subpart, boilers that combust only natural gas are considered “Gas 1” units, which are not subject to the emission limits in Tables 1 and 2 or 11 through 13, or the operating limits in Table 4 of 40 CFR 63, Subpart DDDDD.
155, 156, 157	Non-Aerospace Paint Booths	40 CFR Part 63 Subpart GG	40 CFR 63.741(c), (f), Applicability: No aerospace components are processed at these sources.
		BAAQMD Regulation 8-29	Spray Booths are not used for Aerospace Components
		40 CFR Part 63, Subpart JJ - Wood Furniture Manufacturing NESHAP	40 CFR 63.800(a), 63.801: The facility meets the definition an incidental wood furniture manufacturer, which exempts the facility from the Wood Furniture Manufacturing NESHAP.
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.
N/A	Depainting Booth	40 CFR Part 63, Subpart GG – National Emission Standards for Aerospace Manufacturing and Rework Facilities	40 CFR 63.741(c)(8), 63.746(a)(1),(3): For inorganic HAP emissions, this subpart is not applicable to the depainting of aircraft parts or units, subassemblies, and assemblies that are normally removed from the aerospace vehicle or primary aircraft structure for depainting or to the depainting of radomes.

Changes to permit:

The standard language in the Section IX, Permit Shield, was updated.

X. Glossary

Changes to permit:

The glossary was updated.

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

E. Compliance Status:

The responsible official for United Airlines – San Francisco Maintenance Center submitted a signed Certification Statement form dated January 14, 2016. On this form, the responsible official certified that the following four statements are true:

Based on information and belief formed after reasonable inquiry, the source(s) identified in the Applicable Requirements and Compliance Summary form that is(are) in compliance will continue to comply with the applicable requirement(s);

Based on information and belief formed after reasonable inquiry, the source(s) identified in the Applicable Requirements and Compliance Summary form will comply with future-effective applicable requirement(s), on a timely basis;

Based on information and belief formed after reasonable inquiry, information on application forms, all accompanying reports, and other required certifications is true, accurate, and complete;

All fees required by Regulation 3, including Schedule P have been paid.

F. Differences between the Application and the Proposed Permit:

The Title V permit application to renew the permit was submitted on January 21, 2016. This version is the basis for constructing the proposed Title V permit. At the time the Title V permit application was submitted the following two NSR Applications had been received but not yet issued. They have now been issued. The applications resulted in the addition of the following sources and abatement devices to the permit:

Application Description

27393	Amendment to the Permit to Operate for the facility. The amendments consisted of a modification of Part 3 of Permit Condition #14315 for Test Cell #5 (S-90); an update to Permit Condition #25429 to remove reference to low fuel usage; archiving Condition #23670 for Sources S-195 (Combustion Turbine) and S-196 (Duct Burner); grouping of Sources S-97 through S-104 and unpermitted backshops into single new Source S-400 (Facility-wide Non-Booth Aerospace Coating Operations); updating of source descriptions of S-61, S-123, and S-146; revising of source descriptions for S-16 through S-333.
27643	Authority to Construct Source S-401 (Fuel Quantity Process Units (FQPUs) Repair and Refurbish Station Includes hot plates, electric oven, and ultrasonic bath system; Capacity: 42 FQPU/ year). S-401 is subject to Permit Condition #26311.

APPENDIX A

GLOSSARY

ACT

Federal Clean Air Act

APCO

Air Pollution Control Officer

ARB

Air Resources Board

BAAQMD

Bay Area Air Quality Management District

BACT

Best Available Control Technology

Basis

The underlying authority 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)

NO_x

Oxides of nitrogen.

NSPS

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

NSR

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

Offset Requirement

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

Phase II Acid Rain Facility

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

POC

Precursor Organic Compounds

PM

Particulate Matter

PM10

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

PSD

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

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

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

APPENDIX B

PERMIT APPLICATION ENGINEERING EVALUATIONS

EVALUATION REPORT

ENGINEERING EVALUATION
United Airlines – SF Maintenance Center
PLANT NO. 51
APPLICATION NO. 23893
(CANCELED)

BACKGROUND

United Airlines – SF Maintenance Center (United) is applying for an Authority to Construct and/or a Permit to Operate the following equipment:

S-334 Parts Cleaner (Tire Shop)
Make: Graymills, Model: LKR-36

S-334 will be located in the Tire Shop repair area of the facility. The Tire Shop is responsible for the repair and cleaning of aircraft landing wheels. The cleaner will be used to remove grease and dirt build up on wheel bolts and nuts.

The wheel bolts and nuts will be placed in a metal basket and then immersed into the cleaning solution inside the parts cleaner with the lid of the tank closed. The parts cleaner lid will remain closed during its cleaning cycle, except to add/remove parts into/from the basket. The unit will use a circulation pump to direct the flow of the cleaning liquid during the process. At the end of the cleaning cycle, once the parts are sufficiently drained, the cleaned bolts and nuts will be removed for re-use. The tank will not be vented to any exhaust stack or ventilation hood.

EMISSIONS SUMMARY

Basis:

- Normal operation schedule: 10 hr/day, 5 day/week, 52 week/yr
- Maximum operation schedule: 24 hr/day, 5 day/week, 52 week/yr
- Solvent usage: 100 gal/yr of ShellSol D43 (manufactured by Shell Chemical LP)
- Solvent density or POC content: 6.50 lb/gal
- Assumption: Net organic solvent used is 100% volatile and emitted into the atmosphere

POC annual emissions = (100 gal/yr)(6.50 lb/gal) = 650 lb/year = 0.325 TPY

POC daily emissions = (650 lbs/yr)/(260 days/yr) = 2.5 lbs/day

PLANT CUMMULATIVE INCREASE

Cumulative increases (post 4/5/91) in ton/year for Plant No. 51 are shown below.

Table 1. Cumulative increases (post 4/5/91) in tons/year

Pollutant	Permitted Increases	New Increases	Total Increases
POC	0.000	0.325	0.325
NOx	0.000	0.000	0.000
SO ₂	0.319	0.000	0.319
PM ₁₀	1.906	0.000	1.906

NPOC	0.730	0.000	0.730
CO	1.029	0.000	1.029

TOXIC RISK SCREENING

ShellSol D43 does not contain any chemical compound listed on the District Toxic Air Contaminant List of Table 2-5-1. Therefore, a Risk Screening Analysis is not required.

BEST AVAILABLE CONTROL TECHNOLOGY (BACT)

Based on emission calculations above, with the highest daily POC emissions not in excess of 10 pounds, S-334 does not trigger the BACT requirements Regulation 2-2-301.1.

OFFSETS

United proposes to surrender ERC Banking Certificate No. 1146, which has a current balance of 21.978 TPY of POC, to offset the increase in emissions from the operation of S-334.

Offset obligation = 0.325 TPY * (1.15/1.0) = 0.374 TPY of POC

Final balance in ERC Banking Certificate No. 1146 after this project = (21.978 - 0.374) TPY = 21.604 TPY of POC

STATEMENT OF COMPLIANCE

The owner/operator of S-334 is subject to and will comply with the following cold cleaner requirements of Regulation 8-16:

- Section 8-16-303.1, by agreeing to immediately repair liquid solvent leaks, to store and dispose of solvent in a manner that will not allow evaporation into the atmosphere, and to utilize a continuous solvent flow.
- Section 8-16-303.2, by agreeing to implement proper parts draining and solvent agitation, and by agreeing to not clean porous or absorbent materials.
- Section 8-16-303.3, by agreeing to have proper containers for solvent and the parts being processed, to have proper enclosure for solvent when not in use, and to implement proper drainage and labeling.
- Section 8-16-303.4.5, by agreeing to have an enclosed design in which the cover to the parts cleaner will be opened only when dry parts are entering or exiting the cleaner.
- The owner/operator of S-334 is limitedly exempted from section 8-16-303.4.5, per Regulation 8-16-123, because the parts cleaner will be used to clean aerospace components.

The project is considered to be ministerial under the District's CEQA regulation 2-1-311 and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emissions factors and therefore is not discretionary as defined by CEQA. (Permit Handbook Chapter 6.1).

The project is over 1,000 feet from the K-12 nearest school and therefore not subject to the public notification requirements of Regulation 2-1-412.

PSD, NSPS, and NESHAPS do not apply.

PERMIT CONDITIONS

Condition No. 25111

1. The owner/operator of S-334 shall not exceed the following usage limit during any consecutive twelve-month period:
ShellSol D43 100 Gallons
(Basis: Cumulative Increase, BACT)

2. The owner/operator may use a solvent(s) other than the material specified in Part 1 and/or usage in excess of that specified in Part 1, provided that the owner/operator can demonstrate that all of the following are satisfied:
 - a. Total POC emissions from S-334 do not exceed 650 pounds in any consecutive twelve month period;
 - b. The use of these materials does not increase toxic emissions above any risk screening trigger level of Table 2-5-1 in Regulation 2-5.
(Basis: Cumulative Increase, Regulation 2-5)

3. To determine compliance with the above parts, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above parts, including the following information:
 - a. Quantities of each type of solvent used at this source on a monthly basis.
 - b. If a material other than that specified in Part 1 is used, POC/NPOC and toxic component contents of each material used; and mass emission calculations to demonstrate compliance with Part 2, on a monthly basis;
 - c. Monthly usage and/or emission calculations shall be totaled for each consecutive twelve-month period.
 All records shall be retained on-site for five years, from the date of entry, and made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations.
(Basis: Cumulative Increase, Regulation 2-5, Regulation 8-16-501, Recordkeeping)

RECOMMENDATION

Issue an Authority to Construct and/or a Permit to Operate to United for the following equipment:

S-334 Parts Cleaner (Tire Shop)
Make: Graymills, Model: LKR-36

Prepared by: _____
 Kevin Oei
 Air Quality Engineer

ENGINEERING EVALUATION
United Airlines – SF Maintenance Center
PLANT NO. 51
APPLICATION NO. 24102

BACKGROUND

United Airlines – SF Maintenance Center (United) has submitted an application for alterations to the following existing equipment:

- S-95 Boiler No. 1 #8006**
- S-96 Boiler No. 2 #8007**

S-95 and S-96 are existing Babcock and Wilcox natural gas fired watertube boilers each with a rated capacity heat input of 96 MMBtur/hr, located in the northeast corner of the United’s SF Maintenance Center, Building 56. The boilers have been used when the United Cogen plant, which consists of S-195 (Combustion Turbine) and S-196 (Duct Burner), at the SF Maintenance Center is offline. United now wishes to decommission its Cogen plant and proposes to convert S-95 and S-96 from backup to full time operation. The boilers provide the steam needed for process and space heat for the maintenance base.

The District has determined that, initially installed and permitted in early 1971, S-95 and S-96 are “grandfathered” sources because they were in operation prior to the District’s permitting requirements. Since there is no specific permit condition limiting emissions or operation of these boilers, and because the boilers will not be operated above their current design capacity, operation of the boilers will not result in an emissions increase above what the boilers are already capable of emitting. United’s proposal is a “change in the method of operation” for the boilers and is an “alteration” as defined in Regulation 2-1-233. This determination is stated in a letter from the District to Mr. Keith Casto of Shook, Hardy & Bacon, LLP, dated 1/11/2012. The letter is included in the application file.

EMISSIONS SUMMARY

There will be no emissions increase associated with this application because:

- There is no specific permit condition limiting emissions or operation of these boilers; and
- The boilers will not be operated above their current design capacity.

PLANT CUMMULATIVE INCREASE

The alterations to S-95 and S-96 will not result in an emissions increase above what the boilers are already capable of emitting. Therefore, the new increase for this application is ZERO for all pollutants.

TOXIC RISK SCREENING

A Toxic Risk Screen Analysis was not required for these sources since S-95 and S-96 are neither new nor modified sources.

BEST AVAILABLE CONTROL TECHNOLOGY (BACT) and OFFSETS

S-95 and S-96 are not subject to BACT and offsets requirements in Regulation 2-2 since S-95 and S-96 are neither new nor modified sources.

STATEMENT OF COMPLIANCE

The owner/operator of S-95 and S-96 will continue to comply with Regulation 6-1 (Particulate Matter: General Requirements) and Regulation 9-1-301 (Inorganic Gaseous Pollutants: Sulfur Dioxide for Limitations on Ground Level Concentrations).

The owner/operator of S-95 and S-96 has operated the boilers under the low fuel usage limited exemption of Regulation 9-7-112. After United decommissions its Cogen plant and converts S-95 and S-96 from backup to full time operation, boiler operation will likely exceed the exemption threshold of 10% annual maximum heat capacity, and United will have 24 months from when S-95 and S-96 lose eligibility for the exemption to comply with the emissions standards in Regulation 9-7-307.6. United is aware of this requirement and plans to submit an application to install the appropriate abatement equipment on the boilers and comply with the applicable emissions standards in Regulation 9-7-307 within the 24-month grace period.

The owner/operator of S-95 and S-96 is not subject to the compliance schedule requirement of Regulation 9-7-308 and the periodic testing requirement of Regulation 9-7-506 during the 24-month grace period following the date the boilers lose eligibility for the exemption in Regulation 9-7-112.

The insulation requirement of Regulation 9-7-311 limits the temperature of exposed, external surface of a boiler or steam generator, including all pipes and ducts heated by the device, to no higher than 120°F. The requirement of Regulation 9-7-311 does not apply to S-95 and S-96 as long as United maintains the exemption in Regulation 9-7-112 on the boilers. United has confirmed that, after losing eligibility for this exemption, S-95 and S-96 will be in compliance with the insulation requirement of Regulation 9-7-311.

United is also aware of and plans to comply with the stack gas temperature requirement of Regulation 9-7-312 by January 1, 2013.

The owner/operator of S-95 and S-96 has been and will continue to be in compliance with Permit Condition No. 23670.

The project is considered to be ministerial under the District's CEQA Regulation 2-1-311 and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emissions factors and therefore is not discretionary as defined by CEQA (BAAQMD Permit Handbook, Chapter 2.1).

The project is not subject to the public notification requirements of Regulation 2-1-412.

PSD does not apply. NSPS and NESHAPS are not triggered.

PERMIT CONDITIONS

S-95 and S-96 share Permit Condition No. 23670 with S-195 and or S-196. Permit Condition No. 23670 is as follows:

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:
 - a. During a force majeure natural gas curtailment;
 - b. A power outage from the owner/operator's designated electric utility supplier preventing operation with natural gas; or
 - c. An unforeseeable failure or malfunction of natural gas equipment, which is out of the control of the owner/operator; or
 - d. 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, Regulation 2-1-403]
- 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]

End of Conditions

United will have 24 months from when S-95 and S-96 lose eligibility for the low fuel usage limited exemption of Regulation 9-7-112 to comply with the emissions standards in Regulation 9-7-307.6. United is aware of this requirement and plans to submit an application to the District to install the appropriate abatement equipment on the boilers and comply with the applicable emissions standards in Regulation 9-7-307 within the 24-month grace period. Therefore, no additional conditions are required or necessary for this application.

RECOMMENDATION

I recommend United’s proposal to alter the following equipment be approved:

- S-95 Boiler No. 1 #8006**
- S-96 Boiler No. 2 #8007**

Prepared by: _____
 Kevin Oei, Air Quality Engineer

Date: _____

ENGINEERING EVALUATION
United Airlines – SF Maintenance Center
PLANT NO. 51
APPLICATION NO. 24990

BACKGROUND

United Airlines – SF Maintenance Center (United) has submitted an application for Authorities to Construct and/or Permits to Operate the following new abatement devices:

A-195 Selective Catalytic Reduction w/ Ammonia Injection
Make, Model: Peerless Mfg. Co. Cormetech extruded SCR CM21
to abate NOx emissions from
S-95 Boiler No. 1 #8006

A-196 Selective Catalytic Reduction w/ Ammonia Injection
Make, Model: Peerless Mfg. Co. Cormetech extruded SCR CM21
to abate NOx emissions from
S-96 Boiler No. 2 #8007

S-95 and S-96 are existing Babcock and Wilcox natural gas fired watertube boilers, each with a rated capacity heat input of 96 MMBtu/hr, located in the northeast corner of the United's SF Maintenance Center, Building 56. The boilers provide the steam needed for process and space heat for the maintenance base.

S-95 and S-96 were operated under the low fuel usage limited exemption of Regulation 9-7-112 as backups to United's Cogen plant, consisting of S-195 (Combustion Turbine) and S-196 (Duct Burner). In March 2012, under Application No. 24102, the District allowed United to convert the boilers from backup to full time operation after United decommissioned its Cogen plant.

As a result of losing their low fuel usage limited exemption of Regulation 9-7-112 in March 2012, S-95 and S-96 will be subject to the emissions standards in Regulation 9-7-307.6 (i.e., 5 ppmvd of NOx and 400 ppmvd of CO, both at 3% O₂) within 24 months from when S-95 and S-96 lost eligibility for the exemption. Consequently, United submitted this application for the installation and operation of A-195 and A-196, designed to reduce NOx emissions from S-95 and S-96 to levels that would meet the applicable emissions standards of Regulation 9-7-307.

United is also proposing to install and operate a water feed economizer on each boiler exhaust system to increase the boiler operation efficiency and to reduce the exhaust stack temperatures. The economizers function will allow the boiler exhaust temperature to comply with the stack gas temperature limits of Regulation 9-7-312.

EMISSIONS SUMMARY

A-195 and A-196 will be used to reduce the NOx emissions from S-95 and S-96 to no more than 5 ppmvd at 3% O₂ during normal operations, and there will be no increase in the emissions of other criteria pollutants. Therefore, there will be no criteria pollutant emissions increase associated with this application.

There will, however, be an increase in ammonia (NH₃) emissions resulting from the installation and operation of A-195 and A-196. NH₃ emissions are expected as the byproduct of deploying anhydrous NH₃ injection to the SCR systems. Worst-case amount of NH₃ emissions ("NH₃ slip") is estimated conservatively by using the upper limit (10 ppmvd at 3% O₂) of the NH₃ concentration as guaranteed by the SCR manufacturer and by assuming both S-95 and S-96 will be operated at the same time at 100% load for 24 hours per day and 365 days per year.

Worst-case amount of “NH₃ slip”

$$\begin{aligned}
 &= 10 \text{ ppmvd at } 3\% \text{ O}_2 \\
 &= (10 \text{ ppm}) * [(21-0)/(21-3)] * (17 \text{ lb/mole}) * (8,710 \text{ dscf/MMBtu}) / (385.3 \text{ scf/mole}) \\
 &= 0.00448 \text{ lb/MMBtu} \\
 &= (0.00448 \text{ lb/MMBtu}) * (96 \text{ MMBtu/hr/boiler}) * (2 \text{ boilers}) = 0.86 \text{ lb/hr} \\
 &= (0.86 \text{ lb/hr}) * (24 \text{ hr/day}) * (365 \text{ day/yr}) = 7,541 \text{ lb/yr}
 \end{aligned}$$

PLANT CUMULATIVE INCREASE

The installation and operation of A-195 and A-196 will not result in any criteria pollutant emissions increase. NH₃ is not a criteria pollutant. Therefore, the new increase for this application is ZERO for all criteria pollutants.

TOXIC RISK SCREENING

A Toxic Risk Screen Analysis was not required for this application because the worst-case NH₃ emissions (i.e., 0.86 lb/hr and 7,541 lb/yr) from the operation of A-195 and A-196 are below the Toxic Air Contaminant (TAC) trigger levels for NH₃ (i.e., 7.1 lb/hr and 7,700 lb/yr) listed in Table 2-5-1 of Regulation 2-5.

BEST AVAILABLE CONTROL TECHNOLOGY (BACT) and OFFSETS

In accordance with Regulation 1-115, this application is not subject to the BACT and offsets requirements in Regulations 2-2-301, 2-2-302, and 2-2-303 because the purpose of this application is to reduce emissions from existing sources S-95 and S-96 to levels that would meet the applicable emissions standards of Regulation 9-7-307.

STATEMENT OF COMPLIANCE

The owner/operator of S-95 and S-96 will continue to comply with Regulation 6-1 (Particulate Matter: General Requirements) and Regulation 9-1-301 (Inorganic Gaseous Pollutants: Sulfur Dioxide for Limitations on Ground Level Concentrations).

The owner/operator of S-95 and S-96 is subject to and, with the installation and operation of A-195 and A-196, expected to comply with the following requirements of Regulations 9-7 (*Inorganic Gaseous Pollutants: Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters*):

- Compliance schedule requirement in Regulation 9-7-112. United plans to comply with this requirement within 24 months from when S-95 and S-96 lost eligibility for the fuel usage limited exemption or before March 1, 2014.
- The limits of 5 ppmvd for NO_x and 400 ppmvd for CO, both at 3% O₂, of Regulation 9-7-307.6.
- Compliance schedule requirement of Regulation 9-7-308 is not applicable because United is already subject to the compliance schedule requirement in Regulation 9-7-112.
- Insulation requirement of Regulation 9-7-311, which limits the temperature of exposed, external surface of a boiler or steam generator, including all pipes and ducts heated by the device, to no higher than 120°F. United plans to comply with this requirement.
- Stack gas temperature requirement of Regulation 9-7-312. To meet this requirement, United will install and operate a water feed economizer on each boiler exhaust system to reduce the exhaust stack temperatures.
- Initial demonstration of compliance requirement of Regulation 9-7-403. United plans to comply with this requirement. The emissions from S-95 and S-96 will go to a common stack. For purposes of demonstrating

compliance, United is prepared to conduct separate source testing on each boiler. This means running only one boiler at a time when conducting the stack tests.

- Periodic testing requirements of Regulation 9-7-506. United plans to comply with this requirement by performing the required periodic source testing in accordance with Sections 9-7-601 and 602.

Regulation 9-7-115 exempts the owner/operator of S-95 and S-96 from emission limits of Section 9-7-307 during startup and shutdown periods provided that Regulations 9-7-115.1 and 9-7-115.2 are met. While it is expected that the boilers will be able to comply with Regulation 9-7-115, United is requesting that each startup and shutdown period be allowed up to four hours. The request is based on the following:

- Boiler steam piping system is old (over 40 years).
- Bringing the steam pressure up too rapidly will cause steam hammering and risk creating leaks or even steam pipe explosions, and can become a safety hazard for personnel working on steam pipes, valves, and traps.

The owner/operator of S-95 and S-96 has been and will continue to be in compliance with Permit Condition No. 23670. A new permit condition (No. 25429) will be imposed on the owner/operator of S-95 and S-96 to ensure compliance with the above applicable requirements.

Pursuant to Regulation 2-1-312.2, the project is exempt from the CEQA review because United submitted this permit application to install air pollution control or abatement equipment A-195 and A-196. To ensure the project has no potential for causing a significant adverse impact on the environment, United has submitted a completed and signed BAAQMD Appendix H Environmental Information Form.

The project is not located within 1,000 feet of the outer boundary of the nearest K-12 school, and is therefore not subject to the public notification requirements of Regulation 2-1-412.

PSD does not apply. NSPS and NESHAPS are not triggered.

PERMIT CONDITIONS

S-95 and S-96 share Permit Condition No. 23670 with S-195 and or S-196. Permit Condition No. 23670 is as follows:

15. 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]
16. For S-195, the owner/operator shall not exceed three (3) hours for start-up or one (1) hour for shutdown. [Basis: Cumulative Increase]
17. 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]
18. 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]
19. The owner/operator shall operate S-195 with only natural gas except for any of the following scenarios:
 - a. During a force majeure natural gas curtailment;
 - b. A power outage from the owner/operator's designated electric utility supplier preventing operation with natural gas; or
 - c. An unforeseeable failure or malfunction of natural gas equipment, which is out of the control of the owner/operator; or
 - d. 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:

- e. 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
- f. A natural disaster; or
- g. The natural gas is curtailed pursuant to governing state, federal, or local agency rules or orders; or
- h. 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]

20. 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]
21. When firing Jet A fuel, the owner/operator shall not operate S-195 or S-196 such that the NO_x 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]
22. The owner/operator shall not operate S-195 and or S-196 such that NO_x 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]
23. 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)]
24. 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]
25. The owner/operator shall install, calibrate and operate District-approved continuous in-stack emission monitors and recorders for NO_x, 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)]
26. 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]
27. 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, Regulation 2-1-403]
28. 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]

End of Conditions

The following new permit condition (No. 25429) will be imposed on the owner/operator of S-95 and S-96:

1. The owner/operator of S-95 and S-96 shall, within 24 months of losing eligibility for the low fuel usage limited exemption of Regulation 9-7-112, abate nitrogen oxides (NOx) emissions from the boilers with A-195 (Selective Catalytic Reduction w/ Ammonia Injection) and A-196 (Selective Catalytic Reduction w/ Ammonia Injection), respectively, during all periods of operation, except as allowed under Part 3. [Basis: Cumulative Increase, Regulation 9-7-112]
2. The owner/operator shall not operate S-95 or S-96 such that the ammonia concentration in the exhaust exceeds 10 ppmvd corrected to 3% oxygen. [Basis: Regulation 2-5, Regulation 2-1-403]
3. The owner/operator of S-95 and S-96 shall not be subject to the emission standards in District Regulation 9-7-307.6 during startup and shutdown periods provided that all of the following conditions are met:
 - a. Each startup and shutdown period shall not exceed four hours.
 - b. All emission control systems shall be in operation and emissions shall be minimized, to the extent possible, during startup and shutdown periods.
 [Basis: Regulation 9-7-115]
4. In order to demonstrate compliance with the emission standards in District Regulation 9-7-307.6 and the ammonia emission limit in Part 2, the owner/operator of S-95 and S-96 shall perform a District-approved source test for the boilers within 60 days of the installation of A-195 and A-196, in accordance with Regulation 9-7-601 or 602. The owner/operator shall obtain approval for all source test procedures from the District’s Source Test Section prior to conducting any tests. The owner/operator shall notify the District’s Source Test Section, in writing, of the source test protocols and projected test dates at least 7 days prior to testing. Within 45 days of test completion, a comprehensive report of the test results shall be submitted to the Manager of the Source Test Section for review and disposition. [Basis: Regulation 9-7-403, Regulation 2-1-403]

End of Conditions

RECOMMENDATION

I recommend the issuance of Authorities to Construct for the following equipment:

A-195 Selective Catalytic Reduction w/ Ammonia Injection
Make, Model: Peerless Mfg. Co. Cormetech extruded SCR CM21
to abate NOx emissions from
S-95 Boiler No. 1 #8006

A-196 Selective Catalytic Reduction w/ Ammonia Injection
Make, Model: Peerless Mfg. Co. Cormetech extruded SCR CM21
to abate NOx emissions from
S-96 Boiler No. 2 #8007

Prepared by: _____
Kevin Oei, Air Quality Engineer

Date: _____

ENGINEERING EVALUATION
United Airlines, Inc.
Plant No. 51
Application No. 26509

BACKGROUND

United Airlines, Inc. is requesting a change of permit condition associated with the following source:

S-123 Paint Spray Booth, PV 90213

abated by

A-123 Custom Aerospace NESHAP 3-Stage Dry Filter System

On 10/9/2012, United Airlines, Inc. reported to the District instances of pressure drop outside of the required limits for A-123 associated with S-123. On 10/18/2012, the District's Compliance & Enforcement staff visited the site and issued Notice of Violation #A52281 citing Regulation 2-6-307, for operating outside of the pressure drop range required by Permit Condition 21946, and Regulation 1-523.3, for late reporting. A copy of Notice of Violation #A52281 is included in the application folder.

S-123 is subject to Permit Condition 21946 limiting the pressure drop across the filter system at the source to be greater than or equal to 0.35 inches of water and less than or equal to 2.0 inches of water. The basis for this condition item is 40 CFR 63.745(g)(3), which is contained in 40 CFR 63, Subpart GG – NESHAP for Aerospace Manufacturing and Rework Facilities.

40 CFR 63.745(g)(3) states, "If the pressure drop across the dry particulate filter system, as recorded pursuant to §63.752(d)(1), is outside the limit(s) specified by the filter manufacturer or in locally prepared operating procedures, shut down the operation immediately and take corrective action. If the water path in the waterwash system fails the visual continuity/flow characteristics check, or the water flow rate recorded pursuant to §63.752(d)(2) exceeds the limit(s) specified by the booth manufacturer or in locally prepared operating procedures, or the booth manufacturer's or locally prepared maintenance procedures for the filter or waterwash system have not been performed as scheduled, shut down the operation immediately and take corrective action. The operation shall not be resumed until the pressure drop or water flow rate is returned within the specified limit(s)."

As can be seen above, 40 CFR 63.745(g)(3) does not specify any numerical pressure drop limits. Instead, it references the filter manufacturer or locally prepared operating procedures. Therefore, to be consistent with the NESHAP requirements, United Airlines, Inc. is requesting to remove the numerical pressure drop limits from Permit Condition 21946 and replace them with filter's manufacturer recommended limits.

Because United Airlines, Inc. is not requesting any changes to the operation, coating application method, process materials, material throughput, or monitoring method, the District does not anticipate any changes in emissions due to this proposed change to Permit Condition 21946. The District will treat this project as an alteration.

EMISSIONS SUMMARY

Because United Airlines, Inc. is not requesting any changes to the operation, coating application method, process materials, material throughput, or monitoring method, the District does not anticipate any changes in emissions due to this project. Therefore, the emission increase associated with this project is zero.

PLANT CUMMULATIVE INCREASE

Because the emission increase associated with this project is zero, the cumulative increase at United Airlines, Inc. will remain the same.

TOXIC RISK SCREENING

This project is not subject to any of the requirements in Regulation 2-5 because S-123 is neither a new nor modified source.

BEST AVAILABLE CONTROL TECHNOLOGY (BACT) and OFFSETS

This project is not subject to BACT or offset requirements in Regulation 2-2 because S-123 is neither a new nor modified source.

STATEMENT OF COMPLIANCE

The owner/operator of S-123 is subject to the requirements of Regulation 8-29: Organic Compounds, Aerospace Assembly and Component Coating Operations. United Airlines, Inc. is not proposing any changes to the operation, coating application method, process materials, material throughput, or monitoring method at S-123. Therefore, S-123 is expected to continue to comply with the requirements of Regulation 8-29.

The project is considered to be ministerial under the District's CEQA regulation 2-1-311 and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emissions factors and therefore is not discretionary as defined by CEQA. (Permit Handbook Chapter 5.1.)

PSD requirements in Regulation 2-2-304 do not apply to this project.

NSPS is not triggered.

NESHAP is triggered. The NESHAP requirements for this project are from 40 CFR 63, Subpart GG – NESHAP for Aerospace Manufacturing and Rework Facilities. The project will revise Permit Condition 21946 to make the condition consistent with the pressure drop requirements set forth in 40 CFR 63.745(g)(3).

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

PERMIT CONDITIONS

Condition #21946 -----

1. The owner/operator shall operate A-123 at all times during coating operations at S-123. [Basis: Cumulative increase, Regulation 2, Rule 5]
2. The owner/operator shall cease operation immediately and take corrective action if the pressure drop across the A-123 filter system is outside the limit(s) specified by the filter manufacturer as recorded pursuant to Part 3d of this condition. [Basis: Cumulative increase, 40 CFR 63.745(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 and maintain a differential pressure gauge across the A-123 filter system.

- c. Continuously monitor the pressure differential across the A-123 filter system.
- d. Record the pressure drop across the A-123 filter system 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 limit(s) specified in Part 2 of this condition.
- f. Retain documentation issued by the filter manufacturer that clearly specifies the filter manufacturer recommended pressure drop limits across the A-123 filter system, and make it available for inspection by District staff upon request.

[Basis: 40 CFR 63.745(g)(2)(iv), Regulation 2-1-403]

End of Conditions

RECOMMENDATION

Approve proposed change of permit condition associated with the following source:

S-123 Paint Spray Booth, PV 90213

abated by

A-123 Custom Aerospace NESHAP 3-Stage Dry Filter System

By: _____
Kevin Oei
Air Quality Engineer

Date: _____

EVALUATION REPORT

**United Airlines Inc.
800 S. Airport Blvd.
San Francisco, CA
G#916 (Plant# 51 Source# 825)
Application #26609**

United Airlines Inc. has submitted this application to install Phase I Morrison Brothers EVR at an existing aboveground gasoline tank. No other modifications are proposed at this time. No other modifications are proposed.

CARB has adopted EVR standards for standing loss control vapor recovery system (VR-301-A for existing AST and VR-302-A for new AST) and Phase I Morrison Brothers EVR standards for AST (VR-402).

The facility will be equipped with 1 – 10K gallon aboveground tank 1 – 10K gallon diesel tank, 1 single product gasoline nozzle, 1 diesel nozzle, Phase I Morrison Brothers EVR, and Phase II Healy 400 ORVR system.

This station has submitted materials and/or verified that they meet the following requirements per VR-301 and VR-402:

- Morrison Brothers EVR will be installed
- Husky 5885 P/V valve is installed
- The facility is equipped with Hoover tank and is not subject to the painting requirements of SLC

The station is currently subject to a throughput condition of 500,000 gal/year.

This facility is not within 1000' of a school. All fees have been paid and equipment should be in compliance with Executive Orders VR-301 and VR-402.

Recommend that an A/C be issued for this project.

By: _____

Date: _____

Pursuant to BAAQMD Toxic Section Policy, this facility's annual gasoline throughput shall not exceed 500,000 gallons in any consecutive 12 month period. [Basis: Cumulative Increase, Regulation 2, Rule 5]

COND# 18135 -----

Permit to Operate Conditions for Healy 400 ORVR system on aboveground gasoline tanks, CARB Executive Order G-70-187:

1. The Healy 400 ORVR Aboveground Tank Phase II Vapor Recovery System, including all associated underground plumbing, shall be operated and maintained in accordance with the California Air Resources Board (CARB) Executive Order G-70-187. Section 41954(f) of the California Health and Safety Code prohibits the sale, offering for sale, or installation of any vapor control system unless the system has been certified by the state board. (basis: CARB Executive Order G-70-187)
2. The owner/operator of the facility shall maintain records of the following items. All records shall be maintained on site and made available for inspection for a period of 5 years from the date that the record was made. (basis: Regulation 2-1-403)
 - a. Date and time of Phase I fuel deliveries
 - b. Records of daily equipment inspections and fuel deliveries
 - c. Records of system monitor alarm events and corrective action taken
 - d. Monthly amount of gasoline dispensed, summarized on an annual basis
 - e. Operation records of the automatic system monitor required by CARB Executive Order G-70-187
3. All applicable components shall be maintained to be leak free and vapor tight. Leak Free, as per BAAQMD (District) Regulation 8-7-203, is a liquid leak of no greater than three drops per minute. Vapor Tight as defined in District Manual of Procedures, Volume IV, ST-30. (basis: Regulations 8-7-301.6 and 8-7-302.5)
4. The Static Pressure Performance Test (Leak Test) ST-38, Vapor Return Line Integrity Test (CARB Executive Order G-70-187 Exhibit 4) and Vapor Pressure Regulation Test (G-70-187 Exhibit 5) shall be successfully conducted at least once in each twelve consecutive month period after the date of successful completion of the startup Tests. (basis: Regulations

8-7-301.13 and 8-7-302.14 and CARB Executive Order G-70-187)

5. The applicant shall notify Source Test by email at gdfnotice@baaqmd.gov or by FAX at (510) 758-3087, at least 48 hours prior to any testing required for permitting. Test results for all performance tests shall be submitted within fifteen (15) days of testing. Start-up tests results submitted to the District must include the application number and the GDF number. (For annual test results submitted to the District, enter "Annual" in lieu of the application number.) Test results may be submitted by email (gdfresults@baaqmd.gov), FAX (510) 758-3087) or mail (BAAQMD Source Test Section, Attention Hiroshi Doi, 939 Ellis Street, San Francisco CA 94109). (basis: Regulation 8-7-408)
6. The maximum length of the coaxial hose shall be thirteen (13) feet, and the maximum allowable length of hose which may be in contact with the top of the island block, or ground, shall be six (6) inches. (basis: CARB Executive Order G-70-187)
7. The dispensing rate shall not exceed ten (10.0) gallons per minute (gpm). Compliance with this condition shall be verified with only one nozzle in operation per product supply pump. (basis: CARB Executive Order G-70-187)
8. The Healy 400 ORVR System shall be equipped with a CARB-approved system monitor pursuant to CARB Executive Order G-70-187. The system monitor shall be powered at all times. (basis: CARB Executive Order G-70-187)
9. The Healy 400 ORVR System shall operate at a vacuum level between 65 inches and 85 inches of water column. Vacuum levels during dispensing shall be maintained within the ranges specified in CARB Executive Order G-70-187. (basis: CARB Executive Order G-70-187)
10. OSHA acceptable access to the central vacuum pump shall be provided immediately upon request by a District inspector. (basis: Regulation 2-1-403)
11. The ball valve in the vapor return line shall remain open at all times except when a Vacuum Return Line Integrity Test is being conducted. (basis: CARB Executive Order G-70-187)
12. The Healy 400 ORVR Phase II system shall be maintained in accordance with the System Operating Manual

approved by CARB. (basis: CARB Executive Order G-70-187)

- 13. No dispensing shall be allowed when the vapor collection pump is disabled for maintenance or for any other reason. Only those nozzles affected by the disabled vapor collection pump are subject to this condition. (basis: CARB Executive Order G-70-187)
- 14. The tank, vent pipes, fill and vapor and manhole tops, and other tank equipment shall be painted white or off-white, provided the reflectivity of the paint pursuant to the "Master Pallet Notation" is at least 75%. Manhole covers which are color coded for product identification are exempted from this requirement. (basis: Regulation 2-1-403)

COND# 25723 -----

1. The Morrison Brothers EVR Phase I Vapor Recovery system, including all associated plumbing and components, shall be operated and maintained in accordance with the most recent version of California Air Resources Board (CARB) Executive Order VR-402. Section 41954(f) of the California Health and Safety Code prohibits the sale, offering for sale, or installation of any vapor control system unless the system has been certified by the state board.

2. The Morrison Brothers EVR Phase I Vapor Recovery System shall only be installed on tanks meeting the Standing Loss Control requirements of CARB Executive Orders VR-301 or VR-302.

3. The owner or operator shall conduct and pass a Static Pressure Performance Test (CARB Test Procedure TP 201.1B) at least once in each 12-month period. Measured leak rates of each component shall not exceed the levels specified in VR-402.

The applicant shall notify Source Test by email at gdfnotice@baaqmd.gov or by FAX at (510) 758-3087, at least 48 hours prior to any testing required for permitting. Test results for all performance tests shall be submitted within fifteen (15) days of testing. Start-up tests results submitted to the District must include the application number and the GDF number. (For annual test results submitted to the District, enter "Annual" in lieu of the application number.) Test results may be submitted by email (gdfresults@baaqmd.gov), FAX (510) 758-3087) or mail

(BAAQMD Source Test Section, Attention Hiroshi Doi, 939
Ellis Street, San Francisco CA 94109).

ENGINEERING EVALUATION
Plant #51: UNITED AIRLINES – SF MAINTENANCE CENTER
800 So Airport Blvd.
San Francisco, CA 94128
Application #27393: “Request to Amend PTO”

I. BACKGROUND

United Airlines – SF Maintenance Center located 800 So Airport Blvd. in San Francisco, CA has applied for an amendment of their PTO which includes changes in permit conditions associated with the following sources:

- S-90:** Engine Test Cell #5, including PW4084 TF Engines
- S-95:** Boiler No. 1 #8006
Abated by A-195: Selective Catalytic Reduction w/ Ammonia Injection
- S-96:** Boiler No. 2 #8007
Abated by A-196: Selective Catalytic Reduction w /Ammonia Injection

United Airlines – SF Maintenance Center has also applied for an amendment of their PTO which includes changes in source descriptions for the following sources:

- S-16:** Chrome Plate Tank #35
- S-17:** Chrome Plate Tank #37
- S-18:** Chrome Plate Tank #38
- S-19:** Chrome Plate Tank #40
- S-20:** Chrome Plate Tank #41
- S-21:** Chrome Plate Tank #44
- S-22:** Chrome Plate Tank #45
- S-23:** Chrome Plate Tank #47
- S-61:** Paint Spray Booth, PV 90207
- S-64:** Solvent Cleaning Booth, PV 90117
- S-95:** Boiler No. 1 #8006
- S-96:** Boiler No. 2 #8007
- S-97:** Dock 1 Touch-Up Painting
- S-98:** Dock 2 Touch-Up Painting
- S-99:** Dock 3 Touch-Up Painting
- S-100:** Dock 4 Touch-Up Painting

- S-101:** Dock 5 Touch-Up Painting
- S-102:** Dock 6 Touch-Up Painting
- S-103:** Dock 7 Touch-Up Painting
- S-104:** B-29 Touch-Up Painting
- S-123:** Paint Spray Booth, PV 90213
Abated by A-123: Dry Inertial Collector
- S-126:** Bonding Shop Paint Booth, PV 90132, with Electric Drying Oven
- S-146:** Paint Booth/Dry Filter
- S-152:** Paint Spray Booth, PV 90208
- S-155:** Paint Spray Booth, PV 90219
- S-156:** Paint Spray Booth, PV 90218
- S-157:** Paint Spray Booth, PV 90217
- S-198:** Wipe Cleaning Operation
- S-240:** Resin Laminating
- S-244:** Dissolved Air Flotation Unit
- S-258:** Cold Cleaner
- S-262:** Adhesive Application & Stripping Operation
- S-275:** Tire Shop Maintenance and Repair (This is an Archived Source. Hence, changes do not have to be made.)
- S-284:** Oil Cooler Flush Cart
- S-285:** Gas Station, G# 916
- S-291:** Parts Washer, PV 90141 (This is an Archived Source. Hence, changes do not have to be made.)
- S-292:** Parts Washer, PV 90143 (This is an Archived Source. Hence, changes do not have to be made.)
- S-293:** Parts Washer, PV 90125 (This is an Archived Source. Hence, changes do not have to be made)
- S-316:** Thermal Spray Booth #2
- S-317:** Thermal Spray Booth #3
- S-318:** Thermal Spray Booth #5

- S-319:** Thermal Spray Booth #7
- S-320:** Thermal Spray Booth #8
- S-321:** Thermal Spray Booth #9
- S-322:** Thermal Spray Booth #10
- S-323:** Thermal Spray Booth #11
- S-326:** Emergency Diesel Engine
- S-327:** Aircraft Generator Repair Station (This is an Archived Source. Hence, changes do not have to be made)
- S-333:** Emergency Standby Diesel Generator Set

The details of the proposed amendments are:

A) S-90, Test Cell #5: Revise Condition #14315, Part 3

United is requesting the BAAQMD to modify Part 3 of permit Condition #14315 for Test Cell #5 (S-90). The purpose of the requested modification is to streamline the requirements for the testing of different engine models at S-90. The proposed modification will not affect any substantive requirements applicable to S-90.

S-90 is subject to Condition #14315. Part 3 of this condition limits total NO_x emissions per consecutive 12-month period, lists engine-specific emission factors to be used in the calculation of NO_x emissions, and includes the following requirement:

“If engine models other than those listed above are to be tested at S-90, United shall first apply for and obtain from the District a modified permit to operate.”

The currently authorized engine models are PW4090, PW4060, PW4077, PW2000, and F117. Condition #14315 also limits fuel usage and fuel sulfur content.

United is requesting the BAAQMD to modify Part 3 of Condition #14315 to provide the Facility with limited flexibility to test other engine models not specified in the permit, while still remaining subject to and in compliance with all applicable emissions and fuel limitations.

The proposed language for the modified permit condition is as follows:

Proposed language: “If an engine model other than one listed above is to be tested at S-90, United shall keep records to demonstrate compliance with the fuel and NO_x emission limits specified in this condition using industry standard emission factors.”

United intends to use NO_x emission factors obtained from the International Civil Aviation Organization (ICAO) Aircraft Engine Emissions Database¹ for the specific engine model to be tested at S-90. The emission factors in the ICAO Aircraft Engine Emissions Database are provided by engine manufacturers and the database is updated periodically to reflect new certification data. The revised permit language

¹International Civil Aviation Organization (ICAO) Aircraft Engine Emissions Database. Available online at: <https://easa.europa.eu/document-library/icao-aircraft-engine-emissions-databank>. Accessed May 2015.

would eliminate the need for the District to issue a new permit each time a new engine model is tested at the Facility. The proposed modification would also reduce the administrative burden on the District and United, while still ensuring that United would continue to operate below its emissions and fuel limitations. It is expected that any new engine that would be tested at the Facility would have lower emission factors than those in the permit.

B) S-400, Scattered, non-spray booth coating/painting operations, area sources: Group sources S-97 through S-104 and unpermitted backshops into single source S-400

This change is requested so as to consolidate non-booth coating operations. United is requesting the BAAQMD to consolidate existing touch-up painting sources (S-97 through S-104) with all non-point source coating operations (i.e., backshops) as one facility-wide coating source. This request does not include any new sources, will not change the current method of operations at the Facility, and would not result in additional emissions.

Touch-up painting is currently permitted under sources S-97 through S-104 (Docks 1 through 7). The Facility's current BAAQMD permit to operate does not include separate permit conditions for these sources. However, sources S-97 through S-104 are already subject to the following regulations, as provided for in the Facility's current Title V operating permit:

- BAAQMD Regulation 8, Rule 1: Organic Compounds – General Provisions
- BAAQMD Regulation 8, Rule 29: Organic Compounds – Aerospace Assembly and Component Coating Operations
- 40 CFR Part 63, Subpart GG: National Emissions Standards for Aerospace Manufacturing and Rework Facilities

United is seeking to consolidate all non-spray booth on-site painting as one source. As allowed by Regulation 2-1-401.3, coating operations that individually emit less than 150 lb/yr per pollutant may be grouped together, regardless of total emissions. United's request is consistent with the District's Policy entitled "Grouping of Coating, Adhesive or Printing Operations into a Single Permitted Source," (November 17, 1996). The sources covered by this request (S-97 through S-104) each individually emit less than 150 lb/yr.

This request does not affect the Facility's operations or emissions. When sources S-97 through S-104 were initially permitted, United stripped and coated entire aircraft via spray apparatus within the dock areas. Since the mid-1990s, United discontinued aircraft repainting at the Facility. Dock sources S-97 through S-104 are mainly used for mechanical repairs and minor touch-up painting activities using brush and roll-on application methods. The type of coating operations and application methods are identical in each of the dock sources as well as in other backshop locales where minor coating is applied upon repair and reassembly of aircraft parts and subassemblies.

A consolidation of all non-spray booth coating operations would simplify monitoring and recordkeeping, by allowing United to maintain facility-wide records, rather than having to split up paint usage and emissions into individual area sources.

United would continue to demonstrate compliance with the various monitoring and recordkeeping requirements of BAAQMD Regulation 8, Rules 1 and 29 and 40 CFR Part 63 Subpart GG, using chemical product issuance reports generated by United's Total Chemical Management Information System (TCMIS).

TCMIS and its subprogram (called “Haas”) are capable of generating the required coating and solvent usage by shop area for the entire Facility.

It is also important to note that United’s request is consistent with the District’s permitting of S-240 (Miscellaneous Resin Laminating), in which similar resin laminating operations conducted throughout the Facility were grouped under a single source. Another example is S-198, which includes United’s facility-wide wipe cleaning activities under a single source.

The new source will be called S-400 (Facility-wide Non-Booth Aerospace Coating Operations) which will include include existing permitted/ grandfathered sources S-97 through S-104 and all unpermitted backshops.

C) S-61, S-123, and S-146: Update source description to include existing electric oven

This is to clarify that paint booth sources include associated electric ovens. United is requesting the BAAQMD to include the existing electric ovens to the source description of each aerospace paint spray booth (S-61, S-123, and S-146). This request does not affect the Facility’s operations or emissions.

The electric ovens associated with the painting booths qualify for an exemption from permitting in BAAQMD Regulation 2, Rule 1, Section 116.10, which states:

***2-1-116 Exemption, Furnaces, Ovens and Kilns:** The following equipment is exempt from the requirements of Sections 2-1-301 and 302, provided that the source does not require permitting pursuant to Section 2-1-319.*

116.10 Electric ovens used exclusively for curing or heat-treating where no significant off-gassing or evaporation of any air contaminants occurs.

United’s request is also consistent with the District’s Policy entitled “Grouping Curing and Drying Ovens with the Associate Surface Coating Source,” (October 11, 1996). The Policy states that: “Surface coating curing and drying ovens **shall be grouped** as part of the surface coating source, as long as the fuel used at the oven does not exceed the exemption thresholds of Regulation 2-1-114.1.”

Currently, the Bonding Shop Paint Booth (S-126) includes the electric dryer in the source description. To make the source descriptions consistent, and to avoid any future confusion about the status of the electric ovens, United would like to add “with Electric Drying” to the source descriptions for S-61, S-123, and S-146. This request, if approved, will not change any permit conditions or affect operation of the equipment.

Source No.	Current Description	Updated Description
61	Paint Spray Booth PV 90207	Paint Spray Booth, PV 90207 with 3 Electric Drying Ovens
123	Paint Spray Booth PV 90213	Paint Spray Booth, PV 90213 with Electric Drying Oven

146	Paint Booth/Dry Filter	Paint Spray Booth, PV 90211 with Dry Room
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The ovens for S-61 and S-123 are electric, so the fuel use would not exceed the exemption thresholds of Regulation 2-1-114.1. The oven for S-146 uses steam produced from the permitted boilers, so it also would not exceed exemption thresholds.

D) S-195 (Combustion Turbine) and S-196 (Duct Burner): Delete Condition #23670 for sources S-195 and S-196

Condition #23670 is for Sources 95, 96 (Boilers), 195 (Combustion Turbine), and 196 (Duct Burner). Sources 195 and 196 are no longer operational and the permits for Sources 195 and 196 have been retired. Thus, United is requesting that this permit condition be deleted. The requirements of the condition are for the turbine and duct burner and are no longer relevant since the equipment is no longer operational. Per Databank, S-195 and S-196 were archived on January 27, 2012.

E) S-95 and S-96, Boilers: Update Condition #25429

This is to update Condition #25429 to remove reference to low fuel usage.

Condition #25429 is for Sources 95 and 96 (Boilers). The boilers have lost their eligibility for the low fuel usage limited exemption. Part 1 of this condition contains text referencing the loss of eligibility for the limited exemption. This portion of the condition no longer applies because the boilers lost eligibility for this exemption more than 24 months ago, and control equipment has been installed that abates NO_x. Thus, United is requesting to remove the phrase “within 24 months of losing eligibility for the low fuel usage limited exemption of Regulation 9-7-112,” from Condition #25429. This request does not affect the Facility’s operations or emissions as the selective catalytic reduction equipment is already installed and operating.

In addition, Part 4 is no longer relevant, so United requests to remove this part.

F) S-16 through S-333: Revise Source Description

These changes are intended to streamline permit conditions, and clarify applicable requirements.

United is requesting to revise the source descriptions in its permit to operate for multiple sources for purposes of consistency and clarification. Below is a table of sources and the current descriptions along with the proposed revised description including the description changes requested in sub-section C). This request does not affect the facility’s operations or emissions.

Source ID	Current Description	Proposed Description
S-16 through S-23	MTGL/SEC> Plating hard chrome - hexavalent	Plating hard chrome - hexavalent
S-61	Paint Spray Booth PV 90207 Spray booth, Airless	Paint Spray Booth (HVLP), PV 90207 with 3 Electric Drying Ovens
S-64	Solvent Cleaning Booth, PV 90117	Solvent Spray Booth, PV 90117

Source ID	Current Description	Proposed Description
S-95	Boiler for Space Heat only	Steam Boiler
S-96	Boiler for Space Heat only	Steam Boiler
S-123	Paint Spray Booth PV 90213 Spray booth, Airless,	Paint Spray Booth (HVLP), PV 90213 with Electric Drying Oven
S-123	Abated by: A123 Dry Inertial Collector	Abated by: A123 Dry Particulate Filter
S-126	SPRAY BOOTH, Airless	Spray Booth, HVLP
S-146	SPRAY BOOTH, Airless Paint Booth/Dry Filter	Paint Spray Booth (HVLP), PV 90211 with Dry Room
S-152	Spray booth, SPRAY CANS 7 BRUSH,	Spray Booth, Aerosol Can
S-155	Spray booth, Airless,	Spray Booth, HVLP
S-156	Spray booth, Airless,	Spray Booth, HVLP
S-157	Spray booth, Airless,	Spray Booth, HVLP
S-198	Wipe Cleaning Operation	Facility-wide Wipe Cleaning
S-240	LAMINATING	Facility-wide Laminating
S-244	CHEM> Separating, oil/water	Separating – DAF processing
S-258	Cold Cleaner	Oil Cooler Flush Cart
S-262	Manual brush & roller	Adhesive Layup Table
S-275	Spray booth	Coating Operation, Brush
S-284, S291, S-292 and S- 293	Degreaser	Solvent Cleaning
S-285	Service Station G916	Non-retail GDF #916
S-285	1 gasoline nozzles,	1 gasoline nozzle
S-285	Vehicle Gas Station, G# 916, Bldg 49	GDF #916
S-316 through S- 323	MISC> Coating operation, Powder surface coating	Plasma Metal Application
S-326	Standby Diesel engine, 1102 hp, EPA# 6CEXL030.AAD, Cummins	Standby Diesel engine, 1102 hp, Cummins
S-326	Emergency Diesel Engine	Emergency Standby Engine
S-327	Paint brush or swabs	Coating, Brush and Swab
S-333	Standby Diesel engine, 900 hp, EPA# 9CPXL18.1ESW, Caterpillar	Standby Diesel engine, 900 hp, Caterpillar

Source ID	Current Description	Proposed Description
S-333	Emergency Standby Diesel Generator Set	Emergency Standby Engine

II. EMISSIONS SUMMARY

Because United Airlines – SF Maintenance Center is not requesting any changes to the operations, coating application methods, process materials, materials throughputs, or monitoring methods, the District does not anticipate any changes in emissions due to this project. The District will treat this project as alterations. Therefore, the emission increase associated with this project is zero.

III. TOXIC RISK SCREENING ANALYSIS

A Toxic Risk Screen Analysis is not required because the sources associated with this project are neither new nor modified sources.

IV. PLANT CUMULATIVE INCREASE

The cumulative emission increase associated with this project is zero.

V. BEST AVAILABLE CONTROL TECHNOLOGY (BACT) AND OFFSETS

There are no new nor modified sources associated with this project. Therefore, BACT is not triggered.

VI. STATEMENT OF COMPLIANCE

The owner/operator of the facility is subject to the requirements of Regulation 8-29: Organic Compounds, Aerospace Assembly and Component Coating Operations. United Airlines, Inc. is not proposing any changes to the operation, coating application method, process materials, material throughput, or monitoring method at the facility. Therefore, the facility will continue to comply with the requirements of Regulation 8-29.

The project is categorically exempt from CEQA per Regulation 2-1-312.1. United has submitted CEQA Appendix H “Environmental Information Form” in accordance with Regulation 2-1-312.

PSD requirements in Regulation 2-2-304 do not apply to this project.

NSPS is not triggered.

This facility is subject to the NESHAP applicable requirements from 40 CFR 63, Subpart GG – NESHAP for Aerospace Manufacturing and Rework Facilities. The facility will continue to be subject to the requirements of this NESHAP.

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

VII. PERMIT CONDITIONS

Changes shown in strikeout/underline format.

COND# 14315 -----

Plant #51, App1. #27393

For S-90, Engine Test Cell #5, including PW4084 TF Engines

1. The owner/operator shall not exceed the total fuel usage of 764,000 gallons of jet fuel at S-90 during any consecutive 12-month period. [Basis: Cumulative Increase, Offsets]
2. The owner/operator shall not exceed 344,500 gallons of fuel consumption by engine model PW4090 tested at S-90 during any consecutive 12-month period: [Basis: Cumulative Increase, Offsets]
3. The owner/operator shall not exceed 90.9 tons of total NOx emissions from S-90 during any consecutive 12-month period. NOx emissions shall be based on the following engine specific emission factors expressed in pounds of NOx per 1,000 gallons of fuel:
 [Basis: Cumulative Increase, Offsets]

Engine Model:	Test Mode:	NOx Emission Factor:
PW4090	Idle	30.42
	Approach	93.52
	Climb	303.45
	Out	
	Take Off	432.49
PW4077	Idle	29.78
	Approach	80.12
	Climb	230.43
	Out	
	Take Off	282.18
PW4060	Idle	34.74
	Approach	85.08
	Climb	175.12
	Out	
	Take Off	232.55
PW2000	Idle	29.78
	Approach	75.15
	Climb	193.56
	Out	
	Take Off	243.19
F117	Idle	29.78
	Approach	75.15
	Climb	193.56
	Out	
	Take Off	243.19

~~— If engine models other than those listed above are to be tested at S-90, United shall first apply for and obtain from the District a modified permit to operate.~~

If an engine model other than the ones listed above is to be tested at S-90, United shall keep records to demonstrate compliance with the fuel and NOx emission limits specified in this condition using industry standard emission factors. For each engine tested, United shall maintain records to include engine model details, and quantity of fuel consumed. The owner/operator shall notify the District's Compliance & Enforcement staff at least fifteen (15) days prior to conducting any testing involving an engine model other than the ones listed above.

- 4. The owner/operator shall only combust jet fuel with a sulfur content of no more than 0.5% by weight at this source. The maximum sulfur content of the fuel shall be demonstrated by vendor certification or District-approved laboratory analysis. [Basis: Regulation 9-1-304]
- 5. The owner/operator of this source shall check each aircraft engine for visible particulate emissions during the test cycle. If visible emissions from the engine exhaust are detected, the operator shall take the necessary corrective action to minimize the emissions. [Basis: Regulation 2-1-403]
- 6. To demonstrate compliance with Parts 1 and 5 above, the owner/operator of S-90 shall maintain the following records in a District-approved logbook. [Basis: Offsets]
 - a. The total amount of jet fuel used at S-90 on a monthly basis. Records shall include the actual fuel usage totals by test mode for each engine model tested.
 - b. Monthly NOx emission calculations for S-90 based on the fuel usage records and emission factors detailed in Part 3.
 - c. Results of the visible particulate emissions check for each engine on a daily basis. Records shall include the duration of any detected visible emissions and what corrective action was taken.
 - d. Certification of fuel sulfur content.

COND# 23670

Plant #51, Appl. #27393

~~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:~~
 - ~~a. During a force majeure natural gas curtailment,~~
 - ~~b. A power outage from the owner/operator's designated electric utility supplier preventing operation with natural gas; or~~
 - ~~c. An unforeseeable failure or malfunction of natural gas equipment, which is out of the control of the owner/operator; or~~
 - ~~d. 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, Regulation 2-1-403]~~

~~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]~~

COND# 25429

Plant #51, Appl. #27393

For S-95, Steam Boiler No. 1 #8006 Abated by A-195 (Selective Catalytic Reduction w/ Ammonia Injection) and S-96, Steam Boiler No. 2 #8007 Abated by A-196 (Selective Catalytic Reduction w/ Ammonia Injection)

1. The owner/operator of S-95 and S-96 shall, ~~within 24 months of losing eligibility for the low fuel usage limited exemption of Regulation 9-7-112,~~ abate nitrogen oxides (NOx) emissions from the boilers with A-195 (Selective Catalytic Reduction w/ Ammonia Injection) and A-196 (Selective Catalytic Reduction w/ Ammonia Injection), respectively, during all periods of operation, except as allowed under Part 3. [Basis: Cumulative Increase, Regulation 9-7-112]
2. The owner/operator shall not operate S-95 or S-96 such that the ammonia concentration in the exhaust exceeds 10 ppmvd corrected to 3% oxygen. [Basis: Regulation 2-5, Regulation 2-1-403]

3. The owner/operator of S-95 and S-96 shall not be subject to the emission standards in District Regulation 9-7-307.6 during startup and shutdown periods provided that all of the following conditions are met:
 - a. Each startup and shutdown period shall not exceed four hours.
 - b. All emission control systems shall be in operation and emissions shall be minimized, to the extent possible, during startup and shutdown periods.

[Basis: Regulation 9-7-115]

~~4. (A/C startup source test condition deleted.)~~

End of Conditions

VIII. SOURCE DESCRIPTION CHANGES

A) Group sources S-97 through S-104 and unpermitted backshops into single source S-400

Not subject to any Conditions. Archive the following sources:

- S-97:** Dock 1 Touch-Up Painting
- S-98:** Dock 2 Touch-Up Painting
- S-99:** Dock 3 Touch-Up Painting
- S-100:** Dock 4 Touch-Up Painting
- S-101:** Dock 5 Touch-Up Painting
- S-102:** Dock 6 Touch-Up Painting
- S-103:** Dock 7 Touch-Up Painting
- S-104:** B-29 Touch-Up Painting

Add the following new Source and Source Description in Databank (db s)

- S-400:** Facility-wide Non-Booth Aerospace Coating Operations

B) Update Source Descriptions for S-61, S-123, and S-146 and Update Abatement Device Description for A-123

The following changes were made:

Source No.	Current Description	Updated Description
61	Paint Spray Booth PV 90207	Paint Spray Booth, HVLP, PV 90207 with 3 Electric Drying Ovens

123	Paint Spray Booth PV 90213	Paint Spray Booth, HVLP, PV 90213 with Electric Drying Oven
146	Paint Booth/Dry Filter	Paint Spray Booth, PV 90211 with Dry Room

Abatement Device No.	Current Description	Updated Description
123	Dry Inertial Collector	Dry Particulate Filter

C) Revise Source Descriptions

The following changes were made:

Source ID	Current Description	Proposed Description
S-16 through S-23	MTGL/SEC> Plating hard chrome - hexavalent	Plating hard chrome - hexavalent
S-64	Solvent Cleaning Booth, PV 90117	Solvent Spray Booth, PV 90117
S-95	Boiler for Space Heat only	Steam Boiler
S-96	Boiler for Space Heat only	Steam Boiler
S-126	SPRAY BOOTH, Airless	Spray Booth, HVLP
S-152	Spray booth, SPRAY CANS 7 BRUSH,	Spray Booth, Aerosol Can
S-155	Spray booth, Airless,	Spray Booth, HVLP
S-156	Spray booth, Airless,	Spray Booth, HVLP
S-157	Spray booth, Airless,	Spray Booth, HVLP
S-198	Wipe Cleaning Operation	Facility-wide Wipe Cleaning
S-240	LAMINATING	Facility-wide Laminating
S-244	CHEM> Separating, oil/water	Separating – DAF processing
S-258	Cold Cleaner	Oil Cooler Flush Cart
S-262	Manual brush & roller	Adhesive Layup Table
S-284	Degreaser	Solvent Cleaning
S-285	Service Station G916	Non-retail GDF #916
S-285	1 gasoline nozzles,	1 gasoline nozzle

Source ID	Current Description	Proposed Description
S-285	Vehicle Gas Station, G# 916, Bldg 49	GDF #916
S-316 through S-323	MISC> Coating operation, Powder surface coating	Plasma Metal Application
S-326	Standby Diesel engine, 1102 hp, EPA# 6CEXL030.AAD, Cummins	Standby Diesel engine, 1102 hp, Cummins
S-326	Emergency Diesel Engine	Emergency Standby Engine
S-333	Standby Diesel engine, 900 hp, EPA# 9CPXL18.1ESW, Caterpillar	Standby Diesel engine, 900 hp, Caterpillar
S-333	Emergency Standby Diesel Generator Set	Emergency Standby Engine

IX. RECOMMENDATION

Revise Permit Condition #14315 associated with the following source as proposed:

S-90: Engine Test Cell #5, including PW4084 TF Engines

Revise Permit Condition #25429 associated with the following sources as proposed and archive Permit Condition #23670:

S-95: Boiler No. 1 #8006
 Abated by A-195: Selective Catalytic Reduction w/ Ammonia Injection

S-96: Boiler No. 2 #8007
 Abated by A-196: Selective Catalytic Reduction w /Ammonia Injection

Revise source descriptions associated with the following sources as shown below:

S-16: Chrome Plate Tank #35

S-17: Chrome Plate Tank #37

S-18: Chrome Plate Tank #38

S-19: Chrome Plate Tank #40

S-20: Chrome Plate Tank #41

S-21: Chrome Plate Tank #44

S-22: Chrome Plate Tank #45

S-23: Chrome Plate Tank #47

S-61: Paint Spray Booth, PV 90207

S-64: Solvent Cleaning Booth, PV 90117

- S-95:** Boiler No. 1 #8006
- S-96:** Boiler No. 2 #8007
- S-97:** Dock 1 Touch-Up Painting
- S-98:** Dock 2 Touch-Up Painting
- S-99:** Dock 3 Touch-Up Painting
- S-100:** Dock 4 Touch-Up Painting
- S-101:** Dock 5 Touch-Up Painting
- S-102:** Dock 6 Touch-Up Painting
- S-103:** Dock 7 Touch-Up Painting
- S-104:** B-29 Touch-Up Painting
- S-123:** Paint Spray Booth, PV 90213
Abated by A-123: Dry Inertial Collector
- S-126:** Bonding Shop Paint Booth, PV 90132, with Electric Drying Oven
- S-146:** Paint Booth/Dry Filter
- S-152:** Paint Spray Booth, PV 90208
- S-155:** Paint Spray Booth, PV 90219
- S-156:** Paint Spray Booth, PV 90218
- S-157:** Paint Spray Booth, PV 90217
- S-198:** Wipe Cleaning Operation
- S-240:** Resin Laminating
- S-244:** Dissolved Air Flotation Unit
- S-258:** Cold Cleaner
- S-262:** Adhesive Application & Stripping Operation
- S-284:** Oil Cooler Flush Cart
- S-285:** Gas Station, G# 916
- S-316:** Thermal Spray Booth #2
- S-317:** Thermal Spray Booth #3
- S-318:** Thermal Spray Booth #5

- S-319:** Thermal Spray Booth #7
- S-320:** Thermal Spray Booth #8
- S-321:** Thermal Spray Booth #9
- S-322:** Thermal Spray Booth #10
- S-323:** Thermal Spray Booth #11
- S-326:** Emergency Diesel Engine
- S-333:** Emergency Standby Diesel Generator Set

Krishnan Balakrishnan
Air Quality Engineer

Date:

ENGINEERING EVALUATION
Plant #51: UNITED AIRLINES – SF MAINTENANCE CENTER
800 So Airport Blvd.
San Francisco, CA 94128

Application #27643: “New” Fuel Quantity Process Units (FQPU) Repair Station

I. BACKGROUND

United Airlines – SF Maintenance Center (United) has applied for an Authority to Construct and/or a Permit to Operate the following equipment:

S-401: Fuel Quantity Process Units (FQPUs) Repair and Refurbish Station
Includes hot plates, electric oven, and ultrasonic bath system
Capacity: 42 FQPU/ year

FQPUs monitor aircraft fuel parameters and generate real-time reports for aircraft pilots during commercial flights. The repair process for FQPUs is subject to critical design configuration control limitations. The process, which would focus on the FQPU Data Concentrator Circuit (DCC) Board Assembly and its components, must follow specific procedures and use specific products outlined in the applicable components maintenance manual (CMM) (CMM 28-47-65). *See* 14 CFR §§ 65.81(b), 43.13(a), 43.16, 91.403(b)-(c). The Federal Aviation Administration (FAA) must approve deviations from the CMM. The FAA approval process for deviations is lengthy and complex. It involves multiple parties and requires rigorous testing and analysis.

As described below, the DCC Board Assembly repair process utilizes small amounts of solvents and coatings.

Process Description

1. **Disconnect circuit boards:** The DCC Board Assemblies are removed from the FQPUs. Wires attached to the circuit boards are disconnected.
2. **Removal of existing coatings:** The DCC boards are soaked in less than one (1) gallon of HumiSeal Thinner 503 for about an hour. The soaking loosens the HumiSeal coating on the back of the circuit boards, which is then removed. Soaking will occur in an enclosed system.
3. **Dry and keep warm:** The cleaned DCC boards are dried in a small electric oven and then placed on hot plates to keep the circuit boards warm during the next stage, solder reflow.
4. **Solder reflow:** Flux is brush applied to the DCC boards, and the boards are soldered to ensure connectivity.
5. **Clean in ultrasonic baths:** After the solder reflow is completed, the DCC boards are cleaned again, this time in a series of three (3) small ultrasonic baths. Each bath capacity is approximately 5.5 gallons, but the working volume for each would be less than one (1) gallon – just enough to cover the circuit board, which is less than ¼ inch thick.
 - Bath # 1: Flux remover / cleaner (Proclean MCC Pro)
 - Bath # 2: Water
 - Bath # 3: Deionized water

- 6. **Recoat circuit board:** After the last bath, the circuit boards are dried and recoated by brush with HumiSeal 1B31, which is allowed to dry. The HumiSeal 1B31 provides moisture protection.
- 7. **Reconnect wires and coat lace string tie-downs:** The wires on the circuit board are then reconnected and secured in place with lace string tie-downs. The lace string tie-downs are brush coated with Polybond Avigel 100, which ensures adherence and protects from corrosion and wear.
- 8. **Reassemble the FQPUs:** The final stage is to put the circuit boards back into the FQPUs. During this process, a coating (Henkel Loctite 222) is applied to the screws on the circuit board to prevent them from loosening.

United anticipates that it would repair no more than 42 FQPUs per year at its SFMC Facility. Each FQPU has three (3) circuit boards. The proposed FQPU repair station (S-401) will be a batch process. The circuit boards that constitute an FQPU will be repaired one at a time in a batch process. If a subset of the circuit boards do not need repair, they will not go through the process.

Below is the time in each step to repair a circuit board. These times are approximations since this is the first time United is performing these operations.

- Step 1 – Disconnect circuit boards: 60 minutes
- Step 2 – Removal of existing coatings: 60 – 120 minutes
- Step 3 – Dry and keep warm: 60 – 120 minutes
- Step 4 – Solder reflow: 30 minutes
- Step 5 – Clean in ultrasonic baths: 60 minutes
- Step 6 – Recoat circuit board: 120 minutes
- Step 7 – Reconnect wires and coat lace string tie-downs: 60 minutes
- Step 8 – Reassemble the FQPUs: 60 minutes

The maximum number of circuit boards that can be repaired is one 1 circuit board per day. Thus, three days would be needed to repair all three circuit boards in an FQPU.

Below are estimates of the material consumed per circuit board. These quantities are approximate worst case values as United has not yet performed these types of repairs.

Table 1. Material Usage per Circuit Board

Step	Product Type	Product Name	Maximum Material used per Circuit Board
			oz/circuit board
2	Solvent	HumiSeal Thinner 503	5
4	Flux	Kester 1544	3
5	Solvent	Proclean MCC Pro	5
6	Coating	HumiSeal 1B31	3
7	Coating	Polybond Avigel 100	1
8	Coating	Henkel Loctite 222	1

Step 2 will not be conducted in ultrasonic baths. This cleaning step will occur in a custom bath to be fabricated by United. The bath will be an enclosed pan-type apparatus with a hinged lid that will be closed during operation. Potential emissions from step 2 will not be vented to a control device or exhausted through a dedicated stack (i.e., fugitive emission).

Only the Proclean MCC Pro cleaning solvent is heated. This solvent is heated in the ultrasonic bath, which can be heated up to 69°C. All other cleaning solvents are not heated.

Step 4 uses Kester 1544 Soldering Flux. The FQPU repair process will use 3 gallons of solder flux per year.

Potential emissions from the FQPU repair process (S-401) will not be vented to a dedicated stack or control device rather they would be considered fugitive emissions.

II. EMISSIONS SUMMARY

Table 2 summarizes the coatings and cleanup solvent that will be used at S-401:

**Table 2: POC Emissions from S-401
(Operating Scenario: 260 days/yr of operation)**

Product Type	Product Name	Annual Usage (gal/yr)	Coating Density (lb/gal)	POC Content (lb/gal)	NPOC Content (lb/gal)	POC Emissions		
						lbs/day	lbs/yr	TPY
Solvent	HumiSeal Thinner 503	10	7.1	7.1	0.0	0.273	71	0.036
Flux	Kester 1544	3	7.76	3.83	0.0	0.044	11.49	0.006
Solvent	Proclean MCC Pro	10	6.6	6.6	0.0	0.254	66	0.033
Coating	HumiSeal 1B31	3	7.59	4.94	0.0	0.057	14.82	0.007
Coating	Polybond Avigel 100	1	7.51	7.5	0.0	0.029	7.5	0.004
Coating	Henkel Loctite 222	1	9.01	0.054	0.0	0.0002	0.054	~ 0.0
TOTAL		28				0.657	170.864	0.086

Table 3 summarizes the Toxic Air Contaminant (TAC) composition in the individual coatings and cleanup solvent that will be used in S-401.

Table 3: TAC Composition in Materials used at S-401

Product Name & Code	TAC	% wt.
HumiSeal Thinner 503	Toluene (CAS 108-88-3)	80
	Methyl Ethyl Ketone (CAS 78-93-3)	40
Kester 1544	Isopropanol (CAS 67-63-0)	3
	Methanol (CAS 67-56-1)	3
Proclean MCC Pro	Isopropanol (CAS 67-63-0)	60
	Methanol (CAS 67-56-1)	5
HumiSeal 1B31	Toluene (CAS 108-88-3)	50
	Methyl Ethyl Ketone (CAS 78-93-3)	15

Product Name & Code	TAC	% wt.
Polybond Avigel 100	Xylene (CAS 1330-20-7)	100 ²

Table 4 compares the combined TAC emissions associated with the use of the coatings and cleanup solvent at S-401 to the District’s Toxic Trigger Levels:

**Table 4: TAC Emissions from S-401
 (Operating Scenario: 260 days/yr and 10 hrs/day of operation)**

TAC	lbs/hr	lbs/yr	District’s Acute Trigger Level (lbs/hr)	District’s Chronic Trigger Level (lbs/yr)	Exceeds District’s Acute/Chronic Trigger Level? (Yes, No, NA)
Toluene (CAS 108-88-3)	0.03454	89.8	8.2E+01	1.2E+04	No
Methyl Ethyl Ketone (CAS 78-93-3)	0.01473	38.3	2.9E+01	NA	No
Isopropanol (CAS 67-63-0)	0.01550	40.298	7.1E+00	2.7E+05	No
Methanol (CAS 67-56-1)	0.00154	3.998	6.2E+01	1.5E+05	No
Xylene (CAS 1330-20-7)	0.00289	7.51	4.9E+01	2.7E+04	No

III. TOXIC HEALTH RISK SCREEN ANALYSIS (HRSa)

² The TAC content of the Polybond is confidential and not known. To calculate emissions, each individual TAC content was assumed to be 100%. This assumption results in an overestimate of emissions.

It can be seen from Table 4 that the TAC emissions from S-401 are below the District’s Acute/Chronic Trigger Levels. Therefore, a HRSA is not required.

IV. CUMULATIVE INCREASE

United – SF Maintenance Center is an existing facility. Table 5 summarizes the cumulative increase in criteria pollutant emissions that currently exist at Plant 51.

Table 5			
Cumulative Increase			
Pollutant	Increase in plant emissions <u>since</u> April 5, 1991 (TPY)	Increase in plant emissions associated with this application (TPY)	Cumulative increase in emissions (Post 4/5/91 + Current application increase) (TPY)
NO _x	44.560	0.0	44.560
POC	16.382	0.086	16.468
NPOC	0.0	0.0	0.0
CO	1.768	0.0	1.768
PM ₁₀	1.946	0.0	1.946
SO ₂	0.469	0.0	0.469

V. BACT

It can be seen from Table 2 that the daily emissions of POC from S-401 are below the 10 lbs/highest day BACT trigger level. Therefore, BACT is not triggered.

VI. OFFSETS

United is a “major facility” for POC as defined in Regulation 2-6-212. Therefore, United will surrender ERC Banking Certificate No. 1304, which has a current balance of 0.374 TPY of POC, to offset the POC emissions increase of 0.086 TPY from S-401.

Offsets required = 0.086 TPY * (1.15/1.0) = 0.099 TPY of POC
Final balance in ERC Banking Certificate No. 1304 after deducting offsets
= (0.374 - 0.099) TPY = 0.275 TPY of POC.

VII. STATEMENT OF COMPLIANCE

The Facility’s refurbishing of circuit boards in FQPU is exempt from Regulation 8, Rule 16 per Regulations 8-16-113 and 8-16-120 and is subject to Regulation 8, Rule 29.

The Facility’s refurbishing of circuit boards in FQPU satisfies the fabrication of electronic components exemption in Regulation 8-29-110 and the assembled printed circuit board’s exemption in Regulation 8-29-111.

Regulation 8-29-110 exempts the Facility’s refurbishing of circuit boards in FQPU from the “Stripper Limitations” in Regulation 8-29-305.

NESHAP for Aerospace Manufacturing and Rework Facilities (Subpart GG), which regulates VOC emissions from cleaning, stripping, and coating operations, also includes an exemption related to electronic components. *See* 40 CFR §§ 63.741(c),(f); 40 CFR § 63.742. Neither the exemption for electronic components in the Aerospace NESHAP nor the exemption in BAAQMD Regulation 8-29-110 differentiate between initial manufacturing and subsequent rework.

Per Regulation 8-29-111, S-401 is subject to Regulation 8, Rule 4.

VOC emissions from coatings used during the FQPU rework process are less than 5 TPY. Therefore, S-401 will comply with Regulation 8-4-302.1. Refer to Table 2. The proposed permit conditions will ensure United complies with the recordkeeping requirements in Regulation 8-4-501.

The application is ministerial because S-401 was evaluated consistent with procedures set forth in Permit Handbook Chapters 6.1 and 7.2. In addition, the facility has also submitted a CEQA Appendix H Form (Environmental Information Form) per Regulation 2-1-312.

The project is over 1,000 feet from the nearest K-12 public school. Therefore, it is not subject to the public notification requirements of Regulation 2-1-412.

VIII. PERMIT CONDITIONS

S-401, Fuel Quantity Process Units (FQPUs) Repair and Refurbish Station will be subject to the following permit condition:

COND# 26311 -----

Plant #51, Appl. #27643

Source #401: Fuel Quantity Process Units (FQPUs) Repair and Refurbish Station

1. The owner/operator of S-401 shall not exceed the following materials usage limits in any consecutive 12-month period.

HumiSeal Thinner 503 (Solvent)	-	10 gallons
Kester 1544 (Flux)	-	3 gallons
Proclean MCC Pro (Solvent)	-	10 gallons
HumiSeal 1831 (Coating)	-	3 gallons
Polybond Avigel 100 (Coating)	-	1 gallon
Henkel Loctite 222 (Coating)	-	1 gallon

(Basis: Cumulative Increase)

2. The owner/operator may use solvents, flux and coatings other than the materials specified in Part 1 and/or in quantities in excess of those specified in Part 1, if the owner/operator demonstrates that all of the following requirements are satisfied:

- a. Total POC emissions from S-401 will not exceed 171 pounds in any consecutive 12-month period.
- b. The use of these materials does not increase toxic emissions above any risk screening trigger level listed in Table 2-5-1 of Regulation 2, Rule 5.

(Basis: Cumulative Increase, Regulation 2-5)

3. To determine compliance with the above parts, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above parts, including the following information:
 - d. Quantities of each type of solvent, flux, and coating used at S-401 on a monthly basis.
 - e. POC content and density of each type of solvent, flux, and coating used at S-401.
 - f. If a material other than that specified in Part 1 is used, POC and toxic component contents of each material used; and mass emission calculations to demonstrate compliance with Part 2, on a monthly basis;

- g. Monthly usage and/or emission calculations shall be totaled for each consecutive twelve-month period.

All records shall be retained on-site for a 60-month period, from the date of entry, and shall be made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations.

(Basis: Cumulative Increase, Regulation 2-5, Regulation 8-4-501)

End of Conditions

IX. RECOMMENDATION

Issue an Authority to Construct to United for the following equipment:

S-401: Fuel Quantity Process Units (FQPU) Repair and Refurbish Station
Includes hot plates, electric oven, and ultrasonic bath system
Capacity: 42 FQPU/ year

Krishnan Balakrishnan
Air Quality Engineer

Date: