WASHINGTON STATE DEPARTMENT OF ECOLOGY
P.O. BOX 47600
OLYMPIA, WA 98504-7600

IN THE MATTER OF:	]	
	]	**PSD-08-01, AMENDMENT 2**
Boeing Commercial Airplane Group	]	
Renton Facility	]	**FINAL APPROVAL OF**
800 Logan Avenue N.	]	**PREVENTION OF SIGNIFICANT**
Renton, WA 98055	]	**DETERIORATION**

Pursuant to the federal Prevention of Significant Deterioration (PSD) regulations, 40 Code of Federal Regulations (CFR) 52.21, and the Washington State Department of Ecology (Ecology) general regulations for air pollution sources, Chapter 173-400 Washington Administrative Code (WAC), Ecology now finds the following:

FINDINGS

1. Boeing Commercial Airplane Group Renton (Boeing-Renton) is proposing to increase VOC emissions at Buildings 4-20, 4-21, 4-81, and 4-82 at its Renton airplane manufacturing facility. Boeing-Renton is requesting the current limit of 118 tons per year be eliminated and replaced with limits specified in PSD-12-01.

2. Boeing-Renton submitted the original PSD application to Ecology on May 6, 2008, for the reconfiguration and refurbishment of the paint hangar (P1). Boeing-Renton submitted additional information to Ecology on July 21, 2008. Ecology determined the application to be complete on August 19, 2008. Notice for public review was published in *The Seattle Times* on September 5, 2008. Ecology did not receive any written or verbal comments in opposition to the draft PSD permit. Ecology issued the final PSD-08-01 on October 7, 2008.

3. Boeing-Renton submitted a PSD amendment application to Ecology on June 10, 2010, for the additional equipment specified in 1.2 through 1.4 above. Boeing-Renton submitted additional information to Ecology on June 22, 2010. Ecology determined the application to be complete on August 3, 2010. None of the proposed equipment is volatile organic compound (VOC) emissions units, and maximum emissions of particulates from this equipment are expected to be far below 0.1 tons per year (tpy).

4. Boeing-Renton submitted a PSD amendment application to Ecology on July 25, 2012, for the increase in VOC emissions. Boeing-Renton submitted additional information to Ecology on October 16, 17, 22, 23, and 30, 2012. Ecology determined the application to be complete on December 18, 2012.

5. In the June 10, 2010, PSD amendment application, Boeing-Renton also requested an amendment to PSD-08-01 to establish a new VOC emissions limit of 118 tpy for the Wing Buildup and Final Assembly operations in Buildings 4-20, 4-21, 4-81, and 4-82.

6. Boeing-Renton is located in the City of Renton in King County, Washington. Boeing-Renton is located in the south half of Section 18 Township 23N, Range 5, Willamette Meridian.

7. The facility is located in a Class II area that is designated as "attainment or unclassified" for the purpose of PSD permitting for all pollutants. Distances to the nearest Class I areas are shown in the following table:

Class I Area	Distance (km)
Alpine Lakes Wilderness	48
Glacier Peak Wilderness	146
Goat Rocks Wilderness	106
Mt. Adams Wilderness	142
Mt. Rainier National Park	58
North Cascades National Park	124
Olympic National Park	71

8. The proposed project consists of reconfiguring and refurbishing an existing paint hangar (P1) in Building 5-50. Activities in the paint hangar will include temporary coating removal, cleaning the aluminum and composite surfaces, manual abrasion of the aluminum surface, primer application, topcoat application, and occasional airplane depainting. Also proposed is the addition of two new ASATs, and a metal shim milling machine in Building 4-21, an additional AWFIS in Building 4-20, and other additional assembly tooling and support equipment in Buildings 4-20, 4-21, 4-81 and 4-82. None of the additional equipment is VOC emissions units.

9. Boeing-Renton is subject to the New Source Performance Standards 40 CFR 60 Subparts Dc (Industrial-Institutional-Commercial Steam Generating Units) and Kb (Volatile Organic Liquid Storage Vessels) and National Standards for Hazardous Air Pollutants 40 CFR 63 Subparts GG (Aerospace Manufacturing and Rework Facilities), JJ (Wood Furniture Manufacturing Operations), and ZZZZ (Stationary Reciprocating Internal Combustion Engines).

10. The emissions of all air pollutants from the proposed modification are subject to review under Chapter 173-400 WAC, Chapter 173-460 WAC, and the regulations of the Puget Sound Clean Air Agency (PSCAA) (1904 Third Avenue, Suite 105, Seattle, WA 98101). Chapter 173-400 WAC includes provision for PSD review (WAC 173-400-700). This permit considers only PSD-applicable issues. All other air quality related Notice of Construction approval issues are subject to the authority of PSCAA.

11. Boeing-Renton is in a Class II area that is designated as "attainment or unclassified" for all pollutants. Boeing-Renton is a major source for the purpose of PSD permitting because it emits more than 250 tpy of VOCs.

    Because emissions increases resulting from the Boeing-Renton P1 project exceed the Significant Emissions Rate (SER) for VOCs (40 tpy), the project is subject to PSD review for emissions of VOCs [40 CFR 52.21(b)(23)(i)].

12. Best Available Control Technology (BACT) determinations:

    Only the changes to P1 involve a physical change or change in the method of operation of an emissions unit. P1 is subject to BACT for VOCs from the final exterior coating and depainting operations. BACT for this project is compliance with the applicable VOC control provisions of the Aerospace NESHAP (40 CFR Part 63, Subpart GG), as summarized in the table below, except for the low VOC vapor pressure requirements for depainting which are more stringent than the Aerospace NESHAP.

Process	Production Activity	Control Technology
Final Exterior Coating	Low VOC primers	• General aviation rework:[1] 4.5 pounds per gallon (lb/gal) • Large commercial aircraft:[1] 5.4 lb/gal • All other applications:[1] 2.9 lb/gal
	Low VOC topcoats	• General aviation rework:[1] 4.5 lb/gal • All other applications:[1] 3.5 lb/gal
	Low VOC vapor pressure cleaning solvents	Less than 45 millimeters mercury (mm Hg) at 20°C or Table 1 in 40 CFR 63 Subpart GG
	High transfer efficiency coating equipment	65% or greater rated transfer efficiency
	Bulk solvent application	Low pressure applicators or manual application
	Pain gun cleaning, waste solvents and rags	Capture and closed containment
Depainting	Low VOC vapor pressure cleaning solvents and strippers	Less than 45 millimeters mercury (mm Hg) at 20°C or Table 1 in 40 CFR 63 Subpart GG
	Solvents and stripper application	Low pressure applicators or manual application

13. A PSD increment consumption analysis was not required because there is no PSD increment for VOC or ozone.

14. Proposed emissions will not significantly cause or contribute to an exceedance of any National Ambient Air Quality Standard (NAAQS).

15. The project is not expected to contribute significantly to visibility impairment, deposition loadings, or cause harm to any air quality related value in a Class I area.

16. The project will not have a noticeable effect on industrial, commercial, or residential growth in the Renton area.

[1] Less water and non-VOC solvents.

17. On August 25, 2008, the United States Environmental Protection Agency, Region 10 informed Ecology by electronic message from Pat Nair to Bernard Brady (Ecology) that "this project is no effect and have no further comments" relative to obligations, if any, under Section 7 of the Endangered Species Act 16 U.S.C. § 1531 et seq., 50 C.F.R. part 402, subpart B (Consultation Procedures) and Section 305(b)(2) of the Magnuson-Stevens Fishery and Conservation Act 16 U.S.C. § 1801 et seq., 50 C.F.R. Part 600, Subpart K (EFH Coordination, Consultation, and Recommendations.

18. Based upon the Technical Support Document prepared on February 19, 2013 and the application, Ecology finds that all requirements for PSD have been satisfied and the project will comply with all applicable federal laws. Approval of the PSD application is granted subject to the following conditions.

APPROVAL CONDITIONS

1. This permit supersedes PSD-08-01 Amendment 1 issued on August 26, 2010.

2. Boeing-Renton's requirements in the following approval conditions to notify or report to or acquire approval or agreement from "Ecology and the Puget Sound Clean Air Agency" may be satisfied by providing such notification, reporting, or approval request to PSCAA if the approval conditions of this PSD permit have been incorporated in Boeing-Renton's Title V permit (40 CFR Part 70).

3. Operating Limitations: No more than six completed airplanes may be depainted at the P1 painting operations within Building 5-50 in any 12 consecutive months using strippers that exceed one percent or higher by weight VOCs.

4. Emission Limits:

   4.1. VOC emissions from final exterior cleaning, coating, and depainting in Building 5-50 (P1) shall not exceed 40.8 tons in any 12 consecutive months.

   4.2. As used in this permit, VOCs are defined in 40 CFR 51.100(s).

5. Operating Requirements:[2] For final exterior coating and depainting in Building 5-50 (P1):

   5.1. Aircraft surface cleaning solvents shall comply with either:

      5.1.1. A composite vapor pressure not greater than 45 mm Hg (20°C), or

      5.1.2. The composition requirements in Table 1 in 40 CFR 63 Subpart GG.

[2] These operating requirements (with the exception of Section 4.3.2) are not intended to be more stringent than the applicable requirements of the Aerospace NESHAP, 40 CFR Part 63, Subpart GG.

5.2. All aircraft surface cleaning solvents shall be applied either manually or by low pressure applicators.

5.3. Depainting strippers:

5.3.1. If the stripper contains one percent or lower by weight VOCs, no vapor pressure limit.

5.3.2. If the stripper contains more than one percent by weight VOCs, the composite vapor pressure of VOCs shall not be greater than 45 mm Hg (20°C).

5.4. Final exterior coating:

5.4.1. Primers:

5.4.1.1. General aviation rework as defined in 40 CFR 63.742: Not greater than 4.5 lb VOCs/gal after deducting water and non-VOCs.

5.4.1.2. Large commercial aircraft and components as defined in 40 CFR 63.742: Not greater than 5.4 lb VOCs/gal after deducting water and non-VOCs.

5.4.1.3. All other applications: Not greater than 2.9 lb VOCs/gal after deducting water and non-VOCs.

5.4.2. Topcoats:

5.4.2.1. General aviation rework as defined in 40 CFR 63.742: Not greater than 4.5 lb VOCs/gal after deducting water and non-VOCs.

5.4.2.2. All other applications: Not greater than 3.5 lb VOCs/gal after deducting water and non-VOCs.

5.4.3. Surface coating equipment will have a transfer efficiency of 65 percent or greater with the following exceptions:

5.4.3.1. In the lower lobe of the aircraft body sections.

5.4.3.2. In aircraft sections that Ecology and PSCAA agree are too difficult to reach with a spray gun.

5.4.3.3. Touch-up and repair operations as defined in 40 CFR 63.742.

5.4.3.4. Stenciling, lettering, and identification marking using an airbrush.

5.4.3.5. Hand-held aerosol cans.

5.4.4. Spray guns and hoses will be cleaned by one or more of the following, or equivalent methods that are approved by Ecology and PSCAA:

5.4.4.1. Enclosed system:

5.4.4.1.1. Clean the spray gun in an enclosed system that is closed at all times except when inserting or removing the spray gun.

5.4.4.1.2. Cleaning shall consist of forcing solvent through the gun.

5.4.4.2. Nonatomized cleaning:

5.4.4.2.1. Clean the spray gun by placing cleaning solvent in the pressure pot and forcing it through the gun with the atomizing cap in place.

5.4.4.2.2. No atomizing air is to be used.

5.4.4.2.3. Direct the cleaning solvent from the spray gun into a vat, drum, or other waste container that is closed when not in use.

5.4.4.3. Disassembled spray gun cleaning:

5.4.4.3.1. Disassemble the spray gun and clean the components by hand in a vat, which shall remain closed at all times except when in use.

5.4.4.3.2. Alternatively, soak the components in a vat, which shall remain closed during the soaking period and when not inserting or removing components.

5.4.4.4. Atomized cleaning:

5.4.4.4.1. Clean the spray gun by forcing the cleaning solvent through the gun.

5.4.4.4.2. Direct the resulting atomized spray into a waste container that is fitted with a device designed to capture the atomized cleaning solvent emissions.

5.4.4.5. Nozzle tips on automated and robotic systems shall be programmed to spray into a closed container where that is an element of their designed capability.

5.4.5. Cleaning of the nozzle tips of automated spray equipment systems that do not have the design capability described in Approval Condition 5.4.4.5 is exempt from the requirements in Approval Conditions 5.4.4.1 through 5.4.4.5.

5.5. Waste solvent cleaning rags will be deposited in containers which contain and capture VOCs and are approved by Ecology and PSCAA.

5.6. Waste cleaning solvent shall be captured and deposited in containers which contain and capture VOCs and are approved by Ecology and PSCAA.

6. Compliance Monitoring:

6.1. Boeing-Renton shall monitor compliance with Approval Condition 3 by recordkeeping.

6.2. Boeing-Renton shall monitor compliance with Approval Condition 4.1 by:

6.2.1. Annually updating:

6.2.1.1. A list of all VOC containing materials used in Building 5-50 (P1) within the immediately past 24 months.

6.2.1.2. The corresponding Material Safety Data (MSD) sheets or other manufacturer-supplied data on VOC content.

6.2.2. Maintaining a 12-month rolling total of all VOC containing materials used in Building 5-50 (P1).

6.2.3. Determining from vendor documentation the extent reactive VOCs in the coating formulation are incorporated into the final cured airplane coating.

6.2.4. Estimating the VOCs discharged in waste water and solid waste from Building 5-50 (P1based on not less frequently than annual waste sampling. Note: While formal approval of the waste sampling procedure by Ecology or PSCAA will not be required, Ecology or PSCAA may review the procedure. If Ecology or PSCAA deems the procedure to be unsatisfactory for estimating VOCs discharged in waste water and solid waste from Building 5-50 (P1), the VOCs discharged in waste water and solid waste from Building 5-50 (P1), shall be given a value of zero.

6.2.5. Calculating the VOC discharge to ambient air from the data required in Approval Conditions 5.2.2, 5.2.3, and 5.2.4.

6.3. Boeing-Renton shall monitor compliance with Approval Conditions 4.1, 4.3, 4.4.1, and 4.4.2:

6.3.1. By calculation from the data required in Approval Conditions 5.2.2, 5.2.3, and 5.2.4.

6.3.2. VOC vapor pressure shall be calculated according to the equation in Section 40 CFR 63.750(b) of Subpart GG.

6.4. Boeing-Renton shall monitor compliance with Approval Conditions 4.2, 4.4.3, 4.4.4, 4.5, and 4.6 by supervision.

7. Recordkeeping, Notification, and Reporting:

7.1. Boeing shall keep the following records on site:

7.1.1. The calculations and results pursuant to Approval Condition 5.3.1.

7.1.2. VOC content results from sampling waste water and solid waste period pursuant to Approval Condition 5.2.4.

7.2. Records shall be retained for not less than five years from their origination.

7.3. At a minimum, the most recent 24 months data shall be retained on site.

7.4. Records shall be available to Ecology or PSCAA within 10 days of request.

7.5. Boeing-Renton shall report annually to Ecology and PSCAA:

7.5.1. The types and corresponding monthly 12-month rolling quantities of VOC containing materials used in final exterior coating and depainting operations.

7.5.2. The VOCs that were deducted pursuant to Approval Conditions 5.2.3 and 5.2.4.

7.6. Boeing-Renton shall report to Ecology and PSCAA each occurrence of VOC emissions measured in excess of the limits specified in Approval Conditions 2, 3.1, and 3.2, and each observed failure to comply with Approval Conditions 4.2, 4.4.3, 4.4.4, 4.5, and 4.6:

7.6.1. In accordance with WAC 173-400-107(3).

7.6.2. As used in WAC 173-400-107(3), as soon as possible shall mean in no case later than 12 hours after the deviation has occurred.

7.6.3. Such reports shall include:

7.6.3.1. At a minimum:

7.6.3.1.1. The time of the occurrence.

7.6.3.1.2. Magnitude of the excess from the emission limit (if applicable).

7.6.3.1.3. The duration of the deviation.

7.6.3.1.4. Any agency contacted.

7.6.4. Upon request from Ecology or PSCAA:

7.6.4.1. The probable cause.

7.6.4.2. Corrective actions taken or planned.

8. Standard Conditions:

8.1. Nothing in this determination shall be construed so as to relieve the company of its obligations under any local, state, or federal laws or regulations.

8.2. Access to Boeing-Renton by the United States Environmental Protection Agency (USEPA), Ecology, and state or local regulatory personnel shall be permitted upon request for the purpose of compliance assurance inspections. Failure to allow access is grounds for enforcement action under the federal Clean Air Act or the Washington State Clean Air Act.

8.3. The effective date of this permit shall not be earlier than the date upon which the USEPA notifies Ecology that the USEPA has satisfied its obligations, if any, under Section 7 of the Endangered Species Act 16 U.S.C. § 1531 et seq., 50 C.F.R. part 402, subpart B (Consultation Procedures) and Section 305(b)(2) of the Magnuson-Stevens Fishery and Conservation Act 16 U.S.C. § 1801 et seq., 50 C.F.R. part 600, subpart K (EFH Coordination, Consultation, and Recommendations).

8.4. This approval shall become invalid if construction of the project is not commenced within eighteen (18) months after receipt of this approval or if construction of the facility is discontinued for a period of eighteen (18) months, unless Ecology extends the 18-month period, pursuant to 40 CFR 52.21(r)(2) and applicable USEPA guidance.

Reviewed by:

2/19/13

Richard B. Hibbard, PE
Science and Engineering Section
Air Quality Program
Washington State Department of Ecology

Date

Approved by:

2/19/13

Stuart A. Clark
Air Quality Program Manager
Washington State Department of Ecology

Date