Proposed Statement of Basis for
Boeing Commercial Airplane Group – North Boeing Field (NBF)/Plant 2 (Boeing Seattle)
Operating Permit 21147, Renewal #1
Issuance Date: August 1, 2025
Administrative Amendment #1: August 6, 2025

List of Abbreviations

ANESHAP	National Emissions Standard for Aerospace Manufacturing and Rework Facilities
AOP	Air Operating Permit
CFR	Code of Federal Regulations
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
EU	Emission Unit
HAP	Hazardous Air Pollutants
NESHAP	National Emissions Standard for Hazardous Air Pollutants
NO_x	Oxides of Nitrogen
NOCOA	Notice of Construction Order of Approval
NSPS	New Source Performance Standard
O&M Plan	Operation and Maintenance Plan
OA	Order of Approval
PSCAA	Puget Sound Clean Air Agency
PSD	Prevention of Significant Deterioration
RCW	Revised Code of Washington
RICE	Reciprocating Internal Combustion Engine
SIP	State Implementation Plan
VOC	Volatile Organic Compounds
WAC	Washington Administrative Code

1 Purpose of the Statement of Basis

This document summarizes the legal and factual basis for the permit conditions in the Air Operating Permit (AOP) to be issued to the Boeing Commercial Airplane Group combined North Boeing Field/Plant 2 (Boeing Seattle) facility under the authority of the Washington Clean Air Act, Chapter 70.94 Revised Code of Washington (RCW), Chapter 173-401 of the Washington Administrative Code (WAC), and the Puget Sound Clean Air Agency (PSCAA) Regulation I, Article 7. Unlike the permit, this document is not legally enforceable. It includes references to the applicable statutory or regulatory provisions that relate to Boeing Seattle's air emissions and provides a description of the activities taking place at Boeing Seattle, including a compliance history.

2 Source Description

2.1 Why Boeing Seattle is an AOP Source

An operating permit is required for any source with potential emissions at or above the major source threshold for any "air pollutant". Boeing Seattle qualifies as a major source and is required to obtain an operating permit because it has the potential to emit more than 100 tons per year each of carbon monoxide (CO), oxides of nitrogen (NO_x), and volatile organic compounds (VOCs). The site also has a potential to emit more than 25 tons per year of total hazardous air pollutants (HAPs) and more than 10 tons per year of certain individual HAPs. In 2023, actual emissions of VOC and individual HAPs exceeded the 100 and 10 tons per year thresholds, respectively.

Boeing Seattle submitted an updated analysis of potential emissions as part of the operating permit renewal process. The updated analysis for calculating potential emissions was submitted on July 31, 2024 and is included in the electronic application files.

A summary of calculated potential emissions is provided in Table 1 below:

Table 1. Potential Emissions from the Facility, tons per year

PTE Emissions (tons/year)					
CO	**NO_x**	**PM_{10}**	**SO_2**	**VOC**	**HAP**
103	**513**	**20**	**1**	**251.5**	**32**

VOC and HAP emissions are primarily generated from solvent cleaning, specialty coating use, and primer and topcoat application operations. These emissions are derived primarily from surface coating and cleaning operations, which are the 737 final decorative paint process (737 Paint) which includes 4 paint hangars, and other paint booths. Boeing estimated potential emissions of VOCs from the paint hangars to be approximately 218 tons per year based on emission limits in PSD permit 90-04 (limit on two of the four paint hangars). Potential emissions on other operations were based on highest maximum usage with a ratio applied to estimate facility-wide potential emissions of VOC at 251.5 tons per year and potential emissions of total HAP at 32 tons per year.

CO, NO_x, and SO_2 emissions are primarily generated by combustion sources (boilers, furnaces, and building HVAC systems that use natural gas, and by emergency stationary generators that combust diesel fuel). Potential emissions of CO and NO_x are above major source thresholds assuming combustion sources operate at maximum capacity 8760 hours per year and emergency engines operate at an estimated

maximum capacity of 500 hours per year[1]. Using this methodology, potential emissions are about an order of magnitude higher than actual emissions. Potential emissions of sulfur dioxide (SO_2) are below major source thresholds using the same methodology.

Potential emissions of particulate matter (PM_{10}) do not exceed the 100 tons per year threshold. The primary sources of particulate matter are surface coating operations, operations controlled by dust collectors, and chemical tankline operations. PM_{10} is also generated by the operation of boilers and process heaters combusting natural gas and emergency generators that combust diesel fuel. Boeing estimated potential emissions of PM_{10} to be approximately 20 tons per year which, because of the conservative nature of the methodology used to calculate potential emissions, is about an order of magnitude over actual emissions.

2.2 Emission Inventory

The following table summarizes the HAP, TAC, and VOC emissions from Boeing Seattle over the last five years. The information is presented in tons per year. Other criteria pollutants were not reported to the Agency since emissions do not exceed our reporting thresholds.

Table 2. Emission inventory summary 2019-2023, tons per year

Pollutant	2019	2020	2021	2022	2023
NOx	25.5	Emissions were estimated to be below reporting thresholds			
HAP	13.2	2.82	6.12	8.71	14.5
VOC	108	27.3	20.2	88.5	132

2.3 Process Description

The Boeing Seattle facility conducts a variety of aerospace parts assembly processes, repair, flight testing, research and development and delivery for Boeing commercial and/or military aircraft. The facility is located on East Marginal Way South in an industrialized area of Seattle along the Duwamish River. The primary activities occurring at Boeing Seattle are painting of completed aircraft, flight test and delivery of aircraft to customers, research and development, components testing, and fuel testing. The facility also has a wind tunnel complex, laboratories, and offices. Other support operations include metalworking, woodworking, an automotive shop, facilities maintenance shops and an industrial wastewater pre-treatment facility. The Boeing Seattle facility occupies a 257-acre site and includes several airplane painting and storage buildings, research and development laboratories, support buildings, roads, and employee parking areas.

Boeing Company historically identified the NBF and Plant 2 manufacturing operations as separate from an organizational management perspective. However, the facilities are considered adjacent and both facilities conduct similar activities under the same primary NAICS code. Therefore, NBF and Plant 2 manufacturing operations are considered one facility from an operating permit perspective.

[1] *EPA has deemed 500 hours per year as an appropriate default assumption for estimating number of hours that an emergency generator could be expected to operated: https://www.epa.gov/sites/default/files/2015-08/documents/emgen.pdf*

3 Review of Permit Application

3.1 Initial AOP

Initial AOP: The initial AOP was issued on May 20, 2002, with an expiration date of May 20, 2007.

Administrative Amendments: Administrative modifications were issued on August 26, 2004, November 3, 2004, May 12, 2005, August 17, 2005, February 16, 2006, March 16, 2010, April 9, 2015, May 14, 2019, November 12, 2019, December 23, 2020 and March 26, 2024.

3.2 Renewal

A renewal application was received on May 18, 2006, and a completeness letter was issued on May 19, 2006. Boeing Seattle has been operating under the application shield provision of WAC 173-400-705(2). Supplemental information has been submitted by the applicant upon request by the Agency and is considered part of the renewal application. Changes made to specific sections are described within the appropriate requirement descriptions below throughout this Statement of Basis.

3.3 Notice of Construction Orders of Approval

A Notice of Construction Order of Approval (NOCOA) is required of any new or modified air pollution source unless exempted in Regulation I, Section 6.03(b) and (c). Table 3 summarizes the NOCOAs issued since the Boeing Seattle operating permit was issued on May 20, 2002. The NOCOA and notifications approved and still active have been added to the AOP renewal. Orders of Approval that have been cancelled and superseded or are obsolete have been removed from the permit. All active NOCOAs that are incorporated in the permit are included as an attachment to this Statement of Basis.

Table 3. NOCOA issued to Boeing Seattle since May 20, 2002

NOCOA	Date Issued	Project Description
8850	5/21/2003	Miscellaneous Spray Coating Operations, outside of a spray enclosure, for items that cannot be reasonably handled in an enclosed spray area at North Boeing Field. This Order cancelled and superseded NOCOA 7564 dated February 24, 1999.
8949	5/3/2006	One 34.99 MMBtu/hr (37.67 MMBtu/hr peak) Allison 501-D13 combustion turbine, Serial No. 501392, one 83.2 MMBtu/hr (110.6 MMBtu/hr peak) GE J47-15 combustion turbine Serial No. 047161, and one back-up GE J47-15 combustion turbine Serial No. 047666, installed at the Building 3-368 wind tunnel.
10190	11/29/2010	Two (2) 24.5 MMBtu/hr natural gas burning Cleaver-Brooks CB-LE 600 hp with low NOX burners and flue gas recirculation. The steam operating boilers will be at Plant 2, Bldg 2-127. This Order cancelled and superseded NOCOA 10190 dated November 16, 2010.
5208	1/31/2011	Jet fuel as the backup fuel to natural gas for all four existing Steam Boilers in the south end of Building 2-15 (i.e., two 80,000 lb/hr Cleaver-Brooks Model DLD94 Boilers with Coen DAF 30 low-NOx burners (#3 & #4), and two 30,000 lb/hr Babcock & Wilson Boilers with Coen DAZ-24 low-NOx burners (#1 &

NOCOA	Date Issued	Project Description
		#2). This Order cancelled and superseded NOCOA 5208 dated November 29, 1993.
11268	4/12/2017	Installation of a booth for the spray finishing of aerospace subassemblies. The booth is designed with a Purolator PREBOND® and SuperSorb® SSIII filtration system. Dimensions of the fully-enclosed booth are 12' by 9' by 24' and the design flow rate is 31,200 cfm @ 125 fpm.
12271	9/14/2022	1. One 35,000 cfm R&D spray booth (PPB-E1), and one 28,000 cfm R&D spray booth (PPB-E13), both located at building 2-122, controlled by dry filters complying with 40 CFR 63.745(g)(2)(ii)(A). 2. Two chrome plating/anodizing R&D tank lines, each consisting of twenty-two 80-gallon tanks per line (Lines B and C) and two chrome plating/anodizing R&D tank lines, each consisting of twenty 10-gallon tanks per line (Lines D and E). Chrome plating/anodizing tanks have polyballs. Tank Line A consists of twenty-two 80-gallon tanks, but does not contain any chrome plating or anodizing tanks. All tank lines vent to a KCH Phaser III Series 26,000 acfm scrubber. This Order cancelled and superseded NOCOA 9667 dated August 7, 2007.
12477	10/15/2024	Laser engraving operations to engrave stainless steel, other metal, and plastic items with markings (including, but not limited to, certification markings, serial numbers and identification numbers) with inorganic particulate emissions from engraving stainless steel controlled by HEPA filtration.

Other NOCOA approved during this time period but no longer active are listed below:

Table 4. NOCOA approved at Boeing Seattle since May 20, 2002, but no longer active.

NOCOA	Date Issued	Description and Notes
8898	11/26/2003	Groundwater remediation using a compressor and blowers to sparge air through the groundwater, extract the contaminated vapor and route through a two-stage carbon canister system followed by a permanganated/zeolite media, then to the atmosphere. The system is no longer in operation and has been removed from the facility.
9332	2/17/2006	Cancelled and superseded by NOCOA 9667
9667	8/7/2007	Cancelled and superseded by 12271
10584	4/4/2013	For the installation and operation of one indirect natural gas-fired heater with a heat input rate of 32 MMBtu/hour in the 02-80 building. Removed on 8-25-2022.

Boeing Seattle submitted requests and the Agency concurred that several activities were exempt from required permitting under Regulation I, Section 6.03(b)(10). These activities are listed in Section 9.1 of this document.

For new or modified sources exempt from permitting under Regulation I, Section 6.03(c), Boeing Seattle must maintain documentation on-site demonstrating the equipment or process meets the criteria in the categorical exemption.

3.4 PSD Permits Issued to the Facility

PSD-90-04 Amendment 1 was issued to Boeing Commercial Airplane Seattle North Boeing Field on May 17, 1995. This PSD permit was issued for the paint hangar designated the 3-380 Building. At the time, it was determined that North Boeing Field and Boeing Plant II together (Boeing Seattle) were a major source for PSD since the combined emissions were more than 250 tons per year of VOCs. Therefore, addition of the new 3-380 Building qualified as a major modification since potential emissions were above 40 tons per year of VOCs. Emissions from the 3-380 building were limited to 109 tons per year. The PSD permit has not been revised since the air operating permit was issued in 2002 so the conditions in this permit renewal corresponding to PSD-09-04 Amendment 1 have not changed.

4 Compliance History

Boeing Seattle has been inspected at least annually by PSCAA since the air operating permit was issued in 2002. The compliance history for Boeing Seattle for the previous five years has been reviewed to determine if updates were needed in the permit renewal to address potential compliance issues. A summary is provided below:

Table 5. NOVs and Written Warnings issued in previous five years

WW or NOV #	Violation Date	Issue Date	Closed by Agency?	Applicable Reg. or permit	Comments
3-A000196	10/10/2020	4/20/2021	Yes	AOP No. 21147 Section 1.B.2(s) EU 2.127 AOP No. 21147 Section 1.B.2(s) EU 2.128 AOP No. 21147 Section II.A.2(d)(iii)	Pressure drop on spray booth was below acceptable range.
3-A000197	11/13/2020	4/20/2021	Yes	AOP No. 21147 Section 1.B.2(s) EU 2.127 AOP No. 21147 Section 1.B.2(s) EU 2.128 AOP No. 21147 Section II.A.2(d)(iii)	Pressure drop on spray booth was below acceptable range.
3-A000198	10/13/2020	4/20/2021	Yes	AOP No. 21147 Section 1.B.2(s) EU 2.127 AOP No. 21147 Section 1.B.2(s) EU 2.128 AOP No. 21147 Section II.A.2(d)(iii)	Pressure drop on spray booth was below acceptable range.
4-A000047	2/18/2021	5/20/2021	Yes	Reg III 4.02 AOP No. 21147 Sec. IV(c)(b)	Asbestos survey not conducted.

WW or NOV #	Violation Date	Issue Date	Closed by Agency?	Applicable Reg. or permit	Comments
4-A000052	5/24/2020	5/27/2021	Yes	Reg III 4.02 AOP No. 21147 Sec. IV(c)(b)	Asbestos survey not conducted.
3-A000277*	1/8/2019 through 6/30/2021	8/9/2021	Yes	AOP No. 21147 Section II.A.2(d)(ix) Reg 1 7.05	Stage 1 vapor recovery system was not inspected after gasoline delivery and before the next delivery.
3-A000314	2/22/2021	10/5/2021	Yes	40 CFR 63.744(a)(2)	Solvent not stored in closed container.
3-A000456	On or about 10/17/2021 - 10/18/2021	4/19/2022	Yes	AOP No. 21147 Section II.A.2(d)(ix)	Stage 1 vapor recovery system was not inspected after two gasoline delivers and before the next deliveries.
3-A000482	8/5/2021	5/24/2022	Yes	40 CFR 63.744(a)(2)	MEK/MPK not stored in closed container due to missing bung plug. Bung hole closed within one hour of time of discovery.
3-A000489	On or around January 2019 through June 2019	5/24/2022	Yes	40 CFR 63.753(b)(1)(ii) AOP No. 21147 Sec. V.Q.3(b)(2)	New cleaning solvent was reported in neither: the semiannual ANESHAP or AOP compliance certification reports.
3-A000678*	7/19/2022	12/5/2022	Yes	AOP No. 21147 Section II.A.2(d)(ix)	Stage 1 vapor recovery system was not inspected after gasoline delivery and before the next delivery.
3-A000783	12/5/2022	3/23/2023	Yes	40 CFR 63.6602	Failure to conduct annual maintenance within 13 months (annual is defined as 12 months +/-1 month per EPA) of the last annual maintenance. This NESHAP is not incorporated in the previous permit, but requirements have been added in this renewal. With this permit renewal, deviation reporting will be required for deviations of this federal regulation.

* This permit renewal contains requirements from the version of the regulation currently in effect and the inspection requirements have been updated to reflect the most current version of the regulations for Stage 1 systems and the low frequency of product delivery.

5 Compliance Assurance Monitoring

The Compliance Assurance Monitoring (CAM) rule in 40 CFR Part 64 requires owners and operators to monitor the operation and maintenance of their control equipment so that they can evaluate the

performance of their control devices and report whether or not their facilities meet established emission standards. If owners and operators of these facilities find that their control equipment is not working properly, the CAM rule requires them to take action to correct any malfunctions and to report such instances to the appropriate enforcement agency (i.e., state and local environmental agencies). Additionally, the CAM rule provides some enforcement tools that allow state and local environmental agencies to require facilities to respond appropriately to the monitoring results and improve pollution control operations.

A CAM plan is required for each federally enforceable applicable emission limit or standard for each emission unit that meets the following criteria:

1. The unit uses a control device to achieve compliance with the emission limit or standard.
2. The potential pre-control emissions of the applicable pollutant from the unit are at least 100% of the major source amount (100 tons per year).
3. The applicable requirement is not otherwise exempt by rule, such as by a New Source Performance Standard (NSPS) or National Emission Standard for Hazardous Air Pollutants (NESHAP) proposed after November 15, 1990, or stratospheric ozone requirements.

Boeing Seattle submitted an updated CAM analysis on August 16, 2024 to support this operating permit renewal.

Table 6 summarizes the updated CAM analysis. The analysis included a review of emission units at the facility that are subject to an emission limitation or standard and use a control device to achieve compliance with any such emission limitation or standard. For emission units that use a control device at this facility, only pre-control device emissions were evaluated for the CAM analysis to determine if emissions met or exceeded the major source threshold of 100 tons per year. The particulate matter emission standards in Regulation I, Section 9.09 apply facility-wide to equipment used in the manufacturing process in addition to the opacity standards in Regulation I, Section 9.03. Although some control equipment may also control emissions of other types of pollutants, there are no emission limitations or standards for the other criteria pollutants. In no case did the estimate of potential pre-control device emissions exceed the major source threshold.

The full analysis submitted by the applicant is included as a supplement to the renewal application. The assumptions are summarized below:

- For paint hangars, potential to emit was based on a maximum production rate of 120 aircraft for each hangar bay which does not take into account downtime and that most paint jobs take more than three days. Uncontrolled particulate matter emissions are calculated using solids content of paints and an overspray factor of 35.0%.
- Potential uncontrolled particulate matter emissions for other paint booths at Seattle are based on maximum flow of a paint gun and a painter using the gun in the spray booth. The analysis does include a look at overspray and curing/paint time, but well overestimates potential emissions as can be seen by comparing the potential emissions from each of these smaller booths to that of the four paint hangars combined.
- For dust collectors, potential emissions are based on volume to dust generated assuming the unit is operated at all times. In reality, use of these units is sporadic and of short duration. These are small units with the largest unit rated at 7,500 cfm.

- For scrubber operations, potential emissions from the tanklines area consistent with the Notice of Construction permit application based on production through the tanklines and pro-rating for potential hours of operation. These are R&D operations so actual uncontrolled emissions would be anticipated to be significantly lower.

Table 6. Determination of CAM Applicability

				Emission limitation or standard, other than an exempt limitation or standard, for the applicable regulated air pollutant	Control device to achieve compliance with any such emission limitation or standard	Pre-Control Device PTE	Does the unit have the potential pre-control device emissions ≥ 100% of the amount (TPY) to be classified as a major source?
Bldg.	**Col./Dr.**	**MSS ID#**	**Source Description**	**40 CFR 64.2 (a)(1)**	**40 CFR 64.2(a)(2)**	**(TPY)**	**40 CFR 64.2(a)(3)**
Coating, Cleaning, and Depainting Operations							
2-10	*G.5/15*	*PB5002*	*Spray Booth*	*PM: 0.05 gr/dscf Opacity: 20%*	*Dry Filters*	42	No
3-380	*C13*	*PB5008*	*Spray Booth*	*PM: 0.05 gr/dscf Opacity: 20%*	*Dry Filters*	42	No
2-122	*Q5*	*PB0018*	*Spray Coating Booths - Dry Filter*	*PM: 0.05 gr/dscf Opacity: 20%*	*Dry Filters*	42	No
2-122	*I6*	*PB0001*	*Spray Coating Booths - Dry Filter*	*PM: 0.05 gr/dscf Opacity: 20%*	*Dry Filters*	42	No
2-122	*H6*	*PB0003*	*Spray Coating Booth - Dry Filter*	*PM: 0.05 gr/dscf Opacity: 20%*	*Dry Filters*	42	No
3-370	*B3*	*PB5009*	*Spray Booth*	*PM: 0.05 gr/dscf Opacity: 20%*	*Dry Filters*	42	No
2-88	A7	*PB9006*	*Spray Coating Booth - Dry Filter*	*PM: 0.05 gr/dscf Opacity: 20%*	*Dry Filters*	42	No
3-369	N/A	*P3*	*Paint Hangar*	*PM: 0.05 gr/dscf Opacity: 20%*	*Dry Filters*	42 total for all paint hangars	No
3-369	N/A	*P4*	*Paint Hangar*	*PM: 0.05 gr/dscf Opacity: 20%*	*Dry Filters*		No
3-380	N/A	*P5*	*Paint Hangar*	*PM: 0.05 gr/dscf Opacity: 20%*	*Dry Filters*		No
3-380	N/A	*P6*	*Paint Hangar*	*PM: 0.05 gr/dscf Opacity: 20%*	*Dry Filters*		No
Process Operations with Particulate Matter Emissions Controlled by Dust Collector Control Equipment							
2-88	*O/S Door W6*	*DUC7460*	*Dust Collector*	*PM: 0.05 gr/dscf Opacity: 20%*	*Baghouse*	10	No
3-369	11F6	*DUC369*	*Dust Collector*	*PM: 0.05 gr/dscf Opacity: 20%*	*Baghouse*	14	No

				Emission limitation or standard, other than an exempt limitation or standard, for the applicable regulated air pollutant	Control device to achieve compliance with any such emission limitation or standard	Pre-Control Device PTE	Does the unit have the potential pre-control device emissions ≥ 100% of the amount (TPY) to be classified as a major source?
Bldg.	**Col./Dr.**	**MSS ID#**	**Source Description**	**40 CFR 64.2 (a)(1)**	**40 CFR 64.2(a)(2)**	**(TPY)**	**40 CFR 64.2(a)(3)**
2-10	*G15*	*SND511*	*Blast booth/Baghouse*	*PM: 0.05 gr/dscf Opacity: 20%*	*Baghouse*	1	No
Chemical Process Tankline Operations							
2-122	D-5	Tank Lines A-E	R&D Lines	*PM: 0.05 gr/dscf Opacity: 20%*	Scrubber	2	No

6 Explanation of Applicable Requirements

Applicable requirements are listed in several sections of this operating permit as outlined below. The permit only lists the requirements that PSCAA has determined to be within the scope of the definition of "applicable requirements" under the operating permit program. Boeing Seattle is legally responsible for complying with all applicable requirements of the operating permit as well as other requirements that do not fit the definition of "applicable requirements" found in Chapter 173-401 Washington Administrative Code (WAC).

The terms and conditions in Section I (emission limits and performance standards), Section III (prohibited activities) and Section IV (activities requiring additional approval) of the permit are federally enforceable except for those terms and conditions designated as not federally enforceable (e.g., "State Only"). The terms and conditions in Section II (monitoring, maintenance and recordkeeping methods), Section V (standard terms and conditions), Section VI (permit actions) and Section VII (permit shield) of this permit are federally enforceable (even though the cited authority for those terms and conditions might be designated as a "State Only" provision -- such as a requirement of WAC Chapter 173-401)), but only to the extent that they implement federally enforceable terms and conditions in Section I (emission limits and performance standards), Section III (prohibited activities) or Section IV (activities requiring additional approval).

6.1 Section I.A.1 (PSCAA and Ecology Facility-Wide Applicable Requirements)

Section I.A.1 contains PSCAA and Washington Department of Ecology (Ecology) requirements that apply facility wide. The table in Section I.A.1 contains the citation and adoption or effective date for each requirement, along with a paraphrased description of the requirement, monitoring, maintenance and recordkeeping requirements, and any applicable reference test method. In the event of conflict or omission between the information contained in the third column and the actual statute or regulation cited in the second column, the requirements and language of the actual statute or regulation cited shall govern.

The actual enforceable requirement and adoption or effective date(s) are in the second column. The fourth column, "Monitoring, Maintenance & Recordkeeping Method," identifies the methods described in Section II of the permit. Following these methods is an enforceable requirement of this permit. The fifth column, "Reference Test Method," identifies the reference method associated with an applicable emission limit that is to be used if and when a source test is required. Unless otherwise specified in the rules or permit condition, the averaging period for the test method is specified in Section VIII.A.

In some cases, monitoring, maintenance and recordkeeping methods have been established under WAC 173-401-615(1)(b) which specifies, "Where the applicable requirement does not require periodic testing or instrumental or noninstrumental monitoring (which may consist of recordkeeping designed to serve as monitoring), periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit, as reported pursuant to subsection (3) of this section. Such monitoring requirements shall assure use of terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirement. Recordkeeping provisions may be sufficient to meet the requirements of this paragraph." The Agency refers to this as "gap-filling". Gap-filling or other monitoring, reporting or recordkeeping added to assure compliance with the terms and conditions of the permit in accordance with WAC 173-401-630(1) are identified in this document. In determining appropriate gap-filling or sufficiency monitoring, the Agency has evaluated the current state of compliance, the variability of process and emissions, the environmental impacts of problems and other technical considerations.

Some requirements in WAC 173-400-040 have been deleted from PSCAA SIP because it has been determined there is a corresponding rule being implemented by PSCAA that applies only to sources in our jurisdiction. In these cases, only the local rule will apply, and EPA has removed the requirement from the SIP. This is consistent with the language in the 12/29/12 version of WAC 173-400-020(1) that states "The provisions of this chapter shall apply statewide, except for specific subsections where a local authority has adopted and implemented corresponding local rules that apply only to sources subject to local jurisdiction as provided under RCW 70.94.141 and 70.94.331".

The requirements included in this table and the associated monitoring, maintenance and recordkeeping methods have not been significantly revised from the existing operating permit. For several of the gap-filling provisions, the previous permit did specify that if a potential compliance problem was found during the inspection, Boeing had the option to correct the problem within 24 hours, shut down the equipment or emission unit, or report problems not corrected within 24 hours. The Agency has updated the monitoring to clarify this only applies if there is not specific monitoring under the applicable requirement such as a federal rule which may specify when an occurrence is considered noncompliance with the regulation. In these cases, the occurrence would need to be reported in the required deviation report. The Agency has also determined the requirement to report problems not corrected within 24 hours is not necessary. When gap-filling is the sole monitoring provision for a requirement, Boeing Seattle is not required to report a deviation if they take the actions required by the permit. Typically, this is correct the problem in 24 hours or shut down the equipment or emission unit until the problem is addressed. The Agency also added specific recordkeeping requirements to document the required monitoring.

- Opacity Requirements: Opacity requirements are included in I.A.1.1. The monitoring, maintenance and recordkeeping requirements have not been changed from the existing operating permit (gap-filling provisions). There are specific monitoring provisions for emergency generators used for backup electricity and fire suppression. Emergency generators and generators for fire suppression pumps often have visible emissions, but seldom have visible

emissions greater than 20% opacity. If Boeing Seattle observes visible emissions from an emergency generator or generator for fire suppression pumps, Boeing Seattle shall check to make sure that the generator is operated and maintained properly and either shut it down within 3 hours or observe visible emissions using Ecology Method 9A within 30 days. Three hours was chosen because these units are usually tested once a month for less than three hours. If they have visible emissions and operate for more than three hours, the permit requires Boeing Seattle to either determine the opacity during that test or some other test within 30 days. It is not the agency's intention that Boeing Seattle would have to startup a generator, solely for the purpose of determining opacity.

- Particulate Matter: Particulate matter requirements are included in I.A.1.2 and I.A.1.4. The monitoring, maintenance and recordkeeping requirements have not been changed from the existing operating permit (gap-filling provisions). Opacity monitoring is used as a surrogate to performing a PSCAA Method 5 test, with Boeing Seattle taking corrective action if any visible emissions are noted. Taking corrective action does not relieve Boeing Seattle from the obligation to comply with the particulate matter standard itself. If PSCAA Method 5 testing conducted by Boeing or the Agency showed an exceedance of the standard, that would be a deviation of the standard regardless of opacity monitoring results.

- SO_2 Requirements: SO_2 requirements are contained in Requirement I.A.1.6. Boeing Seattle combusts only pipeline grade natural gas in all combustion units except for the emergency generators. EPA AP-42, Chapter 1, Section 4 notes that emissions of SO_2 from natural gas boilers are low because pipeline natural gas typically has sulfur levels less than 2000 grains of sulfur per million cubic feet which is equivalent to approximately 3.4 parts of sulfur per million cubic feet of natural gas as shown in the calculations below:

$$\frac{2{,}000\ gr\ S}{1{,}000{,}000\ ft^3\ nat.gas}\times\frac{1\ lb}{7000\ gr}\times\frac{385\ \frac{ft^3}{mole\ S}}{32\ \frac{lb}{mole\ S}}=3.44\times10^{-6}\ \frac{ft^3\ S}{ft^3\ nat.gas}\equiv 3.44\ \ ppmdv\ S$$

According to Perry's Chemical Engineer's Handbook, each cubic foot of natural gas requires approximately 10 cubic feet of air for combustion, yielding approximately 11 cubic feet of combustion exhaust gases, consisting mostly of nitrogen, water vapor, and carbon dioxide. The sulfur in the natural gas will almost all be converted to sulfur dioxide, with each cubic foot of sulfur producing the same volume of sulfur dioxide. Since each cubic foot of natural gas contains 3.44 × 10-6 cubic foot of sulfur, each cubic foot of stack exhaust will contain approximately:

$$3.44\times10^{-6}\ \frac{ft^3\ S}{ft^3\ nat.gas}\times\frac{1\ ft^3\ SO_2}{1\ ft^3\ S}\times\frac{1\ ft^3\ nat.gas}{11\ ft^3\ stack\ exhaust}=3.13\times10^{-7}\ \frac{ft^3\ SO_2}{ft^3\ stack\ exhaust}$$

This is equivalent to 0.31 ppmdv SO_2. Note that this estimated value is less than one-tenth of one percent of the 1,000 ppm SO_2 standard. Therefore, it is reasonable to assume that combustion units that are fired on natural gas cannot exceed the 1,000 ppm SO2 limits in Puget Sound Clean Air Agency Regulation I, Section 9.07.

For emergency generators, Boeing Seattle must maintain records demonstrating only low sulfur diesel is used.

- Nuisance Requirements: General nuisance requirements are contained in Requirements I.A.1.7 and I.A.1.12. The monitoring, maintenance and recordkeeping requirements have not been changed from the initial operating permit issued in 2002 (gap-filling provisions).

- Fugitive Dust Requirements: Fugitive dust requirements are contained in Requirements I.A.1.8 and I.A.1.9. The monitoring, maintenance and recordkeeping requirements have not been changed from the initial operating permit issued in 2002 (gap-filling provisions).

- Good Working Order: Requirements to maintain equipment that does not have an NOCOA in good working order are contained in Requirement I.A.1.10. For equipment that does have an NOCOA, the requirement to maintain the equipment in good work order is included in the specific emission unit requirements. The monitoring, maintenance and recordkeeping requirements have not been changed from the existing operating permit (gap-filling provisions). Section II of the permit specifies the minimum monitoring, maintenance, and recordkeeping requirements for maintaining the equipment in good working order. In addition, the facility-wide inspections provide monitoring of the general effectiveness of Boeing's O&M Plan. Although this provides sufficient monitoring criteria for Boeing Seattle to certify that equipment has been maintained in good working order, the Agency staff may evaluate the maintenance of each piece of equipment to determine if it has been maintained in good working order.

- O&M Plan Requirements: For the O&M Plan requirement in I.A.1.11, Boeing Seattle is required to develop and implement an O&M Plan to assure continuous compliance with PSCAA Regulations I, II, and III. The requirement specifies that the plan shall reflect good industrial practice, but does not define how to determine good industrial practice. To clarify the requirement, PSCAA added that, in most instances, following the manufacturer's operations manual or equipment operational schedule, minimizing emissions until the repairs can be completed and taking measures to prevent recurrence of the problem may be considered good industrial practice. This language is consistent with Ecology requirement in WAC 173-400-101(4). The PSCAA also added language establishing criteria for determining if good industrial practice is being used. These include monitoring results, opacity observations, review of operations and maintenance procedures, and inspections of the emission unit or equipment. The PSCAA added this wording in response to Washington State court decision, Longview Fibre Co. v. DOE, 89 Wn. App. 627 (1998), which held that similar wording was not vague and gave sufficient notice of the prohibited conduct.

- RCW 70.94.040 has been deleted from facility-wide applicable requirements. The provisions of RCW 70.94 RCW, or the ordinances, resolutions, rules, or regulations adopted thereunder are included in the permit as applicable requirements.

6.2 Section I.A.2 (US EPA NSPS General Provisions)

Section I.A.2 was added to the operating permit as part of the renewal process. The requirements in section I.A.2 are the general provisions of the federal NSPS. The enforceable requirement is listed in the second column of the table. The requirement number in the first column and the requirement paraphrase in the 3rd column are for information only. In the event of conflict or omission between the information contained in the third column and the actual regulation cited in the second column, the requirements and language of the regulation cited shall govern. For more information regarding any of the requirements cited in the second column, refer to the actual requirements cited.

These requirements apply only to NSPS affected facilities identified in the permit at the time of issuance. In this case, Boeing Seattle has two boilers subject to 40 CFR Part 60, Subpart Dc. Two internal combustion engines identified by the applicant at the time of review are subject to the NSPS requirements in 40 CFR Part 60, Subpart IIII. The affected facilities covered by these Subparts are subject to the enforceable requirements listed in column 2 (for example, Subpart Dc). These Subparts are identified in the fourth column of the table. Section I.A.3 (US EPA NESHAP General Provisions).

Construction (including reconstruction) or modification of an affected facility after the date of permit issuance is subject to all applicable requirements in 40 CFR Part 60, Subpart A.

6.3 Section I.A.3 (US EPA NESHAP General Provisions)

Section I.A.3 was added to the operating permit as part of the renewal process. The requirements in section I.A.3 are the general provisions of the federal NESHAP. The enforceable requirement is listed in the second column of the table. The requirement number in the first column and the requirement paraphrase in the 3rd column are for information only. In the event of conflict or omission between the information contained in the third column and the actual regulation cited in the second column, the requirements and language of the regulation cited shall govern. For more information regarding any of the requirements cited in the second column, refer to the actual requirements cited.

These requirements apply only to NESHAP affected sources identified in the permit at the time of issuance. For most of these requirements, the permit identifies which 40 CFR 63 Subparts this includes (for example, Subparts GG, ZZZZ, DDDDD). These are identified in the fourth column of the table.

Applicability of General Provisions for Emergency RICE: 40 CFR 63.6665 specifies that for reciprocating internal combustion engines (RICE) that meet specific criteria listed in the section of the rule, the facility does not need to comply with any of the requirements of the General Provisions specified in Table 8 of 40 CFR Part 63, Subpart ZZZZ. Boeing Seattle has two engines that meet this criteria: existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP. Other existing emergency stationary RICE have a site rating less than 500 brake HP so are subject to the General Provisions. However, 40 CFR 63.6645 specifies that notification requirements in 40 CFR 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), and 63.9(b) through (e), and (g) and (h) do not apply to existing stationary emergency RICE.

Applicability of General Provisions for Site Remediation: Boeing Seattle conducts site remediation activities, but the facility has determined the site remediations activities meet the exemption requirements in 40 CFR 63.7881(c)(1) through (c)(3). Since the total quantity of HAP that is contained in the remediation material excavated, extracted, pumped, or otherwise removed during all of the site remediations conducted at Boeing Seattle is less than 1 megagram (Mg) annually, the facility is exempt from the requirements of the NESHAP for Site Remediation in 40 CFR Part 63, Subpart GGGGG except for the recordkeeping requirements in 40 CFR 63.7881(c)(2). Therefore the requirements in the General Provisions do not apply to site remediation activities at Boeing Seattle.

New affected sources that have an initial startup after the date of permit issuance are subject to all applicable requirements in 40 CFR Part 63, Subpart A.

6.4 Section I.B. (Emission Unit Specific Applicable Requirements)

Section I.B. of the permit lists applicable requirements that are specific to an emission unit or activity.

Following the name of each emission unit is a brief description of the emission unit or activity and some identifying information such as location and installation date. Due to the size of Boeing Seattle and its complexity, the information is provided as an aid in understanding the permit and as an aid to locate a specific emission point or activity.

The Generally Applicable Requirements of Section I.A. apply to all the emission units listed in Section I.B. and are not repeated in this section. Monitoring Methods and Reference Methods are also identified if they are different or in addition to those listed in Section I.A.

Changes made for AOP Renewal: The composite processing operations emission unit has been removed during the renewal process since these operations no longer take place at the facility. Requirements that apply to RICE have been added (Emission Unit 4) since federal regulations were promulgated after the air operating permit was issued in 2002. Requirements that apply to Combustion Turbines and Laser Engraving Operations have also been added (Emission Units 11 and 13) since new NOCOAs have been issued air operating permit was issued in 2002.

New NOCOA conditions have been added to the permit renewal.

6.4.1 Coating, Cleaning, and Depainting Operations

This section includes all activities and equipment associated with surface coating, cleaning, and depainting operations that have specific applicable requirements other than the general requirements in Section I.A.1. These operations may include coating mixing, application, drying, and curing; spray gun cleaning; solvent wipe and solvent flush cleaning; depainting; and material and waste handling. Examples of equipment involved in these activities may include spray booths, paint hangars, and gun cleaning units.

The informational table was updated by the applicant as part of this renewal process and includes spray coating booths in operation at the facility. The last column in the table indicates whether Aerospace NESHAP (ANESHAP)-regulated coatings containing inorganic HAPs may be sprayed at the equipment at the time of permit issuance.

6.4.1.1 ANESHAP

Boeing Seattle conducts several activities that are subject to the ANESHAP. These include the following:

- Applicability and Exemptions are listed in I.B.1.1 through I.B.1.14 (required monitoring in Section II).
- Applicable requirements for ANESHAP cleaning are listed in I.B.1.15 through I.B.1.32 (required monitoring in Section II).
- Applicable requirements for ANESHAP coatings are listed in I.B.1.33 through I.B.1.52 (required monitoring in Section II).
- Applicable requirements for ANESHAP primer, topcoat and specialty coating inorganic HAP application operations are listed in I.B.1.53 through I.B.1.63 (required monitoring in Section II).
- Applicable requirements for ANESHAP waste handling operations are listed in I.B.1.64 through I.B.1.65 (required monitoring in Section II).
- The Boeing Seattle facility does not depaint completed aircraft. Requirements that apply specifically to depainting are not included in the permit. Section II.B.1(h) is marked “RESERVED” as a placeholder for ANESHAP Depainting Operations that applies at other Boeing facilities.

Although chemical milling maskant application and depainting of completed aircraft are regulated in the ANESHAP, Boeing Seattle does not conduct chemical milling maskant application or depainting of completed aircraft so these are not included in the list of general activities and the standards specific to these operations are not included in the permit. Chemical milling maskant application is included in the regulatory paraphrases in Requirements I.B.1.3 , I.B.1.4 (exemptions), I.B.1.9 (averaging provisions), and I.B.1.64 (waste handling) since this language will be consistent for all Boeing facilities. Similarly, depainting is included in the description of Emission Unit 1, I.B.1.5 (exemptions), I.B.1.11 (exemptions), and I.B.1.64 (waste handling) It is not intended to imply that Boeing Seattle is permitted to conduct chemical milling maskant application operations or depainting operations without complying with the requirements in the NESHAP.

Changes made for AOP Renewal: The permit has been updated to reflect revisions to the ANESHAP. This includes the following:

- Added new requirements that apply to specialty coatings.
- Updated the exemption list per 40 CFR 63.741.
- Added general duty clause in revised 40 CFR 63.743(e) to replace reference to general provisions.
- Updated paraphrasing to more accurately reflect language in rule.
- Deleted the requirement for Boeing Seattle to prepare and implement a startup, shutdown, and malfunction plan for spray booths since this requirement has been removed from the ANESHAP.
- Added the option to use an interlock system to automatically shut down the coating spray application if pressure drop outside of manufacturer's recommendations since this option was added to the ANESHAP.
- Updated language pertaining to HAP-containing wastes to be consistent with revised NESHAP. (Note that the compliance date for these requirements is December 11, 2018, per 51114 Federal Register / Vol. 81, No. 149 / Wednesday, August 3, 2016).

Averaging Provisions: 40 CFR 63.743(d) allows Boeing to use averaging provisions specified in 63.743(d)(1) through (d)(6) instead of complying with individual coating limits in 40 CFR 63.745. At time of issuance, Boeing Seattle is not using these averaging provisions. These citations are included in the operating permit, and the averaging scheme consistent with the regulations is included in the Title V operation permit. No change from existing permit.

EPA ANESHAP Determinations: The Agency specified in Requirement I.B.1.43 that Preval hand-held aerosol cans with a non-refillable pressurized portion qualify for the exemption under 40 CFR 63.745(f)(3)(v). This is based on an applicability determination by EPA Region 10 on October 14, 1998.

EPA issued a guidance document in fall of 2016 regarding the standards for handling and storage of waste in Section 40 CFR 63.748(a)(2). The document provides guidance only and does not impose legally binding requirements on the EPA, state regulators or the regulated industry. 40 CFR 63.748(a)(2) states all waste that contains organic HAP should be stored in closed containers. According to the guidance, the requirement to store waste in closed containers is only intended for HAP-containing waste that is not subject to the Resource Conservation and Recovery Act (RCRA) requirements in 40 CFR parts 260 through 268. Once a waste is determined to be a RCRA waste, it is not then or subsequently subject to the requirements in the ANESHAP. This appears to be consistent with the requirements in the rule that states

the requirements of this section do not apply to spent wastes that contain organic HAP that are subject to and handled and stored in compliance with 40 CFR parts 262 through 268. The guidance also specifies a waste does not contain organic HAP if it meets the criteria of non-HAP material in 63.742 (i.e., waste that contains no more than 0.1 percent by mass of any individual organic HAP that is an Occupational Safety and Health Administration (OSHA)-defined carcinogen as specified in 29 CFR §1910.1200(d)(4) (2011) (currently codified at Appendix A to 29 CFR §1910.1200—Health Hazard Criteria (Mandatory), §A.6.4), and no more than 1.0 percent by mass for any other individual HAP). Note that Section 63.742 of the regulations incorrectly specifies 29 CFR 1200(d)(4), a citation that will be updated in a future technical correction.

A material is not a waste requiring disposal in closed containers:

- If it does not contain "free liquids" (as defined in 40 CFR 260.10)
- If it's within containers or liners rendered "empty" (as defined in 40 CFR 261.7) such as residues remaining in tubes, bottles, cups etc.
- Until such time that it is no longer suitable for its intended purpose. For example, a tube of adhesive that is partially used but has now set up to the point it is no longer useable.

6.4.1.2 PSD Permitting

PSD-90-04 Amendment 1 was issued to Boeing Commercial Airplane Seattle North Boeing Field on May 17, 1995. The permit has not been revised since the air operating permit was issued in 2002 so the conditions in this permit renewal corresponding to PSD-09-04 Amendment 1 have not changed.

Condition 7 of the permit required Boeing to obtain offsetting reductions of VOC by reducing actual emissions from existing sources in the Puget Sound area by 120 tons per year. This condition was satisfied through WA Department of Ecology with Boeing banked emission credits. An April 19, 1996 letter written by Joseph Williams, Ecology, stated "Ecology has determined that reallocation of emission credits as indicated in the table column under PSD 90-04 will adequately fulfill the requirements of PSD No 90-04, condition 7." Therefore, this condition was not included in the initial operating permit issued in 2002 and has not been included in the renewal operating permit.

6.4.1.3 Applicability and Exemptions - Local Regulations and NOCOA Conditions

Besides coating aerospace parts in spray booths, Boeing Seattle sometimes coats parts for motor vehicles and mobile equipment. When Boeing Seattle conducts such activity, Regulation II, Section 3.04, which sets limits on the VOC content of the coatings, would apply. The monitoring method requires Boeing Seattle to keep records of the VOC content of each motor vehicle coating and verify that the coatings being applied meet the requirements. In a June 30, 2001, letter, the Agency provided concurrence that mobile equipment as it relates to Boeing facilities is intended to mean equipment that is licensed or likely to be licensed to operate on a public roadway. Jigs and carts used to move parts and equipment in and around buildings at Boeing facilities would not be mobile equipment. However, trucks and trailers that move parts between Boeing facilities would be subject to the requirements of the rule. The VOC limits in Regulation II, Section 3.04(a) apply to original equipment manufacturers, so this would not apply to this facility.

Changes made for AOP Renewal: Changes made during the operating permit renewal process include the following:

- PSCAA Regulation I, Section 9.16 has been updated. Aerospace coating operations subject to the ANESHAP are exempt from the provisions of Regulation I, Section 9.16(c), (d) and (e). Boeing Seattle does not conduct mobile spray-coating operations under Section 9.16(e).
- Added new NOCOAs pertaining to spray coating operations and applicable conditions. This included NOCOA 9667 and 11268. Condition 22 of NOCOA 11268 has not been included in the AOP since the requirements to report are covered by deviation reporting requirements so this removes redundancy.
- Removed NOCOAs for equipment that is no longer operating and has been removed from the facility or has been cancelled and superseded by more recent Orders.
- Removed NOCOA 8083 and 8084 issued on April 9, 2000, which approved an alternative means of compliance with Regulation II, Section 3.08(b) in accordance with Regulation I, Section 3.23. Boeing Seattle no longer applies the regulated resins so an alternative means of compliance is not necessary.

6.4.2 External Combustion

This section includes all boilers and heaters. Smaller combustion units, such as those that fit the definition of a hot water heater in 40 CFR Part 63, Subpart DDDDD, are not itemized.

6.4.2.1 Boiler NESHAP (40 CFR Part 63, Subpart DDDDD)

Boeing Seattle presently has ten boilers that are subject to Subpart DDDDD of 40 CFR 63. The NESHAP requirements have been added in this permit renewal.

Each of the boilers and heaters listed are “Units designed to burn gas 1” under 40 CFR Part 63, Subpart DDDDD. All boilers are gas-fired, four are permitted for jet fuel as backup, and two are permitted for PS-300 backup fuel. Boilers and process heaters designed to burn gas 1 fuels are not subject to emission limits or operating limits in Subpart DDDDD. All boilers subject to the NESHAP are required to have tune-ups every 5 years since the boilers have a continuous oxygen trim system or are below the size threshold for more frequent tune-ups. The one-time energy assessment was required by January 31, 2016. Boeing Seattle has conducted the one-time energy assessment, so this is not an ongoing requirement. The facility did not submit the energy assessment to the Agency, but certified the assessment was completed in their Notification of Compliance Status submitted March 27, 2016. Boeing Seattle is required to maintain a record of the energy assessment in Section II.B.2.b.ii.

Two of the boilers at Boeing Seattle Bldg. 3-374 (MSS# BOIL53 and BOIL54) were upgraded on March 10, 2022 with continuous oxygen trim systems to ensure they maintain an optimum air-to-fuel ratio during operations. Prior to this time, boiler tune-ups were required annually by the NESHAP. However, with the installation of continuous oxygen trim systems, the boilers are now required to be tuned up every 5 years.

In accordance with 40 CFR 63.7491(d), BOIL51 is exempt from 40 CFR Part 63, Subpart DDDDD since it meets the definitions of a hot water boiler in 40 CFR 63.7575.

6.4.2.2 NSPS Subpart Dc - Applicability

The NSPS in 40 CFR 60 subpart Dc apply to steam generating units that commenced construction after

June 9, 1989, and have a heat input rate of 100 million Btu/hr or less, but 10 million Btu/hour or greater. Two boilers at Boeing Seattle are subject to the NSPS and the requirements that apply to these units are included in the permit. The applicability of the General Provisions in 40 CFR 60, Subpart A as they apply have been moved to Section A.2 of the operating permit.

6.4.2.3 Local Regulations

Regulation I, Section 9.03 opacity standards, and Regulation I, Section 9.08(a) and Revised Code of Washington, RCW Section 70.94.610 (1991) fuel standards apply to these units apply. The monitoring method has not been significantly revised from monitoring requirements in the initial operating permit issued in 2002.

6.4.2.4 NOCOA Conditions

Changes made for AOP Renewal: Changes made during the operating permit renewal process include the following:

- Added new NOCOAs pertaining to external combustion operations and applicable conditions. Note that NOCOA 10190, Condition 5 is obsolete since these were initial compliance test requirements. The initial compliance tests were conducted on 10/21/2011 and demonstrated initial compliance with permit emission limits. Ongoing compliance is demonstrated through annual servicing which required testing using EPA reference test methods or conditional test methods using a portable gas analyzer. The ongoing compliance tests requirements are included in this permit renewal.

6.4.3 Abrasive Blasting, Cyclones, Baghouses, and Other Particulate Control Operations

This section has been modified to include all activities and equipment with particulate emissions controlled by cyclones, baghouses, and other control equipment. The list is limited to those sources that were subject to permitting or notification under Regulation I, Section 6.03(a) or (b). The table was updated by Boeing during the renewal process and provides a source description. Replacement or substantial alteration of any of the baghouses or other particulate control operations would require Boeing Seattle to file a notice of construction application in accordance with WAC 173-400-114. It is the facility's responsibility to verify and certify compliance with this requirement on an annual basis.

In addition to the visible emission and fallout monitoring included in the initial operating permit issued in 2002, the Agency has determined a requirement to monitor pressure drop across the control equipment is appropriate to assure compliance with applicable emission limits. The Agency determined that periodic compliance testing with the Reference Test Method is not necessary with the periodic monitoring included in the permit. This is based on the size of the units and potential emissions.

Other changes made during the operating permit renewal process include removing NOCOAs for equipment that is no longer operating and has been removed from the facility. This includes NOCOAs 7391, 6120 and 4677.

6.4.4 Stationary Internal Combustion Engines

This section has been added in this AOP renewal and includes all stationary RICE that are affected sources subject to the NSPS requirements in 40 CFR Part 60, Subpart IIII for Stationary Compression Ignition Internal Combustion Engines, and to the NESHAP requirements in 40 CFR 63, Subpart ZZZZ for Stationary

Reciprocating Internal Combustion Engines. All engines are emergency stationary engines as defined in the NESHAP.

6.4.5 Motor Vehicle Fueling Operations

The gasoline station at the facility consists of a gasoline station with one 10,000-gallon underground storage tank with stage 1 VRE. Gasoline throughput at the station is less than 600,000 gallons annually.

The permit has been updated to include the 2012 version of Regulation II, Section 2.07 as "State Only" requirements since the Agency has not requested and EPA has not been approved this version of our regulation in our SIP. The 1999 version of the regulation which is in the SIP (Regulation II, Section 2.07) specifies inspections and their frequency.

Changes made for AOP Renewal: The monitoring requirement in the original AOP requires routine inspection and repair of defects within seven days after inspection. The AOP renewal has been modified to allow for inspection every seven days as an alternate to inspection after every product delivery. Although uncommon, product deliveries may occur more frequently than once a week which resulted in violations during the previous permit term. The updated monitoring reflects the current version of the regulations for Stage 1 systems and the Agency has determined this is sufficient for assuring compliance with the requirements.

6.4.6 Storage Tanks

Changes made for AOP Renewal: The requirements of NSPS in 40 CFR Part 60, Subpart Kb have been removed from the permit. Boeing Seattle used to be required to maintain records showing dimensions of the storage vessels and an analysis showing the capacity. This requirement has been removed from the NSPS. All storage tanks at Boeing Seattle are below the applicability criteria in 40 CFR 60.110b(a) and (b) based on storage vessel capacity and the maximum true vapor pressure of the liquid in the storage tank. Storage tanks hold diesel fuel and Jet A fuel. These fuels all have a true vapor pressure less than 3.5 kPa. Therefore, the requirements of NSPS in 40 CFR Part 60, Subpart Kb do not apply to storage tanks located at Boeing Seattle.

40 CFR 60 Subpart Kc applies to each storage vessel with a capacity greater than or equal to 20,000 gallons that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after October 4, 2023. No storage tanks greater than or equal to 20,000 gallons have been constructed, reconstructed or modified at the facility since October 4, 2023. Therefore, the requirements of NSPS in 40 CFR Part 60, Subpart Kc do not apply to storage tanks located at Boeing Seattle.

6.4.7 Wood Furniture Operations

Boeing Seattle only conducts incidental wood furniture manufacturing activities that have specific applicable requirements in 40 CFR Part 63, Subpart JJ - National Emission Standards for Wood Furniture Manufacturing Operations. Historically Boeing Seattle uses far less than the Subpart JJ applicability threshold of 100 gallons of finishing materials or adhesives used in the manufacture of wood furniture or wood furniture components, and keeps records to validate their usage.

Changes made for AOP Renewal: This section was updated to reflect the facilities currently on-site.

6.4.8 Composite Processing Operations

Changes made for AOP Renewal: This section was deleted during the operating permit renewal. The only product that contains the styrene monomer as a reactive monomer for the resin used at Boeing in recent

years is a putty used on non-production parts. This use would not be considered to be manufacturing operations. Therefore, the Agency determined that this activity did not meet the applicability criteria in Regulation II Section 3.08(a), and therefore that regulation does not apply.

6.4.9 Remediation

Changes made for AOP Renewal: Boeing Seattle conducts site remediation activities but the facility has determined the site remediations activities meet the exemption requirements in 40 CFR 63.7881(c)(1) through (c)(3). Since the total quantity of HAP that is contained in the remediation material excavated, extracted, pumped, or otherwise removed during all of the site remediations conducted at Boeing Seattle is less than 1 megagram (Mg) annually, the facility is exempt from the requirements of the NESHAP for Site Remediation in 40 CFR Part 63, Subpart GGGGG except for the recordkeeping requirements in 40 CFR 63.7881(c)(2). The requirements in 40 CFR 63.7881(c) have been included in this AOP renewal, including the recordkeeping requirements.

6.4.10 Wastewater Treatment Operations

In this renewal, the Agency removed the references to the O&M Plan requirements since those are already covered in facility-wide requirements.

40 CFR Part 63, Subpart DD for Off-site Waste and Recovery Operations does not apply since Boeing Seattle does not accept waste from off-site.

6.4.11 Chemical Process Tankline Operations

An R&D test facility was permitted in 2006. This facility includes spray booths and tanklines. The tank line operations have been included under this emission unit. There are three identical tank lines of 80-gallon tanks (Lines A, B and C) and 2 identical tank lines of 10-gallons tanks (Lines E and F). All tanks vent to a single 26,000 cfm packed bed scrubber.

The initial new source review was conducted in 2006 and it was verified as part of the NOC review that the scrubber was adequately sized for operation of all 5 lines. The key pollutant of concern is hexavalent chromium. The NOCOA set an emission limit of 0.15 mg/amp-hour of hexavalent chromium and 0.01 mg/dscm of total chromium. An initial source test was required to demonstrate compliance with the emission limits. This testing was conducted on October 30, 2007. As required by the permit, only chromium electroplating and anodizing tanks were operated during the test and the scrubber was operated at a pH of 4. The chromic acid anodizing tank was not covered with polyballs during the time of the test. The test demonstrated that emissions were approximately 25% of the hexavalent chromium emission limit and approximately 3% of the total chromium emission limit.

NESHAP Applicability: The plating and anodizing tanks are not subject to 40 CFR Part 63, Subpart N, NESHAP for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks, since 40 CFR 63.340(d) exempts research and laboratory operations from the requirements. Research or laboratory operations means an operation whose primary purpose is for research and development of new processes and products, that is conducted under the close supervision of technically trained personnel, and that is not involved in the manufacture of products for commercial sale in commerce, except in a de minimis manner.

Ongoing compliance monitoring: The initial review evaluated the importance of pH for achieving removal efficiency. Since the main removal efficiency for hexavalent chromium was determined to be impaction,

not pH control, the Agency allowed a much lower pH of 4. However, the initial source test needed to be conducted at this lower pH. The acceptable pH operating range was identified broadly as 4 to 10 for the scrubber.

The monitoring method requires routine inspections of each scrubber for proper scrubber pump operation, flowrate, pH, pressure drop monitoring, nozzle inspection for pluggage and even flow, and inspections for leaks and visible emissions. Routine monitoring requirements for pH and pressure drop, and inspection of scrubber nozzles and pluggage are included as requirements in the NOCOA. The addition of scrubber pump operation, flowrate and inspection for leaks and visible emissions are considered baseline monitoring for scrubbers.

Condition 13 of NOCOA 12271 requires that all air exhaust from the tank lines must vent to the tank line scrubber. There is no periodic monitoring included in the NOCOA for this requirement so the renewal permit has included a requirement to evaluate the air exhaust system annually to verify compliance. The Agency has determined that an annual evaluation is sufficient to ensure compliance with the requirement.

The permit also requires one source test during the term of the permit to demonstrate compliance with the emission limits in the permit. Routine parametric monitoring does not provide sufficient monitoring to fully demonstrate compliance with the emission limits since the scrubber is almost 20 years old. The Agency determined that a one-time test during the term of the permit and routine parametric monitoring combined provide sufficient monitoring to demonstrate compliance with the terms of the NOCOA.

6.4.12 Combustion Turbines

Combustion turbines were installed in 2006 and requirements in NOCOA 8949 have been added to this permit renewal. One 34.99 MMBtu/hr combustion turbine and one 83.2 MMBtu/hr combustion turbine were permitted to power the wind tunnel. An additional unit was permitted as back-up. Only two turbines are in use at any one time.

The run times of the turbines are limited so that NOx emissions remain below 40 tons per year.

The turbines are not an affected source under the Acid Rain program (40 CFR 726 and 40 CFR 74). 40 CFR Part 63 Subpart YYYY (Turbine NESHAP) does not apply since the turbines were constructed prior to January 14, 2003 and have not been reconstructed since this date.

Applicability of 40 CFR Part 60, Subpart GG (Combustion Turbine NSPS) was reviewed at time of permitting. Based on information provided by Boeing at that time, the turbines were constructed before October 3, 1977 and had not been reconstructed since this date. EPA Guidance on ADI (See Control No. 0300006) states that turbines manufactured before Oct. 3, 1977 that are moved to another location are not subject to the NSPS requirements of 40 CFR 60 Subpart GG.

40 CFR Part 60, Subpart KKKK (Combustion Turbine NSPS) applies to stationary combustion turbines with a heat input at peak load equal to or greater than 10 MMBtu per hour, based on the higher heating value of the fuel, which commenced construction, modification, or reconstruction after February 18, 2005.

As part of the renewal process, Boeing Seattle verified the engines have not been modified or reconstructed and no non-routine repairs have been completed on the turbines. Therefore, neither 40 CFR 60 Subparts GG or Subpart KKKK apply to these turbines.

Condition 6 of NOCOA 8949 required Boeing to conduct a source test using EPA Method 20 in combination with a method used to determine flowrate to determine hourly NOx emissions while firing each turbine at the maximum continuous operating rate. Tests were conducted on June 22 and 24, 2006. Based on the

test report, the NOx emission rate was below the emission rate limit in the NOCOA for each turbine. The NOx emission rate limit for each of the GE J47 combustion turbines is 73.2 lb/hr and the engines were tested in 2006 at 4.0 lb/hr. The NOx emission rate limit for the Allison 501-D13 combustion turbine is 30.8 lb/hr and the engine was testing in 2006 at 25.0 lb/hr.

The hours of operation for the GE J47 combustion turbines are limited to 540 hour during any consecutive 12-month period (only one in operation at a time). The hours of operation for the Allison 501-D13 combustion turbine are limited to 1290 hour during any consecutive 12-month period. Based on logs of hours of operation submitted for review during the AOP renewal process for 2020 to 2024, the highest usage was 180 hours during any consecutive 12-month period for the GE J47 combustion turbine. The other combustion turbines permitted under NOCOA 8949 have not been in use during the 2020 through 2024 period.

The Agency has determined that the one-time compliance tests required by NOCOA 8949 that were conducted in 2006 are not necessarily sufficient to ensure continued compliance with the emissions limits. However, it appears from review of the technical worksheet for NOCOA 8949 that the emission limits were not established as a best available control technology limit, but that the combined emission limit and limits on the hours of operation assured project emissions of NOx remained below 40 tons/year. Since the actual hours of operation are currently significantly below the permitted levels, the Agency has determined that additional compliance testing is not necessary unless the actual hours of operation increase. Under the authority in WAC 173-401-615(1)(b), the Agency has required a one-time source test during the term of the permit or within 12 months, whatever comes later, for any combustion turbine permitted under NOCOA 8949 that operates for over half the authorized hours of operation in the permit during any consecutive 12-month period. For either of the GE J47 combustion turbines, a compliance test is required to demonstrate compliance with the emission limits if an individual turbine is operated more than 270 hours during any consecutive 12-month period. For the Allison 501-D13 combustion turbines, a compliance test is required to demonstrate compliance with the emission limits if the turbine is operated more than 645 hours during any consecutive 12-month period.

6.4.13 Solvent Cleaning Operations

The solvent cleaning operation was permitted under NOCOA 4371 in 1992, but repermitted under the same NOCOA number in 1998 when other equipment under the same permit was modified. There are no specific permit conditions that apply to this emission unit.

Changes made for AOP Renewal: The requirements in Regulation III, Section 3.05 applied to this operation and are included in the 2002 operating permit, but this regulation has been rescinded and requirements have been removed in this AOP renewal permit.

6.4.14 Laser Engraving Operations

This section has been added during the renewal process. An NOCOA was issued in 2024 to generally cover laser engraving operations to engrave stainless steel, other metal, and plastic items with markings (including, but not limited to certification markings, serial numbers and identification numbers) with inorganic particulate emissions from engraving stainless steel controlled by HEPA filtration. The operations occur throughout the facility. Specific monitoring and recordkeeping requirements included in the NOCOA have been included in the permit renewal.

7 Monitoring, Maintenance and Recordkeeping Procedures

Emission testing conducted to determine compliance with an emission standard must comply with the requirements in Section V.N of the permit. However, Boeing Seattle is not required to provide PSCAA with advance notification of an Ecology Method 9A test if the testing is conducted as part of the facility-wide opacity monitoring method in Section II.A.1(a) or the Emission Unit specific monitoring in Section II.B. For example, if Boeing Seattle observed visible emissions and then performed a Method 9A observation, the results of that observation can be used to demonstrate compliance, even if Boeing Seattle did not notify the Agency.

Boeing Seattle must follow the procedures contained in Section II of the permit, Monitoring, Maintenance and Recordkeeping Procedures. Not following a requirement of Section II is a deviation of Section II and Boeing Seattle must report such deviations, as well as deviations from any other permit condition, as a deviation under Section V.Q.1 of the permit. In addition, all information collected as a result of implementing Section II can be used as credible evidence under Section V.N.2 of the permit. Reporting a permit deviation and taking corrective action does not relieve Boeing Seattle from its obligation to comply with the underlying applicable requirement.

Changes made for AOP Renewal: Regulation citations were updated, and the following changes were made:

- The section was reformatted.
- The section has been updated to reflect any new or modified monitoring, recordkeeping and reporting requirements since issuance of the 2002 permit.
- Gap-filling provisions were updated. See additional discussion under Section 6.1 of this Statement of Basis.

7.1 Standard Approval Conditions

A standard PSCAA NOCOA condition, Condition No. 1, requires that the equipment, device, or process be installed according to plans and specifications submitted to PSCAA. Once the equipment is installed, PSCAA requires certification by the applicant that the installation was as approved; this is done with a Notice of Completion. While the Notice of Completion is a one-time requirement that Boeing Seattle has complied with, Boeing Seattle cannot change the approved equipment in such a manner that requires an NOCOA without first obtaining an NOCOA which is addressed in Section IV.A of the permit.

Another standard approval condition on some of the NOCOAs requires the applicant to development and implement an O&M Plan for the equipment approved in the NOCOA. The Clean Air Agency considers that condition obsolete and superseded it with Regulation I, Section 7.09(b) which requires development of an O&M Plan for all equipment.

A third standard approval condition informs the applicant that the approval does not relieve the applicant from complying with other applicable requirements. This is for information purposes only and no monitoring is required, hence the approval condition is not listed in the permit.

8 Prohibited Activities

Some of the requirements Boeing Seattle identified in the operating permit application are included in Section III as prohibited activities. Personnel that perform the facility inspections, required in Section II of the permit, should be aware of these requirements and if they find any evidence that any of these

activities are being conducted, they should take appropriate action to investigate them and take corrective action if necessary.

Changes made for AOP Renewal: Regulation citations were updated, and requirement paraphrasing was modified to be more consistent with the cited regulation. Concealment and masking requirements in the WAC and PSCAA regulations were combined under one section, but the Part 61 concealment provision was moved to its own section. Provisions that apply to tampering in WAC 173-400-105(8) and false statements in WAC 173-400-105(6) were also included in this section, but are not federally enforceable. A statement was added specifying compliance with applicable requirements shall be monitored through "Documentation on File" and "Facility Inspections".

9 Activities Requiring Additional Approval

Some of the requirements Boeing Seattle identified in the operating permit application are included in Section IV as activities that require additional approval.

Changes made for AOP Renewal: Regulation citations were updated, and requirement paraphrasing was modified to be more consistent with the cited regulation. Sections to address new source notification requirements and Notices of Completion were added. PSD permitting requirements were also added since this is an applicable requirement although it is implemented through Ecology. The requirements for spray coating in PSCAA Regulation I, Section 9.16 were moved to the emission unit specific requirements. Requirements that apply to nonroad engines in Article 15 were also added to this section. As part of the renewal process, the Agency reviewed these requirements to verify all met the definition of applicable requirement in WAC 173-401-200. A statement was added specifying compliance with applicable requirements shall be monitored through "Documentation on File" and "Facility Inspections".

9.1 New Source Review

For new source review, the Agency has adopted by reference in Regulation I, Section 6.01(a) requirements in WAC 173-400 and WAC 173-460 that apply in our jurisdiction. This includes PSD requirements, but Regulation I, Section 6.03(b) clarifies that Ecology is the permitting agency for the PSD program.

PSCAA Regulation I, 6.03(b), notifications and 6.03(c), exemptions, lists sources for which a Notice of Construction application and NOCOA are not required. For purposes of complying with the recordkeeping requirement in Regulation I, 6.03(c) for exemptions, Boeing Seattle shall provide in a timely manner, upon request by the Agency, any information reasonably necessary to document the exemption. Boeing Seattle currently maintains a log of all determinations of categorically exempt equipment listed in Regulation I, Section 6.03(c). However, physical evidence of the emission unit or activity itself can often fully document the applicability of the exemption. For example, the nameplate on an emission unit can document its rated capacity. Similarly, simply observing an emission unit, such as handheld sanding equipment, can fully demonstrate the applicability of an exemption.

In addition, Boeing Seattle can request the Agency review a source not otherwise exempt under Regulation I, Section 6.03(c) to determine if an Order of Approval is warranted. In accordance with Regulation I, Section 6.03(b)(10), the Agency has determined the following sources to be exempt through review of a Notice of Construction application because the source has a de minimus impact on air quality and does not pose a threat to human health or the environment:

NOCOA	Application Submitted	Process Description
9131	12/3/2004	Lab curing oven
9337	10/26/2005	SO2 chamber
9359	11/21/2005	Despatch oven
9394	2/1/2006	Laser cutter
9398	2/6/2006	Laser cutter
9585	2/6/2007	ZEP Ultrasonic Cleaner with a 22 gallon immersion and 55 gallon total capacity
10445	2/1/2021	Solvent recovery distillation unit

9.2 Nonroad Engines

This new section IV.F. sets forth requirements of WAC 173-400-035 and PSCAA Regulation I, Article 15 concerning internal combustion engines that are classified as nonroad engines. These meet the requirements of applicable requirement as defined in WAC 173-401-200 which include rules adopted under Chapter 70.94 as they apply to emission units in a chapter 401 source. “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 FCAA.

10 Standard Terms and Conditions

Some of the requirements Boeing Seattle identified in the operating permit application are included in Section V, Standard Terms and Conditions. This section also contains the standard terms and conditions specifically listed in WAC 173-401-620.

Changes made for AOP Renewal: Regulation citations were updated, and requirement paraphrasing was modified to be more consistent with the cited regulation. The regulatory language for compliance determinations in Section V.N.1 was updated to be consistent with the 3/23/06 regulation. The language in V.O. General Recordkeeping was updated and NESHAP and NSPS recordkeeping requirements were moved into Sections I or II, as appropriate.

The data recovery section in Section V.P was updated to be more consistent with other operating permits issued by the Agency and other agencies within the State.

The General Reporting section under Section V.Q.1 was updated to reflect the change to Regulation I, Section 7.09(c) that all required compliance reports shall be submitted in electronic format as an attachment to an e-mail. No hard copy is required.

The affirmative defense provisions provided for in Title V of the Clean Air Act were deleted from the implementing federal rules in section 70.6(g) as of August 21, 2023. Although the WAC language has not yet been removed from the state regulation and EPA’s approval of our program still contains this provision, the Federal Register Notice recommended that the emergency affirmative defense not be included in Title V permits issued after the effective date of the Federal Register Notice.

The Agency has updated Section V.R of the permit which addresses excess emissions to be consistent with Ecology's updated regulations. On August 16, 2018, Ecology amended WAC 173-400 to remove exceptions for emissions during startup, shutdown, and malfunction to comply with EPA's direction in the startup, shutdown, and malfunction SIP call. WAC 173-400-107 (Excess Emissions) is currently in effect and was approved in the PSCAA SIP on September 20, 1993. The requirements of WAC 173-400-107 are included in the AOP. WAC 173-400-107 and these permit conditions will remain in effect until the effective date of EPA's removal of the September 20, 1993 version of this section from the PSCAA SIP. Upon the effective date of EPA's removal of the September 20, 1993 version of WAC 173-400-107 from the PSCAA SIP, WAC 173-400-108 (Excess Emissions Reporting) and WAC 173-400-109 (Unavoidable Excess Emissions) will take effect.

Section V.V of the permit pertaining to risk management programs has been updated to be consistent with the 12/3/18 version of the regulation.

10.1 Reporting

Section V.Q of the AOP lists the reports that Boeing Seattle must submit, and the responsible official must certify the report.

Changes made for AOP Renewal: The reports listed in this section have been updated. The requirement to report emissions of greenhouse gases to Ecology has been added. The reporting requirement in 40 CFR 63.9(j) has been moved to Section I.A.3, NESHAP General Provisions. Obsolete reporting requirements have been removed. Reporting requirements for the Aerospace, Boiler and RICE NESHAPs have been updated to reflect the regulation at time of permit issuance. The requirement for submitting compliance reports in electronic format in accordance with Regulation I, Section 7.09(c) was added.

The language in Section V.Q.1.c, Certification by Responsible Official, has been updated to reflect the language in WAC 173-401-520. In addition, the applications forms, reports, and compliance certifications that must be certified upon submittal are listed. The only change made to this list as part of the renewal process was to add the Permit Renewal (WAC 173-401-710) and the Boiler NESHAP compliance report (40 CFR 63.7550) since these reports need to be certified upon submittal. For all other application forms, reports and compliance reports, the responsible official's certification needs only to be submitted once every six months, covering all required reporting since the date of the last certification, provided that the certification specifically identifies all documents subject to the certification. This is consistent with the language in WAC 173-401-615(3) and (3)(a) which requires the permit incorporate all applicable reporting requirements and submittal of any required reports at least once every six months.

To clarify which submittals need to be certified by a responsible official, the table in Section V.Q.3. was updated. The determination of which submittals need to be certified by the responsible official was based on WAC 173-401-520 and WAC 173-401-600(1). WAC 173-401-520 requires that, "Any application form, report, or compliance certification submitted pursuant to this chapter shall contain certification by a responsible official of truth, accuracy and completeness." WAC 173-401-600(1) requires that "each permit shall contain terms and conditions that assure compliance with all applicable requirements at the time of permit issuance." The permit contains all terms and conditions required by WAC 173-401-600(1), including requirements to submit application forms, reports, and compliance certifications. Because these application forms, reports and compliance certifications are required to be submitted by WAC 173-401-600(1), the requirement to certify these submittals in WAC 173-401-520 applies.

The language providing Boeing Seattle with an option to report problems identified but not corrected within 24 hours that is associated with gap filling measures has been removed. An identification of

noncompliance with the permit would have to be reported in accordance with the deviation reporting requirements in Section V.Q.1.b. If Boeing Seattle chooses instead to shut down the operation or equipment, reporting is not required.

11 Permit Shield

The permit shield applies to all requirements contained in Sections I through VI of the permit, including a monitoring, maintenance, recordkeeping, and reporting requirements.

12 Attachments to Statement of Basis

All active NOCOAs and the one active PSD permit are attached to this Statement of Basis. The applicable conditions have been included in the operating permit.

13 Public Comments and Responses

In accordance with WAC 173-401-800, the Agency provided public notice for this permit renewal. The comment period started on April 24, 2025 and continued through May 27, 2025. The notice and supporting documentation were posted on the Agency website. In addition, public notice was published in the Daily Journal of Commerce and the Seattle Times on April 24, 2025. Notice was also published in Ecology's Permit Register on April 25, 2025.

Comments were received on May 27, 2025 from Grant Peltier representing the Boeing Company. The comments were presented as redlined edits with comments in the draft permit and draft Statement of Basis. A summary of the comments and the Agency's response is included below:

On page 104 of the draft AOP Renewal, Boeing submitted two comments for the Condition II.B.1.a monitoring method for Spray Booth Filter Monitoring and Maintenance.

Comment 1: *For dry filter spray booth pressure drop monitoring and recordkeeping, spray booths are typically equipped with filters in series to extend the life of the filter required to meet the specified filter efficiency requirements. Boeing's understanding is that the differential pressure measurement is required for no less than the filter stage or stages necessary to meet the requirement.*

Response to Comment 1: The Agency concurs. This interpretation does not require any change to the permit.

Comment 2: *Boeing is requesting the addition of the following language that is included in the Boeing Renton AOP.*

> *If filter coverage is acceptable for all inspections of a particular booth for a one-year period, the inspection frequency for that booth may be reduced to once per calendar quarter. If filter coverage is unacceptable during quarterly inspections, monthly inspections shall be reinstated. If Boeing Seattle discovers problems with the filters but corrects them within 24 hour or shuts down the operation until such time it can be corrected, Boeing Seattle does not need to report this as a deviation under Section V.M Compliance Certifications or V.Q. Reporting and Notification Reports*

If Boeing Seattle can demonstrate that the equipment and filtration system are stable and reliable enough to successfully and without problems or corrections complete 12 consecutive monthly inspections, then it makes sense from a compliance perspective as well as from a reduction in administrative burden standpoint to reduce the frequency of inspections from monthly to quarterly. This is especially true

considering that if any issue is discovered during the quarterly inspections, that the monthly frequency would be reinstated.

Response to Comment 2: The frequency of the monitoring required in the permit is based on requirements originating in an NOCOA or an underlying regulatory requirement or an evaluation of monitoring needed to sufficiently demonstrate compliance. The Agency has determined that a visual inspection of the filter system for proper seating and complete coverage over the exhaust plenum on a monthly basis is the minimum frequency considered sufficient to demonstrate compliance. Filter system coverage does not necessarily remain stable because of activities that occur in the booths. The Agency has retained the requirement for monthly monitoring in the proposed Operating Permit Renewal.

Starting on page 125 of the draft AOP Renewal, Boeing submitted requested changes to the NOx monitoring requirements in Condition II.C.11.

Comment 3: *Boeing is requesting to update the language in this section to clarify that there are two different GE J47 combustion turbines and that this requirement should apply to each of these turbines (as shown in the equipment table within Section 1.B.11) separately. We are also requesting to update the source test timeline to read "at least one time during the permit term, or within 12 months, whichever is later" to provide flexibility in case we hit the 12-month rolling compliance test limit near the end of the permit term. We can easily envision a situation in which it could take up to 12 months to bring on a qualified testing contractor to perform a NOx compliance test without impacting our testing schedule.*

Response to Comment 3: The Agency concurs and has made the recommended changes to the language in the proposed Operating Permit Renewal.

On page 137 of the draft AOP Renewal, Boeing requested reintroduction of a statement used in the Boeing Frederickson Air Operating Permit addressing occasional and unintentional loss or omission of required records in Section V.P, Data Recovery.

Comment 4: *The data recovery provisions that currently appear in the Boeing Renton, Seattle, Everett and Frederickson AOPs have served for 20+ years as a reasonable approach to enforcing the compliance obligations of an AOP Source while reducing administrative burden on PSCAA and Boeing. Boeing Seattle respectfully requests the retention of the language in V.P.3 to avoid deviation reporting process in cases where, while the data may not be at hand, we can reconstruct the required information from other verified data sources to demonstrate compliance.*

Response to Comment 4: The frequency of the monitoring required in the permit is based on regulation or an evaluation of monitoring needed to sufficiently demonstrate compliance. Allowing for occasional and unintentional loss or omission of required records without submitting a deviation report is not consistent with permit requirements and because of the qualitative nature of the language, unenforceable. Failure to collect and record data would require deviation reporting but would not necessarily be considered a violation of the emission standard. The Agency staff reviews deviation reports to determine if there is evidence that required monitoring was completed on time so use of other mechanisms to demonstrate there was sufficient monitoring would be considered. The Agency has not revised the data recovery language in the proposed Operating Permit Renewal.

On page 25 of the draft Statement of Basis, Boeing requested updated language to reflect the revisions made to the NO_x monitoring for combustion turbines.

Comment 5: *Boeing is requesting to update the language in this section to clarify that there are two different GE J47 combustion turbines and that this requirement should apply to each of these turbines (as*

shown in the equipment table within Section 1.B.11) separately. We are also requesting to update the source test timeline to read "at least one time during the permit term, or within 12 months, whichever is later" to provide flexibility in case we hit the 12-month rolling compliance test limit near the end of the permit term. We can easily envision a situation in which it could take up to 12 months to bring on a qualified testing contractor to perform a NOx compliance test without impacting our testing schedule.

Response to Comment 5: The Agency concurs and has made these changes in the proposed Statement of Basis.

14 EPA Comment Period

In accordance with WAC 173-401-700(f), EPA Region 10 was provided with a copy of the proposed permit for review on May 29, 2024.

15 Administrative Amendment #1 August 6, 2025

On August 6, 2025, the Agency issued an administrative amendment to the permit to correct a typographical error in the header which incorrectly stated that date of expiration.