STATEMENT OF BASIS
THE BOEING COMPANY
BOEING EVERETT FACILITY

1. Purpose of the Statement of Basis

This document summarizes the legal and factual bases for the permit conditions in the air operating permit to be issued to the Boeing Commercial Airplane Group's – Everett 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 Puget Sound Clean Air Agency (previously known as Puget Sound Air Pollution Control Agency (PSAPCA)) 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's air emissions and provides a description of Boeing's activities, including a compliance history.

2. Source Description

2.1 Why Boeing Everett is an Air Operating Permit Source

The Boeing Everett plant qualifies as a major source and is required to obtain an air operating permit because it emits more than 100 tons per year of volatile organic compounds (VOCs) and more than 25 tons per year of hazardous air pollutants (HAPs). The major sources of emissions are from the use of solvents and coatings used to support cleaning and coating operations associated with aircraft assembly and manufacture.

2.2 Emission Inventory

The emission inventory is listed in Attachment A. The attached emission inventory includes a breakdown of the total annual emissions listed by chemical name, CAS number, and the sources of the listed emissions. The following table summarizes the HAP and VOC emissions from Boeing Everett over the last ten years. The information is presented in tons per year.

Pollutant	1996 Tons	1997 Tons	1998 Tons	1999 Tons	2000 Tons	2001 Tons	2002 Tons	2003 Tons	2004 Tons	2005 Tons
VOC	**444**	**681**	**760**	**644**	**512**	**484**	**404**	**294**	**215**	**231**
HAP	**381**	**412**	**309**	**272**	**174**	**95**	**88**	**70**	**37**	**28**

2.3 Process Description

Boeing Commercial Airplane Group's Everett facility manufactures Model 747, 767, 777, and 787 commercial aircraft. Aircraft interiors and tubing are also fabricated at the Everett facility for the Boeing 737 and 757 commercial aircraft that are manufactured in Renton, Washington. The Everett facility, located at 3303 West Casino Road, Everett, Washington, occupies approximately 1000 acres and includes numerous manufacturing and office buildings, warehouses, a flightline, roads, and employee parking areas.

Operations at the Everett facility include the following activities:

- Assembly of major aircraft components into a final deliverable aircraft. In general, the major components that make up an aircraft are not manufactured at the Everett facility. They are shipped to Everett from other Boeing sites or various vendors. For instance, fuselage sections, landing gears, and tail and wing components are all manufactured elsewhere and shipped to Everett to be assembled. The majority of these operations occur in the large building complex (Buildings 40-21 through 40-26, and 40-31 through 40-36).

- Limited aerospace component manufacturing, such as wiring, interiors, and aircraft tubing. The majority of these operations occur in Buildings 40-02, 40-30, 40-56, and 40-30.

- Cleaning, sealing, and painting operations. Sealing is necessary to insure fuel cells are leak proof and cabins and other areas of the aircraft can maintain proper pressurization while in flight. Painting provides critical corrosion protection, as well as giving the aircraft a satisfactory appearance and improving aerodynamics. Cleaning is necessary prior to sealing or painting to insure proper adhesion. These operations occur throughout the facility, but a significant amount is done in the Clean, Seal, Test, and Paint buildings (40-37 and 40-51) and the paint hangars (45-01, 45-03, and 45-04).

- Testing and pre-delivery operations. These operations primarily occur on the flightline or during the final assembly phase.

- Facility and equipment maintenance support activities.

2.4 PSD 06-04

Boeing recently received a PSD permit from the WA Department of Ecology to construct a new paint hanger. This hanger is needed primarily to keep up with the large demand for 787 aircraft, but may also be used for 747, 767, and 777 aircraft. PSD permit 06-04 was issued by Ecology on July 27, 2007 for this project. A Notice of Construction Order of Approval from Puget Sound Clean Air Agency will also be needed before construction can begin. Boeing hasn't yet applied for an Order of Approval for this paint hanger, and based on the information provided by Boeing, it is unknown whether this project will break ground.

The Puget Sound Clean Air Agency has determined that given the uncertainties of this project, it is best to not include PSD 06-04 in the Air Operating Permit at this time. PSD 06-04 and the associated Puget Sound Clean Air Agency Order of Approval will be added to the Air Operating Permit in accordance with the requirements of WAC 173-401-725 after the Order of Approval is finalized.

3. Review of Permit Application

3.1 Initial Application

An air operating permit application was received by the Puget Sound Clean Air Agency from Boeing on June 7, 1995. The Puget Sound Clean Air Agency acknowledged that the application was complete in a letter to Boeing dated August 1, 1995.

3.2 Renewal

An air operating permit renewal application was received by the Puget Sound Clean Air Agency from Boeing on June 19, 2006. The Puget Sound Clean Air Agency acknowledged that the application was complete in a letter to Boeing dated June 26, 2006.

3.3 CAM

As part of the Air Operating Permit renewal application, Boeing was required to submit an analysis of whether a Compliance Assurance Monitoring (CAM) Plan was required for any emission units at the facility. The following CAM applicability analysis was received from Boeing. The Puget Sound Clean Air Agency has reviewed Boeing's analysis and agrees that CAM does not apply to any emission units at Boeing Everett. Sample calculations done by Boeing of the pre-control PM emissions from paint hangers and a large dust collector are included later in this section.

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40 CFR Part 64 Compliance Assurance Monitoring

Under 40 CFR Part 64, as part of the AOP renewal application, Boeing Everett is required to submit a Compliance Assurance Monitoring (CAM) Plan to the Puget Sound Clean Air Agency for any emission unit that meets the following criteria:

1. The unit is subject to an emission limitation or standard for the applicable regulated air pollutant. [40 CFR 64.2(a)(1)]
2. The unit uses a control device to achieve compliance with any such emission limitation or standard. [40 CFR 64.2(a)(2)]
3. The emission limitation or standard is not otherwise exempt from the CAM rule, such as by a new source performance standards (NSPS) or national emission standards for hazardous air pollutants (NESHAP) proposed after November 15, 1990, or stratospheric ozone requirements. [40 CFR 64.2(a)(4)]
4. The unit has potential pre-control device emissions of the applicable pollutant of at least 100% of the major source amount. [40 CFR 64.2(a)(3)]

Emission units at Boeing Everett that met the first three criteria listed above were evaluated to determine if their potential pre-control device emissions exceeded the major source amount (100 tons per year for particulate). In no case did the estimate of potential pre-control device emissions exceed the major source threshold. The table on the following pages identifies the specific emission units evaluated, and includes the limitation or standard applicable to the emission unit as well as the type of air pollution control device that is used to achieve compliance. It should be noted that there are emission units at Boeing Everett other than those listed in the table that may also satisfy the first three criteria listed above (primarily small dust collectors), but which are exempt from the requirement to obtain an Order of Approval under Puget Sound Clean Air Agency Article 6 due to their de minimis impact on air quality. On this basis, and based on our emissions calculations for similar units which have been issued Orders of Approval, these units are estimated to have pre-control potential emissions well below the major source threshold.

Bldg.	Col./Dr.	MSS ID#	Source Description	Emission limitation or standard other than exempt limitations and standards for the applicable regulated air pollutant	Control device to achieve compliance with any such emission limitation or standard	Does the unit have the potential pre-control device emissions > 100% of the tpy amount to be classified as a major source?
				40 CFR 64.2 (a)(1)	40 CFR 64.2(a)(2)	40 CFR 64.2(a)(3)
Coating, Cleaning, and Depainting Operations						
40-02	*B-14*	*110244*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-02	*B-16*	*110245*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-04	*A-7*	*B214*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-04	*A-7*	*B214*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-04	*A-7*	*B214*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-04	*A-7*	*B214*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-10	*C-22*	*089459*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Water Wash*	*No*
40-21	*B-8*	*B946*	*Spray Exhaust System*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-22	*D/E-10*	*B243*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-22	*D-6.5/8*	*116520/ G9055/ B927*	*Spray Exhaust System*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-22	*E-9.75*	*B238/ B927*	*Spray Exhaust System*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-22	*E-9*	*B236/ B927*	*Spray Exhaust System*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-22	*E-11*	*B237/ B927*	*Spray Exhaust System*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-22	*D/E-10*	*712343/ B113*	*Spray Exhaust System*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-22	*G-3.5, 2nd flr*	*018790*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-23	*G-10*	*B234/ B946*	*Spray Exhaust System*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-23	*G-9*	*B233/ B235/ B946*	*Spray Exhaust System*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-24	*I/J-10*	*G0017/ B583-6*	*Spray Exhaust System*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-24	*I-4/5.25*	*B240, B241/ G0017*	*Spray Exhaust System*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-24	*I-7/8*	*B239/ B109/ G0017*	*Spray Exhaust System*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-25	*L/M-9*	*B215*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-25	*L/M-8*	*ET0142/ B154*	*Spray Exhaust System*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-26	*N-10*	*Not Yet Installed*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*

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				40 CFR 64.2 (a)(1)	40 CFR 64.2(a)(2)	40 CFR 64.2(a)(3)
40-30	*G-2*	*017485/ 1729*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-31	*A-16*	*701500*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Water Wash*	*No*
40-33	*G/H-14*	*B247/ ET0380*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-33	*G-14*	*B581*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-33	*H-12/13*	*B117/ B118/ G0017*	*Spray Exhaust System*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-33	*G-11.5*	*B946*	*Spray Exhaust System*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-34	*J-14*	*B684*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-34	*J-14*	*B684*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-34	*J-14*	*B684*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-34	*J-14*	*B684*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-37	*B.8-10.6*	*B663/ B7023/ G7040*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-37	*B.8-13.8*	*B669/ B7023/ G7040*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-37	*B.8-11.2*	*B664/ B7023/ G7040*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-37	*B.5-13.8*	*B670/ B7023/ G7040*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-37	*B.8-11*	*B665/ B7023/ G7040*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-37	*B.2-13.8*	*B668/ B7023/ G7040*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-37	*C.6-12.6*	*B671/ B7023/ G7040*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-37	*B.3-10.2*	*B667/ B7023/ G7040*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-37	*B.8-12*	*B675/ B7023/ G7040*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*

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				40 CFR 64.2 (a)(1)	40 CFR 64.2(a)(2)	40 CFR 64.2(a)(3)
40-37	*B.5-10.2*	*B662/ B7023/ G7040*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-37	*B.5-13*	*B676/ B7023/ G7040*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-37	*B.5-13*	*B677/ B7023/ G7040*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-37	*B.5-13*	*B678/ B7023/ G7040*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-37	*B.5-13*	*B679/ B7023/ G7040*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-51		*B931/ B930/ B027 /B028/ B029/ B030/ B031/ G0108*	*Spray Booths*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-51	*A-2.5*	*708470/ G9002*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-51	*A-2/3*	*708469/ G9002*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-51	*A-3*	*708471/ G9002*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-51	*B-5*	*154148/ ET0084*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-51	*B-4*	*154145/ ET0164*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-51	*Bd-2*	*227615*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-56	*S-5*	*384615*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-56	*D-8*	*135463*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-56	*D-9*	*135464*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-56	*C-3*	*088265*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-56	*J.5-3*	*135465*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-56	*J-8*	*126452*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-56	*BB-4*	*135469*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-56	*B-4*	*110226/ 110225*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-56	*K-7*	*018148*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-56	*G-7*	*018700*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-56	*K-8*	*018699*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
45-01		*B056*	*Paint Hangar*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*

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				40 CFR 64.2 (a)(1)	40 CFR 64.2(a)(2)	40 CFR 64.2(a)(3)
45-01	*I-5*	*B057*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
45-02	*E-10*	*165336*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
45-03		*B058*	*Paint Hangar*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
45-03	*M-5*	*ET0417*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
45-04		*B685*	*Paint Hangar*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
45-04	*Q-10*	*B685/ ET0401*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
45-04	*Q-10*	*B685/ ET0403*	*Spray Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
Cyclones, Baghouses, and Other Particulate Control Operations						
40-01	*Dr W-5*	*127078*	*Dust Collector (currently does not service any equipment)*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-01	*Dr S-3*	*ET0085*	*Dust Collector for milling/routing equipment*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-01	*Dr W-8*	*87378*	*Dust Collector for milling/routing equipment*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-02	*East Side*	*109327*	*Wood Shredder*	*PM: 0.05 gr/dscf*	*Water Spray Nozzles*	*No*
40-05	*Dr N-3*	*25278*	*Dust Collector (currently does not service any equipment)*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-05	*Dr W-8*	*143573*	*Dust Collector (currently does not service any equipment)*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-05	*Dr S-3*	*34521*	*Dust Collector (currently does not service any equipment)*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-10	*A-25*	*153470*	*Abrasive Blast Cabinet*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-11	*Dr E-3*	*169933*	*Dust Collector for woodworking equipment*	*PM: 0.05 gr/dscf*	*Cartridge-Type Filter*	*No*
40-21	*Dr W-8*	*66989*	*Housekeeping Vacuum*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*

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				40 CFR 64.2 (a)(1)	40 CFR 64.2(a)(2)	40 CFR 64.2(a)(3)
40-21	*Dr W-9*	*66990*	*Housekeeping Vacuum*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-31	*Dr N-2*	*8260*	*Dust Collector for milling/routing equipment*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-31	*Dr N-5*	*29771*	*Dust Collector for grinding/cutting equipment*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-32	*Dr N-1*	*382246*	*Housekeeping Vacuum*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-32	*Dr N-2*	*382247*	*Housekeeping Vacuum*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-33.4	*I-14*	*103407*	*Lamp Repair Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-37.B	*B/C-12.8*	*185772*	*Housekeeping Vacuum*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-37.B	*B/C-13.2*	*8372*	*Housekeeping Vacuum*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-51	*Dr N-6*	*555*	*Housekeeping Vacuum*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-51	*Dr N-9*	*556*	*Housekeeping Vacuum*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-56	*Dr N-1*	*27193*	*Dust Collector for milling/routing equipment*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-56	*Dr N-1*	*27191*	*Dust Collector for milling/routing equipment*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-56	*Dr N-1*	*27192*	*Dust Collector for milling/routing equipment*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-56	*Dr N-2*	*27194*	*Dust Collector for milling/routing equipment*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-56	*Dr E-10*	*24697*	*Dust Collector for milling/routing equipment*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-56	*Dr E-11*	*27195*	*Dust Collector for milling/routing equipment*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-56	*Dr N-3*	*ET0105*	*Dust Collector for milling/routing equipment*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*

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				40 CFR 64.2 (a)(1)	40 CFR 64.2(a)(2)	40 CFR 64.2(a)(3)
40-56	*Dr N-4*	*ET0088*	*Hold-down vacuum for band saw*	*PM: 0.05 gr/dscf*	*Baghouse*	*No*
40-56	*M-5*	*922405*	*Vacuum for vacuum bagging operations*	*PM: 0.05 gr/dscf*	*Cartridge-Type Filter*	*No*
40-56	*M-5*	*922406*	*Vacuum for vacuum bagging operations*	*PM: 0.05 gr/dscf*	*Cartridge-Type Filter*	*No*
40-56	*M-5*	*922407*	*Vacuum for vacuum bagging operations*	*PM: 0.05 gr/dscf*	*Cartridge-Type Filter*	*No*
40-56	*M-5*	*381160*	*Vacuum for vacuum bagging operations*	*PM: 0.05 gr/dscf*	*Cartridge-Type Filter*	*No*
40-56	*CC-9.2*	*26343*	*Hold-down vacuum for milling/routing equipment*	*PM: 0.05 gr/dscf*	*Cartridge-Type Filter*	*No*
40-56	*CC-9.3*	*26344*	*Hold-down vacuum for milling/routing equipment*	*PM: 0.05 gr/dscf*	*Cartridge-Type Filter*	*No*
40-56	*CC-9.4*	*26345*	*Hold-down vacuum for milling/routing equipment*	*PM: 0.05 gr/dscf*	*Cartridge-Type Filter*	*No*
40-56	*CC-9.5*	*26346*	*Hold-down vacuum for milling/routing equipment*	*PM: 0.05 gr/dscf*	*Cartridge-Type Filter*	*No*
40-56	*CC-9.6*	*26347*	*Hold-down vacuum for milling/routing equipment*	*PM: 0.05 gr/dscf*	*Cartridge-Type Filter*	*No*
40-56	*CC-9.7*	*26348*	*Hold-down vacuum for milling/routing equipment*	*PM: 0.05 gr/dscf*	*Cartridge-Type Filter*	*No*
40-56	*CC-9.8*	*26349*	*Hold-down vacuum for milling/routing equipment*	*PM: 0.05 gr/dscf*	*Cartridge-Type Filter*	*No*

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Bldg.	Col./Dr.	MSS ID#	Source Description	Emission limitation or standard other than exempt limitations and standards for the applicable regulated air pollutant	Control device to achieve compliance with any such emission limitation or standard	Does the unit have the potential pre-control device emissions > 100% of the tpy amount to be classified as a major source?
				40 CFR 64.2 (a)(1)	40 CFR 64.2(a)(2)	40 CFR 64.2(a)(3)
40-56	*K-2.9*	*50949*	*Sanding/Grinding Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*
40-04	*Q-10*	*B685 / ET0402*	*Paint Prep Booth*	*PM: 0.05 gr/dscf*	*Dry Filters*	*No*

Sample PM Emission Calculations Done by Boeing:

Pre-Control PTE for Paint Hangars

1. Description: The 45-01, 45-03, and 45-04 paint hangars are used for final airplane exterior coating. The exterior coating process typically consists of the following major steps:

- temporary protective coating removal
- solvent cleaning
- chemical or power abrading
- alodining
- spray application of primer and topcoat (usually requires several cure cycles)
- spray or brush application of logos, stencils, etc

Currently, the entire coating process takes a minimum of 4 days (working all three shifts), although this process may be shortened to 3 days for the 787. Each hangar is stand-alone and has its own separate exhaust system. Therefore, each hangar is considered a separate emission unit for CAM applicability purposes. Dry filters are used to control particulate emissions from overspray generated during the spray application of coatings.

2. Pre-control PM100 PTE

Pre-control PM100 PTE is estimated based on the maximum number of airplanes that can be painted in a single hangar in a year, i.e. 365/4 = 91 airplanes per year (assumes no downtime for maintenance or repair). PM100 emissions occur from the spray coating operations within the hangar. The following assumptions are made in calculating the pre-control PM100 PTE:

- Per the PSD permit application submitted for the 787 project, approximately 279 gallons of coating are spray applied to a 747 (the largest airplane processed in the hangars) over the entire hangar coating operations.
- The volatiles in the overspray evaporate before they are emitted through the exhaust stack, leaving just the dry solids in the exhaust stream
- A typical BMs 10-60/10-72 topcoat (the highest volume coating used in the hangars) has a solids content of less than 8 lbs/gallon
- Spray gun transfer efficiency is 60%
- Overspray is 100% PM100

Pre-control PM100 PTE per hangar:
= 279 gal/airplane x 8 lbs/gal x 91 airplanes/yr x (1-0.6)
= 81,245 lbs = 41 tons/yr

Note that even if a 3-day exterior coating process was achievable (122 airplanes per year per hangar), PM100 PTE per hangar would still be less than 100 tons/yr.

Pre-Control PTE for Vacuum Systems

1. **Unit Description:** Cartridge-type dust collector for woodworking shop

2. **MSS/BEHC#:** 169933
3. **Bldg.:** 40-11
4. **Col./Door #:** Dr. E-3

5. **Estimate of weight percent of material collected less than 100 microns (based on visual inspection of material in drum, 3x5, or other collection container):**

a. Cyclone separator: N/A

b. Baghouse or cartridge collector: The draft report Estimating Emissions from Generation and Combustion of "Waste" Wood, dated July 15, 1998, prepared for the North Carolina Department of Environment and Natural Resources, provides estimates for the percent of wood dust less than PM100 from various woodworking processes (e.g. sanding, fine sawing, rough sawing). In the report, 18%, 31%, and 76% of dust from rough sawing, fine sawing and sanding, respectively, is estimated to be less than PM100. Given the type of equipment in the woodworking shop and the estimated hours of use of each piece of equipment (see table below), assume wood waste is 31% by weight PM100 or smaller.

c. Final filter: N/A

6. **Density of material collected:**

a. Cyclone separator: N/A

b. Baghouse or cartridge collector: 11 lbs/cu. ft (as determined with bucket and scale)

c. Final filter: N/A

7. **Frequency collection container is dumped & amount dumped:**

a. Cyclone separator: N/A

b. Baghouse or cartridge collector: Uses 5x5 collection container (5'x5'x3' = 75 cu ft). Per lead carpenter, the collection container is currently dumped once every 6 weeks. Collection container is between 80% - 90% full when dumped.

c. Final filter: N/A

8. List of equipment serviced by vacuum system/estimated hours of operation: Estimates of the hours of operation were provided by the lead carpenter in the shop (Walt). Hours per year based on 250 M-days per year.

Description	MSS/BEHC #	Hours of Operation
1. Wood planers/joiners (2) 2. 24" disc sander & grinder 3. Large band saw 4. Small band saw 5. Table shaper (or shaper router) 6. Large table saw 7. Small table saw 8. Drum/spindle sander 9. Belt sander 10. Floor pickup 11. Miter (chop) saw 12. Cut-off saw		1. 1 hr/wk each = 52 hrs/yr each 2. 1 hr/wk = 52 hrs/yr 3. 1 hr/day = 250 hrs/yr 4. 1 hr/wk = 52 hrs/yr 5. 2 hrs/mo. = 24 hrs/yr 6. 1 hr/wk = 52 hrs/yr 7. 3 – 4 hrs/day = 875 hrs/yr 8. 1 hr/wk = 52 hrs/yr 9. 1 hr/wk = 52 hrs/yr 10. N/A 11. 2 hrs/day = 500 hrs/yr 12. 3 hrs/day = 750 hrs/yr Total combined hours of operation per year = 2763 hrs Potential combined hours of operation per year = 12 pieces of equipment x 8760 hrs/yr = 105,120 hrs

9. Potential to Emit:

The pre-control PM100 PTE is based on each piece of equipment operating 8760 hours per year (assumes no downtime for maintenance or repairs). Pre-controls PTE is estimated by calculating the amount of PM100 collected by the control device at current use level, and then multiplying the result by the ratio of potential combined hours of operation per year (105,120) divided by the actual combined hours of operation per year. This calculation assumes that the weight of PM100 generated by each piece of equipment per hour of use is the identical. (This is obviously a simplifying assumption, made since I could not find any information on particulate emission rates for different types of woodworking equipment. There is, however, some basis for this assumption, e.g. a belt sander in a carpentry shop should generate less wood waste per unit time of operation than a circular saw, but the weight percent of PM100 in the belt sander waste will be greater than that for the circular saw.) The calculation also assumes that the amount of PM100 emitted after controls (i.e. the amount of PM100 not captured by the control devices) is negligible relative to the amount of PM100 actually captured by the controls.

Total amount of PM100 collected per year at current use rate
= [(75 cu ft/container x 9 dumps/yr x 11 lb/cu. ft)] x 0.31lbs PM100/lb
= 2302 lbs PM100/yr

Pre-control PM100 PTE
= 2302 lbs PM100/yr x (105,120 hrs/2763 hrs)
= 87,581 lbs/yr = 44 tons/yr

Note that even if the actual hours of use shown in the above table for each piece of equipment was overestimated by 100%, the pre-control PM100 PTE would still be less than the 100 ton/yr CAM threshold.

4. Compliance History

Boeing Everett has been inspected at least annually by the Puget Sound Clean Air Agency since 1986. The compliance history for Boeing Everett since January 2002 is summarized below. Notices of Violation (NOVs) and Written Warnings (WWs) issued to the facility are listed in chronological order.

WW or NOV #	Violation Date	Issue Date	Closed by Agency?	Applicable Reg. or permit	Comments
WW 2-000176	February 2002	May 2002	Yes – based on Boeing's Corrective Action	40 CFR 63.645(g)(3)	Failure to shut down spray coating operations after pressure drop readings were found to be out of range
WW 2-000183	May & June 2002	December 2002	Yes – based on Boeing's Corrective Action	40 CFR 63.744(c);	Improper cleaning of paint guns with methods not approved in Aerospace NESHAP
WW 2-000010	June 2002 and August 2005	November 2005	Yes – based on Boeing's Corrective Action	Reg. II Section 3.04 (1993 version)	Six motor vehicles were spray painted without maintaining required records and using 3 topcoats that exceeded the VOC limit of 6.0 lb/gal
WW 2-000177	June 2002	September 2002	Yes – based on Boeing's Corrective Action	Reg. III Article 4	Asbestos containing material was improperly removed and disposed of.
WW 2-000186	July-September 2002	January 2003	Yes – based on Boeing's Corrective Action	WAC 173-401-615(1)(b)	Failure to record monthly pressure drop across spray booth filter bank
NOV 3-000179	October 2002	January 2003	Yes – based on Boeing's Corrective Action	Reg. I Section 9.20; PSD 91-06 Amend. 1	A gap was discovered in the required spray booth filters, and spray painting took place over a 1 month period.
WW 2-000182	September 2002	March 2003	Yes – based on Boeing's Corrective Action	Reg. III Section 4.05 & 4.07	Improper removal and disposal of asbestos-containing material
WW 2-000187	October 2002	January 2003	Yes – based on Boeing's Corrective	Reg. II Section 2.07	WA Ecology phone numbers and Stage 2 system operating instructions were not posted at

WW or NOV #	Violation Date	Issue Date	Closed by Agency?	Applicable Reg. or permit	Comments
			Action		gas station.
WW 2-000193	January & February 2003	April 2003	Yes – based on Boeing's Corrective Action	Reg. III Article 4 & Reg. II Section 2.07(c)	Asbestos survey had not been performed prior to replacement of equipment & inspection of Stage 2 system on gas pump was preformed one day late
WW 2-006655	May 2003	October 2003	Yes – based on Boeing's Corrective Action	40 CFR 63.745(g)(2)(i)(A)	A gap was discovered in the required spray booth filters.
WW 2-006661	November 2003	March 2004	Yes – based on Boeing's Corrective Action	PSD 91-06	A gap was discovered in the required spray booth filters.
WW 2-006662	February 2004	February 2004	Yes – based on Boeing's Corrective Action	Order of Approval 9058	Application of CIC coatings using methods that were not approved in an NOC.
WW 2-006666	March 2004	June 2004	Yes – based on Boeing's Corrective Action	Order of Approval 9058	Application of CIC coatings using methods that were not approved in an NOC.
WW 2-006671	June 2004	September 2004	Yes – based on Boeing's Corrective Action	Reg. I Section 9.16	Spray coating while the spray booth exhaust system was not in good working order.
WW 2-006672	June 2004	October 2004	Yes – based on Boeing's Corrective Action	40 CFR 63.745(g)(2)	Gaps were discovered in the required spray booth filters.
WW 2-006680	October 2004	February 2005	Yes – based on Boeing's Corrective Action		Missed spray booth pressure drop reading required by NOC.
WW 2-006680 (Asbestos #	October 2004	February 2005	Yes – based on Boeing's Corrective	Reg. III Article 4	Improper removal of asbestos. Civil penalty issued to contractor.

WW or NOV #	Violation Date	Issue Date	Closed by Agency?	Applicable Reg. or permit	Comments
200500003)			Action		
NOV 3-000196	November 2004	March 2005	Yes – based on Boeing's Corrective Action	40 CFR 63.745(g)(2)	Gaps were discovered in the required spray booth filters.
WW 2-000009	August 2005	November 2005	Yes – based on Boeing's Corrective Action	40 CFR 63.745(g)(2)	Gaps were discovered in the required spray booth filters.
WW 2-000010	August 2005	November 2005	Yes – based on Boeing's Corrective Action	Reg. II Section 3.04 (2/9/93 version)	Deviation from recordkeeping of SIP approved version of Reg. (Not part of current version of Reg.)
WW 2-000016	April 2006	August 2006	Yes – based on Boeing's Corrective Action	40 CFR 63.744(d)	Deviation of NESHAP solvent flush cleaning requirements to capture solvent runoff.

5. 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 the Puget Sound Clean Air Agency has determined to be within the scope of the definition of "applicable requirements" under the operating permit program. Boeing 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).

Applicable requirements that are not ongoing are not included in the permit because they are not in effect during the term of the permit (a.k.a. "obsolete").

5.1 Applicable Requirements

Boeing is subject to all the requirements listed in all the tables contained in Section I of the permit. Section I.A. contains the requirements that are applicable facility-wide. The Puget Sound Clean Air Agency did not repeat the facility-wide requirements listed in Section I.A in Section I.B unless the monitoring method was specific to the listed emission unit. Section I.B. contains the Emission Unit Specific Applicable Requirements. If a requirement in Section I.A. is repeated in Section I.B, then the monitoring, maintenance, and recordkeeping method specified in that section supersedes the monitoring, maintenance, and recordkeeping method specified in Section I.A.

The tables in Section I.A list the citation for the "applicable requirement" in the second column. The third column, "Date," contains the adoption or effective date of the requirement. In some cases, the effective dates of the "Federally Enforceable Requirement" and the "State Only Requirement" may be different because only rules approved by EPA through Section 110, 111, and 112 of the federal Clean Air Act are federally enforceable and either the state has not submitted the regulation to the EPA or the EPA has not approved it.

The first column is used as an identifier for the requirement, and the fourth "Requirement Paraphrase" column paraphrases the requirement. The first and fourth columns are for information only and are not enforceable conditions of this permit. The actual enforceable requirement is embodied in the requirement cited in the second and third columns.

The fifth 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 sixth column, "Emission Standard Period," identifies the averaging time for the emission standard and/or the minimum length of one reference method run. Section V.N.1 of the permit identifies the number of separate runs for determining compliance using the reference method. The last 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. In some cases where the applicable requirement does not cite a test method, one has been added. This is called "gapfilling" and is authorized under WAC 173-401-615.

The permit identifies a specific method and the adoption date. Puget Sound Clean Air Agency Regulation I, Section 3.07(a) states that testing for compliance must follow the current EPA approved methods unless specific methods have been adopted by the Puget Sound Clean Air Agency Board. WAC 173-400-105(4) allows either EPA 40 CFR 60 Appendix A or procedures in Ecology's *"Source Test Manual – Procedures for Compliance Testing" as of July 12, 1990.* These three requirements may conflict if the current method is not listed in the permit. However, EPA seldom significantly changes the Reference Methods and the current method could be used as credible evidence of an emission violation. Finally, major changes in the Reference Test Method may necessitate reopening the permit.

In case of conflict or omission between the information contained in the fourth column and the actual statue or regulation cited in the second column, the requirements and language of the actual statute or regulation cited shall govern. For more information regarding any of the requirements cited in the second and third columns, refer to the actual requirements cited.

Recently amended Puget Sound Clean Air Agency Regulations. The Puget Sound Clean Air Agency Board of Directors has recently amended several sections of its regulations. These amended sections are listed as "State Only" in the permit. That means they are not federally enforceable. They are enforceable only by Puget Sound Clean Air Agency and the Washington

State department of Ecology. However, these requirements will become federally enforceable if they are adopted in the SIP[1].

5.2 Section I.A. (Facility-Wide)

5. 2. 1. Requirement I.A.1

Both WAC 173-400-040(1) and Puget Sound Clean Air Agency Regulation I, Section 9.03 standards are 20% opacity and apply to all stationary sources. Although the permit lists all these requirements together, Boeing must comply with each.

- The monitoring method is based on visible emission inspections of the facility at least once per calendar quarter, complaint response, and quarterly facility wide inspections. Inspections are to be performed while the facility is in operation during daylight hours. If during a quarterly visible emission inspection visible emissions other than uncombined water are observed from a single unit or activity that last longer than three minutes in an hour, Boeing shall, as soon as practicable but within 24 hours of the initial observation, take certain prescribed actions. Similarly, if Boeing receives a complaint about visible emissions or opacity or identifies a problem during a facility wide inspection, Boeing must deal with the problem according to the appropriate monitoring requirement. The actions include: Take corrective action, which may included shutting down the unit or activity until it can be repaired, until there are no visible emissions (or until the unit or activity is demonstrated to be in compliance with all applicable opacity limitations in the permit using the reference test method); or, alternatively, record the opacity using the reference test method, or

- Continue the observation for a minimum of 15 minutes, or until visible emissions have been observed for a total of 45 seconds, whichever is a shorter period. If visible emissions other than uncombined water are observed from a single unit or activity lasting longer than 45 seconds during a 15 minute interval, Boeing may continue to observe visible emissions for an additional 45 minutes or until visible emissions have been observed for a total of 3 minutes in the hour, whichever is a shorter period. If visible emissions are observed for a total of 3 minutes during the 60 minute observation, or if visible emissions have been observed for a total of 45 seconds during the 15 minute observation and Boeing did not elect to continue the visible emission inspection as described above, Boeing shall, as soon as practicable but within 24 hours of the initial observation either;

[1] "SIP" is an abbreviation for "state implementation plan" which is a plan for improving or maintaining air quality and complying with the Federal Clean Air Act. The Federal Clean Air Act requires states to submit these plans to the US EPA for its review and approval. This plan must contain the rules and regulations of the state agency or local air authority necessary to implement the programs mandated by Federal law. Once the EPA adopts the plan or elements of it, the plan and its requirements become "federally enforceable" by EPA. New or modified state or local rules are not federally enforceable until they are "adopted into the SIP" by the EPA.

- Take corrective action, which may include shutting down the unit or activity until it can be repaired, until there are no visible emissions; or,

- Alternatively, determine the opacity using the reference test method.

Failure to take actions as described above must be reported under Section V.M. Compliance Certifications or V.Q. Reporting of this permit.

All observations using the opacity reference test method shall be reported according to V.Q.4 Method 9A Reports.

- Boeing argued that the original wording would require Boeing to make daily Method 9 observations on any unit that often had visible emission, yet complied with all applicable requirements. The Puget Sound Clean Air Agency agrees that if Ecology Method 9A demonstrated compliance, additional monitoring would not be necessary to demonstrate compliance with the opacity requirements until the next required monitoring.

- Because emergency generators and generators for fire suppression pumps often have visible emissions, but seldom have visible emissions greater than 20% opacity, the permit has specific provisions for those units. If Boeing observes visible emissions from an emergency generator or generator for fire suppression pumps, Boeing 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 WDOE 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 to either determine the opacity during that test or some other test within 30 days. It is not the agency's intention that Boeing would have to startup a generator, solely for the purpose of determining opacity.

The Puget Sound Clean Air Agency has determined that the monitoring should be quarterly for the reasons listed below.

1) Compliance. None of the emission units at Boeing Everett normally have visible emissions. The emission units are also unlikely to generate visible emissions except under the most unusual circumstances, except for the boilers when burning back-up fuel oil. These boilers have specific opacity monitoring requirements elsewhere in the permit (Section I.B.5). In addition, the Puget Sound Clean Air Agency has inspected this facility at least annually since 1986 and has not identified opacity issues, nor has Boeing. Therefore, we conclude that it is generally in compliance with the opacity requirement and the margin of compliance is large. In addition, the monitoring method is designed so that Boeing will take corrective action before a violation occurs, further enhancing the compliance margin.

2) Variability of process and emissions. None of the processes at Boeing Everett normally emit visible emissions, except as noted above. While many of the processes are variable or batch operations, the most likely cause of visible emissions would be a significant change in the process, one that would require approval from the Puget Sound Clean Air Agency, or major equipment failure. The specific emission units that are most likely to fail and have

significant visible emissions, such as the boilers and baghouses, are addressed elsewhere in the permit.

3) Environmental impacts of problems. Observed opacity is generally related to emissions of particulate matter or finely divided liquid droplets. The manufacturing activities at Boeing typically do not generate significant quantities of particulate matter, typically less than two tons per year. Hence, the environmental impacts of the emissions are small especially considering the amount of land on which the facility is located. A maintenance problem is unlikely to result in emissions that would have a significant environmental impact.

4) Technical considerations. The emission units that are likely to generate visible emissions, except backup generators, are addressed elsewhere in the permit.

5. 2. 2. Requirement I.A.2

Puget Sound Clean Air Agency Regulation I, Section 9.09 limits particulate emissions to 0.05 gr/dscf from equipment used in a manufacturing process.

The monitoring method is based on quarterly visual inspections of the facility for visible emissions, complaint response, and facility wide inspections. Opacity monitoring is a surrogate to performing a Method 5 test, with Boeing taking corrective action if any visible emissions are noted. As with Requirement I.A.1, the Puget Sound Clean Air Agency has determined through its inspections and permitting that it is unlikely that Boeing Everett will have any visible emissions or exceed the particulate limit. Recording of visible emissions is not necessarily a deviation of the particulate concentration standard because the threshold for observing visible emissions occurs at a particulate concentration of less than 0.05 gr/dscf. However, failure to take timely corrective action, as defined by the O&M Plan, is a deviation from the specific permit requirement and must be reported to the Puget Sound Clean Air Agency. Taking corrective action does not relieve Boeing from the obligation to comply with the particulate concentration standard itself. The Puget Sound Clean Air Agency has determined that the monitoring should be quarterly for the reasons listed above in Section 5.2.1

5. 2. 3. Requirement I.A.3

WAC 173-400-060 limits particulate emissions to 0.1 gr/dscf from general process units (i.e., units using a procedure or a combination of procedures for the purpose of causing a change in material by either chemical or physical means, excluding combustion).

The monitoring method is based on quarterly visual inspections of the facility for visible emissions, complaint response, and facility wide inspections. Opacity monitoring is a surrogate to performing a Method 5 test, with Boeing taking corrective action if any visible emissions are noted. As with Requirement I.A.1, the Puget Sound Clean Air Agency has determined through its inspections and permitting that it is unlikely that Boeing Everett will have any visible emissions or exceed the particulate limit. Recording of visible emissions is not necessarily a deviation of the particulate concentration standard because the threshold for observing visible emissions occurs at a particulate concentration of less than 0.1 gr/dscf. However, failure to take timely corrective action, as defined by the O&M Plan, is a deviation from the specific permit

requirement and must be reported to the Puget Sound Clean Air Agency. Taking corrective action does not relieve Boeing from the obligation to comply with the particulate concentration standard itself. The Puget Sound Clean Air Agency has determined that the monitoring should be quarterly for the reasons listed above in Section 5.2.1

5. 2. 4. Requirement I.A.4 & I.A.5

Puget Sound Clean Air Agency Regulation I, Section 9.09 also limits particulate emissions to 0.05 gr/dscf corrected to 7% oxygen from fuel burning equipment (i.e., equipment that produces hot air, hot water, steam, or other heated fluids by external combustion of fuel) combusting natural gas. WAC 173-400-050(1) limits particulate emissions to 0.1 gr/dscf corrected to 7% O_2 from combustion units (Applies to units using combustion for waste disposal, steam production, chemical recovery or other process requirements; but excludes outdoor burning.). Boeing burns only pipeline grade natural gas and backup fuels that are certified to comply with the fuel oil standards of Regulation I, Section 9.08. It can be shown, as in Section 5.2.5 for SO_2, that if fuels are properly burned, Boeing is incapable of violating this standard while complying with the other requirements. Improper fuel burning that would result in high particulate emissions would also cause opacity problems and would be detected by the opacity monitoring requirement, complaint response, or facility wide inspections.

5. 2. 5. Requirement I.A.6

Both Puget Sound Clean Air Agency Regulation I, Section 9.07 and WAC 173-400-040(6) are equivalent requirements (SO_2 emissions not to exceed 1000 ppmv), except for the second paragraph of the WAC, which is not in the Puget Sound Clean Air Agency regulation. The second paragraph of WAC 173-400-040(6), which is not federally enforceable, allows for exceptions to this requirement if the source can demonstrate that there is no feasible method of reducing the SO_2 concentrations to 1000 ppm. Since the Puget Sound Clean Air Agency's rules are more stringent, this exception is not available to Boeing and the second paragraph does not apply to Boeing.

Boeing burns only pipeline grade natural gas in all combustion emission units except for the fuel burning equipment list in Emission Units 4 and 5 and back up emergency generators. The monitoring method for this requirement (II.A.2(f)) requires that Boeing's fuel oil contract specify that only fuel oil with a sulfur content not greater than 2% be delivered to the site. The monitoring method also requires that Boeing obtain and maintain fuel receipts from the fuel supplier which certify the oil sulfur content.

All the natural gas burned at Boeing Everett must be pipeline quality, the contents of which the Washington Utilities and Transportation Commission regulates to contain less than 2000 grains of sulfur per million cubic feet. 2000 grains of sulfur per million cubic feet is equivalent to approximately 3.4 parts of sulfur per million cubic feet of natural gas, as shown in the following calculation:

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

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 x 10-cubic foot of sulfur, each cubic foot of stack exhaust will contain approximately:

$$3.44\times10^{-6}\frac{\text{ft}^3\text{ S}}{\text{ft}^3\text{ nat.gas}}\times\frac{1\text{ft}^3\text{ SO}_2}{1\text{ft}^3\text{ S}}\times\frac{1\text{ft}^3\text{ nat.gas}}{11\text{ft}^3\text{ stack exhaust}}=3.13\times10^{-7}\frac{\text{ft}^3\text{ SO}_2}{\text{ft}^3\text{ stack exhaust}}$$

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 SO_2 limits in Puget Sound Clean Air Agency Regulation I, Section 9.07 and WAC 173-400-040(6). The other emission units are not capable of generating SO_2 emissions as permitted. Therefore, the permit does not contain additional monitoring requirements for the natural gas usage.

5. 2. 6. Requirement I.A.7

Puget Sound Clean Air Agency Regulation I, Section 9.11 and WAC 173-400-040(5) are similar requirements that address emissions that may be environmentally detrimental or cause a nuisance. Although the permit lists all these requirements together, Boeing must comply with each. The monitoring method for all is based on responding to complaints and general inspections of the facility to identify any emissions that are likely to be injurious to human health, plant or animal life, or property, or that unreasonably interfere with enjoyment of life and property. For the following reasons, the Puget Sound Clean Air Agency has determined that the quarterly facility-wide inspections required in Section II.A.1(c) of the permit are sufficient to monitor for changes that would cause a fugitive emission or unexpected buildup of dust on the roadways and plant grounds.

1) Initial compliance. The Puget Sound Clean Air Agency has not received any complaints concerning Boeing Everett regarding fugitive dust or odor emissions over the past five years and has not observed visible or odorous emissions from plant activities during any inspection, nor has Boeing; therefore, we conclude that Boeing Everett is generally in compliance with the nuisance requirements.

2) Margin of compliance. Because the Agency has not observed nuisance problems, and the fact that the current operations are unlikely to cause nuisance problems, the Puget Sound Clean Air Agency has determined that the margin of compliance is sufficient to only require quarterly checks and response to complainants as necessary. The emission of fugitive dust or odor is unlikely to generate off-site fallout or complaints except under the most unusual circumstances.

3) Variability of process and emissions. Boeing does not have emission units that are likely to generate emissions that would cause a nuisance. In addition, Boeing is unlikely to install such emission units during the life of the permit.

4) Environmental impacts of problems. Nuisance emissions can cause personal discomfort; however, by their nature do not result in exceedances of federal emissions or ambient standards. By responding quickly to complaints and identifying problems before they cause complaints, the environmental impact of nuisances should be small.

5) Technical considerations. Catastrophic failures of one of the boilers, a large dust collector, or spray booth, are the only likely causes of a nuisance causing a deviation at Boeing Everett. Boilers at Boeing Everett are fueled mainly on natural gas with back-up fuel limited to curtailment and testing, and in accordance with an acceptable O&M plan, thereby minimizing the probability of any nuisance emission. The dust collectors and spray booths are equipped with high efficiency filters and are monitored at least monthly by Boeing, thereby minimizing the chance of generating emissions that may cause a nuisance. The permit requires Boeing to both look for possible nuisances on a regular basis and handle upset emissions of nuisance causing particulate or odor bearing contaminants more frequently on an as-needed basis. This minimizes the probability of causing an emission that could be injurious to health, plant or animal life, or property; or that unreasonably interferes with the enjoyment of life and property. The monitoring method is designed so that Boeing will take corrective action before a violation occurs. In addition, in the past five years the Puget Sound Clean Air Agency has not noted nor received complaints about Boeing causing emissions that are likely to be injurious to health, plant or animal life, or property or that unreasonably interfere with enjoyment of life and property. Therefore, the Puget Sound Clean Air Agency has determined that quarterly monitoring is adequate. Receiving complaints does not necessarily mean Boeing is in violation of this requirement, but Boeing has a responsibility to investigate complaints and take corrective action if necessary. Failure to take timely corrective action, as defined by the monitoring method, is a deviation of the specific permit term. Taking corrective action does not relieve Boeing from the obligation to comply with the nuisance requirement itself.

5. 2. 7. Requirements I.A.8 and I.A.9

The fugitive dust requirements are listed in I.A 8 and I.A.9 and are addressed in Regulation I, Section 9.15 and WAC 173-400-040(3). Puget Sound Clean Air Agency Regulation I, Section 9.15 and WAC 173-400-040(3) both require reasonable precautions to minimize or prevent fugitive emissions. The Puget Sound Clean Air Agency's rule also describes specific examples of reasonable precautions. The current version of Regulation I Section 9.15 is both state and federally enforceable (this version is included in the SIP). The current version of WAC 173-400-040(3) has a different date than the federally enforceable version in the SIP. However, there is no substantive difference in the fugitive dust for the two versions of the rule.

The fugitive emission regulations have been listed in the Air Operating Permit with common monitoring methods of responding to complaints and looking for fugitive emissions. The Puget Sound Clean Air Agency has determined that monitoring should be quarterly for the reasons listed below.

1) Initial compliance. The Puget Sound Clean Air Agency has not observed fugitive emissions

during any inspection in the past five years, nor has Boeing. Therefore, we conclude that the facility is generally in compliance with this requirement.

2) Margin of compliance. The emission units at Boeing are generally located in enclosed buildings and all of the roadways and parking lots are paved and reasonably maintained. All the significant air pollution generating equipment has air pollution control devices and is inspected by Boeing periodically and maintained on a regular basis. Hence, the margin of compliance is considered large enough to warrant quarterly and as needed inspections.

3) Variability of process and emissions. While many of the processes are variable or batch operations, few if any are likely to cause fugitive emissions. The most likely cause of fugitive emissions would be a significant change in the process, one that would require approval from the Puget Sound Clean Air Agency, or major equipment failure.

4) Environmental impacts of problems. Because Boeing employs BACT for fugitive dust control, the likelihood of fugitive dust is very low. Any fugitive dust emissions are likely to be small and without significant environmental impact.

5) Technical considerations. The most likely causes of fugitive emissions at Boeing Everett would be failure of existing control equipment or vehicle track-out during construction. Equipment failure is likely to be identified by some other inspection or complaints. Track-out is minimized because all the roadways and parking lots are paved and maintained.

5. 2. 8. Requirement I.A.10

Puget Sound Clean Air Agency Regulation I, Section 9.20 requires Boeing to maintain equipment in good working order. Section 9.20(a) applies to sources that received a Notice of Construction Order of Approval under Puget Sound Clean Air Agency Regulation I, Article 6. Section 9.20(b) applies to equipment not subject to Section 9.20(a). Section II, Monitoring, Maintenance and Recordkeeping Procedures, of the permit identifies the minimum monitoring criteria for maintaining equipment in good working order. The section identifies both facility-wide criteria and specific criteria for the emission units and activities. In addition, the facility-wide inspections provide monitoring of the general effectiveness of Boeing's Operation and Maintenance Plan. The Puget Sound Clean Air Agency chose to list all of Section II as the monitoring method because many parts of Section II apply to several emission units and activities. Where there are specific monitoring requirements for specific emission units, the Puget Sound Clean Air Agency has listed them in Section II.A.2. The Puget Sound Clean Air Agency has determined that following the requirements of Section II of the permit provides sufficient monitoring criteria to certify that the equipment has been maintained in good working order. However, the Puget Sound Clean Air Agency reserves the right to evaluate the maintenance of each piece of equipment to determine if it has been maintained in good working order.

5. 2. 9. Requirement I.A.11

In accordance with Puget Sound Clean Air Agency Regulation I, Section 7.09(b), Boeing is required to develop and implement an Operation and Maintenance Plan (O&M Plan) to assure continuous compliance with Puget Sound Clean Air Agency 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, the Puget Sound Clean Air Agency 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 a Washington Department of Ecology requirement in WAC 173-400-101(4). The Puget Sound Clean Air Agency 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 Puget Sound Clean Air Agency 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.

Puget Sound Clean Air Agency Regulation I, Section 7.09(b) also requires Boeing to promptly correct any defective equipment. However, the underlying requirement in most instances does not define "promptly"; hence for significant emission units and applicable requirements that Boeing has a reasonable possibility of violating or that a violation would cause an air quality problem, the Puget Sound Clean Air Agency added clarification that "promptly" usually means within 24 hours. For many insignificant emission units and equipment not listed in the permit, "promptly" cannot be defined because the emission sources and suitable pollution control techniques vary widely, depending on the contaminant sources and the pollution control technology employed. However, the permit identifies a means by which to identify if Boeing is following good industrial practice.

As described in Section V.Q, Boeing must report to the Puget Sound Clean Air Agency any instances where it failed to promptly repair any defective equipment, both equipment that received approval from the Agency and that which did not. In addition, Boeing has the right to claim certain problems were a result of an emergency (Section V.S) or unavoidable (Section V.T).

Following these requirements demonstrates that Boeing has properly implemented the O&M Plan, but it does not prohibit the Puget Sound Clean Air Agency or EPA from taking any necessary enforcement action to address violations of the underlying applicable requirements after proper investigation. However, not following its own O&M Plan is an indication that Boeing was not using good industrial practice.

5. 2. 10. Requirement I.A.12

WAC 173-400-040(4) addresses odors. The monitoring method is based on responding to complaints and general inspections of the facility to identify emissions of odor-bearing

contaminants. Receiving complaints does not necessarily mean Boeing is in violation of this requirement, since the regulation does not prohibit the emission of odors, but prohibits the emissions of odors if reasonable control measures are not employed. Complaints will trigger action by Boeing to investigate and prevent a violation. Since the Puget Sound Clean Air Agency and Boeing have not received odor complaints concerning Boeing Everett, the Puget Sound Clean Air Agency has determined that responding to complaints within three working days is appropriate.

5. 2. 11. Requirement I.A.13

WAC 173-400-040(2) prohibits the emission of particulate matter from the facility to be deposited beyond the property line in sufficient quantity as to unreasonably interfere with the use and enjoyment of the property upon which the material is deposited. The monitoring method is based on responding to complaints and general inspections of the facility to identify any particulate emissions or deposition of particulate that may unreasonably interfere with the use and enjoyment of property. Receiving complaints does not necessarily mean Boeing is in violation of this requirement, but triggers action by the source to prevent a violation.

5. 2. 12. Requirement I.A.14

Puget Sound Clean Air Agency Regulation I, Section 9.10 specifies that HCl emissions shall not exceed 100 ppm (dry) corrected to 7% O_2 for combustion sources. Since Boeing burns only pipeline grade natural gas, distillate fuel oil, and Jet A and the other processes do not use chlorine in a form likely to emit HCl, it is incapable of violating this standard while complying with the other requirements in the permit. Therefore, the permit does not contain additional monitoring requirements.

5. 2. 13. Requirement I.A.15

RCW 70.94.040 is similar to Puget Sound Clean Air Agency Regulation I, Section 9.11 and is listed separately here because it is not a federally enforceable requirement.

5.3 Section I.B. (Emission Unit Specific 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. This information, which is in italics, is not an enforceable part of the permit. Due to the size of Boeing Everett 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. Following the description are the actual applicable requirement or compliance requirements.

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. Where a

recently adopted federal regulation does not identify a monitoring method, the permit does not identify one either, because it is EPA's policy to incorporate all necessary monitoring into recently adopted federal regulations except where the Puget Sound Clean Air Agency has determined it necessary. Finally, any requirements that are inapplicable to the specific emission unit are also listed in this section.

5. 3. 1. Halogenated Solvent Vapor Degreasing and Solvent Cleaning Operations

(a) Vapor Degreasers

Boeing Everett used to operate two vapor degreasers which used trichloroethylene as a degreasing solvent. Current operations no longer require the use of these degreasers. Boeing has made these degreasers inoperable and requested that the Puget Sound Clean Air Agency cancel the Orders of Approval for the degreasers. The Agency has complied with Boeing's request.

(b) Rule Applicability – Cold Solvent Cleaners

Boeing Everett does not currently operate any cold solvent cleaners that have received Orders of Approval. However, the facility does have a number of cold solvent cleaners that are exempt from Order of Approval requirements. None of these units use halogenated solvents. Hence, none are subject to the requirements of the Halogenated Solvent Cleaning NESHAP. Questions have arisen regarding the applicability of WAC 173-460-060 to these units. As discussed in a February 23, 2005 email from S. Van Slyke, Puget Sound Clean Air Agency, WAC 173-460-060 does not apply to cold solvent cleaners that are exempt from NOC Order of Approval requirements as per Agency Reg. I, 6.03(c)(53).)

Agata McIntyre

From: Steve Van Slyke
Sent: Thursday, February 24, 2005 11:24 AM
To: John Fosberg (Boeing - Everett)
Cc: Dave Kircher; Kwame Agyei; Agata McIntyre; Judith White-Crow
Subject: FW: Comments to the proposed repeal of Regulation III, Section 3.05

John,

Our recommendation to the Board this morning was to repeal Reg. III, Section 3.05 and they did so with approval of Resolution 1040. The reasons for our recommendation are summarized below.

The recommended change suggested by Boeing is unnecessary since the interest identified is already available in the existing regulations. WAC 173-460 is a supplemental regulation to the existing Notice of Construction program in WAC 173-400-110 [as stated in WAC 173-460-040(1)] and does not create requirements for existing sources like Reg. III, Section 3.05. Requirements established using the authority in WAC 173-460 exist only through NOC review and Order of Approval conditions that result. Cold solvent cleaners that meet the reduced volatility threshold identified in this comment are exempt from NOC review per our Regulation I, Section 6.03(c)(53). The purpose of WAC 173-460-060 is to pre-establish a T-BACT floor for sources subject to NOC review. If the new solvent cleaner in question did not require NOC review, then the elements of WAC 173-460-060 are not applicable to that unit. Also, we would like to clarify that WAC 173-460-060 has already been adopted by reference in Regulation I, Section 6.01. The repeal of Regulation III, Section 3.05 does not alter the Agency's view regarding the use of low vapor pressure solvents in cold cleaners.

I hope this clarifies the various rules and our interpretation of them for Boeing. If you have more questions about our response, please let me know.

Thanks for your input and interest in this effort!

Steve Van Slyke
Supervisory Engineer
Puget Sound Clean Air Agency
110 Union St., Suite 500
Seattle, WA 98101-2038

(206) 689-4052
(206) 343-7522 (fax)
SteveV@pscleanair.org

In addition, the following 1999 letter was written by David Kircher, Agency, to Charles Austin, Boeing, about cold solvent cleaning with acetone. While the discussion about the requirements of Agency Regulation III Section 3.05 is no longer relevant (this regulation was repealed), the discussion about the applicability of WAC 173-460-060(5) continues to hold true.

ttachment 9

PUGET SOUND AIR POLLUTION CONTROL AGENCY
KING COUNTY & KITSAP COUNTY & PIERCE COUNTY & SNOHOMISH COUNTY

August 10, 1999

Charles Austin
Manager, Environmental Engineering
The Boeing Company
Fabrication Division, A-1320
PO Box 3707, MC 5R-14
Seattle, WA 98040-2207

Dear Mr. Austin:

Registration No. 13117 – Boeing (Auburn)
Small Container Used for Immersion Cleaning with Acetone

Thank you for your January 14, 1999 letter A-1320-ENV-015 to Abigail Lee concerning our clarification of small containers used for immersion cleaning with acetone.

After a recent inspection of your facility, we have determined that small buckets, pails and beakers with capacities of 2 gallons or less used for cleaning with acetone are exempt from Puget Sound Clean Air Agency's Regulation III, Section 3.05, Solvent Metal Cleaners and WAC 173-460-060(5), Solvent Metal Cleaners. However, we encourage you to follow good industrial practice and keep such containers closed at all times, except when adding or removing parts. We also strongly suggest that you hold the part over the container as the part is removed until the dripping stops.

As we review our regulations, we will incorporate this change into the rules.

If you have any additional question on this matter, please contact Abby Lee (206) 689-4059.

Sincerely,

David D. Kirl

David S. Kircher
Manager - Engineering

DSK:ACL:mj

cc: Robin Bennett
Aerospace Team

5. 3. 2. Coating, Cleaning, and Depainting Operations

This section includes all activities and equipment associated with surface coating, cleaning, and depainting operations for both aerospace activities and non-aerospace activities. These operations include coating mixing, application, drying, and curing; spray gun cleaning; solvent wipe and solvent flush cleaning; depainting; and material and waste handling. The activities included in this section are conducted throughout the Everett facility. The last column in this list indicates whether Aerospace NESHAP-regulated coatings containing inorganic HAPs are sprayed in the unit at the time of permit issuance. However, from time to time Boeing may change the type of coatings applied or the parts coated. The permit requires Boeing to keep a log of booths where coating operations that are regulated under the aerospace NESHAP occur. That log must be available for inspection at any time.

The table below does not necessarily include all units that may be subject to the requirements of this section; units that have not received an Order of Approval or were not previously registered with the Puget Sound Clean Air Agency are not included in the table.

Bldg.	*Col/Dr*	*MSS/ID #*	*Order of Approval #*	*Date Installed*	*Source Description*	*Aerospace NESHAP regulated Coatings with Inorganic HAP Used in Unit?*
40-04	*A-7*	*B214*	*4123*	*4/93*	*777 wing spar dry booth #1*	*Yes*
40-04	*A-7*	*B214*	*4124*	*4/93*	*777 wing spar dry booth #2*	*Yes*
40-04	*A-7*	*B214*	*4125*	*4/93*	*777 wing spar dry booth #3*	*Yes*
40-04	*A-7*	*B214*	*4126*	*4/93*	*777 wing spar dry booth #4*	*Yes*
40-21	*B-8*	*B946*	*3918*	*5/92*	*747 HS CIC dry filter exhaust system*	*No*
40-22	*D/E-10*	*B243*	*None*	*1968*	*747 wing stub dry booth*	*Yes*
40-22	*D-6.5/8*	*116520/ G9055/ B927*	*3926*	*2/92*	*747 FBJ CIC dry filter exhaust system*	*No*
40-22	*D/E-10*	*712343/ B113*	*3924*	*5/92*	*747 WBJ CIC dry filter exhaust system*	*Yes*
40-22	*G-3.5, 2nd flr*	*018790*	*8292*	*3/01*	*Dry booth*	*No*
40-23	*G-10*	*B234/ B946*	*3922*	*4/93*	*747 J&I CIC dry filter exhaust system, BS 46-48, NW & NE*	*No*
40-23	*G-9*	*B233/ B235/ B946*	*3923*	*4/93*	*747 J&I CIC dry filter exhaust system, BS 46-48, SW, & BS 44/45*	*No*
40-23	*G-9*	*B233/ B235/ B946*	*7067*	*2/98*	*Additional filter boxes and exhaust fans for the 747 J&I CIC dry filter exhaust system, BS 46-48, SW*	*No*
40-24	*I/J-10*	*G0017/ B583-6*	*3874*	*12/91*	*767 FBJ CIC dry filter exhaust system, west*	*No*

Bldg.	*Col/Dr*	*MSS/ID #*	*Order of Approval #*	*Date Installed*	*Source Description*	*Aerospace NESHAP regulated Coatings with Inorganic HAP Used in Unit?*
40-24	*I-4/5.25*	*B240, B241/ G0017*	*3914*	*11/92*	*767 J&I CIC dry filter exhaust system 46-48*	*No*
40-24	*I-7/8*	*B239/ G0017*	*3913*	*5/92*	*767 J&I CIC dry filter exhaust system, BS 41-43*	*No*
40-25	*L/M-9*	*B215*	*4127*	*11/93*	*777 wing stub dry booth*	*Yes*
40-25	*L/M-8*	*ET0142 / B154*	*4075*	*2/94*	*777 FBJ CIC dry filter exhaust system*	*No*
40-25	*K-10*	*010357*	*6690*	*3/97*	*Solvent cleaning bench*	*No*
40-25	*L/M-1 to L/M-6*	*N/A*	*4274*	*2/94*	*777 Final Assembly CIC*	*No*
40-26	*N-10*	*Not Yet Installed*	*9252*	*Not Yet Installed*	*777 Wing Body Join*	*Yes*
40-30	*G-2*	*017485/ 1729*	*8761*	*5/03*	*M&PT dry booth*	*No*
40-31	*A-16*	*701500*	*REG*	*1968*	*Wet booth*	*Yes*
40-33	*G/H-14*	*ET0380*	*4006*	*8/92*	*767 wing stub dry booth*	*Yes*
40-33	*G-14*	*B581*	*5913*	*1981*	*767 wing panel dry booth*	*No*
40-33	*H-12/13*	*B117/ B118/ G0017*	*3915*	*5/92*	*767 WS/WBJ CIC dry filter exhaust system*	*No*
40-33	*G-14*	*165735/ 36/37/ G6020*	*6691*	*1994*	*Solvent cleaning benches (3)*	*No*
40-33	*G-11.5*	*B946*	*8315*		*767 wing stub buildup CIC dry filter exhaust system*	*No*
40-33	*H-14.5*	*B109*	*3913*	*5/92*	*767 HS CIC dry filter exhaust system*	*No*
40-34	*J-14*	*B684*	*4119*	*4/93*	*777 wing panel dry booth #1*	*No*
40-34	*J-14*	*B684*	*4120*	*4/93*	*777 wing panel dry booth #2*	*No*
40-34	*J-14*	*B684*	*4121*	*4/93*	*777 wing panel dry booth #3*	*No*
40-34	*J-14*	*B684*	*4122*	*4/93*	*777 wing panel dry booth #4*	*No*
40-34	*J-12*		*4247*	*6/93*	*777 Wing Major Tool Positions (8)*	*No*
40-37	*C.8-11/13*	*G6020/ 148006/ 07/16*	*5070*	*9/93*	*Solvent cleaning benches (3)*	*No*
40-37	*B.8-10.6*	*B663/ B7023/ G7040*	*9058*	*9/93*	*777 41/43 CIC dry booth*	*No*

Bldg.	*Col/Dr*	*MSS/ID #*	*Order of Approval #*	*Date Installed*	*Source Description*	*Aerospace NESHAP regulated Coatings with Inorganic HAP Used in Unit?*
40-37	*B.8-13.8*	*B669/ B7023/ G7040*	*5054*	*9/93*	*777 41/43 dry booth*	*Yes*
40-37	*B.8-11.2*	*B664/ B7023/ G7040*	*9058*	*9/93*	*777 44/45 CIC dry booth*	*Yes*
40-37	*B.5-13.8*	*B670/ B7023/ G7040*	*5060*	*9/93*	*777 44/45 dry booth*	*Yes*
40-37	*B.8-11*	*B665/ B7023/ G7040*	*9058*	*10/93*	*777 46/47/48 CIC dry booth*	*No*
40-37	*B.2-13.8*	*B668/ B7023/ G7040*	*5051*	*9/93*	*777 46/47/48 dry booth*	*Yes*
40-37	*C.6-12.6*	*B671/ B7023/ G7040*	*5061*	*10/93*	*777 dolly parts dry booth*	*Yes*
40-37	*B.3-10.2*	*B667/ B7023/ G7040*	*9058*	*10/93*	*777 horiz. stab. CIC dry booth*	*No*
40-37	*B.8-12*	*B675/ B7023/ G7040*	*5059*	*8/93*	*777 vert. wing dry booth*	*Yes*
40-37	*B.5-10.2*	*B662/ B7023/ G7040*	*9058*	*9/93*	*777 wing laydown CIC dry booth*	*Yes*
40-37	*B.5-13*	*B676/ B7023/ G7040*	*5063*	*8/93*	*777 wing laydown dry booth #1*	*Yes*
40-37	*B.5-13*	*B677/ B7023/ G7040*	*5063*	*8/93*	*777 wing laydown dry booth #2*	*Yes*
40-37	*B.5-13*	*B678/ B7023/ G7040*	*5063*	*8/93*	*777 wing laydown dry booth #3*	*Yes*
40-37	*B.5-13*	*B679/ B7023/ G7040*	*5063*	*8/93*	*777 wing laydown dry booth #4*	*Yes*
40-51		*B931/ B930/ B027 /B028/ B029/ B030/ B031/ G0108*	*7637*	*1969*	*40-51 highbay spray coating areas with 7 dry filter units*	*Yes*

Bldg.	*Col/Dr*	*MSS/ID #*	*Order of Approval #*	*Date Installed*	*Source Description*	*Aerospace NESHAP regulated Coatings with Inorganic HAP Used in Unit?*
40-51	*A-2.5*	*708470/ G9002*	*8250*	*1968*	*Dry booth*	*Yes*
40-51	*A-2/3*	*708469/ G9002*	*8249*	*1968*	*Dry booth*	*Yes*
40-51	*A-3*	*708471/ G9002*	*8251*	*1968*	*Dry booth*	*Yes*
40-51	*B-5*	*154148/ ET0084*	*4250*	*12/93*	*Vertical wing dry booth, North*	*Yes*
40-51	*B-4*	*154145/ ET0164*	*4249*	*3/93*	*Vertical wing dry booth, South*	*Yes*
40-51	*Bd-2*	*227615*	*8246*	*1/01*	*Dry booth*	*Yes*
40-33	*H-14.5*	*B109*	*3913*	*5/92*	*767 HS CIC dry filter exhaust system*	*No*
40-56	*S-5*	*384615*	*2139*	*7/80*	*Dry booth*	*Yes*
40-56	*D-8*	*135463*	*3986*	*8/92*	*Dry booth*	*Yes*
40-56	*D-9*	*135464*	*3988*	*8/92*	*Dry booth*	*No*
40-56	*K-7.5*	*088265*	*3990*	*9/92*	*Dry booth*	*Yes*
40-56	*J.5-3*	*135465*	*3992*	*8/92*	*Dry booth*	*Yes*
40-56	*J.5-8.5*	*126452*	*5840*	*4/92*	*Dry booth*	*No*
40-56	*BB-4*	*135469*	*3997*	*3/93*	*Dry booth*	*No*
40-56	*B-4*	*110226/ 110225*	*3999*	*2/92*	*Dry booth*	*No*
40-56	*F-3.5*	*018148*	*7744*	9/00	*Dry booth*	*No*
40-56	*G-7*	*018700*	*8282*	*12/00*	*Dry booth*	*No*
40-56	*J-7.5*	*018699*	*8283*	*12/00*	*Dry booth*	*No*
40-56	*J-7.5*	*110244*	*9571*	*4/07*	*Dry booth*	*No*
45-01		*B056*	*7210*	*1968*	*Paint hangar*	*Yes*
45-01	*I-5*	*B057*	*8603*	*1987*	*Air lock dry booth*	*Yes*
45-01	*South*	*G8011/ 088544*	*None*	*Unknown*	*Solvent cleaning bench*	*No*
45-02	*E-10*	*165336*	*7509*	*5/94*	*Dry booth*	*Yes*
45-03		*B058*	*7217*	*9/81*	*Paint hangar, 45-03*	*Yes*
45-03	*M-5*	*ET0417*	*5903*	*1981*	*Spray booth, dry*	*Yes*
45-04		*B685*	*3763*	*10/93*	*Paint hangar, 45-04*	*Yes*
45-04	*Q-10*	*B685/ ET0401*	*4501*	*4/93*	*Rudder/elevator dry booth*	*Yes*
45-04	*Q-10*	*B685/ ET0403*	*4502*	*4/93*	*Rudder/elevator dry booth*	*Yes*
45-04		*G8012/ 164719/ 164720*	*None*	*1993*	*Solvent cleaning benches (2)*	*No*

(a) Aerospace NESHAP

40 CFR 63 Subpart A (40 CFR 63.6) requires Startup, Shutdown, and Malfunction Plans for all equipment that controls regulated HAPs. In this case, dry filters and waterwash systems control

HAPs. However, 40 CFR 63.743(b) specifically exempts dry filters from the requirement to have a Startup, Shutdown, and Malfunction Plan as long as the manufacturer's recommendations are being followed. Boeing also has the responsibility to maintain the dry filters according to Puget Sound Clean Air Agency O&M Plan requirements. Elsewhere, the permit requires Boeing to report all instances where the filters were not operated and maintained properly. However, if Boeing finds that it must deviate from the manufacturer's instructions, Boeing must develop a Startup, Shutdown, and Malfunction Plan. The permit contains operation and maintenance procedures for establishing filter pressure drop outside the manufacturer's recommendations.

The Aerospace NESHAP is not clear on if an SSMP is necessary if Boeing does not follow the manufacture's specifications as to pressure drop. This is because 40 CFR 63.743(b) refers to following the manufacture's instructions and 40 CFR 63.745(g)(3) refers to following the manufacture's specifications. To further complicate the issue, the preamble to 40 CFR 63 Subpart GG referred to "the pressure drop is outside of the manufacturer's recommended limits." 45954 Federal Register / Vol. 60, No. 170 / Friday, September 1, 1995. The Puget Sound Clean Air Agency has determined that manufacture's instructions, specifications, and recommendations all mean very much the same thing. Therefore, any time Boeing chooses to normally operate a filter in a manner inconsistent with the manufacturer's instructions, specifications, or recommendations, Boeing must develop and follow a start-up, shut-down, malfunction plan (SSMP). As stated in 40 CFR 63.734(b)(2), the plan shall include a systematic procedure for identifying malfunctions and reporting them immediately to supervisory personnel.

The permit lists the applicable requirements of the Aerospace NESHAP, 40 CFR 63 subpart GG, including the monitoring requirements. Where the permit does not list a monitoring method or reference method, EPA did not specify one in the NESHAP and none is required under EPA policy. However, in some cases, the Puget Sound Clean Air Agency has determined that additional monitoring is necessary; this includes periodic checks of the filter integrity for spray booths. The frequency for checking filter integrity may be less than in other Puget Sound Clean Air Agency operating permits because most all the booths have at least two-stage filters and it is very unlikely that failure of both stages at the same time would go undetected by the other monitoring procedures.

If Boeing observes problems for which there are no monitoring requirements under an applicable NESHAP, and corrects that problem within 24 hours, Boeing does not need to report the deviation under Section V.M. (Compliance Certification) or V.Q (Reporting). Examples of such requirements that do not have monitoring requirements include 40 CFR 63.744(a)(1) *Place cleaning solvent-laden cloth, paper or any other absorbent applicator used for cleaning in bags or other closed containers upon completing their use*, and 40 CFR 63.744(a)(3) *Handling and transfer of cleaning solvents conducted in a manner to minimize spills.* For the purpose of determining compliance with the work practice requirements of 40 CFR 63.744(a)(1) for solvent rag management, "completing their use" means upon completion of the cleaning operation, before leaving for a break, or the end of a shift; whichever comes first.

Cleaning, primer application, and topcoat application operations subject to the Aerospace NESHAP (40 CFR Part 63 Subpart GG) are included in this section.

Currently, the Everett facility depaints six or less completed aircraft each calendar year. However, under the Alternate Operating Scenario, the Everett facility would depaint more than six completed aircraft in a calendar year and thus be subject to the depainting requirements.

Chemical maskant application operations subject to the Aerospace NESHAP are not conducted at the Everett facility and therefore are not included in this section.

Questions have arisen about whether the inorganic HAP coating requirements of 40 CFR 63.745(g) apply to coatings containing inorganic HAP at concentrations less than 0.1 % carcinogens and 1.0% non-carcinogens. The following letters from Agency and EPA representatives helps to answer these questions:

Boeing Corp

Attachment 6

PUGET SOUND AIR POLLUTION CONTROL AGENCY
KING COUNTY ▲ KITSAP COUNTY ▲ PIERCE COUNTY ▲ SNOHOMISH COUNTY

February 19, 1999

The Boeing Company
c/o Robin Bennett, Manager – Environmental Regulatory Affairs
PO Box 3707 MS 7A-XC
Seattle WA 98124-2207

Boeing Commercial Airplane Group
Aerospace NESHAP Paint Booth Requirements

Dear Ms. Bennett:

Thank you for your December 21 letter, G-1242-AGW-022, to James Nolan concerning the applicability of the Aerospace NESHAP for certain coatings.

After reviewing the information that you provided; our regulations and EPA's aerospace rules and guidance, we concur that the requirements for coating with inorganic hazardous air pollutants (HAP) do not apply to coatings with HAP concentrations less than 0.1 percent for carcinogens and 1.0 percent for non-carcinogens, the required reporting concentrations for the Material Safety Data Sheet (MSDS) under 29 CFR 1910.1200(g). Specifically, if a coating contains less than 0.1% inorganic HAP, it is not subject to the spray booth requirements for inorganic HAP (40CFR 63.745(g)) even though it may have a concentration of about 0.0002% inorganic HAP. However the requirements for organic HAP and VOC may apply.

PSAPCA concludes that reducing the HAP content to below the reportable thresholds is a desirable pollution prevention approach that should be encouraged. Consider that primers, such as BMS 10-11 and BMS 10-79, often have inorganic HAP concentrations in the 5% to 20% range and the required control efficiency for inorganic HAP is about 90%. Using such a system would result in the same emissions as using a coating that has HAP concentrations in the 0.5% to 2.0% range. Clearly using a coating without add-on control that has less than 0.1% inorganic HAP results in lower emissions than using a coating with 5% HAP and 90% control efficiency.

40CFR63.471(f) states that the requirements of subpart GG do not apply to primers and topcoats containing HAP and VOC concentrations less than 0.1 percent for carcinogens or 1.0 percent for non-carcinogens, as determined from manufacture's representations. When EPA says, "manufacture's representations", they clearly mean the MSDS as they indicated in applicability section of their *Summary of Requirements for Implementing the NESHAP*[1]. Elsewhere in that document EPA says that the inspector should observe coating labels and other records for organic HAP and VOC content[2]. Clearly EPA wants to use widely available information to determine if the Aerospace NESHAP applies to a particular activity.

40CFR 63.745(g) lists coating operation requirements in which any of the primers or topcoats that are "spray applied contain inorganic HAP". The section does not list a lower threshold for determining if a coating contains inorganic HAP. However it seems clear that EPA intended to use the MSDS thresholds of 0.1% and 1.0% for carcinogens and non-carcinogens, because the applicability section of the subpart says that the subpart does not apply to primers and topcoats containing HAP and VOC concentrations less than 0.1 percent for carcinogens or 1.0 percent for non-carcinogens, as determined from manufacture's representations. Although EPA does not say that the section 63.745(g) does not apply to coatings containing less than 0.1% inorganic HAP, we must rely on the applicability section of the subpart and our understanding of EPA's intent. We understand EPA's intent is not to regulate coatings with low concentrations of HAP. We also understand EPA's intent is to have the threshold for regulating a coating the same threshold as required for reporting for the MSDS. Thus an inspector could determine if a coating is regulated under the subpart based on looking at the federally required parts of the MSDS sheet.[3]
By copy of this letter, we are also requesting EPA's concurrence on this interpretation of the Aerospace NESHAPS.

If you have any questions, please contact Abby Lee at (206) 689-4059 or me at (206) 689-4052.

Sincerely,

Jay M. Willenberg, P.E.
Senior Air Pollution Engineer

JMW:mll

cc: Doug Hardesty, EPA Region 10
Lisa Jacobsen, EPA Region 10
Gregg Wagner, BF Goodrich Aerospace
Katherine Garrison, Hexcel Corporation
Aerospace Team, PSAPCA

FROM :SHEA EVERETT 425 2666603 2001-08-10 08:14 #481 P.03/04

Attachment 7

APR 05 1999

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

APR 2 1999

Reply To
Attn Of: OAQ-107

Ms. Robin Bennett, Manager
Environmental Regulatory Affairs
The Boeing Company
MS 7A-XC
P.O. Box 3707
Seattle, WA. 98124-2207

Re: Aerospace NESHAP Rule Interpretation

Dear Ms. Bennett:

This letter is in response to a February 15, 1999, letter from Puget Sound Air Pollution Control Agency (PSAPCA) to Boeing regarding the National Emission Standards for Aerospace Manufacturing and Rework Facilities. We concur with PSAPCA's regulatory interpretation that the inorganic hazardous air pollutant (HAP) coating requirements of §63.745(g) for primers and topcoats do not apply to coatings containing inorganic HAP at a concentration less than 0.1 percent for carcinogens and 1.0 percent for non-carcinogens. The aforementioned threshold concentrations parallel those utilized by Material Safety Data Sheet (MSDS) to require reporting. EPA intended to utilize readily available information to determine applicability, and MSDS provide the most readily available information.

If you have any questions regarding this regulatory interpretation, please contact Dan Meyer of this office at (206) 553-4150.

Sincerely,

Bonnie Thie, Manager
State & Tribal Air Programs Unit

DM:BT:cb

cc: Ms. Abby Lee, PSAPCA
Ms. Christi Lee, USEPA Region 10 - Washington Operations Office
Mr. Jay M. Willenberg, P.E., PSAPCA

Questions have arisen regarding the applicability of the Aerospace NESHAP to Preval spray units used widely throughout the aerospace industry. The following letter from Douglas Hardesty, EPA, to Jay Willenberg, helps to answer these questions:

Spray Coating

PSAPCA OCT 16 1998

Attachment 5

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

Reply To
Attn Of: OAQ-107

OCT 14 1998

Mr. Jay M. Willenberg
Puget Sound Air Pollution Control Agency
110 Union Street, Suite 500
Seattle, Washington 98101-2038

Re: Preval Spray Units Applicability to the Aerospace NESHAP

Dear Mr. Willenberg:

This letter is in response to your correspondence to Gregg Wagner, B.F. Goodrich Aerospace, dated August 18, 1998, regarding the applicability of Preval® spray units to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Aerospace Manufacturing and Rework Facilities, 40 CFR Part 63, Subpart GG. Specifically, you determined that the Preval® spray units are exempt from the Aerospace NESHAP and requested concurrence from the Environmental Protection Agency (EPA). EPA concurs with your determination for the reasons explained below.

You have stated that the Preval® system used at B.F. Goodrich Aerospace is a hand-held aerosol can that has a non-refillable pressurized portion. In Appendix A - Specialty Coating Definitions of the Aerospace NESHAP, EPA defines "aerosol coating" as *a hand-held, pressurized, non-refillable container that expels an adhesive or a coating in a finely divided spray when a valve on the container is depressed.* Based on your description, we agree that the Preval® system meets the criteria for being classified as an aerosol coating. Since aerosol coatings are considered specialty coatings, and specialty coatings are exempt from the Aerospace NESHAP [63.741(f)], we have concluded that the Preval® system is exempt from the Aerospace NESHAP.

If, at any time, EPA amends this NESHAP such that specialty coatings are no longer exempt, this applicability determination will need to be revisited. If you have any questions regarding this determination, please contact Andrea Wullenweber at (206) 553-8760.

Sincerely,

Douglas E. Hardesty, Manager
Federal & Delegated Air Programs Unit

cc: Robin Bennett, Boeing Company
Lisa Rutan, Hexcel Corporation
Jim Szykman, EPA OAQPS
Gregg Wagner, B.F. Goodrich Aerospace

Boeing requested the Puget Sound Clean Air Agency clarify that hand-wipe cleaning operations include wiping, scrubbing, mopping, or other hand actions and these operations are specifically not included in the definition of "flush cleaning." The Puget Sound Clean Air Agency did so in the following letter:

Attachment 4
Boeing Comm Air

PUGET SOUND AIR POLLUTION CONTROL AGENCY
KING COUNTY ▲ KITSAP COUNTY ▲ PIERCE COUNTY ▲ SNOHOMISH COUNTY

August 1, 1996

Ms. Chris Morris
Manager, Environmental Affairs
Boeing Everett Division
PO Box 3707 MS OH 00
Seattle, WA 98124-2207

RE: Boeing Letter No.: E-1320-JTF-133

PSAPCA Registration No.: 13120
Everett Facility, 3003 W Casino Rd., Everett WA 98201

Dear Ms. Morris:

Airplane Cleaning Operations
Boeing Everett Facility

Puget Sound Air Pollution Control Agency has determined that the "typical airplane cleaning operation" described in your letter of June 13, 1996, is best defined under the Aerospace NESHAP (40 CFR Part 63 Subpart GG) as a "hand-wipe cleaning" operation. Hand-wipe cleaning operations where wiping, scrubbing, mopping, or other hand actions are used are specifically not included as "flush cleaning."

In your description of your typical airplane cleaning operations, you noted that it is the scrubbing and wiping action that is responsible for removing contaminants from the surface, which meets the above described NESHAP definition of "hand -wipe cleaning operation."

Thank you for offering me the opportunity to watch the operation in person (on third shift). I regretfully excuse myself due to scheduling difficulties. Your description of this cleaning operation is similar to what I have seen at several Boeing facilities and I am confident that this is a reasonable, accurate interpretation of the Aerospace MACT. I am looking forward to more in-depth conversations with you regarding the new MACT standard.

Sincerely,

Abigail C. Lee

Abigail C. Lee
Air Pollution Engineer

ACL:ls

cc: H. Kimball, J. Fosberg, Boeing
W. Voegtlin, PSAPCA

Dennis J. McLerran, Air Pollution Control Officer
BOARD OF DIRECTORS

Boeing had requested clarification about whether the manufacturer's supplied date is sufficient to demonstrate compliance with the solvent composition requirements in the Aerospace NESHAP. The Puget Sound Clean Air Agency provided clarification in the following letter:

PUGET SOUND AIR POLLUTION CONTROL AGENCY
KING COUNTY KITSAP COUNTY PIERCE COUNTY SNOHOMISH COUNTY

David W. Moore
Environmental Regulatory Affairs
The Boeing Company
P.O. Box 3707, MS 7A-XC
Seattle, WA 98124-2207

January 15, 1998

Dear Dave:

Thank you for your December 10, 1997 E-mail concerning compliance with solvent composition limits. Jim has asked me to respond directly to you.

We believe that you are correct in stating that the Aerospace NESHAP accepts the manufacturer's supplied data in order to demonstrate compliance with many of the solvent and HAP requirements. In the case of hand-wipe cleaning solvents it is the only method cited in the rule for determining approved composition (see section 63.750 (a)).

In other areas, such as with the VOC content of primers and topcoats, the rule also cites EPA Method 24 as the reference method (see section 63.750 (c)(1)).

For the purpose of periodic monitoring and certification under Title V, Boeing may use manufacturer's supplied data as we have proposed in the draft permits that you have seen. We do not intend to change those parts of the permits. Where the Aerospace NESHAP also cites other methods, such as EPA Method 24, PSAPCA reserves the right to use those methods or to require that Boeing use the reference method.

As in the past, PSAPCA does not envision requiring reference method testing on a routine basis. For the Aerospace NESHAP we only envision requiring reference method testing if there is evidence that the manufacturers' data may be erroneous.

If you have any additional questions on this issue, please call Jay Willenberg of our staff (206) 689-4052.

Sincerely,

Neal J. Shulman
Manager-Inspection

cc: PSAPCA Aerospace Inspection/Engineering Team

(b) Local Requirements

The Puget Sound Clean Air Agency did not require a Notice of Construction (NOC) order of approval for four of the booths installed prior to 1974. These booths are not subject to the standard NOC order of approval conditions or the state-only requirement in RCW 70.94.152(7). The other spray booths are subject to the standard NOC order of approval conditions and RCW 70.94.152(7).

Puget Sound Clean Air Agency Regulation I, Section 9.16 requires that all spray coating operations be conducted inside an enclosure with overspray controls and a vertical stack approved by the Puget Sound Clean Air Agency. Aerospace coating operations subject to the Aerospace NESHAP (including all activities and materials listed in 40 CFR 63.741(f) are specifically exempted from the requirements of Regulation I Section 9.16. Regulation 1 Section 9.16(b) also discusses other exemptions from the rule, such as exemptions for the application of

architectural or maintenance coatings to objects like bridges and buildings and the use of hand held aerosol spray cans with a capacity of 1 quart or less. .

The following historical exemptions from the requirements of 9.16(a) have also been granted to Boeing:

Attachment 3

PUGET SOUND AIR POLLUTION CONTROL AGENCY
KING COUNTY ▲ KITSAP COUNTY ▲ PIERCE COUNTY ▲ SNOHOMISH COUNTY

May 30, 1995

B. J. Thompson
Boeing Commercial Airplane Everett
PO BOX 3707 MS OH 00
Seattle WA 98124-2207

PSAPCA Registration No.: 13120

RE: Letter No. T-1320-5-078

Dear Ms. Thompson:

PSAPCA Approval for Exemption to the Requirements
of Regulation I, Section 9.16 "Spray Coating Operations"

Puget Sound Air Pollution Control Agency (PSAPCA) grants your requests of February 27, 1995 and April 10, 1995 for exemptions to PSAPCA's Regulation I, Section 9.16(a) "Spray Coating Operations", in respect to the spray coating operations conducted on the flightline and for the 40-36 building .

This is an approval by the Control Officer of PSAPCA to allow the coating of items that cannot be reasonably handled in an enclosed spray area, as requiered by Regulation I, Section 9.16, subpart (b)(6).

This exemption to the requirements for a filtration system to capture overspray and a vertical stack exhaust to control odors will be valid provided that this exemption may be revoked for cause.

Please direct any questions or comments to Abby Lee at 689-4059.

Sincerely,

Jay Willenberg
Senior Air Pollution Engineer

cc: Hannah Kimball, Chris Morris, Boeing
A. Lee, PSAPCA Air Pollution Engineer
R. Hess, Lead PSAPCA Air Pollution Inspector

Attachment 2

PUGET SOUND AIR POLLUTION CONTROL AGENCY
KING COUNTY - KITSAP COUNTY - PIERCE COUNTY - SNOHOMISH COUNTY

November 30, 1992

Boeing Commercial Airplane Group-Everett
B.J. Thompson
P.O. Box 3707, M/S OH-00
Seattle, WA 98124-2207

Dear Ms. Thompson:

PSAPCA Approval for Exemption to the Requirements
of Regulation I, Section 9.16 "Spray Coating Operations"

Puget Sound Air Pollution Control Agency (PSAPCA) grants your request for an exemption to PSAPCA's odor and nuisance control code, Regulation I, Section 9.16 "Spray Coating Operations", in respect to the spray coating operations ongoing in the buildings listed below at the Everett facility.

Buildings:	40-21	40-22
	40-23	40-24
	40-25	40-26
	40-31	40-32
	40-33	40-34
	40-35	

This is an approval by the Control Officer of PSAPCA to allow the coating of items that cannot be reasonably handled in an enclosed spray area, as required by Regulation I, Section 9.16, subpart (b)(6).

This exemption to the requirements for a filtration system to capture over spray and a vertical stack exhaust to control odors will be valid provided that this exemption may be revoked for cause.

Please direct any questions or comments to Abby Lee at 689-4059.

Sincerely,

Dave S. Kircher
Manager -- Engineering

cc: David Smukowski
Pat Bachtel
Jade Hudson

Anita L. Frankel, Air Pollution Control Officer

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For the spray booths installed before 1974, the Puget Sound Clean Air Agency approved the booths by registration. The booths installed after 1974 were approved by NOC Orders of Approval. The Puget Sound Clean Air Agency has determined, in addition to the Order of

Approval Notice of Completion, Boeing will conduct periodic facility-wide inspections that include looking for spray coating operations that do not comply with the requirements of Section 9.16.

Puget Sound Clean Air Agency Regulation II, Section 3:09(b) specifies the VOC content for some aerospace primers and topcoats. The monitoring requirement specifies that Boeing maintain manufacturer's information demonstrating compliance with these requirements and initiate appropriate corrective action if a noncompliant situation is observed. Puget Sound Clean Air Agency Regulation II, Section 3.09 also specifies work practice standards including acceptable application methods, cleanup, and storage of VOC-containing material. The aerospace NESHAP has similar requirements; however, it does not require any periodic monitoring of those housekeeping requirements. After considering the compliance history of Boeing for this type of housekeeping requirement, the Puget Sound Clean Air Agency has determined that periodic, quarterly, work practice inspections by Boeing are sufficient to assure and monitoring continued compliance.

In Regulation III, Section 2.02, the Puget Sound Clean Air Agency adopted by reference the NESHAP regulations in 40 CFR Part 63, including the Aerospace NESHAP. This is a state-only provision. Since the NESHAP requirements, including the monitoring and reporting methods, are listed elsewhere in the permit, they are not repeated here.

Boeing requested that aerosol temporary coatings Ardox 327N and Aztec AZ643 GC Aerosol be exempt from Puget Sound Clean Air Agency Regulation II, Section 3.09 and cited a May 25, 1995 letter from the Washington State Department of Ecology as justification. The letter says that WAC 173-490-208, a similar requirement, does not apply. The letter, however, says that Boeing must comply with Puget Sound Clean Air Agency regulations and specifically cites Section 3.09. Therefore, the Puget Sound Clean Air Agency has not granted an exemption from the requirements of Puget Sound Clean Air Agency Regulation II, Section 3.09 for aerosol temporary coatings Ardox 327N and Aztec AZ643 GC Aerosol.

In June 2004, Boeing requested modifications to NOC Order of Approval Nos. 5053, 5056, 5057, 5058, 5062, 5064, and 7067 to allow a wider range of high transfer efficiency coating methods. The Puget Sound Clean Air Agency approved these modifications and further agreed to add the modified NOC orders of approval to the Air Operating Permit at the same time as adding the requirements of the reinforced plastic composites NESHAP. Per Boeing's request, the Puget Sound Clean Air Agency combined NOC Order of Approval Nos. 5053, 5056, 5057, 5058, 5062, and 5064 into one new NOC Order of Approval, No. 9058. NOC Order of Approval No. 7067 contained conditions that were different from those in NOC Order of Approval Nos. 5053, 5056, 5057, 5058, 5062, and 5064, and was kept separate to avoid confusion.

Questions have arisen about what types of modifications to a spray booth would require a Notice of Construction Order of Approval. The following 1998 letter from Jay Willenberg, Agency, to David Moore, Boeing, discusses this issue.

Attachment 8

PUGET SOUND AIR POLLUTION CONTROL AGENCY
KING COUNTY ▲ KITSAP COUNTY ▲ PIERCE COUNTY ▲ SNOHOMISH COUNTY

January 9, 1998

David Moore
The Boeing Company
PO Box 3707, M/S 7A-XC
Seattle, WA 98124

Dear Mr. Moore:

Notice of Construction (NOC) Requirements for Paint Spray Booths

This letter is intended to clarify when PSAPCA would require a Notice of Construction for upgrading or changing paint spray booths.

We require a NOC for major changes in control technology or changes that increase emissions. We do not require a NOC for minor changes that do not result in increased emissions from the facility.

Major changes include changing control technology from waterwash to dry filters and increasing the airflow by more than 10 or 15% over originally permitted levels. In general, changing the fan or motor will not increase the flow by more than 15%.

Minor changes include adding an additional stage to a dry filter to meet the Aerospace NESHAP, and moving an existing booth to a new location within the same facility and conducting the same activity. Boeing must notify PSAPCA if the location or use of a booth changes. It is essential that PSAPCA know the location of each booth and that it have some identifier such as the MSS/ID No. so we can properly conduct inspections. The use is important to identify the applicable requirements. An example of a significant change in the activity of a booth is conducting abrasive blasting in a booth that we have not approved to house such an activity.

If you have any additional questions, please call me at 206 689-4052.

Sincerely,

J. M. Willenberg, P.E.
Senior Air Pollution Engineer

JMW:MJ

cc: D. S. Kircher
A. C. Lee
H. A. Bryant
D. J. Gribbon
M. McAfee
R. J. Pogers
M. D. Scarberry

Dennis J. McLerran, Air Pollution Control Officer
BOARD OF DIRECTORS

The following vertical stack exemptions have been granted to Boeing:

Attachment 1

PUGET SOUND AIR POLLUTION CONTROL AGENCY
KING COUNTY ▲ KITSAP COUNTY ▲ PIERCE COUNTY ▲ SNOHOMISH COUNTY

December 3, 1998

Frank Migaiolo
Manager, Environmental Affairs
Boeing Commercial Airplane Group (Everett)
PO Box 3707, MC OH-00
Seattle, WA 98124-2207

Dear Mr. Migaiolo:

Vertical Stack Exemption

Reference is made to your letter E-1320-JTF-336 dated November 30, 1998 regarding exemption from Puget Sound Air Pollution Control Agency's (PSAPCA) Regulation I, Section 9.16, vertical stack exemption for the following spray coating booths:

Building	Location	Booth Equipment #
40-05	Col C-17	087401
40-11	Col D-10	700599
40-31	Col A-16	701500
44-01	Air Lock (2 Stacks)	B056

After review of your situation and Jay Willenberg's conversation with John Fosberg, PSAPCA hereby grants your request, provided that this exemption may be revoked for cause.

If you have any questions, please contact Jay M. Willenberg at (206) 689-4052 or Abigail C. Lee at (206) 689-4059.

Sincerely,

David D. Kircher

David S. Kircher
Manager - Engineering

DSK:mj

cc: J. M. Willenberg
A. C. Lee
J. S. Schantz

(c) PSD Requirements

Applicable requirements of the various PSD permits are included in the permit. However some of the PSD approval conditions have been satisfied and are obsolete and not included in the permit.

(i) PSD 91-01

At Boeing's request, conditions #3 and #4 of PSD Approval 91-01 were modified by the Washington Department of Ecology in August, 2000 with the intent to "allow the use of all the [cleaning and coating] techniques currently allowed under the Aerospace NESHAP." See Fact Sheet for Amendment 2 at Section 1.4.3. While both of the PSD conditions set forth some of the exemptions, neither of the conditions explicitly state that all cleaning and coating operations that are not regulated by or are exempt from the Aerospace NESHAP are also not covered by the respective PSD condition. See 40 CFR 63.741(f), (g), (h), (i), and (j), 63.744(a)(1), (b), and (e), and 63.745(a), and (f)(3) for a description of the cleaning and coating applications that are not regulated by or are exempt for the Aerospace NESHAP.

Therefore, we believe that the conditions, interpreted in the light of the intent of Amendment 2 as set out in the PSD Fact Sheet, do not apply to cleaning or coating activities not regulated under or exempt from the Aerospace NESHAP.

Notice of Construction Order of Approval No. 3763 Condition 5 required Boeing to annually submit records to demonstrate the emission offset credits. Boeing has provided the offsets by eliminating the A-3190 paint shop at Boeing's Plant II facility. Since the offsets are permanent, the Puget Sound Clean Air Agency considers the condition obsolete and the permit does not require annual reporting to demonstrate that the offsets have been achieved.

(ii) PSD 91-03

PSD 91-03 was rescinded by the Washington Department of Ecology in 2005 as part of the approval of PSD 91-06 Amendment 2. Therefore, the requirements of this PSD have been removed from the AOP.

(iii) PSD 91-05 Amendment 2

PSD 91-05 Amendment 2 was rescinded by the Washington Department of Ecology in 2005 as part of the approval of PSD 91-06 Amendment 2. Therefore, the requirements of this PSD have been removed from the AOP.

(iv) PSD 91-06 Amendment 1

PSD 91-06 Amendment 1 was superseded by PSD 91-06 Amendment 2, which was issued on June 10, 2005. Therefore, the requirements of PSD 91-06 Amendment 1 are not included in the AOP.

(v) PSD 91-06 Amendment 2

PSD 91-06 Amendment 2 was issued by the Washington Department of Ecology on June 10, 2005. This PSD covers Model 777 airplane manufacturing operations at the Boeing Everett facility.

This PSD includes a number of conditions that became obsolete upon inclusion of the PSD into the AOP. These conditions include:

- Condition 1: This condition states: "Boeing-Everett's requirements in the following approval conditions to notify or report to or acquire approval or agreement from "Ecology and the Puget Sound Clean Air Agency" may be satisfied by providing such notification, reporting, and approval request to the Puget Sound Clean Air Agency if the approval conditions of this PSD permit have been incorporated in Boeing-Everett's Title V permit (40 CFR Part 70). Notifications, reports, and approval requests provided to the Puget Sound Clean Air Agency before the issuance of this second amendment of PSD 91-06 need not be provided to Ecology' and approvals previously granted by the Puget Sound Clean Air Agency are not subject to further review or approval by Ecology."
- Condition 20: This condition discusses requirements that Boeing Everett must meet prior to the incorporation of PSD 91-06 Amendment 2 in the AOP.
- Condition 24: This condition deals with the effective date of PSD 91-06 Amendment 2, and the fact that the effective date must be after applicable requirements of the Endangered Species Act and other acts have been satisfied. PSD 91-06 Amendment 2 became effective on June 13, 2005. Therefore, this condition is obsolete.
- Condition 25: This condition deals with the effective date of PSD 91-06 and how it could be influenced if comments from the public are received. PSD 91-06 Amendment 2 became effective on June 13, 2005. Therefore, this condition is obsolete.

(vi) PSD 05-02

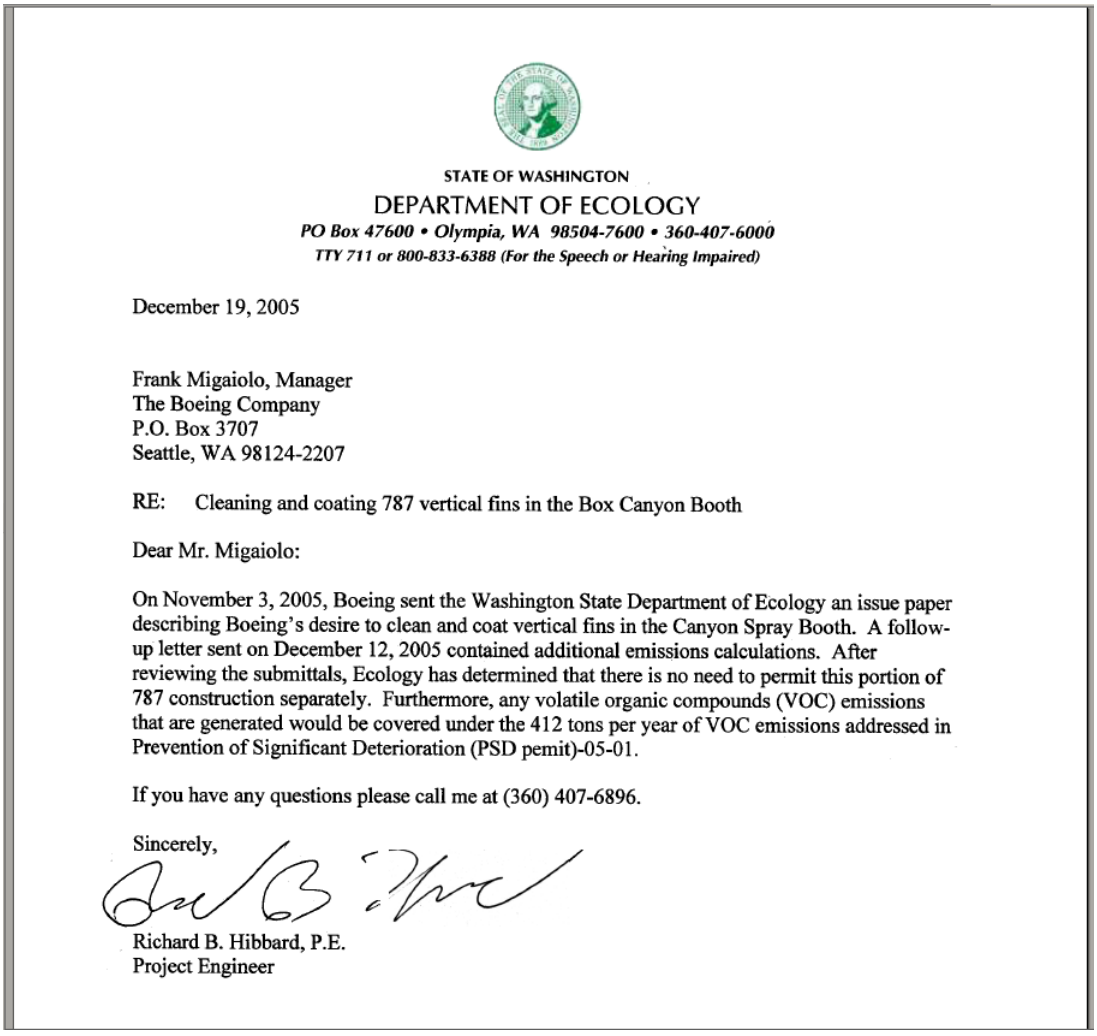
PSD 05-02 was issued by the Washington Department of Ecology on October 12, 2005 to accommodate Boeing's planned expansion to manufacture 787 aircraft. This PSD placed facility wide caps on VOC emissions from final exterior coating, assembly, and interiors manufacturing of all aircraft.

This PSD includes a number of conditions that became obsolete upon inclusion of the PSD into the Air Operating Permit. These conditions include:

- Condition 1: This condition states: "Boeing-Everett's requirements in the following approval conditions to notify or report to or acquire approval or agreement from "Ecology and the Puget Sound Clean Air Agency" may be satisfied by providing such notification, reporting, and approval request to the Puget Sound Clean Air Agency if the approval conditions of this PSD permit have been incorporated in Boeing-Everett's Title V permit (40 CFR Part 70)." This condition is obsolete.

- Condition 9: This condition specifies Boeing's reporting requirements for exceedances of the VOC limits in the PSD prior to the incorporation of the PSD into the Air Operating Permit. This condition is obsolete.
- Condition 13: This condition states that approval shall become invalid if construction of the project is not commenced within 18 months after the PSD is issued or if construction is discontinued for 18 months. Boeing has finished construction for this PSD and this condition is obsolete.
- Condition 14: This condition deals with the effective date of the PSD, and the fact that the effective date must be after the applicable requirements of the Endangered Species Act and other acts have been satisfied. PSD 05-02 became effective on October 12, 2005. This condition is obsolete.
- Condition 15: This condition deals with the effective date of the PSD and how it could be influenced if comments from the public are received. PSD 05-02 became effective on October 12, 2005. This condition is obsolete.

In 2005 Boeing communicated with the Department of Ecology regarding a project they wished to do at the Canyon Spray Booth, and asking whether a new PSD permit or a PSD modification was needed. In the following December 19, 2005 letter Ecology determined that the emissions from the project could be covered under the existing PSD and that a new (or modified) PSD wasn't needed.



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
TTY 711 or 800-833-6388 (For the Speech or Hearing Impaired)

December 19, 2005

Frank Migaiolo, Manager
The Boeing Company
P.O. Box 3707
Seattle, WA 98124-2207

RE: Cleaning and coating 787 vertical fins in the Box Canyon Booth

Dear Mr. Migaiolo:

On November 3, 2005, Boeing sent the Washington State Department of Ecology an issue paper describing Boeing's desire to clean and coat vertical fins in the Canyon Spray Booth. A follow-up letter sent on December 12, 2005 contained additional emissions calculations. After reviewing the submittals, Ecology has determined that there is no need to permit this portion of 787 construction separately. Furthermore, any volatile organic compounds (VOC) emissions that are generated would be covered under the 412 tons per year of VOC emissions addressed in Prevention of Significant Deterioration (PSD pemit)-05-01.

If you have any questions please call me at (360) 407-6896.

Sincerely,

Richard B. Hibbard, P.E.
Project Engineer

(d) Orders of Approval dealing with spray coating operations have been canceled and/or superseded by amended Orders of Approval:

Order of Approval No. 3763 dated 5/22/95 cancels and supersedes Order of Approval No. 3763 dated May 29, 1991.

Order of Approval No. 5060 dated 5/22/95 cancels and supersedes Order of Approval No. 5060 dated September 7, 1993.

Order of Approval No. 4127 dated 5/22/95 cancels and supersedes Order of Approval No. 4127 dated January 3, 1992.

Order of Approval No. 3913 dated 5/22/95 cancels and supersedes Order of Approval No. 3913 dated July 10, 1991.

Order of Approval No. 3999 dated 6/16/98 cancels and supersedes Order of

Approval No. 3999 dated September 4, 1991.

Order of Approval No. 6902 dated 9/25/97 cancels and supersedes Order of Approval No. 4503 dated June 1, 1992.

Order of Approval No. 7459 dated 9/18/99 cancels and supersedes Order of Approval No. 4128 dated May 22, 1995.

Order of Approval No. 7509 dated 7/17/98 cancels and supersedes Order of Approval No. 5341 dated February 18, 1994.

Order of Approval No. 6407 dated 2/28/96 cancels and supersedes Order of Approval No. 3995 dated July 22, 1991, May 22, 1995 and September 20, 1995.

Order of Approval No. 7178 dated 12/22/97 cancels and supersedes Order of Approval No. 3386 dated May 22, 1995.

Order of Approval No. 7217 dated 12/22/97 cancels and supersedes Order of Approval No. 1990 dated May 22, 1995.

Order of Approval No. 7898 dated 8/24/99 cancels and supersedes Order of Approval No. 3512 dated May 22, 1995.

Order of Approval No. 7899 dated 8/24/99 cancels and supersedes Order of Approval No. 3514 dated May 24, 1990.

Order of Approval No. 3926 dated 5/22/95 cancels and supersedes Order of Approval No. 3926 dated July 10, 1991.

Order of Approval No. 3919 dated 5/22/95 cancels and supersedes Order of Approval No. 3919 dated July 10, 1991.

Order of Approval No. 3921 dated 5/22/95 cancels and supersedes Order of Approval No. 3921 dated July 10, 1991.

Order of Approval No. 3920 dated 5/22/95 cancels and supersedes Order of Approval No. 3920 dated July 10, 1991.

Order of Approval No. 3915 dated 5/22/95 cancels and supersedes Order of Approval No. 3915 dated July 10, 1991.

Order of Approval No. 5070 dated 5/22/95 cancels and supersedes Order of Approval No. 5070 dated August 26, 1993.

Order of Approval No. 4250 dated 5/22/95 cancels and supersedes Order of Approval No. 4250 dated December 23, 1991.

Order of Approval No. 4249 dated 5/22/95 cancels and supersedes Order of Approval No. 4249 dated December 23, 1991.

Order of Approval No. 2139 dated 9/20/95 cancels and supersedes Order of Approval No. 2139 dated July 14, 1980.

Order of Approval No. 3547 dated 9/20/95 cancels and supersedes Order of Approval No. 3547 dated June 14 1990.

Order of Approval No. 3987 dated 4/25/95 cancels and supersedes Order of Approval No. 3987 dated July 22, 1991.

Order of Approval No. 4534 dated 5/22/95 cancels and supersedes Order of Approval No. 4534 dated July 8, 1992.

Order of Approval No. 3986 dated 4/25/96 cancels and supersedes Order of Approval No. 3986 dated July 22, 1991.

Order of Approval No. 4534 dated 5/22/95 cancels and supersedes Order of Approval No. 4534 dated July 8, 1992.

Order of Approval No. 3986 dated 4/25/95 cancels and supersedes Order of Approval No. 3986 dated July 22, 1991.

Order of Approval No. 3988 dated 4/25/95 cancels and supersedes Order of Approval No. 3988 dated July 22, 1991.

Order of Approval No. 3990 dated 5/22/95 cancels and supersedes Order of Approval No. 3990 dated July 22, 1991.

Order of Approval No. 3399 dated 5/12/95 cancels and supersedes Order of Approval No. 3399 dated December 20, 1989.

Order of Approval No. 3989 dated 4/25/95 cancels and supersedes Order of Approval No. 3989 dated July 22, 1991.

Order of Approval No. 3992 dated 4/25/95 cancels and supersedes Order of Approval No. 3992 dated July 22, 1991.

Order of Approval No. 5840 dated 3/9/95 cancels and supersedes Order of Approval No. 3993 dated July 22, 1991.

Order of Approval No. 3996 dated 5/12/95 cancels and supersedes Order of Approval No. 3996 dated September 4, 1991.

Order of Approval No. 3998 dated 5/12/95 cancels and supersedes Order of Approval No. 3998 dated September 4, 1991.

Order of Approval No. 3997 dated 4/25/95 cancels and supersedes Order of Approval No. 3997 dated September 4, 1991.

Order of Approval No. 3924 dated 5/22/95 cancels and supersedes Order of Approval No. 3924 dated July 10, 1991.

Order of Approval No. 3918 dated 5/22/95 cancels and supersedes Order of Approval No. 3918 dated July 10, 1991.

Order of Approval No. 3922 dated 5/22/95 cancels and supersedes Order of Approval No. 3922 dated July 10, 1991.

Order of Approval No. 3914 dated 5/22/95 cancels and supersedes Order of Approval No. 3914 dated July 10, 1991.

Order of Approval No. 4006 dated 5/22/95 cancels and supersedes Order of Approval No. 4006 dated August 6, 1991.

Order of Approval No. 8621, dated 2/7/02 cancels and supersedes Order of Approval No. 3371 dated December 5, 1989.

Order of Approval No. 9058 dated 7/28/04 cancels and supersedes: Order of Approval No. 5053 dated May 22, 1995; Order of Approval No. 5056, dated September 7, 1993; Order of Approval No. 5057 dated May 22, 1995; Order of Approval No. 5058 dated May 22, 1995; Order of Approval No. 5062 dated September 7, 1993; and Order of Approval No. 5064 dated September 7, 1993.

Order of Approval No. 8761 dated 6/26/03 cancels and supersedes Order of Approval No. 8761 dated 5/15/03.

Order of Approval No. 7067 dated 7/28/04 cancels and supersedes Order of Approval No. 7067 dated 10/17/97.

(e) Pressure Drop Monitoring

The question of establishing an appropriate pressure drop range for a spray booth or a paint hanger has been the subject of numerous conversations with Boeing. In general, Boeing has stated that the facility will establish and maintain pressure drop within the range recommended by the filter manufacturer. Questions have also arisen regarding whether a pressure drop of zero or less is appropriate for the lower end of the range. Based on the information presented by Boeing, the Agency has concluded that under certain conditions, a lower pressure drop limit of zero may be acceptable for dry filters. The following May 1999 letter from Jay Willenberg, Agency, to Frank Migaiolo, Boeing, documents this understanding.

FROM :SHEA EVERETT 425 2666603 2001.08-10 08:14 #481 P.04/04

MAY 2 5 1999

Attachment 13

PUGET SOUND AIR POLLUTION CONTROL AGENCY
KING COUNTY ▲ KITSAP COUNTY ▲ PIERCE COUNTY ▲ SNOHOMISH COUNTY

May 20, 1999

Mr. Frank Migaiolo
Manager, Everett Environmental Affairs
The Boeing Company
PO Box 3909, MC OH-00
Seattle, WA 98124

Dear Mr. Migaiolo:

Acceptable Pressure Drop Limits for Dry Filter Banks Subject to the Aerospace NESHAP

Thank you for letter dated March 10, 1999 (Letter No. E-1320-JTF-060) discussing using zero as a lower limit for the pressure differential range. Puget Sound Air Pollution Control Agency (PSAPCA) concurs that a lower pressure drop limit of zero is acceptable under certain conditions.

Our understanding from your letter and our inspections is that under some normal operating conditions, such as a clean filter and low air flows, the pressure drop across a spray booth filter is around 0.01 to 0.03 inches of water. Also, slight fluctuations in air velocities can result in pressure drop readings of zero, even with the use of pressure transducers with calibration and accuracy error of approximately +/- 0.01 inch.

While pressure drop readings near zero are acceptable, we strongly encourage Boeing to identify in its O&M Plan (as required in Regulation I, Section 7.09) alternate monitoring parameters that assure proper operation of the filters and booth when such low levels are detected.

If you have any questions, please contact me at (206) 689-4052 or engpermits@PSAPCA.org.

Sincerely,

Jay M. Willenberg
Senior Air Pollution Engineer

JMW:mj

cc: Robin Bennett, The Boeing Company
Aerospace Team

(f) Motor vehicle and mobile equipment coating operations

In January 2001, Jay Willenberg, Agency, wrote the following letter to Edward Cierebiej, Boeing, clarifying the meaning of mobile equipment:

Attachment 12

PUGET SOUND
Clean Air Agency
3 Union Street, Suite 500
Seattle, Washington 98101

Working Together For Clean Air

January 30, 2001

Edward Cierebiej
The Boeing Company
PO Box 3707, MC 5R-14
Seattle, WA 98124-2207

Dear Mr. Cierebiej:

Boeing (Auburn), Registration No. 13117
Boeing (Frederickson), Registration No. 17771
Mobile Equipment

Thank you for your September 19, 2000 letter (A-1320-RGS-101) concerning the definition of *"Mobile Equipment."*

The Puget Sound Clean Air Agency concurs with your interpretation of Regulation II, Section 3.04. Specifically, we concur 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. For example, the definition does not apply to jigs and carts used to move parts and equipment in and around buildings at Boeing facilities. However, the definition does apply to the trucks and trailers that move parts between Boeing facilities, such as the large trucks and trailers that move wing parts from Frederickson to Everett.

We will include this clarification in your air operating permit, if we have not changed the rule by then.

If you have any questions on this matter, please contact me at (206) 689-4052 or jayw@pscleanair.org.

Sincerely,

Jay M. Willenberg
Senior Engineer

JMW:mj

cc: Robin Bennett, Boeing
J. L. Nolan
Aerospace Team

EXECUTIVE DIRECTOR
Dennis J. McLerran

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Bill Evans, Councilman

MEMBER AT LARGE
Janet Chaluanik

(g) Spray gun cleaning

In June 2000 and January 2002 Jay Willenberg, Agency, wrote the following letters to Robin Bennett, Boeing, in response to Boeing's questions about spray gun cleaning:

Attachment 11

Puget Sound Clean Air Agency
Union Street, Suite 600
attle, Washington 98101

Working Together For Clean Air

June 14, 2000

Robin Bennett
Manager, Environmental Regulatory Affairs
The Boeing Company
PO Box 3707 MC 7A-XC
Seattle, WA 98124-2207

Dear Ms. Bennett:

Equivalency Determination for
Safety Kleen Models 1107 and 1111 Gun Cleaning Systems
with Gun Cleaning Techniques in 40 CFR 63.744(c)

Thank you for your March 8, 2000 letter G-1242-AGW-003 dealing with equivalency demonstration for Safety Kleen Models 1107 and 1111 gun cleaning systems with gun cleaning techniques in 40 CFR 63.744(c).

We have reviewed the regulation, information that you provided including the manufacturer's instructions for Safety Kleen Models 1107 and 1111, and additional information provided by Safety Kleen. 40 CFR 63.744(c) requires spray guns to be cleaned using one or more of the techniques specified in 40 CFR 63.744(c)(1) through (4), or their equivalent. The Puget Sound Clean Air Agency concurs with your demonstrations that the procedures that you described in your March 8, 2000 letter and that are described in Safety Kleen's directions for Models 1107 and 1111 gun cleaners are equivalent to those specified in 40 CFR 63.744(c)(2) and (3) with the following conditions:

1. The collar that vents to the basin to the atmosphere when the cleaner is switched on does not vent to the atmosphere when the cleaner is off. According to Heyler Davis of Safety Kleen, that is the way the equipment is designed.

2. For the Model 1111, the bi-fold door shall be closed at all times (see Final Cleaning Step 8) except when operating the cleaner in manual mode, when putting parts into or taking parts out of the cleaner, or when the drain hose does not drain to a container that contains solvent.

This equivalency determination only applies to Safety Kleen Models 1107 and 1111 used according to the Safety Kleen's directions, with Safety Kleen gun cleaner solvent that has a vapor pressure less than 45 mm Hg at 20°C, and the additional description that you provided in your March 8, 2000 letter. We expect that Boeing will incorporate into the specific O&M Plans or operator instructions or checklists the descriptions that are in your letter and Safety Kleen's directions. Specifically, the operator instructions or checklists should

Ph 206.343.8800
1.800.552.3565
Fax 206.343.7522
www.pscleanair.org

include the two techniques that you described for forcing solvent through the gun and minimizing the solvent evaporation by using a drain hose that is no more than 1 inch in diameter and at least 12 inches long. They should also include the conditions listed above.

In the future, we suggest that Boeing minimize emissions not only by using cleaners that drain directly to a remote reservoir, but further reduce emissions by finding a way to completely close that reservoir to the atmosphere when not in use, as the Model 1111 does. We also encourage Boeing to check the gun cleaners for liquid leaks and repair any such leak within 24 hours.

If you have any question about this determination, please contact Abby Lee at (206) 689-4059 or me at (206) 689-4052.

Sincerely,

Jay M. Willenberg
Senior Air Pollution Engineer

JMW:mj

cc: Aerospace Team

Attachment 11

ir Agency
reet, Suite 500
shington 98101

Working Together For Clean Air

January 18, 2002

Robin Bennett
Manager, Environmental Regulatory Affairs
The Boeing Company
P.O. Box 3707, MC 7A-XC
Seattle, WA 98124-2207

Dear Ms. Bennett:

"New Source" Requirements for Spray Gun Cleaning Operations

Thank you for your April 26, 2001 letter, G-1242-AGW-005, concerning *"New Source" Requirements for Spray Gun Cleaning Operations*. We have reviewed the letter and the references, and we agree with the approach outlined in your letter. Specifically we concur with the following:

1. The Puget Sound Clean Air Agency does not require a Notice of Construction of spray gun cleaning operations unless those operations are subject to a NESHAP or NSPS.
2. Construction of a new spray gun cleaning operation occurs when Boeing starts cleaning spray guns in an area, such as a paint shop or hanger, where spray gun cleaning subject to the Aerospace NESHAP, 40 CFR 63 subpart GG, has never previously existed. Therefore, under Puget Sound Clean Air Agency Regulation I, Section 6.03(a)(3) a Notice of Construction Application is only required when Boeing intends to clean spray guns in an area where such activity has not previously occurred.
3. Different methods of gun cleaning or types of gun cleaners in the same area at a facility do not constitute separate affected sources. Hence, at an existing area, Boeing can change to any Aerospace NESHAP compliant gun cleaning method or equipment without a Notice of Construction.
4. Reconstruction of an existing gun cleaning operation does not include replacing parts or equipment that does not involve capital expenditures of less than $5,000. However, construction of a new gun cleaning operation may involve expenditures of less than $5,000. It need only involve gun cleaning in a new area.

If you have any question on the matter, please contact me at 206) 689-4057 or jayw@pscleanair.org.

Sincerely,

Jay M. Willenberg
Senior Air Pollution Engineer

Ph 206.343.8800
1.800.552.3565
Fax 206.343.7522
www.pscleanair.org

(h) BMS 10-11 Formulation Change – Case by case exemption from Notice of Construction Order of Approval review

In 2005 Boeing applied for a case-by-case NOC exemption to enable the facility to change its BMS 10-11 primer formulation. We reviewed Boeing's application and agreed to allow Boeing to use the Grade B primer without requiring modifications to existing NOCs for booths where this primer is used. We concluded that NOC modifications would not result in a greater level of control nor in other environmental benefits.

(i) Motor vehicle and mobile equipment coating operations

Puget Sound Clean Air Agency Reg. II Section 3.04 (7/24/03 version) includes requirements for original equipment manufacturers (OEM). Boeing is not a motor vehicle or mobile equipment OEM. Therefore, the OEM requirements in Reg. II Section 3.04 do not apply to Boeing.

The following letter discusses the reasons why Puget Sound Clean Air Agency updated Regulation II Section 3.04 in 2003.

PUGET SOUND Clean Air Agency

Working Together For Clean Air

July 28, 2003

www.pscleanair.org

Ph 206.343.8800
1.800.552.3565
Fax 206.343.7522

110 Union Street
Suite 500
Seattle, WA 98101-2038

Michael L. Verhaar, MC 63-41
Environmental Affairs Manager
The Boeing Co. – Airplane Programs
PO Box 3707
Seattle, WA 98124

Dear Mr. Verhaar:

Comments on Regulation II, Section 3.04(a)

Thank you for your July 24, 2003 e-mail commenting on Regulation II, Section 3.04. The original intent and wording of this section was to include non-road as well as on-road vehicles in the required emission standards for Original Equipment Manufacturers (OEM). Originally the section referred to mobile equipment (i.e., non-road) as well as motor vehicle (i.e., on-road). We proposed to substitute the phrase "equipment designed to be pulled by motorized vehicles" for the definition and the use of the phrase "mobile equipment".

On Thursday July 24, 2003, our Board adopted the revised Regulation II, Section 3.04, as proposed. Our primary intent for the revision is to separate coating by OEM from coating by refinishers. Due to a new EPA rule that regulates the VOC content in refinishing paint, users can no longer buy non-compliant paint. Only Section 3.04(e) applies to refinishing facilities. Note: Section 3.04(e) becomes Section 3.04(d) on September 1 when the newly adopted rule takes effect.

As an aerospace equipment manufacturer, the emission standards that apply to the Boeing company are found in Regulation II, Section 3.09, which regulates coating of aerospace vehicles and components. The scenario you mentioned in your e-mail would fall under this section.

If you have any questions, please contact Kwame Agyei at (206) 689-4054 or e-mail to kwamea@pscleanair.org.

Sincerely,

James L. Nolan
Director – Compliance

JLN/lh

EXECUTIVE DIRECTOR
Dennis J. McLerran

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Janet Chalupnik

5. 3. 3. Fuel Burning Equipment (Subject to New Source Performance Standards)

This section includes the steam generating boilers that are subject to the Standards of Performance for New Stationary Sources in 40 CFR Part 60 Subpart Db, Boilers #4, #5, and #6.

All three boilers use natural gas as their primary fuel and diesel fuel oil or Jet A as backup fuel. No other fuel is permitted.

Boilers #4, #5, and #6 are also subject to requirements stemming from a Clean Air Act Section 112(j) analysis.

Bldg.	*Col./Dr.*	*MSS/ID#*	*Order of Approval #*	*Install Date*	*Source Description*
40-12	*A-2*	*B1003/140827/ B010/ GO250*	*7438*	*1993*	*Boiler #4; 150 MMBtu/hr*
45-07	*A-2*	*B8001/B8033/ GO251/ 10105*	*7438*	*1994*	*Boiler #5; 150 MMBtu/hr*
45-07	*B-2*	*B8002/B8034/ GO251/ 10105*	*7438*	*1994*	*Boiler #6; 150 MMBtu/hr*

Since the fuels are limited to diesel oil, Jet A, and gas, the Puget Sound Clean Air Agency has determined that the incinerator requirements in WAC 173-400-050(2) do not apply.

(a) NSPS Subpart Db - Applicability

The New Source Performance Standards in 40 CFR 60 subpart Db apply to steam generating units that commenced construction after June 19, 1984 and have a heat input rate of 100 million Btu/hour or greater. Boilers # 4, 5, and 6 at Boeing Everett meet this applicability.

(b) NSPS Subpart A - General Provisions

In accordance with 40 CFR 60.1(a), the provisions of 40 CFR Part 60, Subpart A apply to Boeing Everett since Boeing Everett operates boilers that are subject to 40 CFR Part 60, Subpart Db. However, many of the requirements are not appropriately listed in Section I. EU 4, but are listed throughout the operating permit. The following describes why requirements were listed in certain locations and how they affect Boeing Everett:

40 CFR 60.1(a) is listed in the table since this is a general statement of applicability. No monitoring is required since it is not a specific requirement but more general in nature. The general provisions only apply to the boilers listed in the operating permit as subject to 40 CFR Part 60, Subpart Db.

40 CFR 60.1(b) states that any new or revised standard of performance shall apply to the owner or operator of a stationary source that contains an affected facility, the construction of which is commenced after the date of publication in this part of such a new or revised standard. This requirement is not included in the operating permit since it merely specifies that a specific subpart will apply to an affected source. Once it is determined the subpart is applicable, the specific requirements are included in the operating permit.

40 CFR 60.1(c) states that an operating permit may be required and refers to Part 70 requirements. This requirement is not included since it is not a specific requirement but

directs the reader to Part 70 requirements. Boeing Everett is an operating permit source for other reasons.

40 CFR 60.1(d) applies only to one pharmaceutical manufacturing facility and not to Boeing Everett.

40 CFR 60.2 includes definitions and 40 CFR 60.3 includes units and abbreviations. Although the definitions are critical in determining applicability and compliance with the NSPS, these sections are not included in the operating permit since they are not specific requirements.

40 CFR 60.4 specifies where to send reports.

40 CFR 60.5 states that upon request, the Administrator will make a determination of whether an action taken or intended to be taken constitutes construction or modification. This is not a requirement on Boeing Everett but on the Administrator so it is not included in the operating permit.

40 CFR 60.6 states that upon request, the Administrator will review plans for construction or modification for the purpose of providing technical advice. This is not a requirement on Boeing Everett but on the Administrator so it is not included in the operating permit.

40 CFR 60.7 specifies notification and general recordkeeping requirements. This section is also listed as a specific requirement under Section IV.A of the operating permit (Section IV covers activities that require additional approval). This includes all new source review requirements. The operating permit specifies that for sources subject to an emission standard in 40 CFR Part 60, Boeing Everett shall furnish written notification to the Puget Sound Clean Air Agency and EPA Region 10 in accordance with 40 CFR 60.7(a). This requirement is triggered by construction or modification and would be part of the Puget Sound Clean Air Agency's new source review in accordance with Regulation I, Article 6. The specific notification deadlines in 40 CFR 60.7(a) are included in Section V of the operating permit to assist Boeing Everett in complying with these provisions. Similarly, the general recordkeeping requirements in 40 CFR Sections 60.7(b) and (f) are listed under the specific emission unit and referred to in the Reporting and Notification Requirements (Section V). Although this is repetitive, it appropriately fits in both sections.

The requirements in 40 CFR 60.7(c) and (d) apply to continuous monitoring systems (CMS) or monitoring devices and are included in Section V.Q of the permit. 40 CFR 60.7(d)(1) allows only summary reports, instead of all the information required in 40 CFR 60.7(c), to be submitted under some conditions. However, Puget Sound Clean Air Agency Regulation I, Section 12.03(f), Order of Approval No. 7438, Condition 12, and PSD 92-05 Amendment 2 require reporting information similar to that required by 40 CFR 60.7(c) each month that the boilers operate. 40 CFR 60.7(g) states that if notification substantially similar to 60.7(a) required by the local agency, sending a copy of that notification will satisfy the 60.7(a). Section IV A of the permit contains such a similar notification.

40 CFR 60.8 is listed in Section V N(2) of the permit. It is similar to the Puget Sound Clean Air Agency's requirements in Regulation I, Section 3.07, but applies only to affected sources subject to an NSPS that requires performance tests to demonstrate compliance. Although the permit does not require Boeing Everett to perform additional performance tests at this time to demonstrate compliance for any of the NSPS emission units permitted to operate at the facility, this is a general performance testing requirement that may be triggered in the future.

40 CFR 60.9 and 60.10 are not listed in the operating permit since they are not specific requirements for Boeing Everett, but address availability of information to the public and state authority.

40 CFR 60.11 includes requirements regarding compliance with standards and maintenance requirements. 40 CFR 60.11(a) refers to the performance test requirements in 40 CFR 60.8 unless other methods are specified in the applicable standard. For NSPS Subpart Db emission units at Boeing Everett, other methods are specified in the standard so 40 CFR 60.11(a) is not listed in the operating permit. 40 CFR 60.11(b) and (c) are listed in the operating permit since Subpart Db emission units at Boeing Everett are subject to opacity limits by the Subpart Db standard.

40 CFR 60.11(d) is listed since it specifies that at all times, including periods of startup, shutdown and malfunction, Boeing Everett shall, to the extent possible, maintain and operate any unit including control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable practices are being used will be based on information available including monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

40 CFR 60.11(e) is not listed in the operating permit since Subpart Db emission units it deals only with the initial compliance test, which is an obsolete requirement.

40 CFR 60.11(g) is included in the V. Standard Terms and Condition of the operating permit with other more general credible evidence provisions. This section would only be cited if the emission unit was subject to an Subpart Db standard.

40 CFR 60.12 is included in section III. Prohibited Activities of the operating permit with other more general requirements regarding concealment. This section would only be cited if the emission unit was subject to an NSPS standard.

40 CFR 60.13(a) is included because Subpart Db requires the installation of a continuous monitoring system. 40 CFR 60.13(b) deals with operating monitoring systems prior to the performance test and is obsolete. 40 CFR 60.13(c) deals is an opacity monitoring option that Boeing did not select, so it is not included in the permit. 40 CFR 60.13(g) is not included in the permit because it deals with two or more boilers venting to the same stack, with is not the case here.

40 CFR 60.14 is listed with new source review requirements in Section IV.A of the operating permit since this section is specific to modifications. The Puget Sound Clean Air Agency

would review the physical or operational change in accordance with the procedures in Article 6. 40 CFR 60.14(g) specifies that Boeing Everett would have to comply with the NSPS requirements (if applicable) within 180 days of the completion of the physical or operational change.

40 CFR 60.15 is listed with new source requirements in Section V.A of the operating permit since this section addresses reconstruction.

40 CFR 60.16 and 40 CFR 60.17 are not listed as operating permit conditions since they do not specify requirements, but list prioritized major source categories and materials that are incorporated by reference. Section 40 CFR 60.18 is not included in the operating permit since Boeing Everett does not operate flares to comply with NSPS requirements.

(c) NSPS Subpart Db -

40 CFR 60.40b(a) define an affected facility as a steam generating unit that commenced construction after June 19, 1984 and has a heat input rate of greater than 100 million Btu/hour. Boilers # 4, 5, and 6 at Boeing Everett meet this applicability.

40 CFR 60.40b(b) is not included in the permit because it applies to facilities built before June 19, 1986. 40 CFR 60.40b(c) through (i) do not apply because they refer to facilities that are subject to other Part 60 subpart such as subpart J for oil refineries and subpart GG for gas turbines.

40 CFR 60.42b SO_2 standards.

42b(a), (d), (e), (f), (g), (h), and (i) do not apply because the NOC order of approval requires Boeing to combust only very low sulfur oil or natural gas. However, 42b(j) applies. 42b(b) and (c) deal with combusting coal, which is not allowed under the NOC order of approval, hence are not included in the permit.

Because these boiler only combust very low sulfur oil and natural gas, 45b(j) exempts the boilers for the compliance and test procedures in 45b. Similarly, they are not subject to the monitoring requirements in 47b.

40 CFR 60.43b Particulate and opacity standards.

40 CFR 60.43b(a) deals with combusting coal and does not apply to these boilers. 43b(b) deals with facilities that use add-on control technologies to reduce SO_2, and does not apply because Boeing does not use such technology. 43b(c) & (d) do not apply because they apply to facilities that burn wood or waste, and Boeing does not burn these fuels. 43b(e) deals with how to determine the annual capacity factor for 43b(c) & (d), which do not apply.43b(h) deals with facilities that commence construction, reconstruction, or modification after Feb. 28, 2005 and because of this date, do not apply to Boilers 4, 5, and 6.

40 CFR 60.44b Nitrogen oxides standards.

The boilers only burn natural gas and distillate oil (including Jet A) and are low heat release rate units as defined in 40 CFR 60.41b. Therefore the NOx limit under 40 CFR

60.44b(a)(1)(i) is 0.10 lb/MMBtu. 40 CFR 60.44b(b) - (g) deal with combusting mixtures of coal and oil that are not permitted at Boeing Everett, and therefore not applicable. 40 CFR 60.43b(j) does not apply because the boilers do not have a Federally enforceable requirement limiting the operation to an annual capacity factor of 10% or less. Similarly, 40 CFR 60.43b(k) does not apply because 40 CFR 60.43b(j) does not apply. 40 CFR 60.43(l) applies only to certain facilities constructed after July 9, 1997; this is not the case.

40 CFR 60.45b SO2 compliance and performance test methods and procedures

As per 45b(j), Boeing is not subject to the SO_2 compliance and performance testing requirements in 45b if the facility obtains fuel receipts as per 60.49b(r).

40 CFR 60.46b Opacity, PM, and NOx compliance and test methods.

Most of 40 CFR 60.46b(d) deal with particulate testing and does not apply to these boilers because there are no subpart Db particulate standards that apply. However, section 40 CFR 60.46b(d)(7) applies because there is an opacity standard.

40 CFR 60.46b(e)(4) says that the NOx monitoring data shall be used generate excess emission reports but will not be used to determine compliance with the NOx standard. It also says that the administrator (or Control Officer) can request a compliance determination under 40 CFR 60.8 and that the continuous emission monitoring system shall be used for that determination. However, under both the NOC order of approval and the PSD Approval the NOx continuous emission monitoring system shall be used to determine compliance all the time. 40 CFR 60.46b(f) applies to duct burners, which this facility does not have. 46b(g) deals with facilities described in 40 CFR 60.44b(j) or (k); this is not such a facility. 46b(h) applies to units with a heat input capacity greater than 250 million Btu/hour, and hence doesn't apply to Boeing Everett. 46b(i) allows a facility that burn oil and gaseous fuels with a low sulfur content to demonstrate compliance by maintaining fuel certifications of the sulfur content of the fuel. However, as discussed above, an NOC and a PSD require CEMs for Boilers #4, #5, and #6.

40 CFR 60.48b Opacity and NOx monitoring.

40 CFR 60.48b(a) requires the installation and operation of a continuous opacity monitoring system (COMS), however NOC Order of Approval No. 7438 Condition 14 approves an alternate monitoring approach. Boeing and the Puget Sound Clean Air Agency requested that EPA approve the alternate under the authority of 40 CFR 60.13(i)(1). EPA Region X approved the alternate monitoring request in an October 11, 2001 letter from Douglas Hardesty to Frank Migaiolo at Boeing (see below).

1200 Sixth Avenue
Seattle, WA 98101

Attachment 14

OCT 11 2001

RECEIVED
OCT 15 2001
PUGET SOUND CLEAN AIR AGENCY

Reply To
Attn Of: OAQ-107

Mr. Frank J. Migaiolo
Manager, Everett Environmental Affairs
The Boeing Company
P.O. Box 3707
Seattle, WA 98124-2207

Re: Request for Alternate Monitoring and Alternate Span Value Calibration for NO_x CEMs at Three Boilers in the Boeing Everett facility.

Dear Mr. Migaiolo:

The United States Environmental Protection Agency (EPA) has reviewed your letter dated September 28, 2001, and Puget Sound Clean Air Agency's letter dated September 26, 2000, concerning a request for alternate opacity monitoring and alternate span value calibration for NO_x CEMs at three boilers in the Boeing Everett facility and subject to 40 C.F.R. Part 60, Subpart Db. EPA approves of these requests with certain conditions specified below.

For firing backup distillate fuel oil or Jet A fuel, Boeing and Puget Sound Clean Air Agency requested an alternate opacity monitoring procedure in lieu of complying with the requirements specified in §60.48b(a). Instead of using a continuous opacity monitor as required by the regulations, the request was to continuously monitor for 2% or greater of excess oxygen in the exhaust gas streams. EPA approves of this request for each of the three boilers with the following conditions:

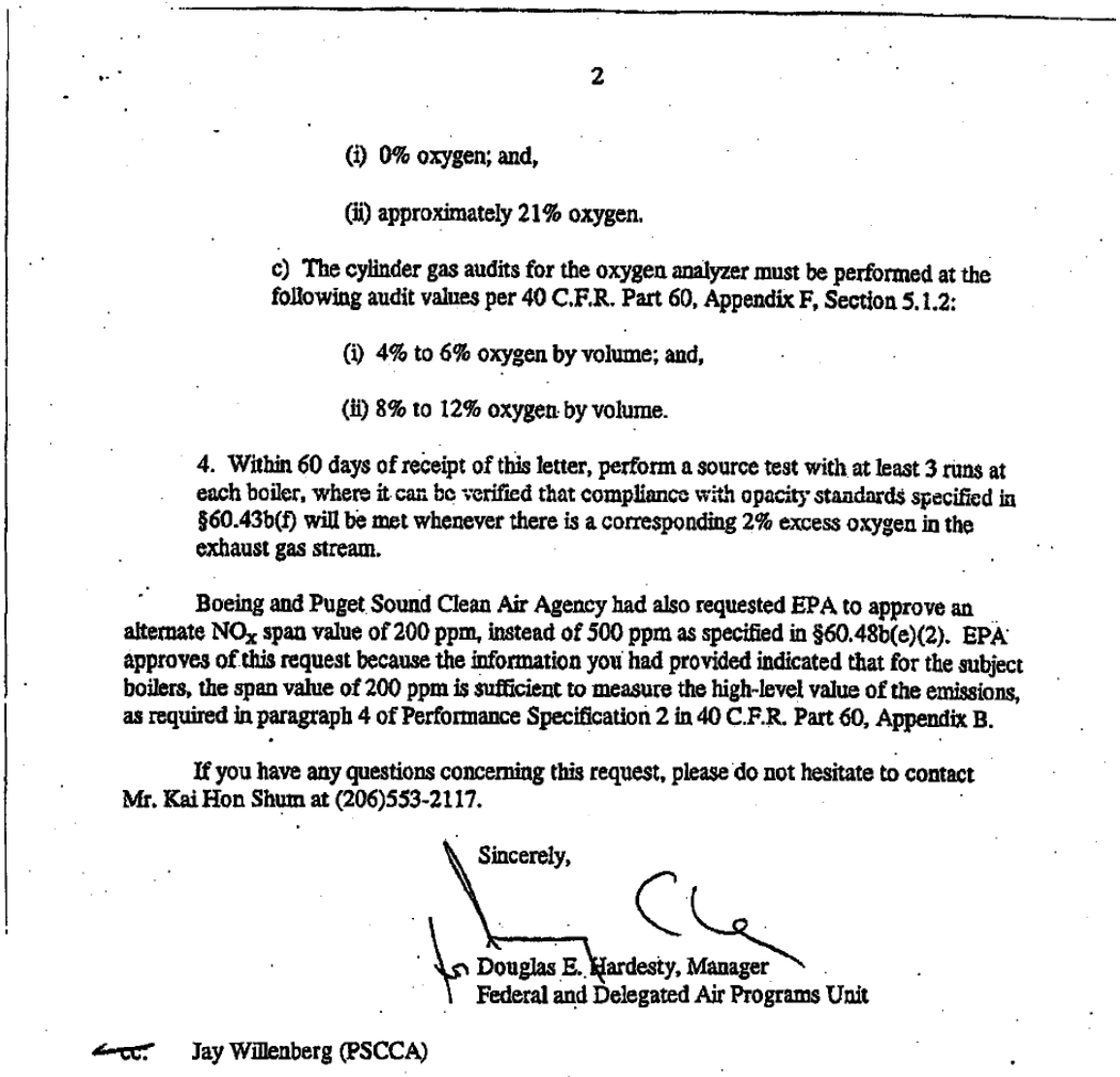
1. Limit the firing of distillate fuel oil or Jet A fuel to an annual heating capacity of 7% or less, as an average among the three boilers;

2. Limit the sulfur content of the fuel oil or Jet A fuel to 0.05%, or less;

3. The continuous oxygen emissions monitor is required to meet the appropriate requirements in §60.13, and must be evaluated pursuant to 40 C.F.R. Part 60, Appendix B, Performance Specification 3. In addition, the oxygen analyzer shall meet the following requirements:

   a) The oxygen analyzer shall have a span value of 25% oxygen;

   b) The calibration drift for the oxygen analyzer shall be measured at:



2

(i) 0% oxygen; and,

(ii) approximately 21% oxygen.

c) The cylinder gas audits for the oxygen analyzer must be performed at the following audit values per 40 C.F.R. Part 60, Appendix F, Section 5.1.2:

(i) 4% to 6% oxygen by volume; and,

(ii) 8% to 12% oxygen by volume.

4. Within 60 days of receipt of this letter, perform a source test with at least 3 runs at each boiler, where it can be verified that compliance with opacity standards specified in §60.43b(f) will be met whenever there is a corresponding 2% excess oxygen in the exhaust gas stream.

Boeing and Puget Sound Clean Air Agency had also requested EPA to approve an alternate NO_x span value of 200 ppm, instead of 500 ppm as specified in §60.48b(e)(2). EPA approves of this request because the information you had provided indicated that for the subject boilers, the span value of 200 ppm is sufficient to measure the high-level value of the emissions, as required in paragraph 4 of Performance Specification 2 in 40 C.F.R. Part 60, Appendix B.

If you have any questions concerning this request, please do not hesitate to contact Mr. Kai Hon Shum at (206)553-2117.

Sincerely,

Douglas E. Hardesty, Manager
Federal and Delegated Air Programs Unit

cc: Jay Willenberg (PSCCA)

The NOC alternative monitoring conditions continue to apply to Boeing.

All the conditions of NOC 7438 are incorporated into the permit, except Condition 4 which requires conducting a test to verify that compliance with the opacity standard will be met whenever there is a corresponding 2% excess oxygen in the exhaust gas stream. This condition has been met and is obsolete. The testing showed zero opacity while burning oil and at 2% excess oxygen.

40 CFR 60.48b(g) provide the option of complying with 40 CFR 60.48b(b), (c), (d), (e)(2), (e)(3), and (f) or monitor steam generating unit operating conditions and predict nitrogen oxides emission rates as specified in a plan submitted pursuant to 40 CFR 60.49b(c). Boeing has chosen to comply with 40 CFR 60.48b(b), (c), (d), (e)(2), (e)(3), and (f), hence the option is not listed. 40 CFR 60.48b(h) does not apply because it deals

with duct burner that Boeing does not have. 40 CFR 60.48(i) deals with facilities described in 40 CFR 60.44b(j) or (k); this is not such a facility. 40 CFR 60.48(j) re-states that facilities that burn only oil that contains no more than 0.3 weight percent sulfur or liquid or gaseous fuels with potential sulfur dioxide emission rates of 140 ng/J (0.32 lb/MMBtu) heat input or less are not required to conduct PM emissions monitoring if they maintain fuel supplier certifications of the sulfur content of the fuels burned. Boeing is maintaining fuel supplies certifications. Therefore, the PM emission monitoring exemption applies. 40 CFR 60.48(k) deals with PM emission limits. As discussed earlier, the boilers at Boeing Everett do not have to comply with a PM emission limit after the initial source test is finished. Therefore, 40 CFR 60.48(k) does not apply.

40 CFR 60.49b Reporting & Recordkeeping

40 CFR 60.49b(a) deal with the initial notification, which Boeing has satisfied and is obsolete. 40 CFR 60.49b(b) address the initial performance test and CEMS certification, which Boeing has done and is an obsolete requirement. 40 CFR 60.49b(c) deal with alternate monitoring procedures in 40 CFR 60.48b(g)(2) that Boeing has not applied for, therefore it is not listed in the permit. 40 CFR 60.49b(e) address residual oil which these facilities are prohibited from combusting. 40 CFR 60.49b(f) requires Boeing to maintain records of opacity, however EPA has approved an alternate monitoring method that includes monitoring for oxygen and fuel usage. In this case, the Puget Sound Clean Air Agency has determined that maintaining the oxygen and fuel records satisfies the requirement and its intent. Also 40 CFR 60.49b(o) requires Boeing to maintain records required by 40 CFR 60.49b for a period of 2 years following the date of such record. The Puget Sound Clean Air Agency believes that the two year record retention requirement applies to both the NOx monitoring and the EPA approved alternate opacity monitoring requirements.

40 CFR 60.49b(h) defines excess emissions of the opacity standard in 40 CFR 60.43b(f) and the NOx standard in 44b. Since these boilers at Boeing Everett, are subject to the nitrogen oxides standard of 40 CFR 60.44b and combust natural gas and distillate oil, 40 CFR 60.49b(h) is clearly applicable to these boilers. 40 CFR 60.49b(i) applies for the same reasons. 40 CFR 60.49b(j) applies since the facility must maintain fuel sulfur content records. 40 CFR 60.49b(k) - (n) deals with facilities subject to the compliance and performance testing requirements of 40 CFR 60.45b and the reporting requirement in paragraph (j). These boiler are not subject to the compliance and performance testing requirements of 40 CFR 60.45b as long as Boeing obtains fuel receipts as described in 40 CFR 60.49b(r). 40 CFR 60.49b(p) and (q) deal with facilities subject to 44b(j) and (k) and do not apply to these boiler. 40 CFR 60.49b(s) - (u) are requirements that apply to specific facilities, none of which is Boeing Everett. 40 CFR 60.49(v) allows Boeing to request submitting quarterly electronic reports instead of the reports as required in 40 CFR 60.49b(h), (i), (j), (k), and (l). Boeing has not made such a request and therefore it is not listed. However, Puget Sound Clean Air Agency may request that such reports be submitted electronically. 40 CFR 60.49b(w) says that the reporting period for subpart Db

is each 6-month period and that the reports shall be submitted by the 30th day following the end of the reporting period. Elsewhere the permit requires submitting such reports within 30 days following the end of each month. Since the monthly reporting requirement is clearly a more stringent reporting requirement, Puget Sound Clean Air Agency has determined that 40 CFR 60.49b(w) is satisfied by the monthly reporting requirements. 40 CFR 60.49b(x) and (y) are requirements that apply to specific facilities, none of which is Boeing Everett.

(d) Local requirements

Puget Sound Clean Air Agency Regulation I, Article 12 addresses standards of performance for continuous emission monitoring systems that are required by our agency. The April 9, 1998 version is in the SIP. The Puget Sound Clean Air Agency Board of Directors revised the requirements in Regulation I Section 12.03 effective September 23, 2004 and requested that EPA include the revised regulation in the SIP. EPA has not yet incorporated the revision into the SIP therefore both versions are in the permit.

(e) Fuel Burning Opacity

Both WAC 173-400-040(1) and Puget Sound Clean Air Agency Regulation I, Section 9.03 standards are 20% opacity and apply to the fuel burning equipment at Boeing Everett. Although the permit lists all these requirements together, Boeing must comply with each.

The fuel burning equipment at Boeing Everett can only burn natural gas as the primary fuel and very low sulfur distillate oil as back up fuel. The monitoring method requires checking for visible emissions once per quarter when burning gas.

1) Compliance. None of the fuel burning equipment at Boeing Everett normally has visible emissions. The Puget Sound Clean Air Agency has inspected this facility at least annually since 1986 and has not identified opacity issues at the fuel burning equipment, nor has Boeing. Therefore, we conclude that it is generally in compliance with the opacity requirement and the margin of compliance is large. In addition, the monitoring method is designed so that Boeing will take corrective action before a violation occurs, further enhancing the compliance margin.

2) Variability of process and emissions. The equipment normally burns natural gas, with oil as a backup. The steam and heat demand at Boeing fluctuates through out the day and from season to season, causing variations in load on the equipment and the need to startup and shutdown equipment. However the demand very predictable and seldom changes quickly.

3) Environmental impacts of problems. Observed opacity is generally related to emissions of particulate matter or finely divided liquid droplets. The fuel burning activities at Boeing Everett typically do not generate significant quantities of particulate matter, typically less than two tons per year. Hence, the environmental impacts of the emissions are small especially considering the amount of land on which the facility is located. A maintenance problem is unlikely to result in emissions that would have a significant environmental impact.

4) Technical considerations. Although the opacity standard is 20%, the monitoring method requires corrective action, or Reference Method testing, upon detection of visible emissions. This will provide an added margin of compliance. These boilers have oxygen monitors and are required by NOC Order of Approval No. 7438, Condition 14 the maintain oxygen levels above 2% when burning backup fuel to avoid opacity problems.

(f) Fuel Burning Particulate

Puget Sound Clean Air Agency Regulation I, Section 9.09 also limits particulate emissions to 0.05 gr/dscf corrected to 7% oxygen from fuel burning equipment (i.e., equipment that produces hot air, hot water, steam, or other heated fluids by external combustion of fuel) combusting natural gas. WAC 173-400-050(1) limits particulate emissions to 0.1 gr/dscf corrected to 7% O_2 from all combustion units (i.e., units using combustion for steam production or other process requirements, excluding open burning). Boeing burns only pipeline grade natural gas and backup fuels that are certified to comply with the fuel oil standards of Regulation I, Section 9.08. It can be shown, as in Section 5.2.4 for SO_2, that if fuels are properly burned, Boeing is incapable of violating this standard while complying with the other requirements such as the fuel content and opacity requirements. Improper fuel burning that would result in high particulate emissions would also cause opacity problems and would be detected by the Fuel Burning Opacity monitoring requirement.

(g) Fuel Standards

These permit requirements contain Puget Sound Clean Air Agency Regulation I, Section 9.08(a) and Revised Code of Washington, RCW Section 70.94.610 (1991) "Burning used fuel oil in land-based facilities." The requirements set limits for ash, sulfur, trace metals, and flash temperature in fuel oil, "Used" oil is typically oil that has been drained from a gasoline or diesel fueled internal combustion engine at the end of the oil service interval. Regulation I, Section 9.08(a) limit emissions of trace compounds from an oil-fired boiler by setting limits on the trace compounds that might be present in fuel oil. Generally, any "new" or non-used distillate or very low sulfur oil does not contain any of the listed trace elements at concentrations even approaching the standards.

U.S. Oil & Refining is another source within Puget Sound Clean Air Agency's jurisdiction that must comply with Puget Sound Clean Air Agency Regulation I, Section 9.08(a). Between January 1994 and October 1997, U.S Oil & Refining tested and certified each batch of fuel oil in order to verify compliance with Reg. I Section 9.08(a). The reported values were examined and the values that are closest to the allowable levels are shown in the table below:

Compound or parameter	Regulatory Limit	U.S. Oil & Refining Measurement	Percent of Standard
Ash	0.1%	0.026%	26%
Sulfur, used oil	1.0%	n/a	n/a
Sulfur, fuel oil	2.00%*	1.92%	96%
Lead	100 ppm	<1ppm	1%
Arsenic	5 ppm	<1ppm	20%
Cadmium	2 ppm	<1ppm	50%
Chromium	10 ppm	<1ppm	10%
Total halogens	1,000 ppm	Non-detectable	n/a**
PCBs	2 ppm	Non-detectable	n/a**
Flashpoint (minimum allowable)	100 °F	184 °F	184%***

* *Only oil with a sulfur content of 0.5% or less is used at Boeing, and this sulfur content value is 50% of the standard or less.*

** *Halogens and PCBs are only found in used oil.*

*** *The regulatory limit of 100 °F is a minimum. Therefore, a higher percentage indicates a higher compliance "safety margin."*

Similar results are found in AP-42, Section 1.3, *Fuel Oil Combustion*. Table 1.3-10 lists emission factors for trace elements from distillate combustion fuel oil sources. Emission factors are listed in terms of lb/10^{12} Btu. These values were converted into parts per million as shown below:

Compound or parameter	AP-42 values for distillate oil	
	lb/MMBtu	ppm
Lead	9.00E-06	0.17
Arsenic	4.00E-06	0.07
Cadmium	3.00E-06	0.06
Chromium	3.00E-06	0.06

Note: Heating value of distillate and No. 2 oil is 140 MMBtu/1000 gal

One gallon of oil weighs approximately 7.5 pounds.

Therefore: multiply lb/MMBtu by (140)/(7,500) to get lb pollutant per lb oil

multiply lb/lb by 10E+06 to get ppm by weight.

The Puget Sound Clean Air Agency has determined that Boeing can adequately demonstrate compliance with these requirements by filling its oil tanks with and burning only oil that is "new" and is either "very low sulfur" or "distillate" fuel oil.

(h) PSD 92-05 Amendment 1

The applicable approval conditions of PSD 92-05 Amendment 1, for Boilers No. 4, 5, and 6, are included in the list of applicable requirements. However, PSD Approval Condition 14 states that the PSD approval will become void if construction does not commence within 18 months. Construction did commence within 18 months and has been completed. Therefore the condition has been satisfied and is no longer applicable.

(i) Clean Air Act Section 112(j) Analysis

(i) General

The Clean Air Act (CAA) requires EPA to issue National Emissions Standards for Hazardous Air Pollutants (NESHAPs) over a 10-year schedule. If EPA misses a regulatory deadline established through CAA Section 112(e) by 18 months, Section 112(j) requires state and local permitting authorities to step in and revise the operating permits of affected major sources to contain air toxic emission limits equivalent to the limits that EPA should have established. Puget Sound Clean Air Agency has been delegated authority for both the operating permit and NESHAP programs (see Appendix A to 40 CFR 70, July 26, 2007, for operating permit approval status and the December 20, 2006 NESHAP Delegation letter from EPA to Puget Sound Clean Air Agency for the NESHAP delegation status), and has incorporated by reference the relevant federal regulations into the Puget Sound Clean Air Agency regulations. Therefore, Puget Sound Clean Air Agency has the responsibility to process any necessary Section 112(j) determinations in its jurisdiction.

EPA established a detailed process by which Section 112(j) determinations are to be handled. This process established guidelines for both the affected sources and state/local permitting agencies. The process begins with an affected facility filing an application for a case-by-case MACT determination if the applicable NESHAP had not been timely promulgated. Provisions were also made for how to proceed if a 112(j) determination was incorporated into the AOP, and EPA subsequently promulgated a delayed NESHAP. According to Section 112(j) guidance documents, if EPA issues a delayed NESHAP, the AOP must be revised, as necessary, to incorporate the NESHAP.

The NESHAP for boilers and process heaters (40 CFR 63 Subpart DDDDD) was one of a list of NESHAPs scheduled for promulgation by November 15, 2000 (67 FR 6521). EPA did not meet the promulgation schedule for the NESHAP, which triggered the 112(j) process. Since the promulgation schedule wasn't met, the Puget Sound Clean Air Agency provided information to Boeing regarding the potential implications regarding 112(j) and advised them to track the issue along with the Agency. Boeing submitted an application, postmarked May 15, 2002, requesting an applicability determination, and any necessary case-by-case MACT determination for its boilers and process heaters. The Agency acknowledged receipt of the application in a July 24, 2002 letter to Boeing. In anticipation of EPA completing their rulemaking, the Puget Sound Clean Air Agency did not move further to determine applicability or establish case-by-case MACT standards. On May 13, 2003, the EPA promulgated revisions to the 112(j) portion of the

rules (40 CFR 63, Subpart B) requiring additional "Part 2" applications for boilers and process heaters by April 28, 2004 (providing EPA did not finalize the actual rule for that source category). This rulemaking was the result of litigation and a settlement EPA signed. It effectively provided more time to complete the rulemaking actions which were going to trigger 112(j) actions.

EPA had completed the rulemaking for 40 CFR 63 Subpart DDDDD, to include director signature, by the deadline. Publication as a final regulation was completed later, as described below.

EPA proposed a draft version to 40 CFR 63 Subpart DDDDD in a January 13, 2003 Federal Register posting (68 FR 1660), which was published before the deadline for the Part 2 application. Since the final NESHAP was anticipated at any time, the Puget Sound Clean Air Agency did not require Boeing to submit a Part 2 application. 40 CFR 63 Subpart DDDDD was codified on September 13, 2004 (69 FR 55217), putting an end to the need for a 112(j) determination. However, on July 30, 2007 the District of Columbia Circuit Court of Appeals issued a decision to vacate and remand 40 CFR 63 Subpart DDDDD. This action left the Puget Sound Clean Air Agency without an enforceable NESHAP for boilers and process heaters, and led to renewed discussion regarding whether a Part 2 application was needed.

Boeing voluntarily provided a Part 2 application on November 29, 2007. The application was reviewed and deemed to be complete upon submittal.

40 CFR 63.55 provides guidance for how to make case-by-case MACT 112(j) determinations. 40 CFR 63.55(a) states: "the permitting authority must establish hazardous air pollutant emissions limitations equivalent to the limitations that would apply if an emission standard had been issued in a timely manner". This idea of equivalency is an overarching principle for how to make Section 112(j) determinations. 40 CFR 63.55(a)(1)-(4) describes additional requirements and principles for setting emissions limits. In summary, they are:

- Emission limitations must be established for equipment and activities for which the section 112(j) deadline has passed.
- Each emission limitation for an existing affected source must reflect the maximum achievable degree of reduction in emissions of HAPs, taking into account the factors described in the regulation. This limitation must not be less stringent than the Maximum Achievable Control Technology (MACT) floor established according to Section 112(d)(3)(A) and (B).
- Each emission limitation for a new affected source must reflect the maximum achievable degree of reduction in emissions of HAPs, taking into account the factors described in the regulation. This limitation must not be less stringent than the emission limitation achieved in practice by the best controlled similar source, established according to Section 112(d)(3).

- The permitting authority must select a specific design, equipment, work practice, operational standard, or combination thereof, when it is not feasible to prescribe or enforce an equivalent emission limitation due to the nature of the process or pollutant.

As discussed above, 40 CFR 63.55 provides guidance for state and local agencies on how to make 112(j) determinations in the absence of a NESHAP promulgated by EPA. In this case, since EPA did in fact promulgate 40 CFR 63 Subpart DDDDD, no guess work needs to be done on what limits would be "equivalent to the limitations that would apply if an emission standard had been issued in a timely manner". One can simply look to the NESHAP. EPA already did a thorough analysis using the principles described in 63.55(a)(1)-(4). This analysis is discussed in Section III of the following federal register postings: January 13, 2003 (68 FR 1660), September 13, 2004 (69 FR 55217), June 27, 2005 (70 FR 36907), October 31, 2005 (70 FR 62264), and December 28, 2005 (70 FR 76918). Since EPA has already completed an analysis based on the principles in 40 CFR 63.55, the Puget Sound Clean Air Agency has determined that the Agency's responsibilities under 40 CFR 63.55(a) can by satisfied by relying on EPA's work. In making its 112(j) determinations, the Puget Sound Clean Air Agency intends to rely on EPA's analysis and conclusions for 40 CFR 63 Subpart DDDDD.

40 CFR 63.52(f) discusses what needs to be included in the operating permit for a 112(j) determination. In summary, the necessary items are:

- An equivalent emission limitation or, if applicable, an alternative emission limitation;
- An emission standard or limitation that is equivalent to existing source MACT and an emission standard or emission limitation that is equivalent to new source MACT;
- Specify the affected source, and whether it's existing, new, or reconstructed;
- Specify any notification, operation and maintenance, performance testing, monitoring, and reporting and recordkeeping requirements;
- Specify any additional emission limits, production limits, operational limits or other terms and conditions necessary to ensure practicable enforceability; and
- Specify compliance certifications, testing, monitoring, reporting and recordkeeping requirements and dates by which compliance must be achieved.

The Puget Sound Clean Air Agency will include the above items in the Boeing Everett operating permit for the boilers and process heaters subject to the 112(j) analysis. As discussed above, the information included will be based on the conclusions reached by EPA in its analysis for the boiler and process heater NESHAP, 40 CFR 63 Subpart DDDDD.

(ii) Boilers # 4, 5, and 6

In its November 29, 2007 112(j) application, Boeing identified 6 boilers, boilers #1, #2, #3, #4, #5, and #6 that had requirements under the remanded boiler and process heater NESHAP. Case-by-case MACT 112(j) determinations were requested for all 6 boilers. Boeing further stated that the boilers identified in the letter are only those units that have a rated capacity greater 10 MMBtu/hr heat input. Boeing stated that units below 10 MMBtu/hr were not identified since they had no requirements under the boiler and process heater NESHAP. (In other words, the NESHAP was applicable in name only for units below 10 MMBtu/hr.)

Boilers #1, #2, #3, #4, #5, and #6 were all installed prior to January 13, 2003 and have not been reconstructed since that date. Therefore, the boilers were classified as existing sources under the NESHAP. The existing source category was further broken down by size and fuel use. All 6 boilers were considered large gaseous fuel-fired units. The only requirements such units had under the NESHAP was an initial notification, which was due by March 11, 2005. The NESHAP did not require the units to meet any emission limits, nor conduct any monitoring, recordkeeping, or reporting beyond the initial notification. Boeing met its NESHAP obligation by submitting an initial notification for Boilers #1, #2, #3, #4, #5, and #6. The Puget Sound Clean Air Agency reviewed the notification and deemed it to be sufficient and complete.

As discussed in Section 5.3.3(i)(i) above, the Puget Sound Clean Air Agency has decided to base its 112(j) decision on the conclusions reached by EPA in the boiler and process heater NESHAP. Therefore, for boilers #1, #2, #3, #4, #5, and #6, the Agency will only require initial notification. Consistent with this interpretation, the Puget Sound Clean Air Agency will place no requirements (including no initial notification requirements) on any boilers or process heaters at Boeing which might have been included in the affected source under the boiler and process heater NESHAP, but which had no requirements.

As discussed above, Boeing has already submitted an initial NESHAP notification for Boilers #1, #2, #3, #4, #5, and #6. The Puget Sound Clean Air Agency has determined that this notification is sufficient to meet the requirements of an initial notification for purposes of the 112(j) analysis and will require no additional notifications.

5. 3. 4. Fuel Burning Equipment (Not Subject to New Source Performance Standards)

(a) NSPS

This section includes the steam generating boilers and gas-fired space heater listed below. Boilers #1, #2, and #3 listed below were installed in 1967 and have not been modified or reconstructed (as defined in 40 CFR Part 60 Subpart A) after June 19, 1984. Therefore, boilers #1, #2, and #3 are not subject to the Standards of Performance for New Stationary Sources in 40 CFR Part 60. All the boilers listed below use natural gas as their primary fuel and fuel oil and Jet A as a backup fuel. Only natural gas is used in the space heater.

The table below does not necessarily include all units that may be subject to the requirements of this section; units that have not received an Order of Approval or were not previously registered with the Puget Sound Clean Air Agency are not included in the table.

Bldg.	*Col./Dr.*	*MSS/ID#*	*Order of Approval #*	*Install Date*	*Source Description*
40-12	*D-2*	*B1000/ B010 G0250*	*5038*	*1967*	*Boiler #1; 150 MMBtu/hr*
40-12	*C-2*	*B1001/ B010 G0250*	*5038*	*1967*	*Boiler #2; 150 MMBtu/hr*
40-12	*B-2*	*B1002 B010 G0250*	*5038*	*1967*	*Boiler #3; 150 MMBtu/hr*
40-56	*Roof*		*4607*	*1992*	*Gas-fired space heater,*

Bldg.	*Col./Dr.*	*MSS/ID#*	*Order of Approval #*	*Install Date*	*Source Description*
					2.2 MMBtu/hr

(b) Clean Air Act Section 112(j)

As discussed in Section 5.3.3(i) above, the now rescinded boiler and process heater NESHAP included all boilers and process heaters at Boeing Everett as part of the affected source. Space heaters were specifically exempted from applicability. Boeing has a number of natural gas fired boilers and process heaters throughout the facility that would have been classified as small, gaseous fuel-fired units under the NESHAP. While such units were considered affected sources, they had no requirements under the NESHAP. As discussed in Section 5.3.3(i)(i), the Puget Sound Clean Air Agency has decided to base its 112(j) decision on the conclusions reached by EPA in the boiler and process heater NESHAP. Therefore, for small, gaseous fuel fired boilers and process heaters, the Agency concludes that there are no 112(j) requirements. Since such units have no requirements under 112(j), and no other specific requirements beyond the general requirements identified in Section I.A, facility wide applicable requirements, the units will not be listed in an EU in the AOP.

Boilers No. 1, No. 2, and No. 3 also met the definition of affected sources under the boiler and process heater NESHAP. These boilers were installed prior to January 13, 2003 and have not been reconstructed since that date. The boilers were classified as existing sources under the NESHAP. The existing source category was further broken down by size and fuel use. Boilers No. 1, No. 2, and No. 3 were considered large gaseous fuel-fired units. The only requirements such units had under the NESHAP was an initial notification requirement. The NESHAP did not require the units to meet any emission limits, nor conduct any monitoring, recordkeeping, or reporting beyond the initial notification. As discussed above, the Puget Sound Clean Air Agency has decided to base its 112(j) decision on the conclusions reached in the boiler and process heater NESHAP. Therefore, for Boilers No. 1, No. 2, and No. 3, the Agency will only require initial notification.

As discussed in Section 5.3.3(ii), Boeing has already submitted an initial NESHAP notification for Boilers #1, #2, and #3. The Puget Sound Clean Air Agency has determined that this notification is sufficient to meet the requirements of an initial notification for purposes of the 112(j) analysis and will require no additional notifications.

(c) EU 5.1 Fuel Burning Opacity

Both WAC 173-400-040(1) and Puget Sound Clean Air Agency Regulation I, Section 9.03 standards are 20% opacity and apply to the fuel burning equipment at Boeing Everett. Although the permit lists all these requirements together, Boeing must comply with each.

The fuel burning equipment at Boeing Everett can only burn natural gas as the primary fuel and low or very low sulfur distillate oil as back up fuel. The monitoring method requires checking for visible emissions once per quarter when burning gas, as well as conducting facility-wide inspections and responding to complaints. The monitoring method also requires checking for

visible emissions within 24 hours of shifting to oil and weekly while burning oil, because oil burning is more likely to cause visible emissions and particulate emissions.

1) Compliance. None of the fuel burning equipment at Boeing Everett normally has visible emissions. The Puget Sound Clean Air Agency has inspected this facility at least annually since 1986 and has not identified opacity issues at the fuel burning equipment, nor has Boeing. Therefore, we conclude that it is generally in compliance with the opacity requirement and the margin of compliance is large. In addition, the monitoring method is designed so that Boeing will take corrective action before a violation occurs, further enhancing the compliance margin.

2) Variability of process and emissions. The equipment normally burns natural gas, with oil as a backup. The steam and heat demand at Boeing fluctuates through out the day and from season to season, causing variations in load on the equipment and the need to startup and shutdown equipment. However the demand is predictable and seldom changes quickly.

3) Environmental impacts of problems. Observed opacity is generally related to emissions of particulate matter or finely divided liquid droplets. The fuel burning activities at Boeing Everett typically do not generate significant quantities of particulate matter, typically less than two tons per year. Hence, the environmental impacts of the emissions are small especially considering the amount of land on which the facility is located. A maintenance problem is unlikely to result in emissions that would have a significant environmental impact.

4) Technical considerations. Although the opacity standard is 20% the monitoring method requires corrective action, or Reference Method testing, upon detection of visible emissions. This will provide an added margin of compliance.

(d) EU 6.2 Fuel Burning Particulate

Puget Sound Clean Air Agency Regulation I, Section 9.09 also limits particulate emissions to 0.05 gr/dscf corrected to 7% oxygen from fuel burning equipment (i.e., equipment that produces hot air, hot water, steam, or other heated fluids by external combustion of fuel) combusting natural gas. WAC 173-400-050(1) limits particulate emissions to 0.1 gr/dscf corrected to 7% O_2 from all combustion units (i.e., units using combustion for steam production or other process requirements, excluding open burning). Boeing burns only pipeline grade natural gas and backup fuels that are certified to comply with the fuel oil standards of Regulation I, Section 9.08. It can be shown, as in Section 5. 2. 5 for SO_2, that if fuels are properly burned, Boeing is incapable of violating this standard while complying with the other requirements such as the fuel content and opacity requirements. Improper fuel burning that would result in high particulate emissions would also cause opacity problems and would be detected by the opacity monitoring requirement.

5. 3. 5. Waste Water Treatment Operations

This section includes all activities and equipment associated with the industrial waste water treatment operations at Building 45-06. Treatment includes oxidation of phenols from paint

stripping operations and removal of heavy metals from metal finishing operations, parts washers, and part treatment lines. The plant may receive off-site waste, normally from other Boeing sites, and is therefore subject to the Off-Site Waste and Recovery Operations NESHAP (40 CFR Part 63 Subpart DD). As per 40 CFR 63.680(c), an "affected source" is: "An off-site material management unit is a tank, container, surface impoundment, oil-water separator, organic-water separator, or transfer system used to manage off-site material." At the time of initial permit issuance as well as during the 2007 permit renewal, the average VOHAP concentration of each off-site material stream regulated under Subpart DD and managed in the treatment plant was less than 500 ppmw at the point-of-delivery. Under an alternate operating scenario, the total annual quantity of HAP contained in the off-site material received at the plant site would be less than 1 megagram (2200 pounds) per year.

This emission unit does not include any process vents as defined by 40 CFR 63.680(c)(2). The emission unit also does not include any equipment leaks as defined by 40 CFR 63.680(c)(3) because none of the equipment component contain or contracts off-site material having a total HAP concentration equal to or greater than 10% by weight. Therefore, section 40 CFR 63.691 does not apply. Since Boeing has chosen to comply with the requirements for off-site material management units by following 40 CFR 63.683(b)(1)(iii) and not (i) or (ii), sections 40 CFR 63.684 through 63.689 do not apply. Similarly, since Boeing has chosen to comply with the requirements for process vents by following 40 CFR 63.683(c)(1)(ii), section 40 CFR 63.690 does not apply.

While this emission unit includes control equipment (i.e. a particulate scrubber), that equipment is not used to comply with Subpart DD and therefore not subject to the requirements for control equipment under 40 CFR 63.693. Because Boeing has chosen to comply following 40 CFR 63.683(b)(1)(iii) and (c)(1)(ii), and sections 63.684 through 63.690 do not apply, 40 CFR 63.695 Inspection and monitoring requirements does not apply. In addition, 40 CFR 63.696 (b) through (h) do not apply because they have no equipment or process subject to section 40 CFR 63.684 through 63.690.

40 CFR 63.10(d)(5)(i) and (ii) do not apply because there is no equipment to startup, shutdown or malfunction in this emission unit.

5. 3. 6. Cyclones, Baghouses, and Other Particulate Control Operations

This section includes all cyclones, baghouses, and other equipment, which exhaust to the outside and control particulate emissions from the various activities including carpentry, machining of metal or nonmetal parts, housecleaning, and wood shredding operations. Several of the units provide hold-down vacuum for parts on router tables, or other equipment; or provide vacuum for use by shop employees to clean up metal shavings and other miscellaneous debris in shop work areas. Other vacuum systems provide vacuum for curing of composite parts within vacuum bags. For the purpose of defining an emission unit in this permit, each piece of equipment is considered a separate emission unit.

The emission units range in size from a 14,400 cfm baghouse that collects dust from composite routing, sanding, and grinding equipment to a 1210 cfm utility vacuum for cleanup of metal shavings.

The Puget Sound Clean Air Agency has determined that the monitoring frequency based on the following.

1. Initial compliance. The Puget Sound Clean Air Agency has not observed visible emissions from any of these activities during any inspection in the last five years; therefore, we conclude that they generally comply with the particulate and opacity requirements.

2. Margin of compliance. Because of the type of process (woodworking, grinding and machining) and the control equipment (baghouses and cyclones), the Puget Sound Clean Air Agency expects the concentration of particulate to be much less than the standard when there is no visible emission, fallout or fugitive emissions.

3. Variability of process and emissions. Although the equipment runs periodically, the actual emissions are not significant and not likely to cause a nuisance.

4. Environmental impacts of problems. These are small dust collectors that combined normally emit less than a ton of particulate per year. A maintenance problem is unlikely to result in emissions that would have a significant environmental impact.

5. Technical considerations. The mostly likely type of problem would be a gradual equipment failure like normal ware and tare. Such failure could easily be detected by checking for visible emissions, fugitive emissions, fallout, and pressure drop across the control equipment. Because of the nature of the potential problems, Puget Sound Clean Air Agency has determined that the units should be divided into those systems that should be checked for visible emissions and fugitive dust monthly, and those that should be checked quarterly.

Monthly monitoring for visible emissions and fugitive dust is proposed for vacuum systems that are rated at greater than 2000 CFM and used specifically to capture and control particulate emissions from particulate generating equipment such as sanders, routers, grinders, saws, milling machines, etc. The following vacuum systems at Everett meet these criteria:

Bldg.	*Col./Dr.*	*MSS/ ID#*	*Order of Approval #*	*Install Date*	*Source Description*	*CFM & service*
40-01	*Dr W-8*	*087378*	*2724*	*9/27/85*	*Vacuum system with cyclone and baghouse*	*3000, woodworking equipment*
40-05	*Dr N-3*	*025278*	*4496*	*7/1/92*	*Vacuum system with cyclone and baghouse*	*3500, woodworking equipment*
40-05	*Dr W-8*	*143573*	*4497*	*7/27/92*	*Vacuum system with cyclone and baghouse*	*3500, woodworking equipment*
40-11	*Dr E-3*	*169933*	*5868*	*6/1/95*	*Vacuum system with cartridge filters.*	*6410, woodworking equipment*
40-31	*Dr N-5*	*029771*	*5692*	*1/5/95*	*Vacuum system with baghouse*	*13,135, tool grinding, sharpening equipment*
40-56	*Dr N-1*	*27193*	*4420*	*9/92*	*Vacuum system with cyclone and baghouse*	*4000, composite routing, sanding, grinding equipment*
40-56	*Dr N-1*	*27191*	*4421*	*9/92*	*Vacuum system with cyclone and baghouse*	*4000, composite routing, sanding, grinding equipment*
40-56	*Dr N-1*	*27192*	*4422*	*9/92*	*Vacuum system with cyclone and baghouse*	*2325, composite routing, sanding, grinding equipment*
40-56	*Dr N-2*	*27194*	*4423*	*9/92*	*Vacuum system with cyclone and baghouse*	*2325, composite routing, sanding, grinding equipment*
40-56	*Dr E-10*	*24697*	*4425*	*9/92*	*Vacuum system with cyclone and baghouse*	*4000, composite routing, sanding, grinding equipment*
40-56	*Dr E-11*	*27195*	*4426*	*9/92*	*Vacuum system with cyclone and baghouse*	*6000, composite routing, sanding, grinding equipment*
40-56	*Dr N-3*	*ET0105*	*4879*	*8/1/92*	*Vacuum system with cyclone and baghouse*	*14,400, composite routing, sanding, grinding equipment*
40-56	*K-2.9*	*050949*	*NA*	*9/85*	*Dry filter particulate control booth*	
45-04	*Q-10*	*B685/ET0 402*	*6902*		*Dry filter particulate control booth*	

Quarterly monitoring is proposed for vacuum systems that are not expected to be significant sources of particulate emissions for one or more of the following reasons:

1) The vacuum system is rated at 2000 CFM or less.
2) The vacuum system's primary function is to provide hold-down vacuum for parts on router tables or other equipment, or to provide vacuum for use by shop employees to clean up metal shavings and other miscellaneous debris in shop work areas.
3) The vacuum system provides vacuum for curing of composite parts within vacuum bags.

The vacuum systems at Boeing Everett that meet one of the criteria above are grouped in the four tables below.

The following vacuum systems collect particulate matter generated by sanders, routers, grinders, and milling machines but all are rated at 2000 CFM or less.

Bldg.	*Col./ Dr.*	*MSS/ ID#*	*Order of Approval #*	*Install Date*	*Source Description*	*CFM & service*
40-01	*Dr S-3*	*ET0085*	*5246*	*1993*	*Vacuum system with cyclone and baghouse*	*2000, milling machine*
40-56	*Dr N-4*	*ET0088*	*5904*	*6/19/95*	*Vacuum system with cyclone and baghouse*	*1950, hold down vacuum for large saw*
40-31	*Dr N-2*	*008260*	*6582*	*1/13/97*	*Vacuum system with cyclone and baghouse*	*1825, composite milling*

The following vacuum systems provide vacuum to hold large composite panels onto router tables. Their primary function is not to collect dust from the routing operation (other vacuum systems equipped with baghouses and/or cyclones are used to collect the dust generated by routing). However, since some dust is captured by the hold down vacuums, they are equipped with filters in front of the vacuum pump in order to protect the vacuum pumps and control particulate emissions.

Bldg.	*Col./ Dr.*	*MSS/ ID#*	*Order of Approval #*	*Install Date*	*Source Description*	*CFM & service*
40-56	*CC-9.2*	*026343*	*4432*		*Vacuum Pump*	*2300, hold down vacuum for routing machines*
40-56	*CC-9.3*	*026344*	*4433*		*Vacuum Pump*	*2300, hold down vacuum for routing machines*
40-56	*CC-9.4*	*026345*	*4434*		*Vacuum Pump*	*2300, hold down vacuum for routing machines*
40-56	*CC-9.5*	*026346*	*4435*		*Vacuum Pump*	*2300, hold down vacuum for routing machines*
40-56	*CC-9.6*	*026347*	*4436*		*Vacuum Pump*	*2300, hold down vacuum for routing machines*
40-56	*CC-9.7*	*026348*	*4437*		*Vacuum Pump*	*2300, hold down vacuum for routing machines*

40-56	*CC-9.8*	*026349*	*4438*		*Vacuum Pump*	*2300, hold down vacuum for routing machines*

The following vacuum systems provide vacuum for use by shop employees to clean up miscellaneous manufacturing debris (typically metal shavings) in their work areas.

Bldg.	*Col./ Dr.*	*MSS/ ID #*	*Order of Approval #*	*Install Date*	*Source Description*	*CFM & service*
40-21	*Dr W-8*	*066989*	*3058*	*10/80*	*Vacuum system with cyclone and baghouse*	*4000, utility vacuum for cleanup of metal shavings, etching*
40-21	*Dr W-9*	*066990*	*3058*	*10/80*	*Vacuum system with cyclone and baghouse*	*4000, utility vacuum for cleanup of shavings from drilling/r*
40-32	*Dr N-1*	*382246*	*3058*	*10/80*	*Vacuum system with cyclone and baghouse*	*4000, utility vacuum for cleanup of metal shavings, etc.*
40-32	*Dr N-2*	*382247*	*3058*	*10/80*	*Vacuum system with cyclone and baghouse*	*4000, utility vacuum for cleanup of metal shavings, etc.*
40-37.B	*B/C-12.8*	*185772*	*5876*	*8/93*	*Vacuum system with baghouse*	*1210, utility vacuum for cleanup of metal shavings, etc.*
40-37.B	*B/C-13.2*	*008372*	*5876*	*8/93*	*Vacuum system with baghouse*	*1210, utility vacuum for cleanup of metal shavings, etc.*
40-51	*Dr N-6*	*000555*	*NA*		*Vacuum system with cyclone and baghouse*	*unknown*
4-51	*Dr N-9*	*000556*	*NA*		*Vacuum system with cyclone and baghouse*	*unknown*

The following units provide vacuum for curing composite parts within vacuum bags (a process which does not generate particulate emissions) and provide vacuum for use by shop employees to clean up their work areas. The vacuum systems are equipped with filters in front of the vacuum pump in order to protect the vacuum pumps and control particulate emissions.

Bldg.	*Col./ Dr.*	*MSS/ ID #*	*Order of Approval #*	*Install Date*	*Source Description*	*CFM & service*
40-56	*Pump Rm*	*922405*	*3060*		*Vacuum Pump*	*1580, vacuum for curing composites*
40-56	*Pump Rm*	*922406*	*3060*		*Vacuum Pump*	*1580, vacuum for curing composites*
40-56	*Pump Rm*	*922407*	*3060*		*Vacuum Pump*	*1580, vacuum for curing composites*
40-56	*Pump Rm*	*381160*	*3060*		*Vacuum Pump*	*1580, vacuum for curing composites*

On October 10, 2001 Steve Van Slyke, Puget Sound Clean Air Agency, wrote the following letter to Jade Hudson, Boeing, discussing when a Notice of Construction is needed for a change made at an existing scrubber or baghouse:

Clean Air Agency
110 Union Street, Suite 500
Seattle, Washington 98101

Working Together For Clean Air

October 10, 2001

Jade Hudson
Boeing Commercial Airplane Group
PO Box 3707 M/C 5R-410
Seattle, WA 98124-2207

Dear Ms. Hudson:

Notice of Construction (NOC) Requirements for Scrubbers and Baghouses

This letter seeks to clarify when Puget Sound Clean Air Agency requires a Notice of Construction (NOC) for upgrading or altering existing scrubbers and baghouses. Per Agency Regulation I Section 6.03(a), a new NOC is required if a "substantial alteration" of control equipment on an existing source is made. The type of alteration that would be considered substantial varies depending on the control equipment.

On January 9, 1998, Jay Willenberg of this Agency wrote a letter to David Moore of Boeing discussing NOC applicability for spray booths. This letter stated that a NOC is required if airflow is increased by more than 10 to 15 percent over the original permitted airflow levels (this type of change is therefore substantial). In general, changing the fan or motor will not increase the airflow by more than 15 percent over the original permitted airflow.

Per the January 9, 1998 letter, an NOC is not needed if moving an existing booth to a new location within the same facility, so long as the same activities continue to be conducted in the booth. The letter emphasizes that while a new NOC is not needed for relocation, it is essential that Boeing notify the Agency of any relocations so that the Agency can properly conduct inspections.

The Agency will extend the guidance discussed above for spray booths to scrubbers and baghouses. This guidance is valid providing the alteration does not expand or increase the emission generation activity which the control equipment is supporting. An example of an expanded emission generation condition would be the inclusion of additional tanks

or shops to the exhaust system which were previously not exhausted. If questions of applicability arise for specific scrubbers or baghouses that do not clearly fit this guidance, the Agency requires that Boeing contact the Agency directly to discuss the issue.

Sincerely,

Steven M. Van Slyke, P.E.
Supervisory Engineer

SMV:AZM:ns
Enclosure: January 9, 1998 Letter from Jay Willenberg

cc: Robin Bennett, MC 7A-XC
Edward Cierebiej, MC 5R-410
Barbara Thompson, MC 20-13
Kirk Thomson, MC 7A-XE
J. L. Nolan
J. M. Willenberg
Aerospace Team

5. 3. 7. Composite Processing Operations

This section includes all activities and equipment associated with composite processing operation . The table below does not necessarily include all units that may be subject to the requirements of this section; units that have not received an Order of Approval or were not previously registered with the Puget Sound Clean Air Agency are not included in the table.

Bldg.	*Col./Dr.*	*MSS/ID*	*Order of Approval #*	*Install Date*	*Source Description*
40-56	*CC-4*	*381107*	*2084*		*1500 Ton Press #2*
40-56	*CC-3*	*104423*	*3447*		*1500 Ton Press #1*
40-56	*CC-5*	*104424*	*3447*		*1500 Ton Press #6*
40-56	*CC-6*	*107150*	*3447*		*1500 Ton Press #7*
40-56	*BB-6*	*107210*	*3747*		*1200 Ton Press #8*
40-56	*BB-6.8*	*126292*	*3953*		*1000 Ton Press #1N*
40-56	*BB-7.2*	*126288*	*3954*		*1000 Ton Press #2N*
40-56	*BB-7.8*	*126280*	*3955*		*1000 Ton Press #3N*
40-56	*BB-8.2*	*126284*	*3956*		*1000 Ton Press #4N*
40-56	*K-1.5*	*709160*	*3979*		*100 Ton Perforating Press*
40-56	*K-2.5*	*027586*	*3980*		*200 Ton Perforating Press*
40-56	*G-1*	*381105*	*4013*		*Multi-opening press*
40-56	*H-7*	*144782*	*4015*		*Multi-opening press*
40-56	*G-1*	*144783*	*4016*		*Multi-opening press*

This process may include the use of styrene resin, which we consider part of the aircraft manufacturing process. Hence, Puget Sound Clean Air Agency Regulation II, Section 3.08 applies. Section 3.08(b) requires that styrene resin be applied in an enclosed area that is registered with the Clean Air Agency. The section also requires that dry filters be used for controlling overspray, if the material is spray applied and requires that the exhaust from the operation be vented through a vertical stack. Boeing Everett does not spray apply styrene, hence the requirements in 3.08(b) and all of 3.08(c)-(e) for spray application do not apply. The amount of styrene used at Boeing Everett is minor, less than 3,000 pounds per year and is spread throughout many areas of the large Boeing Everett facility. Because of these factors, Boeing requested an alternate means of compliance to conduct non-spray application of products containing styrene outside an enclosed area with a vertical stack. The Puget Sound Clean Air Agency approved the request under the authority of Regulation I, Section 3.23 with specific conditions as listed in the permit. Section 3.08(f) specifies requirements for controlling VOC emissions that include storage and disposal of the VOC containing materials in closed containers and tanks. Closed containers for rags or paper disposal are also required. Such containers must remain closed unless being cleaned, or if materials are being added, mixed or removed. These requirements are independent of the application method and therefore apply to Boeing Everett. As with many other work practices, styrene applications occur throughout the Boeing Everett facility at unscheduled times and do not lend themselves to normal compliance monitoring. Therefore, Puget Sound Clean Air Agency has determined that the monitoring should be as by quarterly work practices inspections, except if the styrene application causes an odor complaint, in which case Boeing will have to respond within 3 days as with other odor complaints. To date, Puget Sound Clean Air Agency has not received complaints of styrene odor from Boeing Everett.

(e) Reinforced Plastic Composites NESHAP (40 CFR 63 Subpart WWWW)

Boeing Everett conducts only open and closed molding operations that are subject to the NESHAP. The requirements for other types of operations, including centrifugal casting, pultrusion, and continuous lamination/casting that are subject to the NESHAP but are not conducted at Boeing Everett were not included in the AOP. For purposes of compliance with the NESHAP, the Boeing Everett facility is considered to be an "existing" source. Therefore, NESHAP requirements that apply specifically to "new" sources do not apply.

The NESHAP provides sources an option to choose to comply with either the Organic HAP Emission Limits in Table 3 or the Alternative Organic HAP Emission Limits in Table 5. Boeing has chosen to comply with the limits in Table 3.

The NESHAP provides the source several options for limiting emissions. One of these options is through the use of an add-on control device. Boeing does not use any add-on control devices to comply with the NESHAP. Therefore, the NESHAP requirements pertaining to add-on control devices have not been listed in the AOP.

Table 13 of the Reinforced Plastic Composites NESHAP lists notification requirements for sources subject to the requirements of the NESHAP. One requirement is that the source provide an initial notification containing the information in 40 CFR 63.9(b)(2).

This notification was due by 8/19/03, and was sent by Boeing on August 13, 2003. Since the one-time requirement for this notification has already been fulfilled, the notification is not listed in the Boeing Everett AOP.

40 CFR 63.5835(d) states: "You must develop and implement a written startup, shutdown, and malfunction plan according to the provisions in §63.6(e)(3) for any organic HAP emissions limits you meet using an add-on control." Boeing Everett does not use add-on control devices to control organic HAP emissions from the processes regulated under the Reinforced Plastic Composites NESHAP. Therefore, the requirements for a startup, shutdown, and malfunction plan for these operations do not apply and have not been included in the Boeing Everett AOP.

(f) Orders of Approval that have been cancelled and superseded

Order of Approval No. 7550 dated 2/24/99 was canceled and superseded by Order of Approval No. 7550 dated 5/28/99 to amend condition #3.

5. 3. 8. Abrasive Blasting Operations

This section includes all activities and equipment associated with abrasive blasting operations on production parts, tooling, or equipment that exhaust outside. The table below does not necessarily include all units that may be subject to the requirements of this section; units that have not received an Order of Approval or were not previously registered with the Puget Sound Clean Air Agency are not included in the table.

Bldg.	*Location*	*MSS/ID#*	*Order of Approval #*	*Install Date*	*Source Description*
40-10	*A-25*	*153470*	*5402*	*5/1/94*	*Abrasive blast booth*

Boeing uses abrasive blasting to clean parts before final finishing and assembly and conducts the operation inside booths with particulate control equipment. Monitoring of the particulate control equipment is consistent with Section 5.3.7, Cyclones, Baghouses, and Other Particulate Control Operations. In addition, WAC 173-460-060(6) is a state only requirement that regulates work practices that govern how and where abrasive blasting can occur. Because these are work practices the monitor requirement are consistent with other work practices and as with most other work practices the Puget Sound Clean Air Agency has inspected the facility at least annually for the last five years and has not identified violations.

On October 10, 2001 Steve Van Slyke, Puget Sound Clean Air Agency, wrote the following letter to Jade Hudson, Boeing, discussing when a Notice of Construction is needed for a change made at an existing scrubber or baghouse:

Clean Air Agency
110 Union Street, Suite 500
Seattle, Washington 98101

Working Together For Clean Air

October 10, 2001

Jade Hudson
Boeing Commercial Airplane Group
PO Box 3707 M/C 5R-410
Seattle, WA 98124-2207

Dear Ms. Hudson:

Notice of Construction (NOC) Requirements for Scrubbers and Baghouses

This letter seeks to clarify when Puget Sound Clean Air Agency requires a Notice of Construction (NOC) for upgrading or altering existing scrubbers and baghouses. Per Agency Regulation I Section 6.03(a), a new NOC is required if a "substantial alteration" of control equipment on an existing source is made. The type of alteration that would be considered substantial varies depending on the control equipment.

On January 9, 1998, Jay Willenberg of this Agency wrote a letter to David Moore of Boeing discussing NOC applicability for spray booths. This letter stated that a NOC is required if airflow is increased by more than 10 to 15 percent over the original permitted airflow levels (this type of change is therefore substantial). In general, changing the fan or motor will not increase the airflow by more than 15 percent over the original permitted airflow.

Per the January 9, 1998 letter, an NOC is not needed if moving an existing booth to a new location within the same facility, so long as the same activities continue to be conducted in the booth. The letter emphasizes that while a new NOC is not needed for relocation, it is essential that Boeing notify the Agency of any relocations so that the Agency can properly conduct inspections.

The Agency will extend the guidance discussed above for spray booths to scrubbers and baghouses. This guidance is valid providing the alteration does not expand or increase the emission generation activity which the control equipment is supporting. An example of an expanded emission generation condition would be the inclusion of additional tanks

or shops to the exhaust system which were previously not exhausted. If questions of applicability arise for specific scrubbers or baghouses that do not clearly fit this guidance, the Agency requires that Boeing contact the Agency directly to discuss the issue.

Sincerely,

Steven M. Van Slyke, P.E.
Supervisory Engineer

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5. 3. 9. Motor Vehicle Fueling Operations

This section consists of all activities and equipment associated with motor vehicle fueling operations, including fuel receiving, fuel storage, fuel dispensing, and material and waste handling. The gasoline station at the facility consists of a gasoline pump, a diesel pump, and two 15,000 gallon underground storage tanks for gasoline and diesel. Gasoline throughput at the station is less than 200,000 gallons annually.

Boeing Everett has a small gasoline station that dispenses fuel to Boeing motor vehicles. The Clean Air Agency approved the new equipment on November 30, 2000. The December 9, 1999 version of Regulation II, Section 2.07 requires the use of both stage 1 and stage 2 vapor recovery for the system. The stage 1 system is dual point and the stage 2 system is a vapor balance system. Therefore, only the dual point stage 1 and vapor balance stage 2 requirements apply. Boeing is required to comply with both the SIP approved 12/9/99 version of Reg. II Section 2.07, which is federally enforceable, and the state-only 3/25/04 version of the regulation.

(a) 12/9/99 version of Reg. II Section 2.07

Both Sections 2.07(b) and 2.07(c) of Regulation II apply. These sections require use of Stage 1 and Stage 2 vapor control. Regulation II, Section 2.07(d) requires compliance testing of Stage 2 systems at a frequency as specified in the CARB Executive Order approving the Stage 2 system. In the case of the equipment permitted for Boeing Everett, an OPW 111V47 Nozzle with a Vapor Balance System and approved under CARB Executive Order G-70-52-AM, no annual compliance testing is required, only an initial testing is necessary. The Clean Air Agency review and accepted the initial test hence the NOC Order of Approval No. 8330 Condition 3, which requires initial testing is obsolete.

Puget Sound Clean Air Agency Regulation II, Section 2.07 applies only to the gasoline dispensing operation, not to the diesel fueling operation.

(b) 3/25/04 version of Reg. II Section 2.07

This regulation requires the use of Stage 1 vapor controls for the system at Boeing. Stage 2 is not required as long as the throughput of the station is maintained at or below 200,000 gal/yr. The Boeing Everett gas station currently has a throughput of less than 200,000 gal/yr. However, Boeing has requested that the Agency put in an alternate operating scenario in case the throughput exceeds 200,000 gal/yr. The Agency has complied with this request and added the requirements for Stage 2 required under the 3/25/04 version of the rule to the Air Operating Permit. If Boeing increases the throughput of the station above 200,000 gal/yr, but does not physically modify the facility, Stage 2 will be required according to the 3/25/04 version of Reg. II Section 2.07. The existing Stage 2 system will continue to meet the CARB executive order which applied at the time the equipment was installed. However, the 3/25/04 version monitoring, recordkeeping, and reporting requirements will apply.

The regulation provides more specificity about what inspections Boeing must perform and what types of problems are considered to be defects. Self-inspections are required. The frequency of Stage 1 inspections is based on the frequency of fuel deliveries to the station. In Boeing's case, deliveries occur on a weekly or less frequent basis (as opposed to daily deliveries typical at commercial gas stations). Inspections of the Stage 1 system after each product delivery may occur up to 7 days after delivery, but in all cases must be performed before the next product delivery.

Boeing does not have to report finding defective equipment as a permit deviation as long as Boeing takes the appropriate corrective action. However, failure to take corrective action as described in the permit must be reported under Section V.M Compliance certifications. or Section V.Q Reporting of the permit. Boeing must also, under Regulation I, Section 7.09(b), keep a record of all inspections and actions required by it O&M Plan.

5. 3. 10. Storage Tanks

This section consists of the above-ground storage tanks. Many of these tanks are subject to 40 CFR Part 60 Subpart Kb. The table below does not necessarily include all units that may be subject to the requirements of this section; units that have not received an Order of Approval or were not previously registered with the Puget Sound Clean Air Agency are not included in the table.

Bldg.	*Location*	*MSS/ID#*	*Order of Approval #*	*Install Date*	*Source Description*
40-10		*EV-49-1*	*None*	*1992*	*15,000 gallons diesel storage tank*
45-01	*Door E-5A*	*EV-69-1*	*None*	*1987*	*15,000 gallon solvent storage tank*
45-03	*Door S-10*	*EV-24-1*	*None*	*1993*	*15,000 gallon solvent storage tank*
45-07	*East side*	*EV-148-1*	*None*	*1993*	*225,000 gallon backup distillate fuel storage tank for boilers*
Stall F-1		*EV-74-1*	*None*	*1989*	*15,000 gallon oil/water separator holding tank*
45-18		*EV-90-1*	*2141*	*1980*	*1,000,000 gallon Jet A tank*

This emission activity consists of tanks and activities associated with storing volatile organic liquids other than gasoline and diesel fuel. Five of the tanks were installed after July 23, 1984 and are subject to the provisions of 40 CFR 60 subpart Kb. However, 40 CFR 60.110b(b) exempts tanks with a capacity of less than 75 m^3 from the 40 CFR subpart A and all of the provisions of subpart Kb except 60.116b(a) and (b).

The sixth tank, EV-90-1, a 1,000,000 gallon tank for jet fuel was installed before 1984 and has not be modified since. (Puget Sound Clean Air Agency did amend the NOC order of approval for the tank, but the amendment only changed the description of the tank, there was not physical change or modification to the tank). Therefore, no provisions of subpart Kb apply. However, since the Puget Sound Clean Air Agency did issue an Order of Approval, the tank is subject to the state-only requirement to maintain the equipment in good working order, RCW 70.94.152(7), applies.

Order of Approval No. 2141 dated 7/21/88 was canceled and superseded by Order of Approval No. 2141 dated 5/22/95 to amend description.

5. 3. 11. Graphic Arts Operations

This section consists of all activities and equipment associated with graphic arts operations. Rotogravure and flexographic printing are not performed. The table below does not necessarily include all units that may be subject to the requirements of this section; units that have not received an Order of Approval or were not previously registered with the Puget Sound Clean Air Agency are not included in the table.

Bldg.	*Location*	*MSS/ID#*	*Order of Approval #*	*Install Date*	*Source Description*
40-56	*B-1.5*	*088960*	*3166*		*Silkscreen printline #4*
40-56	*C-1*	*102691*	*3387*		*Silkscreen printline #5*
40-56	*C-2*	*102692*	*3812*		*Silkscreen printline #2*
40-56	*D-1.5*	*126296*	*3869*		*Silkscreen washer*
40-56	*D-1*	*134727*	*4088*	*4/15/92*	*Squeegee wash booth*
40-56	*D-2*		*4231*		*Supplemental Exhaust*
40-56	*D.5-1.5*	*164692*	*5178*	*12/20/93*	*Silkscreen wash booths (3)*

The emissions from this activity are primarily VOC from silk-screening aircraft interiors. There are no specific emission standards or work practice requirements for these activities. However, because of the nature of the activities and the amount of emissions, the Puget Sound Clean Air Agency required a Notice of Construction. Hence, they are subject to the state-only requirement to maintain the equipment in good working order, RCW 70.94.152(7).

The most likely cause of air pollution concern would be odor and the possible nuisance that the VOC emissions may cause. However, the Puget Sound Clean Air Agency has not identified odor problems from these activities in any inspection and the agency has not received any complaints about the activities. Therefore, the agency has determined that the normal plant wide inspections, which include responding to complaints, are adequate monitoring for compliance.

5. 3. 12. Laser Operations

This section consists of all activities and equipment associated with laser wire marking operations. The table below does not necessarily include all units that may be subject to the requirements of this section; units that have not received an Order of Approval or were not previously registered with the Puget Sound Clean Air Agency are not included in the table.

Bldg.	*Location*	*MSS/ID#*	*Order of Approval #*	*Install Date*	*Source Description*
40-30.2	*H-16.6*	*127991*	*4098*	*1/2/92*	*Laser wire marker #1*
40-30.2	*H-16.5*	*127992*	*4099*	*1/2/92*	*Laser wire marker #2*
40-30.2	*H-16.7*	*127993*	*4100*	*1/2/92*	*Laser wire marker #3*
40-30.2	*H-16.6*	*127994*	*4101*	*1/2/92*	*Laser wire marker#4*
40-30.2	*I-16.6*	*127995,*	*4102*	*1/2/92*	*Laser wire marker #5*
40-30.2	*G-16.6*	*139682*	*4103*	*1/2/92*	*Gas cabinet #1*

Bldg.	*Location*	*MSS/ID#*	*Order of Approval #*	*Install Date*	*Source Description*
40-30.2	*G-16.7*	*139683*	*4104*	*1/2/92*	*Gas cabinet #2*

The emission units in this activity consist of lasers and the compressed gas storage cabinets for the lasers. The Puget Sound Clean Air Agency required a Notice of Construction for each of the pieces of equipment because each has a dry scrubber to control emissions and our regulation require approval of all control equipment. Hence, they are subject to the state-only requirement to maintain the equipment in good working order, RCW 70.94.152(7). However, there are no specific emission standards or work practice requirements for these units.

(a) Case-by-case Notice of Construction Order of Approval exemption for a laser cutter

In 2006 Boeing requested that the Agency grant a case-by-case NOC exemption for a Versa Laser VL-300 150 cfm CO2 laser cutting machine to cut and etch plastic used to build mock-ups of key pads, displays, and other components found in airplane cockpits. The cutter proposed by Boeing included HEPA filtration of the exhaust air and activated carbon. The Agency reviewed Boeing's application and granted a case-by-case exemption from the requirements for an NOC permit.

5. 3. 13. Drying and Curing Operations

This section includes all activities and equipment associated with drying and curing operations. The table below does not necessarily include all units that may be subject to the requirements of this section; units that have not received an Order of Approval or were not previously registered with the Puget Sound Clean Air Agency are not included in the table.

Bldg.	***Col./Dr.***	***MSS/ID#***	***Order of Approval #***	***Install Date***	***Source Description***
40-56	*A.5-3*	*057809*	*3046*		*Curing Oven*
40-56	*L-1.4*	*114017*	*4170*		*IR Oven*
40-56	*D-6.5*	*382091*	*4171*		*IR Oven*
40-56	*D-9*	*135467*	*4172*		*IR Oven*
40-56	*D-9*	*386392*	*4173*		*IR Oven*
40-56	*H.5-3*	*146752*	*4269*		*Curing Oven*
40-56	*B-5*	*146763*	*4270*		*Curing Oven*
40-56	*CC-1.5*	*034817*	*4651*		*Curing Oven*

Bldg.	***Col./Dr.***	***MSS/ID#***	***Order of Approval #***	***Install Date***	***Source Description***
40-56	*A-4.3*	*126301*	*4207*		*IR Oven*
40-56	*B.5-5*	*106921*	*4208*		*IR Oven*
40-56	*C-4.5*	*026577*	*4209*		*IR Oven*

The emission units in this activity consist of equipment and processes required for drying and curing aircraft parts. Most of the processes involve curing composites or coatings. The Puget Sound Clean Air Agency required a Notice of Construction for each of the pieces of equipment. Hence, they are subject to the state-only requirement to maintain the equipment in good working order, RCW 70.94.152(7). However, there are no specific emission standards or work practice requirements for these units.

5. 3. 14. EU 15 Wood Furniture

This section consists of wood furniture manufacturing activities. These activities have are subject to 40 CFR Part 63 Subpart JJ National Emission Standards for Wood Furniture Manufacturing Operations. This subpart applies to major HAP sources that manufacture wood furniture. Boeing is a major source of HAP emissions and manufactures some wood furniture. However, Boeing is primarily engaged in manufacturing aircraft and aircraft parts, not wood furniture or wood furniture components. 40 CFR 63.801 defines "Incidental wood furniture manufacturer" as a major source that is primarily engaged in the manufacture of products other than wood furniture or wood furniture components and that uses no more than 100 gallons per month of finishing material or adhesives in the manufacture of wood furniture or wood furniture components. Boeing Everett is such a source.

40 CFR 63.800(a) requires that a source that meets the definition for an incidental furniture manufacturer shall maintain purchase or usage records demonstrating the source meets the definition in 40 CFR 63.801 40 CFR 63.801, but the source shall not be subject to any other provisions of 40 CFR 63 subpart JJ. Hence, Boeing must maintain purchase or usage records demonstrating that it uses no more than 100 gallons per month of finishing material or adhesives in the manufacturing of wood furniture or wood furniture components.

5. 3. 15. EU 16 Site Remediation

This section consists of site remediation activities, which include processes used to remove, destroy, degrade, transform, immobilize, or otherwise manage remediation material. Remediation material means a material that contains a HAP, and is one of the following:

- A material found in naturally occurring media such as soil, groundwater, surface water, sediments, or a mixture of such materials with liquids, sludges, or solids which is inseparable by simple mechanical removal processes and is made up primarily of media. OR
- A material found in intact or substantially intact containers, tanks, storage piles, or other storage units that requires clean up because this material poses a reasonable potential threat to contaminating media. Examples of these materials include, but are not limited to, solvents, oils, paints, and other volatile or semi-volatile organic liquids found in buried drums, cans, or other containers; gasoline, fuel oil, or other fuels in leaking underground storage tanks; and solid materials containing volatile or semi-volatile organics in unused or abandoned piles. Remediation material is not a waste or residue generated by routine equipment maintenance activities performed at a facility such as, but not limited to, tank bottoms and sludges removed during tank cleanouts; sludges and sediments removed from active wastewater treatment tanks, surface impoundments, or lagoons; spent catalyst removed from process equipment; residues removed from air pollution control equipment; and debris removed during heat exchanger and pipeline cleanouts.

Material that meets the definition of debris in 40 CFR 268.2 does not quality as site remediation materials.

Boeing is required to track the quantity of HAP contained in remediation materials that are removed annually. If the quantity of HAP in these materials is less than 1 megagram (2200 pounds), the other requirements of the Site Remediation NESHAP, 40 CFR 63 Subpart GGGGG, do not apply. For purposes of compliance with the NESHAP, HAP is defined in Table 1 of 40 CFR 63 Subpart GGGGG.

5. 3. 16. EU 17 Stationary Internal Combustion Engines Subject to NSPS and/or NESHAP

This section includes all stationary reciprocation internal combustion engines that are affected sources for purposes of 40 CFR Part 60 Subpart IIII for Stationary Compression Ignition Internal Combustion Engines, and/or 40 CFR Part 63 Subpart ZZZZ for Stationary Reciprocating Internal Combustion Engines.

The table below does not necessarily include all units that may be subject to the requirements of this section.

Bldg.	*Col./Dr.*	*MSS/ID#*	*Order of Approval #*	*Install Date*	*Source Description*
Flightline	*Stall 207*			*2008*	*Cummins Model DGHE diesel fired emergency stationary generator rated at 50 kW (~70 hp), 2007 model year.*

(a) 40 CFR 63 Subpart ZZZZ

40 CFR 63 Subpart ZZZZ applies to existing, new, and reconstructed stationary reciprocating internal combustion engines. The requirements are further split into broad categories by engine size (500 hp or more vs less than 500 hp) and whether the engine is existing or new/reconstructed. 40 CFR 63.6590(b)(3) lists an exemption for existing engines that are 500 hp or less, as well as for a number of specific existing larger engine types. An engine that quality under the exemption in 63.6590(b)(3) "does not have to meet the requirements of this subpart and of subpart A of this part. No initial notification is necessary".

The 2007 model year Cummins Model DGHE emergency generator at the flightline does not qualify for the exemption in 40 CFR 63.6590(b)(3) because it is not considered "existing". However, the engine does meet the criteria in 40 CFR 63.6590(c). Therefore, as stated in 63.6590(c), the engine must meet the requirements of 40 CFR 63 Subpart ZZZZ by complying with the requirements of 40 CFR 60 Subpart IIII. No further requirements of 40 CFR 63 Subpart ZZZZ apply to the engine.

(b) 40 CFR 60 Subpart IIII

40 CFR 60 Subpart IIII applies to compression ignition internal combustion engines that that commence construction after July 11, 2005 where the stationary CI ICE are:

- manufactured after April 1, 2006 and are not fire pump engines or
- manufactured as a certified National Fire Protection Association fire pump engine after July 1, 2006, or
- modified or reconstructed after July 11, 2005.

The requirements are different for engines with a cylinder displacement less than 30 L than they are for larger engines. The Cummins Model DGHE emergency generator at the flightline has a cylinder displacement less than 30 L. Therefore, the remainder of this discussion will focus on the requirements for engines with a displacement of 30 L per cylinder or less.

Affected engines that have a displacement of 30 L per cylinder or less must use a diesel fuel that meets the requirements of 40 CFR 80.510. The monitoring method for this requirement specifies that Boeing must maintain documents on file which show compliance with the requirement.

Model year 2007 and later stationary compression ignition internal combustion engines like the Cummins Model DGHE emergency generator at the flightline must comply with the emissions standards for new nonroad engines, as listed in 40 CFR 60.4202. 40 CFR 60.4202 contains requirements for engine manufacturers. Therefore, to comply with this requirement, Boeing must purchase an engine that meets the requirements of 40 CFR 60.4202 and be able to document that the engine meets these requirements. In addition, Boeing must operate and maintain the engine according to the manufacturer's written instructions or procedures developed by Boeing that are approved by the engine manufacturer. Monitoring for this has been specified as following the O&M plan.

For emergency engines like the Cummins Model DGHE generator at the flightline, 40 CFR 60 Subpart IIII also requires that the owner or operator install a non-resettable hour meter and limit maintenance checks and readiness testing to 100 hours per year. Monitoring for this requirement is based on Boeing keeping documentation on file. While the NSPS does not specify precisely what documents are needed, the intent is to affirm that an engine wasn't used for more than 100 hours per year for maintenance checks and/or readiness testing. Therefore, if documentation indicates that an engine was used for more than 100 hours per year for any purpose, Boeing should have additional documentation on file to qualifying which hours of operation were for emergency service and which were for maintenance and/or readiness checks.

6. Monitoring, Maintenance and Recordkeeping Procedures

Many of the procedures in Section II of the permit are grouped according to types of activities or the Boeing organizational unit responsible for performing the procedure. For example, the activities in Section II.A.2(d) Equipment Maintenance are normally performed by maintenance personnel while the other activities in Section II.A of the permit are normally performed by operators or environmental staff. More specifically for paint spray booths, maintenance staff check to see that the pressure drop gauge on a spray booth is operating properly and that the acceptable ranges are marked on or near a gauge, but the operator is responsible for logging the pressure drop.

6.1 Monitoring vs Compliance Tests

With the exception of tests performed under Section II.A.2(m) and the Relative Accuracy Test performed under Section II.A.2(s), the tests performed to satisfy the requirements of any monitoring method under Section II of this permit are monitoring tests and are not considered "compliance tests" for purposes of Section V.N.1.(iii) of the permit. Hence, Boeing is not required to provide Puget Sound Clean Air Agency with advance notification of most monitoring even if that monitoring is a reference method like Ecology Method 9A. For example, if Boeing observed visible emissions and then performed a Method 9 observation, the results of that observation can be used to demonstrate compliance test even if Boeing did not notify the Agency.

6.2 Opacity Monitoring

Section II.A.1(a) requires that Boeing conduct quarterly inspections of the facility for visible emissions. If during one of these inspections, Boeing observes visible emissions, Boeing can eliminate the visible emissions, determine if the emissions last more than three minutes, or determine the opacity using the reference method. If Boeing determined opacity using the reference method, Boeing must report to Puget Sound Clean Air Agency. It would not be a deviation of the emission standard if Boeing eliminated the visible emissions with in 24 hours, the visible emissions did not last more than 3 minutes, or if opacity was determined to be less than the standard using the reference method. However, noting visible emissions during a quarterly inspection and taking no action would be a deviation of the monitoring method.

6.3 Following Monitoring, Maintenance and Recordkeeping Procedures

Boeing must follow the procedures contained in Section II of the permit, Monitoring, Maintenance and Recordkeeping Procedures. Failure to follow a requirement in Section II may not necessarily be a deviation of the underlying applicable emission standard in Section I. However, not following a requirement of Section II is a deviation of Section II and Boeing 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 from its obligation to comply with the underlying applicable requirement.

6.4 Standard Approval Conditions

A standard Puget Sound Clean Air Agency Notice of Construction Approval condition, NOC Order of Approval Condition No. 1, requires that the equipment, device or process be installed according to plans and specifications submitted to the Puget Sound Clean Air Agency. Once the equipment is installed, the Puget Sound Clean Air Agency requires certification by the applicant that the installation was as approved; this is usually done with a Notice of Completion. Normally within six months to a year after receiving a Notice of Completion, a Puget Sound Clean Air Agency inspector verifies by inspection that the equipment was installed as specified and in accordance with the Approval Order. While the Notice of Completion is a one-time requirement that Boeing has complied with, Boeing cannot change the approved equipment in such a manner that requires an NOC order of approval without first obtaining an NOC order of approval which is addressed in Section IV.A of the permit.

6.5 Work Practice Inspections

The permit requires Boeing to conduct quarterly work practice inspections. These inspections are to ensure that the work practices required by the permit are being followed. The Puget Sound Clean Air Agency determined the frequency of these inspections after considering the potential for emissions, the lack of federally required

monitoring, Boeing in-house training practices and similar factors. If problems are identified, Boeing has the responsibility to make a record of the problem, correct the specific problem, and adjust the work practices and training to prevent future problems.

6.6 Monitoring Frequency

In determining the appropriate monitoring frequency, the Puget Sound Clean Air Agency considered several factors including the following:

- Boeing's compliance history and the likelihood of violating the applicable requirement.
- The complexity of the emission unit including the variability of emissions over time.
- The likelihood that the monitoring would detect a compliance problem.
- The likely environmental impacts of a deviation.
- Whether add-on controls are necessary for the unit to meet the emission limit.
- Other measures that Boeing may have in place to identify problems.
- The type of monitoring, process, maintenance, or control equipment data already available for the emissions unit.
- The technical and economic considerations associated with the range of possible monitoring methods.
- The kind of monitoring found on similar emissions units.

6.7 Operation and Maintenance (O&M) Plan Requirements

Boeing's O&M Plan shall include equipment operation and maintenance procedures specifying how Boeing will assure continuous compliance with Puget Sound Clean Air Agency Regulations I, II and III. The issue of what must be included in the O&M Plan has been the subject of some discussion between the Puget Sound Clean Air Agency and Boeing. In an April 17, 2001 letter (Attachment B) to R. Hess at Puget Sound Clean Air Agency, B. Thompson of Boeing clarified Boeing's O&M Plans need only address equipment operation and maintenance and that work practices can be maintained elsewhere. In May 1, 2001 letter (Attachment C) to Barbara Thompson, Rick Hess confirmed that understanding.

6.8 Section II.A.2(d) Frequency

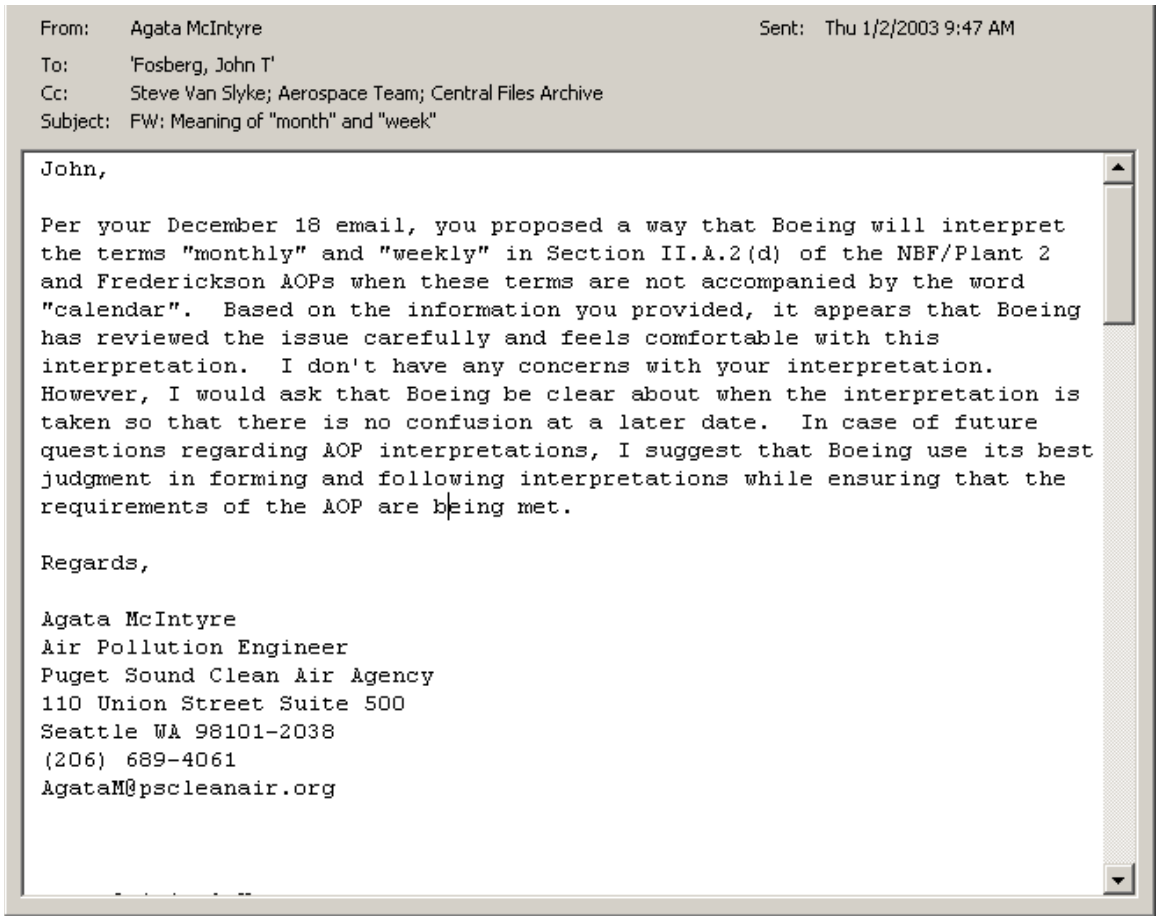
Section II.A.2(d) calls out a number of maintenance and inspection activities. These activities need to be performed at the frequencies discussed in II.A.2(d). In some cases, the frequency of an activity is specified by a Notice of Construction Order of Approval, by a PSD permit, or by a regulation as being based on a "calendar" month or week. In these cases, Boeing must perform the activity based on a "calendar" month or week. In other cases, the frequency of the activity has been determined by the Agency using the procedure discussed in Section 6.6 above. For these cases, the terms "calendar" has been omitted. When the term "calendar" has been omitted, the following interpretation of "monthly" and "weekly" may be used:

- For "monthly" activities, the maintenance or inspection activity shall be performed at least once each calendar month, on any day of that calendar month, or the inspection may be performed at least once each consecutive 28 day period, on any day of that 28 day period.
- For "weekly" activities, the maintenance or inspection activity shall be performed at least once each conventional "calendar" week (i.e., Sunday through Saturday), on any day of that week, or the activity may be performed at least once each consecutive 7-day period, on any day of that consecutive 7-day period.

If Boeing chooses to perform maintenance and/or inspection activities based on a modified monthly or weekly schedule as discussed above, the facility must keep a record of which activities are performed on the modified schedule, and what the modified schedule is intended to be (e.g., every 28 days for "monthly" activities, or once every 7 consecutive days based on a Friday through Thursday week for "weekly" activities.)

This clarification has been made in response to comments received from Boeing regarding the scheduling and accounting systems in place at the facility. "Monthly" maintenance activities are actually schedule on a 28 day cycle (i.e., once every 4 weeks). "Weekly" activities are scheduled based on a Friday through Thursday week, which is Boeing's business and accounting systems' week.

(Note that this is not a brand new interpretation. This type of interpretation has been allowed by the EPA in certain of their recent NESHAPs, to take into account the fact that a business' accounting cycle doesn't always follow a calendar month. See 40 CFR 63.4181 as an example.)



From: Agata McIntyre Sent: Thu 1/2/2003 9:47 AM
To: 'Fosberg, John T'
Cc: Steve Van Slyke; Aerospace Team; Central Files Archive
Subject: FW: Meaning of "month" and "week"

John,

Per your December 18 email, you proposed a way that Boeing will interpret the terms "monthly" and "weekly" in Section II.A.2(d) of the NBF/Plant 2 and Frederickson AOPs when these terms are not accompanied by the word "calendar". Based on the information you provided, it appears that Boeing has reviewed the issue carefully and feels comfortable with this interpretation. I don't have any concerns with your interpretation. However, I would ask that Boeing be clear about when the interpretation is taken so that there is no confusion at a later date. In case of future questions regarding AOP interpretations, I suggest that Boeing use its best judgment in forming and following interpretations while ensuring that the requirements of the AOP are being met.

Regards,

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6.9 Section II.A.2(d)(ii) Sacrificial Filters

For dry filters, Section II.A.2(d)(ii) specifies that, where required by an order of approval permit, a pressure drop transmitter or gauge shall be installed to measure the pressure drop across the booth's exhaust filters. The section goes on to state that Boeing must read and record the pressure drop across these exhaust filters.

In many spray booths, Boeing has chosen to install sacrificial filters in front of the exhaust filters required by an order of approval permit. These sacrificial filters, which are typically made of a less expensive material than the filters required by the order of approval, become saturated with overspray more quickly than the permitted filters, and are replaced more frequently. The Puget Sound Clean Air Agency has determined that the particulate removal efficiency for this filter configuration is at least as high as that provided by operating a spray booth with only the filters required by the order of approval. Therefore, the use of sacrificial filters has been allowed by the Agency.

The pressure drop monitoring requirements in Section II.A.2(d)(ii) are specific to the filters that are required by an Order of Approval. In many cases, sacrificial filters were not needed to show compliance with the requirements of the Order of Approval and are not required by any other applicable regulation. For these cases, Boeing is not required

to monitor the pressure drop across the sacrificial filters. Monitoring pressure drop across the filters required by an Order of Approval is sufficient to show compliance with Section II.A.2(d)(ii).

7. Prohibited Activities

Some of the requirements Boeing identified in the operating permit application are included in Section III as prohibited activities. Since these activities are prohibited, routine monitoring of parameters is not appropriate. Instead, the Puget Sound Clean Air Agency has listed these activities in this section to highlight that they cannot occur at the facility. Personnel that perform the facility-wide 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.

7.1 Requirement III.B Open Burning.

Puget Sound Clean Air Agency Regulation I, Article 8 prohibits most open burning in most areas within the Agency's jurisdiction. However, Regulation I, Section 8.07 specifically allows fire extinguisher training under certain conditions.

7.2 Requirement III.D & E. Concealment and Masking

Puget Sound Clean Air Agency Regulation I, Section 9.13, and WAC 173-400-040(7) contain similar requirements addressing concealment and masking of emissions. Although the effective dates for the federally enforceable and the state only versions of WAC 173-400-040(7) differ the actual wording of the two versions are the same.

8. Activities Requiring Additional Approval

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

8.1 Requirement IV.A. New Source Review

For new source review, the permit language has been simplified. Chapter 173-460 WAC (State Only) and Puget Sound Clean Air Agency Regulation I, Article 6 New Source Review Programs require approval to construct, install, establish, or modify an air contaminant source. All these requirements apply, but the language in these requirements has been incorporated into one section to simplify the permit language. WAC 173-400-110 applies statewide, yet defers to local authority programs which provide the same, equivalent function. Since Puget Sound Clean Air Agency has had a New Source Review Program under Regulation I, Article 6 for many years, the regulatory program used to review activities for this purpose is that Regulation and not the statewide version managed by the Washington Department of Ecology. New and modified sources are required to apply Best Available Control Technology (BACT), and BACT is defined to include all requirements in the NSPS and NESHAP. Therefore, the NESHAP

requirements for new and reconstructed sources (procedural requirements included in the general provisions in 40 CFR 63.5) are covered by this language as are the requirements in 40 CFR 60.7, 60.14, and 60.15.

Puget Sound Clean Air Agency Regulation I, 6.03(c) exempts certain equipment from new source review. It does not exempt any equipment from any federally required new source review or federally required notifications. For purposes of complying with the recordkeeping requirement in Puget Sound Clean Air Agency Regulation I, 6.03(c), Boeing shall provide in a timely manner, upon request by the Agency, any information reasonably necessary to document the exemption. However, physical evidence of the emission unit or activity itself can oftentimes fully document the applicability of the exemption. For example, the nameplate on an emission unit can document its rate capacity. Similarly, simply observing an emission unit, such as hand held sanding equipment, can fully demonstrate the applicability of an exemption.

Boeing is subject to both the SIP approved and most current (non SIP approved) versions of Regulation I Section 6.03. The NOC exemption lists for these two versions of the rule are a bit different. Boeing requested an interpretation of how to deal with this situation. Boeing's request and the Agency's response are documented below:

From: Hudson, Jade J [jade.j.hudson@boeing.com]
Sent: Friday, May 03, 2002 12:07 PM
Cc: Weickmann, Peter H; JayW@pscleanair.org
Subject: NOC Question

Hi Agata,

I have a question regarding PSCAA Regulation I:6.03 Notice of Construction.

The old NOC regulation dated September 12, 1996 is currently in the approved Washington State SIP. The current NOC rule dated July 12, 2001 lists quite a few exemptions. If we have a new source that falls under the current exemption list but since we still have to comply with the old rule, can we say that the current exemption list meets the requirement of the old Regulation I: 6.03(b)(17)? We want to say that this list has been determined through review by the Control Officer not to warrant a NOC (and we don't need to submit any additional information and the Agency doesn't need to notify us as well). Below is the old NOC rule.

PSCAA I: 6.03(b)(17) - 9/12/96
Any source that has been determined through review by the Control Officer not to warrant a "Notice of Construction and Application for Approval", due to the minimal amount and nature of air contaminants produced and potential to contribute to air pollution, with special reference to health, economic, and social factors, and physical effects on property. The owner or operator shall submit to the Control Officer, the information necessary to make this determination. The Control Officer shall notify the owner or operator in writing whether a "Notice of Construction and Application for Approval" is required for the source.

Please let me know your opinion on this. Thank you!

Jade Hudson
Fab. Division, Air Quality
253-931-4182

-----Original Message-----
From: Agata McIntyre [mailto:AgataM@pscleanair.org]
Sent: Monday, May 06, 2002 10:04 AM
To: 'Hudson, Jade J'
Cc: Steve Van Slyke; Jay Willenberg
Subject: RE: NOC Question

Jade,

We agree that the exemptions under the current version of Reg. I Section 6.03 (b)(1)-(b)(9) and 6.03(c) essentially meet the requirement of the old Regulation I Section 6.03(b)(17). The emission sources under these exemptions have been determined through review by the Control Officer not to warrant a Notice of Construction.

Reading the current version of the rule, you'll note that nothing needs to be submitted to us for the units exempt under Section 6.03 (c). However, please note that a notification is required for the units under Reg. I Section 6.03(b)(1)-(b)(9).

Please let me know if you have any other questions.

Thanks, Agata

8.2 Requirement IV.D Spray Coating

The 2001 version of Regulation I, Section 9.16 is the most current version of the rule. This version is both state and federally enforceable, and is included in the permit.

9. Standard Terms and Conditions

Some of the requirements Boeing identified in the operating permit application are included in Section V, Standard Terms and Conditions. This provided an easier mechanism for describing requirements that are more general in nature. This section also contains the standard terms and conditions specifically listed in WAC 173-401-620.

9.1 V. O Recordkeeping

WAC 173-401-615(2) requires Boeing to maintain a record of the time that each sample or measurement is taken. If the sample or measurement needs to be recorded once a shift or less frequently, then Boeing needs to identify the shift that the sample or measurement was take. If sample or measurement needs to be recorded more frequently than once a shift, then Boeing must record the hour that the sample or measurement was taken.

9.2 V. P Data recovery

Some of the applicable requirements in the permit did not have specific monitoring requirements associated with them. For such requirements, the Puget Sound Clean Air Agency developed monitoring requirements. (This is sometimes called gap filling.) Section V.P, Data recovery, addresses the amounts of data recovery required for these monitoring requirements that were developed specifically for the permit. The section also address procedures to follow if the monitoring system fails or data is lost. The requirements of the section only apply as noted in Section II of the permit and under no circumstances does this section apply if a specific underlying applicable requirement is more stringent.

In developing the data recovery requirements, the agency consider similar data recovery requirements such as Regulation I, Section 12.03, the frequency of the monitoring, and

the nature of the information required to monitor. For monitoring that the permit requires on a quarterly or less frequent basis the data recovery requirements are 100%.

9.3 V. Q Reporting

Section V. Q lists the reports that Boeing must submit and the responsible official must certify. In many cases, PS Clean Air Agency used its authority under 40 CFR 60.7 and 40 CFR 63.10 to adjust the reporting dates and reporting frequencies to be consistent with other reporting requirements. For example, Puget Sound Clean Air Regulation I, Section 12.03(f) requires all continuous emissions monitoring reports to be submitted to the agency within 30 days after the end of each calendar month. However, 40 CFR 60.7(c) requires such reporting semiannually unless the administrator determines that more frequent reporting is necessary. The Puget Sound Clean Air Agency rule clearly requires more frequent reporting and the reports are similar. In addition, WAC 173-401-615(3)(b) specifically requires monthly reporting of all deviations. Rather than having two or three different reports with the same information come in at different times, the Agency determined that more frequent reporting of the federal requirement is warranted.

Section V.Q.1(b) requires that Boeing report deviations within 30 days after the end of the month in which the deviation is discovered. In this context a deviation is "discovered" when Boeing has investigated of a potential deviation and is reasonable certainty that a deviation occurred.

Similarly 40 CFR 63.753 requires certain deviation reporting semiannual, normally on September 30 and May 30. However, 40 CFR 63.9(i) allows Puget Sound Clean Air Agency to adjust the reporting date. In this case, the Puget Sound Clean Air Agency requires the semiannual NESHAP report by August 30th for the reporting period of January through June and by February 28th for the reporting period of July through December. In addition the permit requires monthly reporting of all deviations. Those deviation reports contain different information and are not intended to be a substitute for the semiannual or annual NESHAP reports.

Section V.Q.3(e), Aerospace NESHAP Startup, Shutdown, and Malfunction Reports, requires Boeing to report certain startup, shutdown and malfunctions. The 2006 version of 40 CFR 63.10 specifies that immediate SSM reports are only required if the source exceeds any applicable emission limitation in the relevant standard. In addition, 40 CFR 63.10(d)(5)(ii) allows the permitting authority to make alternative reporting arrangements. For example, in this case Puget Sound Clean Air Agency established an alternative reporting arrangement for the Immediate Startup, Shutdown, and Malfunction Reports, for the Aerospace NESHAP, to be consistent with other deviation reports.

Sections V.Q.10 and V.Q.11 contain tables summarizing the reporting and notification requirements that are presented in detail in other sections of the permit. In the event of a conflict between the reporting or notification requirements listed in these tables and the reporting requirements listed in other sections of the permit, the reporting and notification requirements listed in other sections of the permit shall govern.

WAC 173-401-520 (Section V.Q.1(c)) requires that any application form, report, or compliance certification that is required to be certified by any applicable requirement or

is submitted pursuant to the permit contain certification by a responsible official of truth, accuracy, and completeness. WAC 173-401-615(3)(a) requires submittal of any required monitoring report at least once every six month and those reports must be certified consistent with WAC 173-401-520. However, there are reports that are required more frequently than once every six months. Unless an underlying applicable requirement requires a report to be certified at the time of submittal, the Agency has determined that responsible official could list all the required forms, reports, and certifications submitted in the pervious six months and certify their truth, accuracy, and completeness. Section V.Q.1(c) lists those reports that must be certified at the time of submittal. The other form, reports, or certifications can be certified at the time of submittal or once every six months. The required applications, reports, and compliance certifications are listed in Section V.Q.9. Section V.Q.10 lists required notifications. These notifications do not need to be certified consistent with WAC 173-401-520 (Section V.Q.1(c)).

10. Unconstrained Activities

Certain activities that occur at Boeing do not lend themselves to be clearly identified as "administrative changes", "off permit changes", "changes not requiring a permit modification", or "minor/major modifications" as defined in WAC 173-401. These activities may be considered "unconstrained". The term "unconstrained activities" comes from the 1994 preamble to 40 CFR Part 70, which states that 40 CFR Part 70 "is not concerned with changes in those activities that have no bearing on regulated air pollutant emissions. Such activities do not give rise to permit terms, and thus changes to those activities cannot require a revision of permit terms. Examples of such 'unconstrained activities' could include moving process equipment and conducting routine maintenance activities. Changes to activities that only insignificantly affect regulated air emissions are also not at issue here."

The following activities that have occurred at Boeing fit into the unconstrained activities category. These activities are just examples of the types of activities that could be considered unconstrained. The world of unconstrained activities is broad and can include many other activities besides those listed below.

- Moving a spray booth without making changes to the booth itself or to the activities taking place in the booth
- Adding or replacing stackers at one of the paint hangers
- Adding or replacing tools used to hold aircraft parts in place during the manufacturing process
- Adding or replacing small unheated cups or cans of non-chlorinated solvents used for cleaning
- Adding or replacing equipment used for mechanical cutting, drilling, or machining of metal, wood, composite, or plastic parts
- Adding or replacing laser cutters for metals

- Adding a portable diesel generators that meet the definition of a "nonroad engine" in Title II of the CAA and in 40 CFR Part 89 that will be on site for 12 months or less

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. Public Comments and Responses

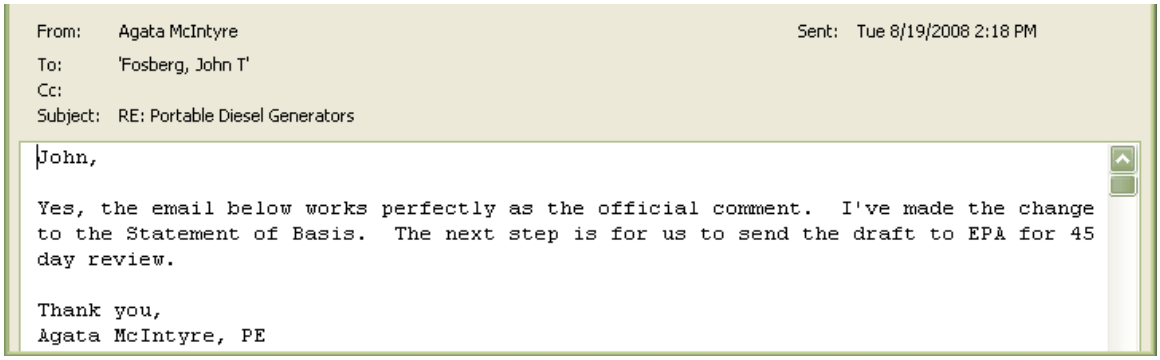
12.1 Summary of 2001-2006 Comments and Responses

The Boeing Everett AOP was originally issued on 5/20/2001. Boeing and EPA Region 10 both had comments on this initial permit issuance. Changes were made to the AOP to address these comments. After issuing the AOP, Boeing Everett appealed the AOP conditions. Copies of the comments made by EPA and Boeing, along with the corresponding responses, are on file at the Puget Sound Clean Air Agency's office.

During the 5 year permit term, Boeing also requested a number of administrative modifications, a modification to incorporate the reinforced plastic composites NESHAP, and a modification to remove rescinded PSD permits and add new conditions from PSD 91-06 Amendment 2 to the AOP. Copies of the comments and responses to comments from these modifications are on file at the Puget Sound Clean Air Agency's office.

12.2 Comments received during the 30 day public comment review period for the 2008 AOP Renewal

The only comment received during the 30 day public comment period, which commenced on July 7, 2008 and ended on August 5, 2008, was from John Fosberg, Boeing. The comment is documented in the emails below. A change was made to Section 10 of the Statement of Basis as requested by Mr. Fosberg.

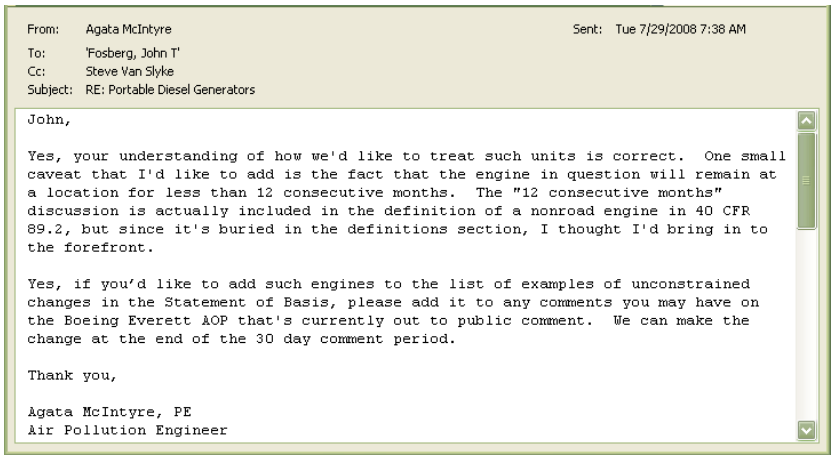


From: Agata McIntyre Sent: Tue 8/19/2008 2:18 PM
To: 'Fosberg, John T'
Cc:
Subject: RE: Portable Diesel Generators

John,

Yes, the email below works perfectly as the official comment. I've made the change to the Statement of Basis. The next step is for us to send the draft to EPA for 45 day review.

Thank you,
Agata McIntyre, PE



From: Agata McIntyre Sent: Tue 7/29/2008 7:38 AM
To: 'Fosberg, John T'
Cc: Steve Van Slyke
Subject: RE: Portable Diesel Generators

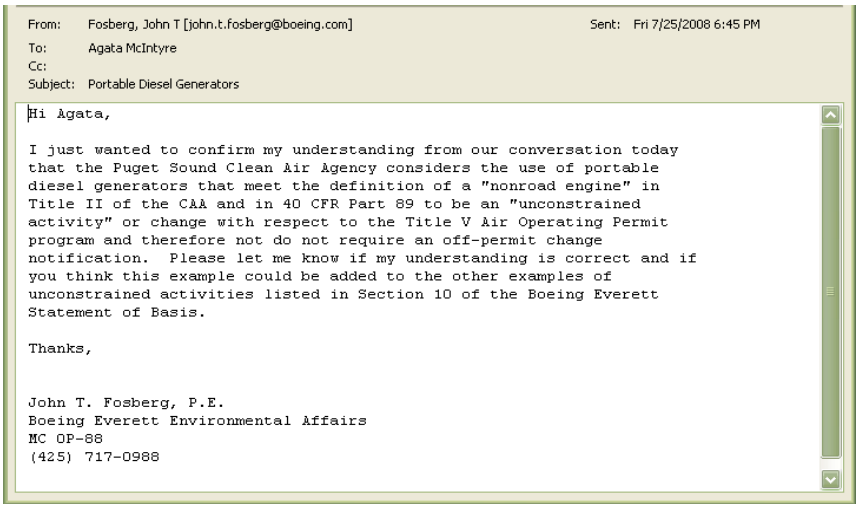
John,

Yes, your understanding of how we'd like to treat such units is correct. One small caveat that I'd like to add is the fact that the engine in question will remain at a location for less than 12 consecutive months. The "12 consecutive months" discussion is actually included in the definition of a nonroad engine in 40 CFR 89.2, but since it's buried in the definitions section, I thought I'd bring in to the forefront.

Yes, if you'd like to add such engines to the list of examples of unconstrained changes in the Statement of Basis, please add it to any comments you may have on the Boeing Everett AOP that's currently out to public comment. We can make the change at the end of the 30 day comment period.

Thank you,

Agata McIntyre, PE
Air Pollution Engineer



From: Fosberg, John T [john.t.fosberg@boeing.com] Sent: Fri 7/25/2008 6:45 PM
To: Agata McIntyre
Cc:
Subject: Portable Diesel Generators

Hi Agata,

I just wanted to confirm my understanding from our conversation today that the Puget Sound Clean Air Agency considers the use of portable diesel generators that meet the definition of a "nonroad engine" in Title II of the CAA and in 40 CFR Part 89 to be an "unconstrained activity" or change with respect to the Title V Air Operating Permit program and therefore not do not require an off-permit change notification. Please let me know if my understanding is correct and if you think this example could be added to the other examples of unconstrained activities listed in Section 10 of the Boeing Everett Statement of Basis.

Thanks,

John T. Fosberg, P.E.
Boeing Everett Environmental Affairs
MC OP-88
(425) 717-0988

13. Administrative Amendments

Administrative Amendment I

On April 13, 2009, we received a request for an administrative modification. The request was to change the Responsible Official to William Loftis.

Puget Sound Clean Air Agency Response:

Change made.

Administrative Amendment 2

On June 1 2009, we received a phone call from Boeing stating that the responsible official's title was incorrectly listed on the first page of the AOP. Mr. Loftis' title should include 777. The entire title should read: V.P./G.M. 777 Program and Everett Site Leader.

Puget Sound Clean Air Agency Response:

Change made.

Administrative Amendment 3

On August 23, 2012, we received a request for an administrative modification. The request was to change the Responsible Official to Elizabeth Lund.

Puget Sound Clean Air Agency Response:

Change made.

Administrative Amendment 4

On June 3, 2019, we received a request for an administrative modification. The request was to change the Responsible Official to Jeffrey Klemann, VP/GM 777/777X Program and Everett Site.

Puget Sound Clean Air Agency Response:

Change made.

Administrative Amendment 5

On August 11, 2020, we received a request for an administrative modification. The request was to change the Responsible Official to Brad Zaback, VP/GM 777/777X Program and Everett Site.

Puget Sound Clean Air Agency Response:

Change made.

Administrative Amendment 6

On February 10, 2023, we received a request for an administrative modification. The request was to change the Responsible Official to Kimberly Pastega, VP/GM 767 Program and Everett Site.

Puget Sound Clean Air Agency Response:

Change made.

Administrative Amendment 7

On January 22, 2024, we received a request for an administrative modification. The request was to change the Responsible Official to Brad Zaback, VP/GM 777/777X Program and Everett Site.

Puget Sound Clean Air Agency Response:

Change made. In addition, we removed the site contact from the front page of the permit. The site contact is Todd Dahlberg at (425) 501-1675.

Administrative Amendment 8

On June 27, 2024, we received a request for an administrative modification. The request was to change the Responsible Official to Jason Clark, VP/GM 777/777X Program and Everett Site. In addition, the applicant requested an update to requirements related to electronic reporting in Section V.M (Compliance Certification) and Section V.Q.1(d) (Reporting Submittal) to align with the updated Agency regulations requiring electronic submittal only.

Boeing Everett also requested an update to electronic recordkeeping, but this change was not made. For general recordkeeping, the requirements do not specify hard copies must be maintained with the possible exception of original strip-chart recordings for continuous monitoring instrumentation. Except where specified in specific regulations, hard copy or electronic records alone are sufficient to satisfy AOP recordkeeping requirements. No change to this section is necessary.

Puget Sound Clean Air Agency Response:

Change made to update Responsible Official and to reporting requirements to align reporting with updated regulations.