Boeing Seattle AOP #21147 Renewal Application

I. Background

Under 40 CFR Part 70 and 71 Boeing Seattle is required to perform a Potential to Emit Analysis to determine if it triggers a Title V operating permit for major sources of air pollutants. Title V threshold permitting would be triggered if any of the following conditions are present at Boeing Renton:

1. The major source threshold for any air pollutant is 100 tons/year (this is the "default value").
2. Lower thresholds apply in non-attainment areas (but only for the pollutant that are in non-attainment). (See Table 1 below).
3. Major source thresholds for "hazardous air pollutants" (HAP) are 10 tons/year for a single HAP or 25 tons/year for any combination of HAP.

Table 1. Lower Major Source Thresholds for non-Attainment Areas.

Non-attainment Area Designation	VOC or NOx	CO	PM-10
Marginal	100 tpy		
Moderate	100 tpy	100 tpy	100 tpy
Serious	50 tpy	50 tpy	70 tpy
Ozone transport region	50 tpy (VOC only)		
Severe	25 tpy		
Extreme	10 tpy		

The following sections describe the potential to emit for air pollutants from the emissions units currently operating. The total emissions are summarized and a determination is made on whether PTE thresholds are triggered for Title V permit for each air pollutant.

A. VOC and HAPs

Boeing Seattle generates VOC and HAP emissions from solvent cleaning, specialty coating use, and primer and topcoat operations. These emissions are derived primarily from surface coating and cleaning operations, which are the 737 final decorative paint process (737 Paint) which includes 4 paint hangars, and other paint booths. For the purpose of estimating PTE emissions of VOC and HAP, PSD permit #90-04 allows for maximum 3-380 VOC emissions of 109 tons/year. As both the 3-380 and 3-369 have two paint hangars each, we can assume that the 4 paint hangars at North Boeing Field have a PTE of roughly 218 tons/year. The highest level of VOC emissions at the 3-380 in the past at Seattle (in 2017) was 65 tons VOC. Creating a ratio using the maximum VOC from the 3-380 of 109 tons with the 65 tons in 2015 creates a ratio of 1.68. The highest level of total VOCs emitted was in 2017 at 150 tons. Using the ratio and PSCAA emissions statement we get a PTE of roughly 251.5 lbs of VOC. If we use the same ratio for HAPs, Seattle's total HAP upper limit PTE would be approximately 32 tons HAP/year.

Therefore, the Seattle site's VOC and HAP emissions trigger Title V.

B. PM-10

The biggest source of PM-10 is generated by our surface coating operations, Dust Collectors, and Tankline. PM-10 emissions also result from the operation of boilers and process heaters that use natural gas and by emergency generators that combust diesel fuel. The PM-10 PTE estimates for these sources assume operation of natural gas burning sources at their maximum capacity 8760 hours/year and the emergency engines operate at their maximum capacity for 500 hours/year. Note that PTE emissions from combustion sources using this methodology are about an order of magnitude higher than actual emissions.

TOTAL PM-10 PTE: 20 tons is < 100 tons, therefore does not trigger Title V.

C. Carbon Monoxide (CO)

Carbon Monoxide emissions are generated mainly by combustion sources from boilers, furnaces, and building HVAC systems that use natural gas, and by emergency generators and non-road engines that combust Diesel fuel. The CO PTE estimates were performed by our emissions estimation software assuming the combustion sources operate at their maximum capacity 8760 hours per year and the emergency engines operate at their maximum capacity for 500 hours per year. Note that PTE emissions from combustion sources using this methodology are about an order of magnitude higher than actual emissions.

CO PTE from all sources: 103 tons is > 100 tons, therefore triggers Title V.

D. Nitrogen Oxides (NOx)

Nitrogen Oxides emissions are generated mainly by combustion sources from boilers, furnaces, and building HVAC systems that use natural gas, and by emergency generators and non-road engines that combust Diesel fuel. The NOx PTE estimates were performed by our emissions estimation software assuming the combustion sources operate at their maximum capacity 8760 hours per year and the emergency engines operate at their maximum capacity for 500 hours per year. Note that PTE emissions from combustion sources using this methodology are about an order of magnitude higher than actual emissions.

NOx PTE from all sources: 513 tons is > 100 tons, therefore triggers Title V.