Appendix C.1 Monitoring Documentation - EPA ANR Approval Letters

C.1.1 2004 EPA ANR Approval Letter Burbank to replace Wallula Farm

C.1.2 2011 EPA ANR Approval Letter – Kennewick replaces Burbank

C.1.3 2018 EPA ANR Approval Letter – Burbank Reinstated

C.1.3.1 2019 ANR- Ecology Response to EPA ANR Approval Letter –Burbank Reinstated

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

Reply To
Attn Of: AWT-107

04 NOV 2003

Mr. Mike Ragan
Washington Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

Re: Approval of the Burbank PM_{10} Monitoring Site as the Representative Monitor for the Wallula PM_{10} Nonattainment Area

Dear Mr. Ragan:

The Department of Ecology (Ecology) discontinued operation of the Wallula -Worden Farms PM_{10} Federal Reference Monitors (FRM) site on October 31, 2003, according to an agreement with the landowner of that site. Since the Wallula area is a nonattainment area (NAA) for PM_{10}, continued monitoring of PM_{10} concentrations is required in order to determine the area's attainment status in the future. In agreement with EPA Region 10, Ecology established two alternate PM_{10} FRM sites in the Wallula area as candidate sites for replacing the existing Wallula -Worden Farms site.

The first alternate monitoring site, Wallula Port (#53-071-0003), was located on Port of Walla Walla property south of Dodd Road and along highway 12. The second monitoring site, Burbank (#53-071-0006), was located at Burbank public school. In addition to the FRM, a PM_{10} TEOM and a meteorological tower were also set up at the Burbank site. The Burbank site is about seven miles west-north-northwest of the Wallula site and is the most populated location within the Wallula NAA. PM_{10} FRM monitoring was conducted simultaneously at the Wallula - Worden Farms site and the two alternate sites on a one-in-three day schedule during the period of November 2002 through October 2003. In a report titled, "Evaluation of Two Candidate Sites for Replacement of the Wallula PM_{10} Monitoring Site", dated January 5, 2004, Ecology evaluated and compared the data collected at all three sites. The results of this evaluation showed a strong correlation between the PM_{10} concentrations measured at the Wallula -Worden Farms site and the Burbank site. This correlation between these two sites indicates that the Burbank site is exposed to the same air mass as the Wallula -Worden Farms site. The results also demonstrated that PM_{10} concentrations measured at the Wallula Port site did not correlate well with PM_{10} concentrations measured at the Wallula -Worden Farms site.

Based on the results of the investigation, Ecology recommended that the Burbank site replace the Wallula-Worden Farms site to track continuing PM_{10} attainment in the Wallula NAA. Ecology also recommended that the Wallula Port site be discontinued. We agree with these recommendations and approve the Burbank site as the permanent replacement for the Wallula - Worden Farms site to measure attainment in the Wallula PM_{10} NAA. We also acknowledge that monitoring at the Wallula Port site has been discontinued.

If you have any questions on this topic, please contact Keith Rose at (206) 553-1949.

Sincerely,

Mary K Manaro for

Mahbubul Islam, Manager
State and Tribal Programs Unit
Office of Air, Waste and Toxics

ed. note: Ecology's justification for removal of the Burbank monitor is on pages 52 and 53 of the 2010 5-Year Network Assessment, publication 10-02-016, published in 2010 (Laurie Hulse-Moyer, lead author

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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OFFICE OF
AIR, WASTE AND TOXICS

DEC 07 2011

Mr. Mike Ragan
Air Monitoring Coordinator
WA Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Ragan:

We have evaluated the 2011 Washington Ambient Air Monitoring Network Plan, which describes the WA monitoring network for 2011-2012. Following are proposed specific network changes and EPA's responses:

1) Ecology continues to recommend discontinuance of the Burbank PM10 site. Through analysis in the 2010 Network Assessment, the Burbank PM10 site was deemed to be redundant with the Kennewick PM10 site. These two monitors are located at stations within the same airshed, are about 7 miles apart, and can likely serve as surrogates for each other. Burbank records slightly higher concentrations overall though Kennewick is sometimes higher during windblown dust events. Ecology also intends to relocate the Burbank meteorology equipment to the Kennewick site. Ecology has added a graph to the plan showing the Burbank daily PM_{10} concentrations from 12/25/2002 through 6/30/2011. All exceedances of the standard during that period are documented exceptional events due to high winds. There have been no exceedances of the standard at this site in the past 3 years. Ecology has also added a statement to the plan which reads:

   The Kennewick monitor will replace the Burbank monitor for the purposes of determining compliance with the PM10 NAAQS in the Wallula maintenance area, determining if any contingency action levels are triggered in the Wallula maintenance area, and meeting the monitoring provisions in sections 4.4 and 4.5 of the Wallula maintenance plan.

   Response: Ecology has demonstrated a good correlation between the Burbank PM10 monitor and the Kennewick PM10 monitor in the discussion on pages 13-14 of the 2011 network plan. In addition, Ecology added a graph to the plan showing the data trends at this site since the end of 2002, and the above statement stating that the Kennewick monitor will "replace" the Burbank monitor for all regulatory purposes. EPA approves this change.

2) The Marysville site has been relocated on the school grounds. The new Marysville site is the result of an effort to satisfy both the Marysville School District and Marysville city (codes). The original location was located on a building scheduled for demolition, and therefore no longer viable as a long-term site. Daily PM values at this site have been very close to the NAAQS, therefore Ecology and the Puget Sound Clean Air Agency placed a high value retaining this site on school grounds.
   Response: EPA approves this change.

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3) Relocate the Bremerton Meadowdale site to meet federal monitor siting criteria. The Meadowdale site is a middle-neighborhood scale residential site which currently does not meet EPA siting criteria. PSCAA plans to relocate Meadowdale in 2011. It provides air quality information to a population of 280,000 Kitsap residents.
Response: EPA approves this change.

4) The EPA R10 Tribal air program has recommended, and Ecology concurs, that the PM2.5 continuous monitor at Usk (on the Kalispel reservation) be discontinued.
Response: EPA approves this change.

5) Ecology's network plan requested discontinuing the Spokane 3rd and Washington carbon monoxide monitor based on continued diminishing CO values at that site and the need to reinvest resources in new monitoring efforts. We have since been informed by Ecology that this site will continue to operate for the immediate future. Please correct the discussion on page 6 of the plan about this monitor to say that it will continue to operate.

In addition, EPA requests that Ecology make the following minor changes to the WA monitoring network in 2012:

1. 40 CFR Part 58 Appendix A states that a collocated PM2.5 monitor should be at a site that has a design value (DV) within 20% of the NAAQS (>28 ug/m3). The 2008-10 DV for Ecology's lone collocated FRM site in Spokane is 25 ug/m3, which is outside of this 20% range. EPA recommends that Ecology move its PM2.5 collocated monitor to either Tacoma, Marysville, or Yakima, all which have DVs within 20% of the NAAQS.

2. The Naches and Chelan nephelometers are designated as SLAMS, yet the data from these monitors are not being entered into AQS. Ecology should either begin entering the data from these monitors into AQS, or change the "monitor type" designation for these monitors to "SPM".

The following monitors are designated "core" monitors because they are either: 1) required by 40 CFR Part 58, Appendix D, 2) have a design value near or above the new PM2.5 24-hour standard of 35 ug/m3, or 3) they are NCore pre-cursor gas monitors:

1. PM2.5 FRMs (or Approved Regional Method):
   a) Beacon Hill
   b) Duwamish (primary and co-located)
   c) Crown Zellerbach (primary and co-located)
   d) Tacoma/L Street
   e) Darrington
   f) Marysville
   g) Yakama
   h) Vancouver

2. PM2.5 speciation monitors:
   a) Seattle, Beacon Hill
   b) Tacoma, L Street
   c) Spokane, Ferry Street
   d) Vancouver, 4th and Plain Boulevard
   e) Yakima, South 4th Avenue

3. Pre-cursor gas monitors
   a) Beacon Hill NCore site
   b) Cheeka Peak NCore site

"Core" monitors are those monitors in the network that must be operated with available PM2.5 monitoring funds. The "non-core" PM2.5 monitors in the State's network can be operated at Ecology's discretion with any remaining federal funds or State funds. If you have any questions about our approval of the Washington monitoring network, please contact Keith Rose at (206) 553-1949.

Sincerely,

Debra Suzuki, Manager
State and Tribal Air Program Unit

cc: Chris Hall, OEA
Keith Rose, OAWT
Jeff Hunt, OAWT

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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OFFICE OF
AIR AND WASTE

AUG 13 2018

Ms. Jill Schulte
Ambient Air Monitoring Coordinator
Department of Ecology
State of Washington
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Ms. Schulte:

The U.S. Environmental Protection Agency, Region 10 evaluated the Washington Department of Ecology's 2018 Annual Monitoring Network Plan (ANP) received on June 28, 2018. This approval letter documents Region 10's findings from the review of this ANP.

Based on our review of the ANP, we did not identify any monitoring deficiencies for Washington State's ambient air monitoring network. However, we did identify the following potential network issues, which should be assessed during the remainder of CY 2018. If monitoring is found to be required through this review, Region 10 requests that Ecology identify these network modifications in the 2019 ANP:

1. Regulatory ambient air monitoring for Lead (Pb) is currently not performed by Ecology or its local air programs. Based on EPA's 2014 National Emission Inventory (NEI), two facilities in the State of Washington have ambient air Pb emissions above the 0.5 tons/year threshold that require source oriented Pb monitoring. See 40 CFR Part 58 Appendix D §4.5(a). These facilities are:

    a. Alcoa Primary Metals Intalco Works
        NEI Pb reported emissions at 0.83 Tons/Yr
        EIS ID: 4937811
        4050 Mountain View Rd, Ferndale WA
        Whatcom County

    b. Ardagh Glass
        NEI Pb reported emissions at 0.57 Tons/Yr
        EIS ID: 4985311
        5801 E Marginal Way S, Seattle WA
        King County

    Region 10 recommends that Ecology assess whether the 2014 NEI Pb emissions accurately represent these facilities. If these emission estimates are accurate, Ecology should begin investigating locations suitable for Pb monitoring around these facilities and begin monitoring January 1, 2019. Please notify Region 10 if siting or logistical considerations prohibit Ecology to begin monitoring by this date. Alternatively, if Ecology determines that the 2014 NEI Pb

emissions are incorrect for either or both of these facilities, then instead of siting additional monitors, Ecology should update the annual lead emission estimates in EPA's NEI.

2. As identified in Table 11 of the ANP, multiple Metropolitan Statistical Areas (MSAs) in the State of Washington have fewer PM_{10} monitors than the minimum network sizes specified in Table D-4 of 40 CFR Part 58 Appendix D. During 2018, Ecology and Region 10 plan to assess whether PM_{10} air quality trends and geographical patterns can be accurately represented with the current PM_{10} networks. For those MSAs where additional monitors are not needed to meet these objectives, Region 10 may provide waivers to operate a smaller network than is specified in Section 4.6 of 40 CFR Part 58 Appendix D.

In our review of the ANP, Region 10 made the following observations and provide them for your consideration.

3. Region 10 recommends providing Annual Average Daily Traffic (AADT) counts for each ambient air monitoring site. Without both roadway distances and AADT counts, it is not possible to verify that monitoring scales are appropriate for the specifications provided in Section 6.3 and Figure E-1 of 40 CFR Part 58 Appendix E. Region 10 requests that roadway distances and AADT also be updated in AQS.

4. Region 10 requests that Ecology keep us updated with its plan for establishing an interagency agreement with the Oregon Department of Environmental Quality for jointly meeting minimum monitoring requirements for the Portland-Vancouver-Hillsboro, OR-WA MSA.

Region 10 approves the monitor type change at the Burbank PM_{10} monitor (AQS ID: 53-071-0006) from SPM to SLAMS. Region 10 requests that the effective date of the SLAMS designation for this monitor be January 1, 2018. Emission estimates indicate that an agricultural tilling area source and a point source facility (Simplot Feeders) are the primary anthropogenic PM_{10} sources for this area. The Burbank monitoring location represents the area wide agricultural tilling source and most of the population exposure in the Wallula maintenance area. However, monitoring scales for PM_{10} point sources (e.g., Simplot) are typically neighborhood scale (4 km) or less in size and the Burbank monitor is approximately 10 km from this facility. Furthermore, the Burbank monitoring location is located off axis from the prevailing wind direction. Review of windrose plots indicates that the prevailing winds are from the southwest. Burbank is northwest of the Simplot Feeders facility. As such, the Burbank monitor may not be representative of the ambient air near the Simplot Facility.

Region 10 acknowledges the logistical obstacles in acquiring access to a monitoring location in the Wallula Maintenance Area due to the extensive agricultural land use. This is particularly true near the Simplot Facility. As such, since the Burbank monitor is the sole PM_{10} monitor in the Wallula Maintenance Area, Region 10 approves this monitor as a compliance monitor. However, Region 10 also encourages Ecology to continue to search for a monitoring location closer to the Simplot facility so that the monitoring network would be representative of both the emissions from the maintenance area's predominate point as well as the area sources in the maintenance area.

Region 10 approves the State of Washington's 2018 ANP. Region 10 appreciates the timeliness and detail provided in the ANP. If you have any questions about our approval of the ANP, please contact Doug Jager at (206) 553-2961.

Sincerely,

Gina Bonifacino, Acting Manager
Air Planning Unit

C.1.3.1 2019 Ambient Air Monitoring Network Plan, includes Response to EPA ANR Approval Letter – Burbank Reinstated

Ecology Publication 19-02-015, June 2019, page 21, 22

Burbank site placement: In the 2018 Ambient Air Monitoring Network Plan, Ecology notified EPA of its intent to reclassify the Burbank PM_{10} monitor a permanent SLAMS as of January 1, 2018. Ecology also requested that Burbank be designated the compliance monitor for the Wallula Maintenance Area (WMA) as of the same date. In its response to the 2018 Annual Network Plan, EPA Region 10 approved this change but encouraged Ecology to seek a PM_{10} monitoring location closer to a dominant agricultural source further south in the WMA.

Ecology has historically conducted PM_{10} monitoring closer to the agricultural source referenced by EPA. The compliance monitor for the WMA was located at Wallula Farm (530711001) from 1986 until 2003, at which time the land owner terminated the lease. Ecology contracted with Washington State University (WSU) to conduct a saturation study in 2001. Based on the results of this study and subsequent monitoring by Ecology at multiple sites in the WMA, Ecology determined that Burbank was the most suitable replacement site. EPA concurred with this assessment and approved relocation to the Burbank site in a letter dated November 4, 2004. This analysis and correspondence can be found in Appendix A of the Ecology publication "A Plan for Maintaining Particulate Matter (PM_{10}) Ambient Air Quality Standards in the Wallula PM_{10} Maintenance Area."

The Burbank location was chosen as the most suitable location within the WMA for several reasons. First, Burbank is by far the most populous area in the WMA. As of the 2010 census, 63% of people living in the WMA lived in the town of Burbank. In contrast, the agricultural source referenced by EPA in its response letter is located in a sparsely populated area of private land southeast of Burbank. As of the 2010 census, the population density in the encompassing

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block group was approximately 10 persons per square mile, relative to a population density of approximately 377 persons per square mile in Burbank. Source-oriented monitoring in this agricultural area would not be representative of population exposure.

The selection of Burbank as a neighborhood-scale site for population-oriented monitoring is consistent with the objectives of Ecology's ambient air monitoring network. In addition, there is a historical PM_{10} monitoring record at Burbank from 2002 to 2011, which allows for comparisons between current and past monitoring data. Finally, as noted by EPA, the logistics of establishing and maintaining a long-term monitoring site in an area dominated by private land are exceedingly challenging. As the Burbank School District owns the property on which the Burbank site is located and is amenable to ongoing monitoring, Ecology anticipates that monitoring can continue uninterrupted at Burbank through the duration of the maintenance period.

In its August 13, 2018 response letter to the 2018 ANP, EPA Region 10 asserts that Burbank is not sited to capture impacts from agricultural sources in the WMA under prevailing wind conditions. However, an analysis of the meteorological data collected at the Burbank site from February 2018 – April 2019 shows that the dominant wind direction is from the east, followed by the southeast. As Burbank is located northwest of the source, Ecology maintains that it is well-sited to capture both population-oriented exposure and impacts downwind of nearby agricultural sources.

For the reasons stated above, Ecology has no plans to pursue source-oriented PM_{10} monitoring elsewhere in the WMA.