

Argos) exceeding 1,500 pounds curb weight, not including trailers.

Dated: July 30, 2014.

**Rachel Jacobson,**

*Principal Deputy Assistant Secretary for Fish and Wildlife and Parks.*

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## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 52

[EPA-R10-OAR-2013-0713; FRL-9915-40-Region 10]

#### Approval and Promulgation of Implementation Plans; Washington: Kent, Seattle, and Tacoma Second 10-Year PM<sub>10</sub> Limited Maintenance Plan

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** The EPA is approving a limited maintenance plan submitted by the State of Washington on November 29, 2013, for the Kent, Seattle, and Tacoma maintenance areas for particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM<sub>10</sub>). The EPA first identified these areas in 1987 as potentially violating the 24-hour PM<sub>10</sub> national ambient air quality standard (NAAQS). All three areas have been attaining the NAAQS since 1990, due to State Implementation Plan (SIP) measures such as a residential wood smoke control program, a prohibition on outdoor burning, and industrial controls. The areas were redesignated to attainment for the 24-hour PM<sub>10</sub> NAAQS effective May 2001, when the EPA approved the first 10-year maintenance plan. This limited maintenance plan covers the second 10-year maintenance period ending in May 2021. The EPA received one set of adverse comments focused primarily on proposed coal export terminals that may be built in the Pacific Northwest or possible expansion of coal export terminals in Canada that may impact the three maintenance areas in the future.

**DATES:** This final rule is effective September 19, 2014.

**ADDRESSES:** The EPA has established a docket for this action under Docket ID No. EPA-R10-OAR-2013-0713. All documents in the docket are listed on the [www.regulations.gov](http://www.regulations.gov) Web site. Although listed in the index, some information is not publicly available, e.g., Confidential Business Information (CBI) or other information the disclosure

of which is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through [www.regulations.gov](http://www.regulations.gov) or in hard copy at the Air Programs Unit, Office of Air Waste and Toxics, EPA Region 10, 1200 Sixth Avenue, Seattle, WA 98101. The EPA requests that if at all possible, you contact the individual listed in the **FOR FURTHER INFORMATION CONTACT** section to view the hard copy of the docket. You may view the hard copy of the docket Monday through Friday, 8:00 a.m. to 4:00 p.m., excluding Federal holidays. **FOR FURTHER INFORMATION CONTACT:** Jeff Hunt at telephone number: (206) 553-0256, email address: [hunt.jeff@epa.gov](mailto:hunt.jeff@epa.gov), or the above EPA, Region 10 address.

#### **SUPPLEMENTARY INFORMATION:**

##### **Definitions**

For the purpose of this document, we are giving meaning to certain words or initials as follows:

- (i) The words or initials “Act” or “CAA” mean or refer to the Clean Air Act, unless the context indicates otherwise.
- (ii) The words “EPA”, “we”, “us” or our mean or refer to the United States Environmental Protection Agency.
- (iii) The initials “SIP” mean or refer to State Implementation Plan.
- (iv) The words “Washington” and “State” mean the State of Washington.

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##### **I. Background Information**

On August 7, 1987, the EPA identified portions of Kent, Seattle, and Tacoma as “Group I” areas of concern for having a greater than 95% probability of violating the 24-hour PM<sub>10</sub> NAAQS (52 FR 29383). On November 15, 1990, the Group I areas of Kent, Seattle, and Tacoma were designated as nonattainment for PM<sub>10</sub> by operation of law upon enactment of the Clean Air Act Amendments. The Washington Department of Ecology (Ecology) and the Puget Sound Clean Air Agency (PSCAA) worked with the communities of Kent, Seattle, and Tacoma to establish PM<sub>10</sub> pollution control strategies. Primary control strategies for the three areas included a residential wood smoke control program, a prohibition on open burning, and industrial emission controls. These control measures were highly successful, with monitoring data

showing Kent, Seattle, and Tacoma meeting the PM<sub>10</sub> NAAQS since 1987, 1990, and 1989, respectively, with further declines in PM<sub>10</sub> levels in subsequent years.

The EPA fully approved the PM<sub>10</sub> attainment plans for Kent, Seattle, and Tacoma on July 27, 1993, October 26, 1995, and October 25, 1995, respectively (58 FR 40059, 60 FR 54812, and 60 FR 54599). The EPA then approved a 10-year maintenance plan redesignating all three areas from nonattainment to attainment, making them maintenance areas effective May 14, 2001 (66 FR 14492). The limited maintenance plan that the EPA is approving in this final rule was submitted to fulfill the second 10-year planning requirement in section 175A(b) of the Clean Air Act, to ensure compliance with the PM<sub>10</sub> NAAQS through May 14, 2021. The EPA proposed approval of this limited maintenance plan on December 26, 2013 (78 FR 78311).

##### **II. Response to Comments**

On March 10, 2014, the EPA received one set of comments opposing the EPA’s proposed approval of the PM<sub>10</sub> limited maintenance plan for Kent, Seattle and Tacoma. The comments primarily focus on the potential impact that three coal export terminals, proposed to be built in the Pacific Northwest, could have on PM<sub>10</sub> concentrations in the maintenance areas. The commenter also raises the possibility of other similar impacts if there is an increase in locomotive traffic related to tar sands/oil shipments or expansion of Canadian coal export terminals. Lastly, the commenter questions the methodology used by the EPA, PSCAA, and Ecology in estimating emissions in the 2011 emissions inventory from current rail traffic to Canadian coal export terminals that may pass through the maintenance areas.

These comments are similar to comments previously submitted on February 22, 2013, related to emissions impacts of locomotive coal transport in the emissions inventory for the Tacoma fine particulate matter (PM<sub>2.5</sub>) nonattainment area (Docket No. EPA-R10-OAR-2012-0712). The EPA responded to these comments in the May 29, 2013 final rulemaking approving the inventory explaining that we found no trends of increased PM<sub>2.5</sub> impacts from coal dust at the chemical speciation monitor using data as of 2011, or increases in ambient concentrations of PM<sub>2.5</sub> generally, corresponding to the increased locomotive traffic from 2008 to 2011

cited by the commenter (78 FR 32131).<sup>1</sup> The EPA also notes that the Washington State Environmental Policy Act (SEPA) and the National Environmental Policy Act (NEPA) processes for reviewing coal export proposals cited in the February 22, 2013 letter are ongoing. The EPA concluded that many of the issues raised by the commenter about the potential impacts of future projects were beyond the scope of the EPA's action on the Tacoma PM<sub>2.5</sub> nonattainment area control measures and baseline emissions inventory.

Due to the limited nature of this final action, we are only responding to those comments directly relevant to the Kent, Seattle, and Tacoma second 10-year maintenance plan for PM<sub>10</sub>. In reviewing the geographic distance and the likely rail routes, the EPA does not expect significant PM<sub>10</sub> impacts to the Kent, Seattle, and Tacoma maintenance areas from the terminal proposals for Longview, Washington or Port of Morrow, Oregon cited by the commenter. Other potential future impacts, such as proposals for the Gateway Pacific Terminal at Cherry Point, Washington or the expansion of Canadian terminals, are not far enough along in their development that the scope or impact of their emissions can be estimated with any degree of certainty. For example, the commenter questions future impacts from empty rail cars returning through the maintenance areas if the Gateway Pacific Terminal is constructed or if rail traffic increases due to the expansion of Canadian terminals. However, it is not known whether empty rail cars would return through the maintenance area or whether the empty cars could use the more direct but mountainous route that bypasses the maintenance area entirely. Such future route decisions will depend on several rail system factors.

Similarly, it is also unclear whether terminal operators would implement measures to address potential fugitive dust. As noted by the commenter, the draft Environmental Impact Statement (EIS) for the Gateway Pacific proposal will not be complete for at least another year and it is uncertain if washing of rail cars or other measures to reduce fugitive dust would be implemented should that facility be built. Given the range of uncertainty surrounding the proposed terminals, including whether the terminals will be constructed, the location(s) of such terminals, and decisions of terminal and railway operators that would affect rail routes, locomotive emissions and fugitive dust

emissions, the EPA believes the level of project-specific inquiry suggested by the commenter is beyond the scope of the Kent, Seattle, and Tacoma second 10-year maintenance plan for PM<sub>10</sub>.

Accordingly, the EPA is responding to four parts of the March 10, 2014 comments that are pertinent to the limited maintenance plan: Ensuring maintenance through the second 10-year maintenance period, the EPA's approval of a monitoring system modification for PM<sub>10</sub>, the proximity of monitors for determining compliance with the PM<sub>10</sub> NAAQS, and the adequacy of the State's current emissions inventory for PM<sub>10</sub>.

#### *A. Ensuring Maintenance Through the Second 10-Year Maintenance Period*

*Comment:* The commenter is concerned that proposed coal export terminals, such as the proposed Gateway Pacific Terminal at Cherry Point near Bellingham, Washington, could have dramatic impacts on the Kent, Seattle, and Tacoma PM<sub>10</sub> maintenance areas if the terminals were to be approved and constructed as proposed. Specifically, the commenter is concerned that, if constructed, the proposed terminals could result in greater coal train traffic through the maintenance areas with corresponding increases in locomotive and fugitive coal dust emissions that could raise PM<sub>10</sub> concentrations in the area. The commenter also raises concern that the expansion of existing Canadian coal export terminals or increased shipments of tar sand and/or Bakken oil to refineries could cause similar increases in PM<sub>10</sub>. The commenter claims that because the PM<sub>10</sub> limited maintenance plan for Kent, Seattle and Tacoma does not fully account for potential increases in locomotive and fugitive coal dust emissions should the proposed terminals be constructed, or existing facilities expanded, it does not ensure maintenance and therefore must be disapproved by the EPA. The commenter further states that the maintenance plan and contingency measures do not contain regulatory mechanisms to address potential increases in PM<sub>10</sub> during the maintenance period.

*Response:* Many of the proposed coal export terminals cited by the commenter are undergoing NEPA and/or SEPA review and it is not known whether the facilities will be constructed, and if they are constructed, the size and scope of operations that would be authorized. Nor is there certainty about other projects cited by the commenter, such as the expansion of Canadian export terminals or the potential future growth in the shipment of oil to refineries. In

addition, as the commenter notes, there are several possible rail routes that could be used and it is not known whether locomotive traffic associated with coal or oil shipments would traverse or bypass the maintenance areas or, as may be the case, whether routes would constantly vary based on decisions by the rail operator.

At this time, due to the speculative nature of the projects, neither PSCAA nor Ecology can reasonably evaluate the potential impact of the projects on future emissions growth in the maintenance areas. However, based on our experience to date with these areas, we believe the dramatic PM<sub>10</sub> impacts forecasted by the commenter are likely overstated. A recent study entitled *Diesel Particulate Matter Emission Factors and Air Quality Implications from In-Service Rail in Washington State, USA* by Daniel A. Jaffe, et al. ("the Jaffe study") measured a PM<sub>10</sub> to PM<sub>2.5</sub> ratio of 1.15 for coal trains.<sup>2</sup> This means that the vast proportion (87%) of the total PM<sub>10</sub> mass measured from coal trains in the Jaffe study was PM<sub>2.5</sub>, with only a minor fraction (13%) of particulate mass falling within the PM<sub>2.5</sub> to PM<sub>10</sub> range. As noted in the previous May 29, 2013 response to the commenter, the EPA found no trend of increased PM<sub>2.5</sub> impacts from coal dust at the Tacoma chemical speciation monitor using data as of 2011, or increases in ambient concentrations of PM<sub>2.5</sub> generally, corresponding to the increased locomotive traffic from 2008 to 2011 (78 FR 32131).<sup>3</sup> Using the close relationship between PM<sub>10</sub> and PM<sub>2.5</sub> found in the Jaffe study, the EPA would expect that any dramatic rise in PM<sub>10</sub> levels would have a corresponding rise in PM<sub>2.5</sub> levels. Instead, after accounting for year-to-year meteorological variations, the general PM<sub>2.5</sub> trend appears to be declining despite increased coal export traffic between 2008 and the present.

The EPA also reviewed Federal Reference Method (FRM) and Federal Equivalent Method (FEM) monitored PM<sub>10</sub> and PM<sub>2.5</sub> levels at the nearby Beacon Hill monitoring site which is located approximately one mile from the rail lines that pass through Seattle.<sup>4</sup> In recent years, 2011 to 2014, there have been no observations of PM<sub>10</sub> at the

<sup>2</sup> Calculated from Figure 7, Jaffe, D. A., H. Greg, S. Malashanka, J. Putz, J. Thayer, J. L. Fry, B. Ayres, J. R. Pierce, Diesel particulate matter emission factors and air quality implications from in-service rail in Washington State, USA, Atmospheric Pollution Research 5, 344–351, 2014.

<sup>3</sup> See *Tacoma PMF Soil Results* included in Docket No. EPA-R10-OAR-2012-0712.

<sup>4</sup> See *Beacon Hill monitoring* included in the docket for this action.

<sup>1</sup> See *Tacoma PMF Soil Results* included in Docket No. EPA-R10-OAR-2012-0712.

Beacon Hill FRM monitor above  $35 \mu\text{g}/\text{m}^3$ , let alone the  $\text{PM}_{10}$  standard of  $150 \mu\text{g}/\text{m}^3$ . In addition, while the rail transport of coal is new to the Kent, Seattle, and Tacoma maintenance areas, rail traffic of coal nationally, including Powder River Basin (PRB) coal, is not. In considering the dramatic rise in future  $\text{PM}_{10}$  emissions predicted by the commenter, the EPA would expect to have recorded observations of similar dramatic  $\text{PM}_{10}$  impacts at monitors in other areas of the nation, especially the East and Midwest where heavy rail traffic of coal has been prevalent for decades. The EPA is not aware of any current monitors exhibiting such dramatic  $\text{PM}_{10}$  impacts from coal train dust.

The EPA, Ecology, and PSCAA are fully committed to ensuring maintenance through the second 10-year maintenance period. Contrary to the commenter's assertion, the qualification criteria for the limited maintenance plan option do provide a regulatory mechanism to address the commenter's primary concern that rapid and significant increases in locomotive and fugitive coal dust emissions could result in an exceedance of the  $\text{PM}_{10}$  NAAQS. Under the August 9, 2001 limited maintenance plan guidance (Memorandum from Lydia Wegman, Director, Air Quality Standards and Strategies Division, titled "Limited Maintenance Plan Option for Moderate  $\text{PM}_{10}$  Nonattainment Areas"), as part of the qualification criteria, the EPA sets a 5-year average margin of safety threshold of  $98 \mu\text{g}/\text{m}^3$ , well below the  $150 \mu\text{g}/\text{m}^3$  24-hour  $\text{PM}_{10}$  NAAQS. To continue qualifying for the limited maintenance plan option, a state is required to recalculate the 5-year average  $\text{PM}_{10}$  emissions annually to assure the averages for the areas continue to remain below the  $98 \mu\text{g}/\text{m}^3$  margin of safety. Emission increases that result in an exceedance of the  $98 \mu\text{g}/\text{m}^3$  margin of safety require a state to take actions to reduce  $\text{PM}_{10}$  concentrations and provide one additional opportunity to requalify for the limited maintenance plan option. If efforts to reduce  $\text{PM}_{10}$  concentrations fail, or if they succeed but the area continues to experience increases in  $\text{PM}_{10}$  concentrations, the limited maintenance plan option will no longer be available and a state will be required to submit a full maintenance plan, including a maintenance demonstration and adequate contingency measures, within 18 months.

The estimated 5-year average  $\text{PM}_{10}$  design values in the areas are:  $46 \pm 3 \mu\text{g}/\text{m}^3$  for Kent,  $50 \pm 5 \mu\text{g}/\text{m}^3$  for Seattle, and  $58 \pm 8 \mu\text{g}/\text{m}^3$  for Tacoma (estimated using

a  $\text{PM}_{2.5}$  correlation method discussed in more detail below). Even assuming a certain level of statistical error, all of these estimates are well below both the  $98 \mu\text{g}/\text{m}^3$  margin of safety and the  $150 \mu\text{g}/\text{m}^3$  24-hour NAAQS. In its limited maintenance plan submission, PSCAA committed to conduct an annual recalculation of the 3-year and 5-year design value estimates. Any increases in future estimated design values provide PSCAA an opportunity to assess and address  $\text{PM}_{10}$  increases to continue qualifying for the limited maintenance plan option. Based on the data and trends for the Kent, Seattle, and Tacoma maintenance areas, the EPA believes that the limited maintenance plan is protective of the  $\text{PM}_{10}$  NAAQS. If the projects cited by the commenter are built and cause a corresponding increase in  $\text{PM}_{10}$  concentrations such that the margin of safety is exceeded, the limited maintenance plan requires appropriate consequences that would address the increase in  $\text{PM}_{10}$  concentrations and/or revoke the area's ability to qualify for a limited maintenance plan and require a full maintenance plan within 18 months.

Lastly, based on our review of the data and emission sources, a violation of the 24-hour  $\text{PM}_{2.5}$  standard would happen well before a potential violation of the 24-hour  $\text{PM}_{10}$  standard.<sup>5</sup> The  $\text{PM}_{10}$  to  $\text{PM}_{2.5}$  correlation analysis provided in the limited maintenance plan shows that  $\text{PM}_{2.5}$  levels would need to reach  $122 \mu\text{g}/\text{m}^3$  for Kent,  $113 \mu\text{g}/\text{m}^3$  for Seattle, and  $114 \mu\text{g}/\text{m}^3$  for Tacoma before a violation of the 24-hour  $\text{PM}_{10}$  standard is likely. Even factoring in the commenter's doubts about the accuracy of the correlation analysis discussed below, these estimates provide a significant margin of safety considering the 24-hour  $\text{PM}_{2.5}$  standard of  $35 \mu\text{g}/\text{m}^3$ . As shown in the Jaffe study, and based on our knowledge of sources in these maintenance areas,  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$  emissions are closely intertwined. Any effort to address  $\text{PM}_{2.5}$  nonattainment would have the co-benefit of reducing  $\text{PM}_{10}$ .

In considering all the factors described above, the EPA has determined that a limited maintenance plan that relies on the  $98 \mu\text{g}/\text{m}^3$  margin of safety threshold for  $\text{PM}_{10}$  is both reasonable and protective in ensuring continued maintenance, even as the mix of emission sources may change over time.

<sup>5</sup> See page 26 of the SIP submittal and the discussion on  $\text{PM}_{10}/\text{PM}_{2.5}$  correlation in the section below.

#### B. The EPA's Approval of a Monitoring System Modification for $\text{PM}_{10}$

*Comment:* The commenter raises concern that monitoring which relies on current  $\text{PM}_{2.5}$  monitors and historical  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$  correlation data does not accurately capture the effects of changing  $\text{PM}_{10}$  emissions over time from sources such as fugitive coal dust or other particulate matter from increased locomotive traffic. The commenter also questions the accuracy of the  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$  correlation analysis, noting specific data points where the monitored observation greatly exceeded the statistical modeling estimate.

*Response:* As described in the EPA's December 26, 2013 **Federal Register** publication, the EPA proposed approval of a monitoring system modification under 40 CFR 58.14(c)(3) which states that any state or local air monitor station (SLAM) may be discontinued for any pollutant, provided the monitor has not measured violations of the applicable NAAQS in the previous five years, and the approved SIP provides for a specific, reproducible approach to representing the air quality of the affected county in the absence of actual monitoring data. See 78 FR 78311. In the case of the Kent, Seattle, and Tacoma maintenance areas, the EPA proposed using existing  $\text{PM}_{2.5}$  monitors and correlated  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$  data to estimate  $\text{PM}_{10}$  emissions. The EPA agrees with the commenter that  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$  correlations do vary over time and location as the mix of emission sources change. However, for the reasons described below, the EPA has determined that the monitoring system modification proposed under 40 CFR 58.14(c)(3) is both technically sound and protective of human health and the environment with respect to the  $\text{PM}_{10}$  NAAQS.

Ecology, as part of the approved monitoring network plan, maintains collocated  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$  FRM and FEM monitors at the nearby Beacon Hill site in Seattle.<sup>6</sup> This monitoring site provides the EPA access to ongoing collocated  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$  data, similar to the historical data calculated for the Kent, Seattle, and Tacoma maintenance areas. Following the same methodology used by PSCAA and Ecology, the EPA calculated Beacon Hill  $\text{PM}_{10}$  to  $\text{PM}_{2.5}$  ratios for the winter period using 2003–2006 data (0.99) and 2011–2013 data (1.37). PSCAA and Ecology's calculated  $\text{PM}_{10}$  to  $\text{PM}_{2.5}$  ratios for Kent (1.22), Seattle (1.26), and Tacoma (1.29) all fall within the range of the Beacon Hill data for the winter period calculated by the

<sup>6</sup> 2012 Ambient Air Monitoring Network Report and October 25, 2012 Network Approval Letter, included in the docket for this action.

EPA. In the summer period, the EPA also calculated Beacon Hill PM<sub>10</sub> to PM<sub>2.5</sub> ratios for 2003–2006 data (1.57) and 2011–2013 data (1.70). The historical summer PM<sub>10</sub> to PM<sub>2.5</sub> ratios calculated by PSCAA and Ecology for Kent (2.07), Seattle (1.83), and Tacoma (2.44) are all greater than the PM<sub>10</sub> to PM<sub>2.5</sub> ratio calculated by the EPA for Beacon Hill (i.e., the PSCAA and Ecology PM<sub>10</sub> to PM<sub>2.5</sub> ratios likely err on the side of overestimating PM<sub>10</sub> relative to the results calculated by the EPA).

The information above is relevant because the Jaffe study found that the vast proportion (87%) of the total PM<sub>10</sub> mass measured from coal trains was PM<sub>2.5</sub>. Over time, if rail traffic of coal becomes a more dominant factor in the emissions mix as suggested by the commenter, the PM<sub>10</sub> to PM<sub>2.5</sub> ratio will be driven closer to the 1.15 ratio found in the Jaffe study.<sup>7</sup> Thus, the PM<sub>10</sub> to PM<sub>2.5</sub> ratios used for Kent (2.07), Seattle (1.83), and Tacoma (2.44) will likely err on the side of overestimating PM<sub>10</sub> levels and are inherently more protective than the ratio measured in the recent Jaffe study for coal train emissions. It is also important to note that the nephelometers used by PSCAA in all three maintenance areas measure light scatter at one second intervals and do not exclude the PM<sub>2.5–10</sub> particle range. Therefore, the commenter's concern about a sudden burst of coal dust in the PM<sub>2.5–10</sub> particle range would indeed be measured by the instruments.

Finally, the commenter questions the accuracy of the PM<sub>10</sub> and PM<sub>2.5</sub> correlation analysis, noting specific data points where the monitored observation exceeded the statistical modeling estimate. The EPA raises two points in response to this comment. First, the exact statistical fit of each data point is less important than ensuring there is no bias in the models. In this case, the EPA is satisfied that the slopes calculated by PSCAA are representative of the data (i.e. for the outlier data points identified by the commenter where the models underestimate actual PM<sub>10</sub> emissions, the EPA can find an equal balance of data points where the models overestimate actual PM<sub>10</sub> emissions). Second, concern over the statistical fit of the models might be greater but for the fact that all of the data points collected over the entire eight years of collocated monitoring, including the outliers identified by the commenter,

<sup>7</sup> Calculated from Figure 7, Jaffe, D. A., H. Greg, S. Malashanka, J. Putz, J. Thayer, J. L. Fry, B. Ayres, J. R. Pierce, Diesel particulate matter emission factors and air quality implications from in-service rail in Washington State, USA, Atmospheric Pollution Research 5, 344–351, 2014.

were all well below the 150 µg/m<sup>3</sup> NAAQS and also below the 98 µg/m<sup>3</sup> margin of safety. Considering the form of the PM<sub>10</sub> NAAQS, which allows a certain degree of outliers, the EPA believes it is highly unlikely that use of the statistical correlation would result in undetected violations of the PM<sub>10</sub> NAAQS.<sup>8</sup>

The EPA recognizes the importance of FRM and FEM monitoring. The limited maintenance plan includes a trigger to reestablish FRM or FEM PM<sub>10</sub> monitoring should PM<sub>10</sub> levels reach the 98 µg/m<sup>3</sup> margin of safety threshold. Reestablishing the FRM and FEM above the margin of safety means that violations of the PM<sub>10</sub> NAAQS and triggers for contingency measures would be assessed using PM<sub>10</sub> monitoring data collected by an FRM or FEM. However, the EPA also recognizes that federal, state, and local monitoring resources are finite. Agency resources to reestablish FRM or FEM PM<sub>10</sub> monitoring, as requested by the commenter, would likely be at the expense of PM<sub>2.5</sub> monitoring or other important monitoring needs. Considering the far more pressing and likely greater risks posed by PM<sub>2.5</sub> as described above, the EPA is approving the monitoring system modification under 40 CFR 58.14(c)(3).

#### C. The Proximity of Monitors for Determining Compliance With the PM<sub>10</sub> NAAQS

*Comment:* The commenter broadly asserts that the monitoring system modification proposed by the EPA violates 40 CFR part 58, Appendix D for comparing an area's air pollution levels to the NAAQS, as discussed above. Included in the commenter's discussion are concerns that, the "EPA offers no evidence that the placement of the monitors is appropriate for monitoring the trains" and "[t]he Kent monitor is a neighborhood scale site to be representative of the Kent Valley Area, not coal trains."

*Response:* Many of the issues raised by the commenter, such as the request for trackside microscale monitoring, are discretionary state or local agency choices rather than a failure on the part of Washington to meet 40 CFR part 58, Appendix D requirements. Appendix D to Part 58—*Network Design Criteria for Ambient Air Quality Monitoring* describes how data from FRM, FEM, and approved regional method (ARM) monitors will be used for comparing an area's air pollution levels to the

<sup>8</sup> The twenty-four-hour average concentration of PM<sub>10</sub> in the ambient air must not exceed 150 µg/m<sup>3</sup> more than one time per year, on a three-year average.

NAAQS. Section 4.6 of the *Pollutant-Specific Design Criteria for SLAMS Sites* contains the specific requirements for PM<sub>10</sub>. As discussed in section 4.6(b), the EPA determined that the most important spatial scales to effectively characterize the emissions of PM<sub>10</sub> from both mobile and stationary sources are the middle scales and neighborhood scales. Section 4.6(b)(c) describes the use of neighborhood scale monitors for compliance with the NAAQS.

The Kent monitor, although designated as a neighborhood scale monitor, is almost immediately adjacent to the railroad tracks, less than 0.2 miles according to the scale in Figure 2.1 of the State's submittal. The Seattle and Tacoma monitors are similarly located near railroad corridors reflecting the industrial nature of the previous PM<sub>10</sub> nonattainment areas. While the Seattle and Tacoma monitors are likely too far away to detect immediate fence line microscale impacts from rail traffic, they meet the middle scale criteria described in section 4.6(b)(3). Under section 4.6(b)(3) the EPA determined that much of the short-term public exposure to PM<sub>10</sub> is on the middle scale and on the neighborhood scale.

The EPA regulations state that the middle scale and neighborhood scale monitors are most important for determining compliance with the NAAQS. This is not to dismiss the impact to environmental justice or other sensitive populations from microscale impacts. The Jaffe study found that, "[f]or the one month of measurements at the Seattle site, the average PM<sub>2.5</sub> concentration was 6.8 µg/m<sup>3</sup> higher near the rail lines compared to the average from several background locations." Multiplying this 6.8 µg/m<sup>3</sup> increase in PM<sub>2.5</sub> levels times the PM<sub>10</sub> to PM<sub>2.5</sub> ratio for coal trains found in the Jaffe study (the highest ratio of all the train types analyzed, and therefore the most conservative ratio to use here) yields an estimated PM<sub>10</sub> level of 7.82 µg/m<sup>3</sup> at the immediate fence line. Even factoring in increased locomotive growth at this conservative level, the extra increment necessary to violate the 150 µg/m<sup>3</sup> PM<sub>10</sub> NAAQS is unlikely, given our understanding of current PM<sub>10</sub> design values of 46 ± 3 µg/m<sup>3</sup> for Kent, 50 ± 5 µg/m<sup>3</sup> for Seattle, and 58 ± 8 µg/m<sup>3</sup> for Tacoma.

#### D. The Adequacy of the State's Current Emissions Inventory for PM<sub>10</sub>

*Comment:* Setting aside the broader issue of future growth in emissions, the commenter criticizes the methodology used by the State to estimate the 2011 emissions inventory, particularly

emissions of fugitive dust from coal trains.

*Response:* In responding to previous emissions inventory concerns submitted by the commenter regarding the 2008 baseline emission inventory for the Tacoma PM<sub>2.5</sub> nonattainment area, the EPA stated:

As noted in the proposal for this action, the EPA referred to the August 2005 “Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter NAAQS and Regional Haze Regulations” (hereafter “emissions inventory guidance” or “guidance”), to assess the adequacy of Washington’s submission. The guidance covers several elements related to this comment. First, the mobile source section in the guidance contains no discussion or requirement for calculating fugitive dust from locomotive payloads. Instead, fugitive dust emissions from all source categories are discussed in section 5.4 of the guidance addressing nonpoint sources. The guidance states, “[n]onpoint sources are generally described as those sources that are too small, numerous, or difficult to be inventoried individually. Potential nonpoint sources of emissions are given in Table 5.4–1 and potential crustal (dust) sources of PM emissions are in Table 5.4–2. These tables are presented as guides to assist State, local and Tribal agencies in focusing their nonpoint source emission inventory efforts.” The guidance goes on to state, “[t]he State, local and Tribal agencies may want to concentrate their efforts on the most significant source categories.” The guidance acknowledges that States cannot individually inventory all nonpoint source emissions, but should use the best available data to inform which nonpoint source categories to focus on in creating a comprehensive and accurate inventory of actual emissions.<sup>9</sup>

For the Kent, Seattle, and Tacoma PM<sub>10</sub> maintenance areas, PSCAA and Ecology requested the EPA’s assistance in estimating possible fugitive coal dust emissions from rail transport in the 2011 emissions inventory included in the State’s submittal. The EPA suggested using a paper entitled *A Study of Fugitive Coal Dust Emissions in Canada*, November 2001, by Douglas L. Cope and Kamal K. Bhattacharyya (“the Cope study”). The EPA neither endorses nor rejects the findings of the Cope study, but merely acknowledges it was one of the only recent studies the EPA could find at that time on this topic prior to publication of the recent Jaffe study. Using these emission factors, the State calculated a modest contribution to overall PM<sub>10</sub> emissions from rail transport of coal including both diesel emissions and an estimate of potential fugitive dust (Seattle = 5%, Tacoma = 2%, and Kent = 6%, respectively, of overall PM<sub>10</sub> emissions from both diesel emissions and fugitive dust).

As a general response to the commenter’s concern about the fugitive dust emissions methodology, the EPA notes that the Cope study and the Jaffe study contain emission factors for both PM<sub>10</sub> and PM<sub>2.5</sub>. To the extent that the methodology used by the State significantly underestimates PM<sub>10</sub> emissions, as suggested by the commenter, the EPA would expect to see similar increases in PM<sub>2.5</sub>, particularly for the Kent monitor which is immediately adjacent to a rail line. For example, the commenter includes AMS/EPA Regulatory Model (AERMOD) modeling conducted for the Port of Morrow, Oregon terminal proposal to suggest that the State underestimated PM<sub>10</sub> from fugitive dust and rail emissions in the 2011 emissions inventory. The modeling submitted was for PM<sub>2.5</sub>, with the commenter arguing that AERMOD “does not distinguish between PM<sub>10</sub> and PM<sub>2.5</sub> in terms of modeled impacts.” In assessing the predictive accuracy of any model, it is important to measure against actual monitoring data. In this case, figures 4.1.1, 4.1.4, and 4.1.7 of the limited maintenance plan and the nearby Beacon Hill monitoring data show no dramatic increases of PM<sub>2.5</sub> in 2011 or the present. Therefore, the State’s conclusion that PM<sub>10</sub> emissions in 2011 from rail transport of coal constitute a minor proportion of the overall PM<sub>10</sub> emissions inventory is consistent with all currently available monitoring data for both PM<sub>10</sub> and PM<sub>2.5</sub>.

The commenter also questioned the accuracy of the State’s 2011 baseline emissions inventory for using an 85% control factor in calculating estimated fugitive dust emissions applying the Cope study methodology. The EPA recalculated the 2011 fugitive dust estimates for PM<sub>10</sub> using the State methodology as well as a scenario assuming no control, included in the docket for this action. The difference between the methodology used by the State and the uncontrolled scenario calculated by the EPA was approximately 17 tons of cumulative impact for all three maintenance areas, representing 1.2% of the total PM<sub>10</sub> inventory. To be clear, the EPA is not opining on the validity of the Cope study, the 85% control factor, or any other analysis or conclusions that may or may not result from the ongoing NEPA and SEPA evaluation process. The EPA is simply stating that the generally modest PM<sub>10</sub> impacts from fugitive dust calculated in the 2011 emissions inventory for this limited maintenance plan appear to be consistent with our calculations and

with current monitoring data, and may in fact overestimate these impacts.

Lastly, the commenter questions the State’s use of the Cope study in calculating the 2011 emissions inventory because the Cope study does not factor in the fugitive dust impact of empty rail cars returning through the maintenance areas. More recent studies from Australia, included in the docket for this action, suggest that the Cope study might overestimate fugitive dust PM<sub>10</sub> impacts from coal, finding no statistically significant difference between coal trains (both loaded and empty) and any other type of freight train. Specifically, the Australian studies found “that other contaminants such as diesel may be of more concern than coal dust. This conclusion is further supported by the fact that effect sizes were similar for freight, loaded and unloaded coal trains, all of which are pulled by diesel locomotives.”<sup>10</sup> Considering the study results and current particulate matter monitoring data, the EPA concludes that the relatively modest contributions calculated in the State’s 2011 emissions inventory represent a good faith effort to quantify fugitive dust emissions.

### III. Final Action

The EPA is approving the limited maintenance plan submitted by the State of Washington on November 29, 2013, for the Kent, Seattle, and Tacoma PM<sub>10</sub> maintenance areas, including approval of a monitoring system modification for the areas. The EPA’s approval of this limited maintenance plan satisfies the section 175A Clean Air Act requirements for all three areas, including the portion of the Puyallup Indian Reservation that falls within the Tacoma PM<sub>10</sub> maintenance area.

### IV. Statutory and Executive Orders Review

Under the Clean Air Act, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, the EPA’s role is to approve State choices, provided that they meet the criteria of the Clean Air Act. Accordingly, this action merely approves State law as meeting Federal requirements and does not impose additional requirements beyond those imposed by State law. For that reason, this action:

<sup>10</sup> See page 3, Re-analysis of ARTC Data on Particulate Emissions from Coal Trains, included in the docket for this action.

<sup>9</sup> 78 FR 32131, May 29, 2013.

- Is not a “significant regulatory action” subject to review by the Office of Management and Budget under Executive Order 12866 (58 FR 51735, October 4, 1993);
- does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4);
- does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because this action does not involve technical standards; and
- does not provide the EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, this rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), because the rule neither imposes substantial direct compliance costs on tribal governments, nor preempts tribal law. Therefore, the requirements of section 5(b) and 5(c) of the Executive Order do not apply to this rule. Consistent with EPA policy, the EPA nonetheless provided a consultation opportunity to the Puyallup Tribe in a letter dated October 18, 2013. The EPA did not receive a request for consultation.

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a “major rule” as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by October 20, 2014. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for

the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

**List of Subjects in 40 CFR Part 52**

Environmental protection, Air pollution control, Incorporation by reference, Particulate matter, Reporting and recordkeeping requirements.

Dated: August 7, 2014.

**Dennis J. McLerran**,  
Regional Administrator, Region 10.

40 CFR part 52 is amended as follows:

**PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS**

- 1. The authority citation for part 52 continues to read as follows:

*Authority:* 42 U.S.C. 7401 *et seq.*

**Subpart WW—Washington**

- 2. Section 52.2470 is amended in paragraph (e) by adding a new entry in Table 2—ATTAINMENT, MAINTENANCE, AND OTHER PLANS entitled “Particulate Matter (PM<sub>10</sub>) 2nd 10-Year Limited Maintenance Plan” at the end of the section with the heading “Attainment and Maintenance Planning—Particulate Matter”.

The addition reads as follows:

**§ 52.2470 Identification of plan.**

\* \* \* \* \*  
(e) \* \* \*

Name of SIP provision	Applicable geographic or nonattainment area	State submittal date	EPA approval date	Comments
*	*	*	*	*
<b>Attainment and Maintenance Planning—Particulate Matter</b>				
Particulate Matter (PM <sub>10</sub> ) 2nd 10-Year Limited Maintenance Plan.	Kent, Seattle, and Tacoma ....	11/29/13	8/20/14 [Insert <b>Federal Register</b> citation].	*
*	*	*	*	*