Subject: Construction Dust Revisions – 2014 Emissions Inventory for Regional Haze modeling

From: Washington State Department of Ecology – Air Quality Program

To: WRAP

Date: 4/24/2018

The 2014 NEI v2 provided by EPA is a good starting point for Regional Haze modeling in the west. The NEI v2 is a comprehensive emissions inventory that includes input from Washington State Dept. of Ecology (ECY) for most categories. However, some categories in the NEI v2 do not have accurate estimates of pollutants because EPA used methodology that is over-generalized for Washington state.

Construction dust is a category that is not properly estimated in NEI v2, which will have implications on regional haze modeling. ECY is hereby requesting that WRAP replace construction dust estimates obtained from NEI v2 with revised emissions (see attached) so that regional haze modeling to be conducted in the future will benefit.

There are 3 SCCs associated with construction dust in the NEI v2:

2311010000 – residential construction

2311020000 – nonresidential construction

2311030000 – road construction

These SCCs are associated with PM10 and PM2.5 emissions. Emissions are calculated based on relevant activity data, the precipitation-evaporation value from Thornthwaite’s PE Index, and silt content. EPA used one PE value per state. For Washington, EPA used a PE value from western Washington in King county. Eastern Washington’s climate is very different from western Washington because of the rain shadow caused by the Cascade mountain range. Thus, the PE value for eastern Washington should be different than western Washington, since there is much less precipitation and drier ground.

ECY utilized the same NOMAD tools for construction dust that was used for NEI v2, but replaced the PE values with county-specific information. This drastically increased dust emissions for eastern Washington and had minor effects in other parts of the state. See the attached spreadsheet for the revised emissions.