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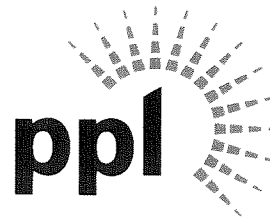
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PPL MONTANA, LLC



August 08, 2007

Laurel Dygowski
Air Quality Planning and Management Unit
US EPA - Region 8
1595 Wynkoop Street
Denver, CO 80202-1129

Dear Ms. Dygowski:

Re: Colstrip Generating Station Units 1&2 Best Available Retrofit Technology (BART) Assessment

As requested by EPA Region 8, PPL Montana LLC has conducted a Best Available Retrofit Technology (BART) assessment for Colstrip Units 1&2. Colstrip Units 1&2 are located at Colstrip, Montana; the units are jointly owned by Puget Sound Energy and PPL Montana, LLC and operated by PPL Montana LLC. A report of the BART assessment that was prepared by PPL's consultant, TRC Environmental Corporation (TRC), is enclosed.

As I have kept you apprised, the last portion of the visibility modeling took longer than expected. Earlier this summer, based on TRC's recommendations, we asked that the modeling be run using a finer grid size. This was done to increase the accuracy of predicted results. However, the finer grid modeling also increased processing time. Consequently, we were slightly delayed in melding the "technology" portion of the BART analysis with the final modeling results.

The BART assessment was conducted in accordance with EPA's BART guidelines established under the rule. These procedures include an analysis of retrofit control technology and a modeling analysis to determine the visibility impacts of the units in federal mandatory Class I areas. This analysis was conducted for filterable particulate matter, sulfur dioxide and nitrogen oxides emissions. The modeling analysis was conducted with the EPA's CALPUFF model using three years of meteorological data for the years 2001 through 2003.

Colstrip Units 1&2 were determined to be BART-eligible under the Federal Regional Haze Rule by the U.S. Environmental Protection Agency Region 8. The Class I areas within 300 km of Colstrip are the UL Bend National Wildlife Refuge (200 km to the northwest), the North Absaroka Wilderness Area (254 km to the west), the Theodore Roosevelt National Park (260 km to the northeast), the Washakie Wilderness Area (278 km to the southwest) and Yellowstone National Park (281 km to the west).

The U.S. Environmental Protection Agency's (EPA's) BART Guideline approach has been applied to Colstrip Units 1&2 to identify the "best system of continuous emission reduction" applicable to the plant for filterable particulate, sulfur dioxide (SO₂) and nitrogen oxides (NO_x) control in order to comply with Region 8's BART program. These units already have relatively low emissions due to the use of wet scrubbers (that remove both particulate and sulfur dioxide), low sulfur Powder River Basin coal and good combustion control (low NO_x burners). A range of demonstrated control alternatives for sub-bituminous

coal-fired boilers was evaluated considering costs, energy and environmental impacts, remaining useful life of the units and modeled visibility improvements.

For filterable particulate matter, electrostatic precipitators (ESP), and fabric filters (baghouses), were considered. Mechanical collectors and wet scrubbers were reviewed but not further evaluated because mechanical collectors are used as pre-filters and do not perform well as a retrofit option and the existing particulate emissions level is already so low that there is little room for further improvement of the scrubber. Upgrades to the current venturi scrubbers were considered to improve SO₂ removal efficiency. The low sulfur Powder River Basin (PRB) coal is alkaline by nature and there is an estimated 75 percent control of SO₂ by virtue of flyash alkalinity acting with scrubbing liquor alone. Enhancements to this removal that were evaluated include the addition of lime to the scrubbers presently in operation to enhance removal and the addition of an additional scrubber vessel.

NO_x controls at Colstrip include the tangential firing design of the boilers and existing low-NO_x burners with close-coupled over-fire air. Installation of separated over-fire air (SOFA) and the addition of selective non-catalytic reduction (SNCR) were evaluated as was the installation of a hot-side selective catalytic reduction system (SCR) to attain emission reductions.

The highest modeled annual 98th percentile daily visibility impact of emissions from Colstrip Units 1&2 based on present (base case) maximum actual load is predicted to occur in the UL Bend National Wildlife Refuge (NWR) Class I area and is 2.233 deciviews.

From a visibility improvement basis with respect to filterable particulate matter, only a 0.04 deciview improvement, which is not visually discernable, would result from installation of either ESPs or fabric filters. Consequently, implementation of additional particulate control at Colstrip is not warranted.

With respect to sulfur dioxide only a 0.42 deciview reduction is achieved with lime addition to improve SO₂ removal to 88%. The incremental improvement through installation of any of the other technologies considered results in less than a 0.15 deciview further improvement. Again, such improvements are not discernable to the human eye and implementation of these control technologies are, therefore, not warranted.

Finally, with respect to nitrogen oxides only a 0.57 deciview improvement results from implementation of SOFA which is unlikely to be discernable and the incremental improvements from controls beyond SOFA are 0.16 deciviews or less.

As a result of the studies and analysis, we are proposing that the existing permit limits for particulate, SO₂ and NO_x are BART.

Please contact me at (406)-237-6932 if you have any questions or comments concerning this BART assessment.



James M Parker, PE
Manager, Environmental Compliance Services

JMP/rtc