



June 23, 2023

Mr. Gordon Criswell
Talen Montana
580 Willow Ave, PO Box 38
Colstrip, MT 59323

Re: Talen Energy Colstrip/ Mercury and Air Toxics Standards (MATS) Analysis

Dear Mr. Criswell:

Talen Montana, LLC (Talen) engaged Burns & McDonnell Engineering Company, Inc. (BMCD) to assist it in evaluating the potential cost impacts of complying with the potential particulate limits in EPA's proposed MATS rule. The scope of work included the following:

1. Evaluate the proposed filterable particulate matter limit of 0.01 lb fPM/mmBtu and evaluate what particulate control technologies could maintain the limit at Colstrip.
2. Provide an AACE Class 5 estimate of the necessary capital improvements and operations/maintenance costs.

Background Information

The Colstrip units being evaluated are two approximately 740 MW units (net) that fire PRB coal and utilize a plumb bob wet scrubber to simultaneously remove filterable particulate and sulfur dioxide (SO₂) from the flue gas. This approach has the advantage of using the alkalinity inherent to PRB fly ash as reagent to help remove SO₂. However, this control technology is not as effective at removing fine particulate matter (fPM) as more modern particulate control technologies. The system was originally designed to achieve an emission rate of 0.05 lb fPM/mmBtu at a plumb bob pressure drop of 17".

Over the years the Colstrip plant has worked with scrubber consultants and engineers to improve the fPM removal ability of the scrubber. Changes and upgrades have increased the pressure drop to the system maximum across the scrubber's plumb bob, optimized mist eliminators, and installed flow distribution plates to optimize scrubber performance. Beyond the scrubber, Colstrip has made operational changes to improve the fPM removal including improving boiler wall cleaning to impact the size of the fPM and increase removal across the scrubber, implemented a combustion optimization system, and performed preventative maintenance on the coal mills to maintain the coal grind size and thus the resulting

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