

April 29, 2024

1.2 O&M COST ANALYSIS

Table 1-2 provides a summary of the two unit estimated operation and maintenance costs for each option.

Table 1-2: Summary of O&M Costs for Units 3&4

Reheat ESP	\$19,820,000	\$1,265,000	\$21,085,000
Reheat fabric filter	\$12,629,000	\$2,157,000	\$14,786,000

Table 1-3 provides a summary of all the capital and O&M costs plus the cost per ton of particulate removed. Items such as Owner's costs (performance bond, Owner's contingency, and taxes), permitting, funds during construction, are not included. The cost per ton of particulate removed is based on the annual levelized costs and tons of particulate removed from the average historical Colstrip emission rate. Total tons of material collected will likely exceed this amount as it is anticipated the particulate exiting the scrubbers will increase when the pressure drop across the scrubber is decreased to allow for the new control device.

Table 1-3: Particulate Control Cost Summary

Summary of Particulate Emissions Control Costs from Colstrip Units 3&4									
PM-10 Control Alternative (Ranked by PM-10 Rate)	PM Removal Efficiency %	Emissions				Economic Impacts			
		Emission Rate	Hourly Emission	Annual Emission	Emission Reduction	Installed Capital Cost	Annual O & M Cost	Total Annual Cost	Average Control Cost
		lb/MMBtu	Lbs/Hr	Tons/yr	Tons/yr	\$1,000	\$1,000	\$1000/yr	\$/ton
Reheat ESP	71.45	0.006	95	355	890	568,722	21,085	88,546	99,536
Reheat fabric filter	71.45	0.006	95	355	890	356,426	14,786	57,065	64,148
2022 Baseline (Scrubber)		0.0220	334	1245		N/A	N/A	N/A	N/A

Based on this evaluation the recommended MATS compliance approach for Colstrip Units 3 and 4 is the installation of fabric filters between the flue gas reheat system and the stack. The AACE Class 4 capital cost estimate for both units is a total of \$356,426,000 (not including Owner's costs). The levelized annual operation and maintenance of the fabric filter option is \$14,786,000 including the addition of a one full time equivalent staff member and 5-year bag replacement cycles. It is anticipated this project will take 36-42 months to complete depending on available outage windows. The anticipated tie in outages are 10 to 12 weeks for Unit 3 and 4 to 6 weeks for Unit 4.

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