

Table 3. Cost Benefit Ratio, various dust control options for coal conveying, transferring and crushing

Treatment Method	Capital plus 30 Yrs O&M	Entire Plant Dust Reduced per year (tons)	Cost/yr/ton Reduced to treat	30 Yr Life Cost Ratio vs Co 2 Fog
Atomizing Fog	\$1,514,023	3504.94	\$14.40	1.00
PECs Transfer Chutes	\$2,010,024	3504.94	\$19.12	1.33
Dust Scrubbers	\$2,329,104	3501.43	\$22.17	1.54
Upgrade Existing Baghouses	\$3,884,563	3494.42	\$37.05	2.57
New Baghouse Costs	\$6,003,785	3501.43	\$57.16	3.97

Above table assumes dust scrubbers could also meet the proposed 0.005 gr/dscfm

Attachment 3

Capital Cost Information Used to Develop Cost Benefit Ratios Typical Powder River Coal Mine Dust Control Retrofit Cost Analysis:

Table 1. Plant Dust Control Retrofit Study, Coal Mine Conveying, Transfer & Crushing

Treatment Method	Capital plus 30 Yrs O&M	30 Yr Expense Ratio vs Fog
Atomizing Fog	\$1,514,023	1.00
PECs Transfer Chutes	\$2,010,024	1.33
Dust Scrubbers	\$2,329,104	1.54
Upgrade Former Baghouses ¹	\$3,884,563	2.57
New Baghouses ²	\$6,003,785	3.97

¹Upgrades necessary to make four former baghouses less prone to fires.

²Sargent & Lundy, 2008, for replacement of 4 baghouses meeting new EPA standards, at cost of \$125/ascm.

Table 2. Calculation of Incremental Dust Improvement of Subpart Y baghouse proposed emissions.

Dust Collector Baghouse Number	Calculated Tons Emitted if no Control*	Current Allowed TPY @99.7%	Subpart Y Proposed Emissions TPY @99.9%	Baghouse to Baghouse reduced tpy if Subpart Y
DC-01	1,466.67	4.4	1.47	2.93
DC-02	569.13	1.7074	0.57	1.14
DC-03	1,000.44	3.00131	1.00	2.00
DC-04	468.70	1.4061	0.47	0.94
Total:	3504.94	10.51	3.50	7.01

*example, DC-01 is now 99.7% efficient and allowed to emit 4.4 TPY.

For DC-01, 1466.67 tpy dust * .003 = 4.4 tpy emitted through baghouse.

If modified as per pending Subpart Y, DC-01, 1466.67 tpy dust * .001 = 1.47 tpy emitted through baghouse.

Remainder calculated the same way.