

As reflected above, B&M's estimates of annualized costs are significantly higher than EPA's \$38M estimate⁶³ for a new FF at Colstrip, ranging from \$41.7M to \$104.9M (using B&M's Class 5 Estimate) and \$36.6M to \$90.3M (using EPA's approach), assuming that Colstrip is just able to meet the proposed 0.010 lb/MMBtu fPM limit.

Further, the cost effectiveness of each of the control options that B&M evaluated are below, where the first B&M column is based on a fPM baseline of 0.022 lb/MMBtu, which represents Colstrip's average fPM emission rate in 2022, and the second B&M column is based on a fPM baseline of 0.0195 lb/MMBtu, which represents the average of the EPA's fPM baselines for Colstrip's Units 3 and 4. The B&M estimates are calculated using EPA's cost approach.⁶⁴

Table 5: Cost Effectiveness of Control Options at Colstrip

		<i>EPA⁶⁵</i>	<i>B&M 0.022 lb/MMBtu fPM baseline</i>	<i>B&M 0.0195 lb/MMBtu fPM baseline</i>
Colstrip	Baghouse	\$39,192/ton		
	Upstream ESP		\$114,900/ton	\$145,000/ton
	Upstream FF		\$103,200/ton	\$130,300/ton
	Wet ESP		\$133,100/ton	\$168,000/ton
	Reheat ESP		\$53,900/ton	\$68,000/ton
	Reheat FF		\$73,200/ton	\$92,400/ton

As reflected above, the cost effectiveness for Colstrip to install the various controls are significantly higher than EPA's estimate of \$39,192/ton (see Section III.A.2.c, assuming baseload operation), ranging from \$73,156/ton to \$133,104/ton (using the actual 0.022 lb/MMBtu fPM baseline) and from \$68,114/ton to \$168,132/ton (using an average of EPA's fPM baseline for the units). In the B&M scenarios, the cost per ton is calculated assuming that the units will just be able to achieve 0.010 lb/MMBtu after controls based on the technical review to date, as opposed to EPA's unrealistic assumptions of a 90% reduction in fPM down to 0.002 lb/MMBtu.

At this preliminary stage, the downstream ("Reheat") options are the most cost-effective. The upstream options, and wet ESP option, are even more costly, and come with additional technical challenges, as outlined in the B&M memorandum attached as Attachment C. Despite the lower cost of the Reheat ESP compared to the Reheat FF, the Reheat ESP comes with more technical challenges in meeting the 0.010 lb/MMBtu standard.⁶⁶ The Reheat FF has fewer technological challenges and could be the preferred alternative should Colstrip retrofit to comply with the Proposal. However, with an annualized cost of \$56.5 M (using B&M's Class 5 estimates)

⁶³ Note that EPA fails to provide meaningful information as to how annualized control costs were estimated, how capital costs were specifically calculated for Colstrip, or what specific control configurations were accounted for in the estimates. This has made it difficult for Talen Montana to fully comment on EPA's cost estimates.

⁶⁴ *Supra* fn. 61.

⁶⁵ See Attachment B.

⁶⁶ See Attachment C.