

April 29, 2024

2.0 INTRODUCTION

2.1 COLSTRIP STEAM ELECTRIC STATION

Talen Montana's operates the Colstrip Steam Electric Station in Colstrip, Montana. Units 3 and 4 are each 805 MW coal-fired steam electric generating units and were placed into service in 1984 and 1986, respectively. The units fire a low-sulfur PRB coal. The Colstrip units have particulate scrubbers installed for control of particulates and SO₂. Units 3 and 4 achieve a particulate matter emission rate of approximately 0.022 lb/MMBtu.

The EPA proposed updates to the MATS rule in May 2023. The current rule allows filterable particulate matter (fPM) emission rates of 0.030 lb/MMBtu as a surrogate for acceptable total non-mercury metal hazardous air pollutants (HAPS) emissions. The proposed MATS rule update could reduce this emission rate to as low as 0.006 lb/MMBtu.

A Phase 1 evaluation of several options to reduce fPM emissions at the facility to achieve compliance with the proposed updated MATS identified two compliance options for further evaluation. These options are installing an ESP or fabric filter downstream of the scrubbers and flue gas reheaters. This report presents the results of this further investigation including an AACE Class 4 cost estimate using budgetary quotations from major equipment suppliers. During the Phase 1 evaluation it was noted it is likely an electrical upgrade will be necessary as the plant cannot support the demand for a new ESP. This cost estimate has accounted specifically for this matter as well as other Colstrip specific factors.

2.2 COST DEVELOPMENT

Historically, a Class 4 study would utilize past project information and adapt that information to better fit the unique conditions at a specific site. However, over the last ten years the utility air pollution control market has seen a significant slowdown making past project data either limited or less relevant. To improve the accuracy of the cost estimate Burns & McDonnell contacted vendors that have remained active in the ash conveying and particulate control market either with utilities or at a scale akin to utilities. Southern Environmental Inc, and Industrial Accessories Company are the two companies Burns & McDonnell requested provide budgetary cost estimates for fabric filter. Southern Environmental Inc was also requested to provide a budgetary cost estimate for an ESP. UCC Environmental was contacted for budgetary pricing for the ash handling system.