

of new mercury technologies if any such feasible technology is identified. We estimate this amount to cost the cooperative a minimum of \$5,000,000 in capital expenditures. Minnkota asks for this exemption to avoid these expenditures while EPA reconsiders the MATS RTR.

B. The Technology to Implement the revised MATS RTR Filterable Particulate Matter (fPM) Standard is Not Available by the July 6, 2027 Compliance Date.

1. PM technology improvements are needed and are not available by the compliance date.

Young Station Unit 1 and Unit 2 operate ESPs for fPM control. The Unit controls are unable to consistently perform on a long-term basis to assure compliance with the emissions limit. Minnkota opted to examine the upgrade options in a study focused on Unit 2. A lengthy ESP upgrade may achieve the New fPM limitation with adequate margin. However, this is not certain. Minnkota conducted a MATS 2023 Study that finds that vendors would have to complete a more detailed qualitative study and baseline testing to determine whether an ESP rebuild can achieve a low enough fPM rate based on ESP inlet and outlet emissions. Otherwise, a baghouse would be required. Minnkota would need 48 months (4 years) to convert to baghouse technology.¹⁴ The project dollars to undertake either project are substantial, a range of \$246,812,000 to \$38,452,000, depending on whether a baghouse is required.¹⁵

The ESP upgrades could take up to 36 months to complete. With 26 units in the country, all likely needing some form of technology upgrade for the new fPM limitation of 0.010 lb/mmBtu. *Id.* Since there are only 4 vendors in the United States available to modify and license ESP technology, it is likely that the 36-month estimate will be further protracted due to the dearth of contractors available to perform the work.

Therefore, on this basis alone the technology to comply with the new fPM limitation is not presently available at MRY and will not be available by July 6, 2027.

2. Particulate Matter Continuous Emissions Monitoring Systems (PM CEMS) are not technologically able to assure compliance with revised MATS RTR fPM requirements with a sufficient level of accuracy.

The MATS RTR compliance demonstration method requires the use of Particulate Matter Continuous Emissions Monitoring Systems (PM CEMS). While the Young Station has PM CEMS already installed, many units will have additional supply chain constraints for installation. But more importantly, the accuracy of PM CEMS is questionable at best at the emissions levels that must be measured to determine compliance with the lower fPM emissions limit.

A material technological issue is that the commercially available PM CEMS do not provide a direct measure of PM emissions, which means that the instrument measures the mass of PM and the volume of flue gas from which that mass of PM was sampled. Rather, commercially available PM CEMS measure some

¹⁴ S&L, Particulate & Mercury Control Technology Evaluation & Risk Assessment for Proposed MATS Rule, June 23, 2023, Attachment B, at Table 2-2.

¹⁵ McClennan Declaration, Table B.