

II. CEMS Technology is Not Available

The MATS RTR requires coal-fired units to implement the revised fPM standard using CEMS, rather than periodic stack testing. As explained above, this requirement is an integral part of the numeric limit itself. Unit 1 does not have a PM CEMS, and while Unit 2 is equipped with a PM CEMS it has not been calibrated and certified for measuring the revised, much lower limit. Historically, Unit 1 has conducted PM stack testing to meet the PM limit for Low Emitting EGU (LEE) status and demonstrate compliance with the standard for non-hg metals. Due to technological limitations, as well as cost and market limitations, installing a new CEMS on Unit 1 and upgrading the existing PM CEMS on Unit 2 is “not available” by July 2027.

PM CEMS does not provide direct measurements; it uses correlation curves to calculate emissions levels. However, the low fPM standard in the Rule makes developing this correlation curve “virtually impossible.” *PGEN Comments on EPA’s Proposed Rule: NESIAP Coal- and Oil-Fired Electric Utility Steam Generating Units Review of the Residual Risk and Technology Review*, Docket No. EPA-HQ-OAR-2018-0794-5994, at 22 (June 28, 2023) [hereinafter “PGEN Comments”] (citing and attaching Ralph L. Roberson, *Technical Comments on EPA’s Proposed Rule: Mercury and Air Toxics Standards Risk and Technology Review*, at 3 (2023) [hereinafter “PM CEMS Technical Memo”]). Similarly, the QA/QC criterion for CEMS are extremely difficult to meet at such low levels. *See Comments of the Class of ’85 Regulatory Response Group on the Proposal on National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units Review of the Residual Risk and Technology Review*, Docket No. EPA-HQ-OAR-2018-0794-5989, at 16 (June 28, 2024) [hereinafter “Class of ’85 Comments”]. In fact, at the time of the proposed MATS RTR, no commercially available PM CEMS would have been able to meet the tight confidence and tolerance intervals associated with the low proposed fPM standard. *PGEN Comments* at 23 (citing *PM CEMS Technical Memo* at 5). EPA was, thus, forced to address these issues in the final MATS RTR by loosening the QA criterion and correlation procedures. *See* 89 Fed. Reg. at 38,528-29. However, it has not yet been shown that these changes are enough to address the fundamental issue that PM CEMS has difficulty reliably measuring such low fPM levels due to the error rates of the instrument. *See* *PGEN Comments* at 23 (finding insurmountable the “uncertainties inherent the in the measurement device” and the “problems associated with relative size of the uncertainty to the limited data range of fPM concentrations and the confidence levels and tolerances”); *see also* *Class of ’85 Comments* at 18. And, in reality, units would need to target emissions below 0.010 lb/MMbtu in order to ensure continuous compliance. *See* *Pet’rs’ Brief* at 72. Therefore, the CEMS technology to demonstrate compliance with the revised fPM standard is unavailable.

Second, there are significant costs and market limitations associated with PM CEMS, which make it “not available.” Installing and operating CEMS is more costly than stack testing. *See* *PGEN Comments* at 25-26. Costs include purchasing and installation of CEMS, as well as potential modifications to the units to accommodate CEMS, extended correlation testing, and annual operational costs. *See id.* at 26; *see also* *Class of ’85 Comments* at 18 (estimating \$180,000 to \$400,000 for “site preparation and engineering analysis, analyzer equipment and installation costs, and initial PS-11 correlation testing”). This does not include the costs of maintaining a full-time employee to operate PM CEMS and the costs of lost generation during testing events for CEMS. *Luminant Comments* at 16-17. There are also market factors which limit the availability of installing and operating CEMS by the compliance deadline. There are a limited number of vendors for CEMS, as well as a limited number of professionals certified to install and test CEMS. Currently, two-thirds of facilities utilize stack testing and would need to install CEMS by July 2027, which would overwhelm the current supply of CEMS and the availability of professionals certified to inspect and test the newly installed systems. *See* *Class of ’85 Comments* at 16.