

- Attachment 3: Technical Comments on EPA's Proposed Rule: Mercury and Air Toxics Standards Risks and Technology Review – PM CEMS, RLR Consulting, LLC, June 16, 2023

3. Technical Infeasibility for the Mercury Standard

GVEA does not believe it is technically feasible to achieve the amended mercury emissions standard at Healy Unit 1 and Unit 2 by July 6, 2027.

Adapting specialized equipment to function in a coal-fired power plant in Healy, Alaska, takes more time than it would in the lower 48 states, and maintaining that equipment takes more time than one might expect as well. Healy Unit 2 has a carbon injection system for mercury control and a mercury sorbent trap monitoring system (STMS) for monitoring. The STMS system does not provide real-time emission information because the emissions levels represented by a given trap set are not known until the traps are transported from Healy, Alaska to the lab in Ohio, analyzed, and the results reported back to GVEA. The sorbent trap analysis takes about two to three weeks to complete. As a result, GVEA is not equipped to identify rising mercury emissions levels if they occur (due to natural variability in coal mercury content) and therefore cannot actively manage the carbon injection system in response to such events to avoid an exceedance. GVEA suffered an exceedance of the mercury emissions limit on Unit 2 in 2020 due to an anomalous spike in coal mercury content, and was unaware of the exceedance until the STMS analytical results were received 17 days after the event began.

In response to the 2020 mercury exceedance event, GVEA procured a mercury process monitor for Healy Unit 2. The monitor is not approved by EPA to act as a compliance demonstration instrument, but rather serves as an on-site, real-time mercury emissions analyzer with which a facility can respond to changes in mercury levels by actively adjusting the mercury control system. GVEA has been working on installation of the mercury process monitor since 2021. The installation was initially delayed because transport, personnel, and travel were thwarted by the Covid-19 pandemic. Since 2022, the delays have been largely attributable to challenges more typical of the Healy Power Plant's remote subarctic setting. In order to accommodate the seasonal extreme temperatures that can drop below negative 40 degrees Fahrenheit, GVEA has worked extensively with the vendor to develop a custom sample line bundle that will maintain a specific gas temperature along a sample path starting at the hot sampling point in the stack, crossing an elevated outdoor catwalk, and then passing into the warm power plant to the mercury analyzer unit. The first two attempts at this custom sample line have failed, necessitating painstaking removal, packaging, and transport of the large umbilical bundle and associated parts back to the vendor for evaluation. Currently, GVEA's installation of a non-