

**Technical Paper Abstract for
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A North American Perspective: Regulatory Compliance Mercury Emission Monitoring below 100 pptv and Tools to Evaluate the Benefits of Lower Mercury Emissions in Ambient Air

by

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In the USA, regulatory compliance mercury emission monitoring at coal-fired power plants (CFPP) is routinely done below 100 parts per trillion by volume (112 pptv = 1 ug/m³) with >95% data availability. It is not uncommon for readings to be around 35 pptv over multiple days. The US EPA Mercury and Air Toxics Standard (MATS) limit is approximately 1.4 ug/m³ and CFPP must be well below this threshold to be sure they are in compliance. The European Union new mercury BREF for CFPP will be set at similar or even lower levels as the USEPA MATS. In the EU, the current installed base of mercury continuous emission monitoring (HgCEM) systems was designed for and certified for much higher mercury levels (e.g. up to 30 ug/m³). This suggest that HgCEM modifications, performance testing and recertification must be done, which will be similar to the USA experience. Part one of the presentation will focus on what was needed for HgCEM performance in the USA to comply with the MATS regulation and why, including a rigorous traceability protocol. Part two will briefly touch on North American mercury ambient air network observations, and a new low-cost monitoring technology, as tools to evaluate changes in mercury emissions due to new regulations, market-driven forces and the implementation of the Minimata Treaty.