(taking into account developments in practices, processes, and control technologies), emission standards promulgated under this section no less often than every 8 years." Taken together, these two provisions of the CAA constitute what is termed EPA's Risk and Technology Reviews (RTR). Clearly, Section 112(f) is concerned with health risks and has nothing to do with compliance methods or procedures. Section 112(d)(6) concerns itself with revising numerical standards based on "developments in practices, processes, and control technologies." Thus, there appears to be no legal basis for EPA's proposed elimination of the quarterly stack testing option for demonstrating compliance with the fPM emission standard.

TECHNICAL DISCUSSIONS

The fundamental problem with PM CEMS is, and always has been, an issue of technology. That is, commercially available PM CEMS do not provide a direct measure of PM emissions. By direct measure, we mean 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 property (i.e., light scatter or beta attenuation[3]) that must be correlated to actual stack PM measurements.

Correlation Testing and Data Range

The procedure and requirements for correlation testing are specified in EPA Performance Specification 11 (PS-11).[4] PS-11 requires a minimum of 15 test runs using the appropriate EPA reference method (e.g., MATS Method 5) spaced over three distinct PM concentrations (i.e., low, mid and high).[5] For the resulting correlation to be useful, these three distinct PM concentrations should span the range of expected concentrations with a target level (i.e., 50 percent of the limit) in the middle of the range.

A PM CEMS correlation curve plots the PM CEMS output on the x-axis and the reference method PM concentration on the y-axis. Reference method PM concentrations (y-axis) are typically expressed in the units of milligrams per actual cubic meter (mg/acm), and "actual" refers to the condition at which the PM CEMS detector operates. EPA is proposing to lower the filterable PM emission limit from 0.030 to 0.010 lb/10^6 Btu.[6] Conversion of 0.010 lb/10^6 Btu to mg/acm requires knowledge of the detector temperature and stack diluent (e.g., CO_2) concentration. If we use a typical CO_2 concentration of 12.5 percent (wet) and a detector temperature of 320 ° F, then 0.010 lb/10^6 Btu converts to 7.5 mg/acm. Following EPA's assumption that the unit will

[3] The EPA statement at 88 Fed. Reg. at 24,872, that a beta gauge "detector measures the amount of radiation emitted by the sample" is categorically incorrect and illustrative of several uninformed statements (e.g., cost estimates) about PM CEMS in the preamble to the proposed rule.
[4] 40 C.F.R. 60, Appendix B.
[5] PS-11 defines "low" to be zero to 50 percent of the maximum PM concentration; "mid" to be 25 to 75 percent of the maximum PM concentration; and "high" to be 50 to 100 percent of the maximum PM concentration. RLR's many years of experience with PM CEMS correlation testing is to equate "maximum PM concentration" with the PM emission limit.
[6] 88 Fed. Reg. at 24,857.