

Letter:

Control Number: D098

November 21, 1980

MEMORANDUM

SUBJECT: Representative Testing Requirements for Coal-Fired Steam Generators

FROM: Director
Division of Stationary Source Enforcement

TO: Sandra S. Gardebring, Director
Enforcement Division, Region V

This is in response to your August 26, 1980 memorandum concerning policy on two issues regarding testing requirements for coal-fired steam generators. They are the inclusion of complete ramping and soot blowing cycles in the test runs, and the use of Method 17 as an alternate to Method 5 for particulate testing of coal-fired boilers not subject to Subpart Da.

As I understand it, you have been requiring that sources perform one test run while completing a soot blowing cycle at 100 percent design rated capacity and perform the other two test runs while completing one ramping cycle at maximum nonemergency ramp rate, between 90-100 percent of design rated capacity. You feel this is representative of normal power plant operations. Two utilities have contested this required testing protocol, primarily the ramping requirements, arguing that the regulations and test methodology did not incorporate considerations of ramping during their development and that testing under these conditions will increase testing inaccuracy and increase emission levels.

In response to your concern, raised by the Donner Hanna decision, as to the legality of requiring these conditions for testing, §60.8(c) requires performance tests under conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. Soot blowing is a normal part of every source operation, and it would be artificial to cut the cycle off during the performance test. Soot blowing was considered in developing the original standard and in subsequent amendments to that standard. Procedures for incorporating soot blowing are outlined in DSSEps June 29, 1977, and March 6, 1979, determinations, which are attached.

Although soot blowing must be included, it is DSSE's determination that ramping is not necessarily representative and need not in all cases be included in performance testing. Ramping is defined as the rate at which the load changes per unit time. If you could show a continually changing load is representative of source operation, then ramping could be included in performance testing. This could conceivably occur with a peaking unit. It is doubtful, however, that a base loaded utility would use ramping as a normal operation, and the source in question is base loaded. In addition, there is little evidence to support a contention that ramping was considered in the original testing data for Subpart D.

The documentation you presented indicated the source feels that ramping will increase emissions and possibly cause a violation. Although it is unclear to us why ramping should necessarily increase emissions, we do not feel EPA can require ramping during the performance test, based on the documentation presented in this case.

The second concern mentioned in your memorandum involved handling of requests from power companies wanting to substitute Method 17 for Method 5. (See 40 CFR 60, Appendix A.) You had allowed Conesville units 5 and 6, of Columbus and Southern Ohio Electric Company, to use Test Method 17 because use of Method 5 presented problems in terms of handling test equipment to ensure representative test results. You requested guidance specifying circumstances under which substitution of Method 17 for 5 is acceptable.

DSSE has discussed this question with EPA's Emission Measurement Branch in Research Triangle Park, North Carolina. We both agree that Method 17 can be used as an alternative to Method 5 at fossil fuel- fired steam generators when (1) the flue gas temperature at the sampling location is consistently less than or equal to 320F and (2) the flue gas at the sampling location is unsaturated with water vapor.

For flue gases unsaturated with water vapor and having temperatures greater than 320F, the acceptance of Method 17 as an alternative to Method 5 will be based on the demonstration that the particulate matter concentration determined by Method 17 (over the normal range of temperature associated with the source to be tested) is greater than or equal to the particulate matter concentration that would be measured by Method 5 at a temperature of 320F. Prior approval of the means of demonstration should be obtained from DSSE. We will be working with EMB to develop a suggested procedure for performing this demonstration.

DSSE recognizes that site specific sampling logistics may preclude the use of Method 5 or may compromise Method 5 to the extent that Method 17 provides results which are more representative. For these special cases, requests for the alternative use of Method 17 should be addressed to the Regional Office. We understand that other modifications can be made to the Method 5 sampling train to permit more sampling flexibility, such as removing the filter from the sampling box and surrounding it with a special heating mantle and enclosure.

Finally, it should be recognized that the criteria discussed above are based on limited data; thus, in the future revised criteria may be necessary in order to account for additional data.

By copy of this reply, we will alert regions to the potential use of Method 17 as a substitute for Method 5.

This response has been prepared with the concurrence of the Office of Air Quality Planning and Standards. If you have any questions, please contact Robert Myers of my staff at FTS 755-2564.

Edward E. Reich

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