

supply. Thus, this potential control option may be unavailable to many sources in practice. Furthermore, organic HAP may be increased by fuel switching. Limited emissions reductions in combination with the high cost of fuel switching and considerations about the availability and technical feasibility of fuel switching makes this an unreasonable regulatory option that was not considered further. Nonair quality health, environmental impacts, and energy effects were not significant factors. No beyond-the-floor options for gas-fired boilers were identified.

Based on the analysis discussed above, EPA decided to not go beyond the MACT floor level of control for new sources for MACT in the proposed rule. A detailed description of the beyond-the-floor consideration is in the memorandum "Methodology for Estimating Cost and Emissions Impacts for Industrial, Commercial, Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants" in the docket.

J. How Did EPA Determine Testing and Monitoring Requirements for the Proposed Rule?

The CAA requires us to develop regulations that include monitoring and testing requirements. The purpose of these requirements is to allow us to determine whether an affected source is operating in compliance with the proposed rule. The proposed monitoring and testing requirements are discussed below.

1. Testing

The proposed rule requires you to perform an initial performance test for PM (or total selected metals), mercury, and HCl if you are required to meet an emission limit. Additionally, the proposed rule requires annual performance tests to ensure on an ongoing basis that the air pollution control device is operating properly and its performance has not deteriorated. The majority of emissions tests upon which the proposed emission limits are based were conducted using approved EPA test methods.

If you conduct a performance test, you would also determine parameter operating limits during the tests. The majority of test methods that the proposed rule would require for the performance tests have been required under many other EPA standards. No applicable voluntary consensus standards were identified.

If you are required to meet an HCl emission limit and do not have a scrubber or elect to take no credit for the scrubber emissions reductions, you

must record the average chlorine content level in the input fuel as an operating limit. However, if you plan to burn a new fuel, a fuel from a new mixture, or a fuel from a new supply than what was burned during the initial performance test, then you must recalculate the chlorine input. If the results of recalculating the chlorine input exceeds the average chlorine level established during the initial performance test, you must conduct a new performance test to demonstrate compliance with the emission level.

We are also allowing you to record the mercury in the input fuels as an operating limit if you elect to take no credit for the control device emission reduction. However, if you plan to burn a new fuel, a fuel from a new mixture, or a fuel from a new supply than what was burned during the initial performance test, then you must recalculate the mercury input. If the results of the recalculation exceed the average level established during the initial performance test, you must conduct a new performance test to demonstrate compliance with the mercury emission level.

We are also allowing you to record the total selected metals in the input fuels as an operating limit if you choose to comply with the metals emission limit instead of the PM limit. However, if you plan to burn a new fuel, a fuel from a new mixture, or a fuel from a new supply than what was burned during the initial performance test, then you must recalculate the total selected metals input. If the results of the recalculation exceed the average level established during the initial performance test, you must conduct a new performance test to demonstrate compliance with the metals emission level.

2. Continuous Monitoring

The most direct means of ensuring compliance with emission limits is the use of continuous emission monitoring systems (CEMS). We consider other options when CEMS are not available or when the impacts of including such requirements are considered unreasonable. When monitoring options other than CEMS are considered, it is often necessary for us to balance more reasonable costs against the quality or accuracy of the actual emissions monitoring data. Although monitoring of operating parameters cannot provide a direct measurement of emissions, it is often a suitable substitute for CEMS. The information provided can be used to ensure that air pollution control equipment is operating properly. Because the parameter requirements are

calibrated during the initial and annual stack tests, they provide a reasonable surrogate for direct monitoring of emissions. This information reasonably assures the public that the reductions envisioned by the proposed rule are being achieved.

The EPA evaluated the cost of applying HCl CEMS to boilers and process heaters. For HCl CEM monitoring, capital costs were estimated to be \$88,000 per unit and annualized costs were estimated to be \$33,000 per unit. We determined the costs would make them an unreasonable monitoring option. In addition, toxic metals are not directly measurable with CEMS, and CEMS for PM have not been demonstrated in the United States for the purpose of determining compliance.

To ensure continuous compliance with the proposed emission limits and/or operating limits, the proposed rule would require continuous parameter monitoring of control devices and recordkeeping. We selected the following requirements based on reasonable cost, ease of execution, and usefulness of the resulting data to both the owners or operators and EPA for ensuring continuous compliance with the emission limits and/or operating limits.

We are proposing that certain parameters be continuously monitored for the types of control devices commonly used in the industry. These parameters include opacity monitoring except for wet scrubbers; pH, pressure drop and liquid flow-rate for wet scrubbers; and sorbent injection rate for dry scrubbers. You must also install a bag leak detection system for fabric filters. If you cannot monitor opacity for control systems with an ESP then you must monitor the secondary current and voltage or total power input for the ESP. These monitoring parameters have been used in other standards for similar industries. The values of these parameters are established during the initial or most recent performance test that demonstrates compliance. These values are your operating limits for the control device.

You would be required to set parameters based on 1-hour block averages during the compliance test, and demonstrate continuous compliance by monitoring 3-hour block average values for most parameters. We selected this averaging period to reflect operating conditions during the performance test to ensure the control system is continuously operating at the same or better level as during a performance test demonstrating compliance with the emission limits.