

Industrial Boiler MACT Final Rule vs. Proposed Rule

The final version of the Industrial Boiler MACT Rule contains several noteworthy differences from the proposed rule.

- Revised Mercury Emission Limit

For existing large, solid fuel-fired units, the final rule includes a limit of 0.000009 lb/MMBtu. The original limit in the proposed rule was 0.000007 lb/MMBtu.

- Emissions Averaging Provisions

The final rule includes emissions averaging provisions for existing large, solid fuel-fired boilers. Compliance using emissions averaging can be determined using fuel-based or stack emission-based methods. The initial compliance procedures require the source to calculate the average weighted emissions for the averaging group by weighting the emissions rate of each unit (either by fuel analysis or stack test results) by the individual rated heat input capacity. In order to demonstrate initial compliance, the average weighted emissions must be less than the applicable emission limit.

Ongoing compliance is demonstrated based on a 12-month rolling average using a similar procedure. Each calendar month, the source must calculate the average weighted emissions of the averaging group by weighting the emissions rate of each unit (using the result of the last fuel test or stack test) by the average heat input of each unit during that calendar month. In order to demonstrate compliance, the average weighted emissions must be less than the applicable emission limit. The rule provides similar procedures based on steam generation for units that can not monitor heat input. Unlike the proposed utility boiler MACT averaging procedures, there are no specific requirements for data availability or minimum operating time of the individual units.

The emissions averaging provisions also include a requirement to establish indicator ranges and monitor the operation of the control device(s) used to comply with the applicable limit. Although the language in this section is unclear, it appears that the monitoring requirements are the same as those for units that do not implement emissions averaging, and apply to averaging groups that use either fuel-based or stack emission-based compliance approaches. It is important to note that emissions averaging procedures do not permit sources to de-tune or otherwise reduce the efficiency of the control devices during the initial compliance test

If allowed by the state, existing sources electing to use emissions averaging must submit an averaging plan within 180 days of the initial compliance test.

- Modified Unit-Specific Opacity Testing Requirement

The proposed rule required sources meeting the PM and mercury limits using an ESP or baghouse as the only control device to determine unit-specific opacity operating limits. This test and cap approach limited the opacity during normal operation to the level at which the unit demonstrated initial compliance. This requirement eliminated the benefit of excess compliance margin.

The new rule removes the unit-specific opacity testing requirement and instead allows it as an option for certain sources. Sources that elect to demonstrate compliance using the stack emission-based approach, that are subject to a mercury and either a PM or TSM emission limit and are equipped with a baghouse or ESP as the only control device must meet an opacity limit of 20% (based on a 6-minute average) for existing sources or 10% for new sources. Baghouse-equipped units may optionally install and operate a bag leak detection system and maintain alarm frequency below five percent of unit operating time (based on a six-month reporting period). If a source can demonstrate compliance with the mercury, PM, or metals limits but can not meet the opacity limit, they may conduct unit-specific testing and determine a more suitable opacity limit to demonstrate ongoing compliance.

The new opacity provisions have at least two important implications: (1) For mass-limited units (units that exceed their PM, TSM, or mercury limit before exceeding the opacity limit) that operate below 20% opacity, the new rule has essentially given these sources an additional “free” compliance margin. (2) The large majority of affected units with existing opacity limits greater than 20% are likely to benefit from the unit-specific opacity test provisions. This is especially true for sources complying with a PM limit that burn coals producing fine particle ash, where the opacity threshold at the PM limit can be significantly higher than 20%.

- Requirements for Fuel-Based Compliance Clarified

The final rule clarified that sources electing to demonstrate compliance using a fuel-based approach were not required to perform stack testing in order to demonstrate initial or ongoing compliance. Furthermore, the final rule removed the fuel-based test and cap criteria, which specified that the source must maintain the pollutant concentration of the fuel below the level at which the unit demonstrated initial compliance. Sources must now demonstrate initial and ongoing compliance by maintaining the pollutant concentration of the fuel (in units of ‘lb/MMBtu’) below the applicable emission limit.

It should be noted, however, that sources electing to comply using the stack emission-based approach are still subject to the test and cap fuel limitation to demonstrate continuous compliance.

- Relaxed Deviation Trigger

Both the final and proposed rules require sources using the stack emission-based compliance approach to define the normal operating range of the control device, based on operating parameters specific to each type of control device, during the initial compliance test. In order to demonstrate continuous compliance, these sources must maintain subsequent operation of the control device within the defined range of operation.

The proposed rule defined a deviation as an operating condition where one or more of the control device parameters were outside of the defined range of operation. The final rule relaxes this definition, somewhat, to include an additional 10% margin of compliance on the operating parameters. For sources conducting unit-specific opacity testing, the maximum opacity is 110% of the highest test run average opacity measured during testing. For other sources requiring a minimum parameter value(s), the new minimum parameter value is 90% of the lowest test run average.

- New Deadlines for Conducting Initial Compliance Demonstration

The proposed rule required sources to conduct the initial compliance demonstration on or before the compliance deadline. The final rule allows an additional 180 days beyond the compliance deadline to complete the initial compliance demonstration.