

701 Pennsylvania Avenue, N.W.
Washington, D.C. 20004-2696
Telephone – 202-508-5027
Fax 202-508-5150
qshea@eei.org

www.eei.org



**EDISON ELECTRIC
INSTITUTE**

QUINLAN J. SHEA, III
Executive Director, Environment

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Via www.regulations.gov

EPA Docket Center
Attention Docket ID No. EPA-HQ-OAR-2002-0058
Environmental Protection Agency
Mailcode 2822T
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

Re: **National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial Commercial, and Institutional Boilers and Process Heaters (75 Fed. Reg. 32006, June 4, 2010)**

Dear Sir or Madam:

The Edison Electric Institute (EEI) appreciates the opportunity to submit comments on the proposed National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial Commercial, and Institutional Boilers and Process Heaters (“IB MACT”).

EEI is the association of shareholder-owned electric companies, international affiliates and industry associates worldwide. Our U.S. members serve more than 90 percent of the ultimate customers in the shareholder-owned segment of the industry, and nearly 70 percent of all electric utility ultimate customers in the nation. They generate almost 70 percent of the electricity generated by U.S. electric utilities.

EEI members own and operate industrial boilers and process heaters. EPA is developing maximum achievable control technology (MACT) standards for electric utility steam generating units under CAA § 112(d) and has indicated in the information collection request (ICR) for EGUs that it intends to follow a similar approach in setting MACT limits in that rulemaking as it has followed in the IB MACT rulemaking.

As described below, EPA has the legal discretion and technical justification to substantially reduce the burden of the proposed standards while still providing ample protection to health and the environment. We provide comments and recommendations in the following key areas of the proposed rule:

EPA should establish health based emissions limitations under § 112(d)(4) when appropriate.

EPA has requested comments on whether the agency should impose a health-based standard under § 112(d)(4) for HCl and other acid gas emissions. Section 112(d)(4) authorizes EPA to set health-based emissions limitations when establishing standards for HAPs under § 112(d). Section 112(d)(4) allows EPA to match the stringency of a HAP emissions limitation to the level determined necessary to fully protect human health. As a result, the standard is no more stringent and no less stringent than needed to protect human health.

The default technology-based method of setting MACT standards is an approach that can and does result in HAP emissions limitations that go well beyond what is needed to protect the public. The clear purpose of § 112(d)(4) is to prevent the promulgation of unduly stringent emission limits simply for the sake of regulation. The legislative history of § 112(d)(4) is clear on this point. In formulating § 112(d)(4), Congress recognized that, “For some pollutants a MACT emissions limitation may be far more stringent than is necessary to protect public health and the environment.”¹ As a result, § 112(d)(4) was provided as an alternative standard setting mechanism for HAPs “where health thresholds are well-established ... and the pollutant presents no risk of other adverse health effects, including cancer....”²

In the proposed IB MACT, EPA acknowledges its authority under § 112(d)(4) to establish a health-based emissions limitation for threshold pollutants in lieu of a MACT emissions limitation. However, the agency proposes not to establish any health based emissions limitations “[g]iven the limitations of the currently available information (*i.e.*, the HAP mix where boilers are located, and the cumulative health impacts from co-located sources), the environmental effects of HCl, and the significant co-benefits of setting a conventional MACT standard for HCl.”³ Nevertheless, EPA asks for comment on a wide range of issues related to the justification for setting health based emissions limitations and the method by which they should be set.

¹ S. Rep. No. 101-228 (1990) at 171.

² *Id.*

³ 75 FR 32032

Section § 112(d)(4)'s inclusion in the 1990 CAA Amendments indicates a congressional intent to retain the health endpoint of the original § 112 – protection of public health with an ample margin of safety.⁴ If the emissions of a given HAP from all sources in a source category are at a level where public health is protected with an ample margin of safety, then there is no practical need for or benefit from further regulation. EPA should set health-base standards under § 112(d)(4) when facts support its use.

The “pollutant by pollutant” approach to determining MACT is not appropriate because it results in standards that do not reflect the performance of *actual*, best performing boilers.

The proposed IB MACT standards are based on pollutant-by-pollutant analyses that rely on a different set of best performing sources for each separate HAP standard.⁵ In other words, it appears that EPA has “cherry picked” the best data in setting each standard, without regard for the sources from which the data come. The result is a set of standards that reflect the performance of a hypothetical set of best performing sources that simultaneously achieve the greatest emission reductions for each and every HAP rather than the actual performance of one or more real sources. This approach⁶ is contrary to the language of § 112 and produces unrealistic and impracticable standards bearing no resemblance to *actual*, best performing industrial boilers.

The statute unambiguously directs EPA to set standards based on the overall performance of *sources*. Sections 112(d)(1), (2), and (3) specify that emissions standards must be established based on the performance of “sources” in the category or subcategory and that EPA’s discretion in setting standards for such units is limited to distinguishing among classes, types, and sizes of sources. These provisions make clear that standards must be based on *actual sources*, and cannot be the product of pollutant-by-pollutant parsing that results in a set of composite standards that do not necessarily reflect the overall performance of any actual source. Congress provided express limits on EPA’s authority to parse units and sources for purposes of setting standards under § 112 and that express authority *does not* allow EPA to “distinguish” units and sources by individual pollutant as is proposed in this rule.⁷

⁴ The ample margin of safety concept also underlies the current residual risk provisions of CAA § 112(f).

⁵ See, e.g., 75 FR 32019 (“For each pollutant, we calculated the MACT floor for a subcategory of sources by ranking all the available emissions data from units within the subcategory from lowest emissions to highest emissions, and then taking the numerical average of the test results from the best performing (lowest emitting) 12 percent of sources.”)

⁶ *Industry Faults Strict EPA MACT Method for Regulating “Best” Sources*, Inside EPA’s Clean Air Report, Sept. 3, 2009.

⁷ *Sierra Club v. EPA*, 551 F.3d 1019, 1028 (D.C. Cir. 2008)

EPA's database shows that very few units are best performers for more than one pollutant. As a result, the record demonstrates that the proposed standards reflect the performance of exceedingly few actual sources. Thus, even if EPA had investigated the consequences of using a pollutant by pollutant approach, it could not have reasonably concluded that the proposed standards reflect the performance of actual sources.

EEl believes EPA's approach for setting MACT floors in the proposed rule is illegal and should not be followed in the IB MACT or in subsequent § 112(d) rulemakings. MACT standards must be set based on the level of performance achieved by *actual sources*. EPA needs to develop a weighting approach for identifying the best performing units in MACT rulemakings where the sources in the category emit multiple HAPs.

The proposed rule does not take a reasoned approach to HAP emissions at or below the detection limit.

EPA complicates efforts to set emission limits for all HAPs emitted by industrial boilers due to the fact that many HAPs are emitted at levels at or below the detection limit of the method that was used to collect and analyze HAP emissions during the IB MACT ICR. Detection limit issues have significant impacts on MACT standard setting as well as later compliance demonstrations.

A reasoned discussion of detection limit issues must begin with a clear definitional framework for two important terms: "detection limit" and "quantitation limit". The detection limit defines the threshold below which a test method cannot distinguish whether a substance is present or not. In EPA's prior efforts to implement the Clean Water Act, the agency defined the term "detection limit" to mean "the minimum concentration of an analyte (substance) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero."⁸ Thus, a measured value at the detection limit has an error band as large as the value being reported. One cannot have great confidence in the quantity of material measured because the error band is so large; one simply knows it is more likely than not that the substance is actually present.

By contrast, the "quantitation limit" is the smallest detectable concentration of analyte greater than the detection limit where the accuracy, including both precision and bias, achieves the objectives of the intended purpose of the measurement. Target objectives are generally stated in terms of the precision of the measurement expressed as a relative standard deviation (RSD). There is no single agreed approach for determining the quantitation limit of a method. The quantification limit for a given method

⁸ 40 CFR § 136.2(f)

can be three to ten times higher than that method's detection limit depending on method-specific factors such as matrix effects and purity of reagents. One does not have confidence in the accuracy of a measured value unless that value is at or above the quantification limit for the method.

Testing accuracy, reliability, and representativeness are vital in setting MACT standards because those limits must reflect the level of performance "achieved in practice" by the best performing units. They are also vital to permittees because test results, once they are sworn to be "accurate" on a monitoring report, are virtually unassailable in an enforcement action.⁹

In the proposed IB MACT, EPA has established MACT emission limits based on reported detection limits.¹⁰ EPA's approach is flawed for several reasons. First, the agency failed to provide a clear and proper definition of "detection limit" in the IB ICR. As a result, the detection limits reported in the ICR responses are inconsistent and are not even based on a common understanding of the term "detection limit." Most IB owners seem to have reported the "detection limit" value they were provided by the laboratory analyzing the ICR samples. A cursory review of the ICR data shows that some "reported" values are actually below the detection limit values reported in other ICR tests. This would not have happened if EPA had properly determined the detection limit for each method before issuing the IB ICR.

Second, EPA's focus on the method detection limit reported by a given laboratory ignores many sources of measurement error that can affect a reported result. Accuracy considerations are not limited to the ability of a single laboratory to precisely measure the amount of a substance in a given sample it receives. Measurement errors also occur during the collection of a sample at the stack, the transfer of that collected sample to whatever means are used to transport the sample to an analytical

⁹ See *Sierra Club v. Union Oil*, 813 F.2d 1480,1492 (9th Cir. 1986) ("We conclude that when a permittee's reports indicate that the permittee may not impeach its own reports by showing sampling error."); see also *Conn. Fund for the Environment v. Upjohn*, 660 F.Supp. 1397, 1416-17 (D.Conn. 1987); *NRDC v. Texaco*, 906 F.2d 934, 936 (3rd Cir. 1990); and *U.S. v. ALCOA*, 824 F.Supp. 640, 648-49 (E.D. Tex. 1993).

¹⁰ In the preamble to the proposed rule, EPA acknowledges the problems with this chosen approach:

we believe that a floor emission limit based on a truncated data base or otherwise including values at or near the method detection level may not adequately account for data measurement variability. We did not adjust the calculated floors for the data used for this proposal; although we believe that accounting for measurement imprecision should be an important consideration in calculating the floor emission limit. We request comment on the approaches suitable to account for measurement variability in estimating the floor emission limit when based on measurements at or near the method detection limit.

laboratory, and the interlaboratory inaccuracies of different laboratories testing the same sample. The proposed IB MACT does not address these areas of collection and analytical error. As a result, EPA's detection limit analysis is fatally flawed.

The proposed rule fails to adequately account for variability in emissions that reasonably is expected from the top performing sources.

In the IB MACT, EPA proposes to use the 99 percent upper predictive limit (UPL) to accommodate and reflect variability in the operation of the best performers in calculating the MACT floor. The use of the 99 percent UPL calculated on only a small number of sources in a subcategory does not adequately capture variability or serve to predict the MACT floor level achievable by the top performers. In essence, the agency is using this statistical method in an attempt to overcome the limited amount of emissions data available for top performers. However, this statistical approach cannot overcome the fact that the data are not representative of the entire population of boilers in each subcategory and that the available data do not reflect the true variability of the top performing sources.

EPA cannot hope to develop an accurate assessment of the level of performance those plants will achieve under the worst reasonably foreseeable circumstances if the agency fails to obtain a complete picture of operating conditions of the best performing units over a sufficiently extended period of time. In the IB MACT and future MACT rulemakings EPA must use data to set the standard that are consistent with the form of the standard.

The emissions database includes numerous fundamental flaws that compromise the MACT floor analysis that is based on these data.

Given the limited comment period that has been provided on the IB MACT – due to the unrealistic rulemaking schedule – it has not been possible to conduct a thorough data quality assessment on EPA's entire emissions data base. EPA's failure to provide adequate time for an appropriate assessment of the data violates the agency's obligation to provide a full and fair opportunity for public comment on the proposed rule. Within these severe time constraints, the industry conducted a spot check of 100 stack test reports and associated information from top performers in order to assess the quality of the data the agency relied upon in calculating the MACT floors that underlie the proposed rule.

This spot check revealed numerous data errors – many of which, if corrected, would have a material impact on the stringency of EPA's calculated MACT floors and associated proposed standards. A few illustrative examples include: (1) widespread inconsistency in the data

reported under the Phase I and Phase II ICRs, such as entirely different methods of determining and reporting “non detects”; (2) inconsistent reporting of dioxin/furan emissions testing results; (3) inconsistent and incompatible PM emissions testing methods; and (4) mischaracterization of boiler types, such as including a coal-fired boiler in the biomass subcategory. The number and magnitude of the errors provide clear evidence that the database is fundamentally flawed and that any standard derived from the database does not have adequate factual support.

To resolve this problem, EPA must conduct a thorough review of the database, correct or eliminate the flawed data, recalculate the MACT floors and associated proposed standards, and provide a new opportunity for public comments (including sufficient time for commenters to conduct their own comprehensive review of the data).

Further, in order to prevent the same problem for the upcoming EGU MACT rulemaking, EPA must conduct a thorough analysis of the information it receives from its EGU ICR request. If more time is needed for EPA to perform its legally mandated obligations under the Clean Air Act, then it must ask the court to revise the rulemaking schedule.

No fewer than five units should be used to set MACT limits.

In the proposed IB MACT, EPA has established emission floors for certain subcategories based on emissions data from less than five sources even though the subcategory contains more than 30 units. EPA has requested comments on whether it should set existing source MACT limits based on the emissions of at least five “best performing” units in larger subcategories (more than 30 units) when only limited emissions data are available.

Section 112(d)(3)(A) requires EPA to set MACT limits for existing sources based on “the average emissions limitation achieved by the best performing 12 percent of the existing sources (for which the Administrator has emission information).” For source categories with less than 30 sources, existing source MACT floors are to be set based on “the average emission limitation achieved by the best performing 5 sources (for which the Administrator has or could reasonably obtain emissions information).”¹¹ Read together, these two provisions indicate that Congress intended MACT standards to be set on no less than five “best performing” units. Otherwise, Congress would not have included the phrase “could reasonably obtain emissions information” in § 112(d)(3)(B). It is reasonable to assume that Congress never contemplated the situation where the amount of available data from a large source category or subcategory would require EPA to set MACT limits based on the

¹¹ CAA § 112(d)(3)(B)

performance of only one or two sources.¹² A logical interpretation of Congress' intent in drafting § 112(d) is that no fewer than five "best performing" units must be used in setting existing source MACT limits.

The facility averaging provisions should be modified.

The proposed IB MACT allows emission averaging in certain circumstances. However, the emission averaging provisions of the proposed IB MACT are so restrictive and conditional that they are unlikely to be used. The proposed rule would apply a 10% "discount factor" on any source seeking to average emissions. This discount factor makes no sense and will deter averaging. As noted previously, EPA's proposed IB MACT standards are so low that there are significant concerns about whether sources can even comply with them using state-of-the-art control equipment. Effectively lowering those standards by 10% for sources that average emissions makes an impossible situation even more impossible. In addition, there is no legitimate reason for imposing a 10% penalty on sources that seek to average emissions. Total emissions from a single facility have the same health effects on public health regardless of whether each unit at the facility meets the MACT limits or all units meet the MACT limits in the aggregate – the 10% penalty on operational flexibility has *no* public health benefit.

Other provisions in EPA's proposed averaging program are equally onerous: the detailed averaging plan a facility would need to prepare, and the cap on unit emissions which would not allow any unit participating in the averaging program to have emissions any higher than it had on the effective date of the proposed rule.

EPA must make substantial revisions to its proposed averaging provisions if this program is to truly provide operational flexibility to facilities.

The proposed rule will impede the construction of EGU biomass units due to flawed biomass limits.

EPA should encourage the combustion of biomass as substitute fuel for coal or oil as a matter of good public policy. The combustion of biomass will become increasingly important to utilities as renewable energy standards are adopted by more states and are possibly applied to all states as a result of federal mandates. Biomass is an abundant and renewable domestically-produced fuel that can help reduce reliance on foreign sources of fossil fuel. Prescribing stringent HAP emissions

¹² For example, if there were 1000 units in a source category but EPA only had emissions data from ten of those sources, then a restrictive reading of § 112(d)(3)(A) would require EPA to set an existing source MACT on the basis of one unit (12% of 10) – the exact same way EPA would set a new source MACT limit. This makes no sense given the structure of § 112(d)(3).

limitations on biomass boilers will create a significant barrier to the continued use and expansion of biomass fuels and incentivize the use of less desirable fossil fuel alternatives.

The proposed biomass emission limits are exceedingly low because of errors in standard-setting as noted above. The PM limit for biomass units does not account for fuel-related variability. PM emissions are directly related to the ash content of a fuel and the ash content of unadulterated wood is highly variable. Similarly, EPA does not appear to have made any fuel-related adjustments for chlorides or mercury in biomass.

Strong policy reasons for promoting the combustion of biomass coupled with difficulty in complying with the unrealistically and unjustifiably stringent proposed HAP emission limits for biomass boilers suggest that EPA prescribe work practice standards for biomass boilers instead.

EPA should promulgate work practice standards for utility auxiliary boilers.

Electric utilities operate auxiliary boilers that will be subject to the IB MACT because they are not steam generating units that produce electricity. Auxiliary boilers operate infrequently – normally only during plant startups – and combust either natural gas or distillate fuel. As a result, HAP emissions from auxiliary boilers are exceedingly low and therefore do not pose any risk to public health.

Under the proposed IB MACT, gas-fired auxiliary boilers are subject to work practice standards requiring an annual tune up. By contrast, the proposed IB MACT requires oil-fired auxiliary boilers to comply with stringent emission limits and demonstrate compliance with those limits by following expensive monitoring requirements. The distinction between these two different types of auxiliary boilers is unnecessary and does not lead to any significant environmental benefits.

EPA should create a limited use subcategory for auxiliary boilers combusting distillate fuel that would subject those units to the same work practice standards as gas-fired units. The limited use subcategory should have a 10% capacity factor threshold. Eligibility for this subcategory would be determined based on 10% of the maximum hourly heat input of the boiler multiplied by 8760 hours per year.

In closing, EEI believes that EPA has both the need and the opportunity to make significant changes to the proposed Industrial Boiler MACT. These changes are needed to correct fundamental technical and data issues that compromise the validity of the proposed standards. They also are needed to address several basic legal irregularities that call into question the legal viability of key aspects of the rule. EPA can and should take advantage of

the opportunities described above that would substantially reduce the burden on affected sources while still providing ample protection to health and the environment.

EEl appreciates the opportunity to provide comments on the proposed IB MACT rule. Questions should be directed to Michael Rossler, Manager, Environmental Programs (202/508-5516, mrossler@eei.org).

Sincerely,

A handwritten signature in black ink, appearing to read "Quinlan J. Shea, III". The signature is written in a cursive style with a horizontal line at the end.

Quinlan J. Shea, III