American Iron and Steel Institute

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U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460

For Electronic Delivery to a-and-r-docket@epa.gov

RE: National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers; Proposed Rule
75 Fed Reg 31895 (June 4, 2010)

Ladies/Gentlemen:

The American Iron and Steel Institute (AISI) is pleased to submit comments on the subject proposed rule. AISI is the principal trade association representing the North American steel industry and represents member companies accounting for approximately 75% of the U.S. steelmaking capacity with facilities located in 33 states.

Most AISI member companies employ boilers or process heaters to generate steam and/or electricity. Some facilities are by their nature minor sources of hazardous air pollutants (HAPs) and are therefore potentially affected by the proposed Area Source Rule (Subpart JJJJJ)(Proposed Rule). Comments are also being separately submitted to other dockets on rules simultaneously proposed for boilers and process heaters at major sources (Subpart DDDDD) and for commercial and industrial solid waste incinerators (CISWI) (Subparts CCCC and DDDD), and we wish to incorporate those comments by reference in the subject docket.

While the proposed rule for area source industrial boilers include a number of commendable provisions - most notably the proposal not to regulate gas-fired units - we have several concerns with the proposal because it would potentially impose stringent numeric emission limitations that would be difficult, if not impossible, to meet. We believe EPA has not justified the need to impose numeric limits on area source industrial boilers and that ample authority and justification exist for establishing work practices for all area source boilers. If, however, the agency decides to finalize

numeric emission limits, the proposed standards are not supported by the available data and require substantial revision.

EPA Has Not Justified the Need to Regulate Area Source Industrial Boilers in Order to Satisfy §112(c)(6)

EPA's MACT proposal for the §112(c)(6) pollutants is flawed because the agency provides no basis for its assertion that mercury (Hg) and polycyclic organic matter (POM) must be regulated under this standard in order to satisfy the requirement that 90% of nationwide emissions of these pollutants must be regulated under §112 standards. In 1998, when EPA published the list of source categories that must be regulated to meet the §112(c)(6) 90% control requirement, the agency did not draw firm conclusions as to whether any area source categories needed to be regulated. Instead, EPA explained that it "will determine whether specific regulation of the area source component of a source category is appropriate, or necessary to meet the 90 percent goal, based on more source category-specific data collected as part of the regulatory process."[1]

With regard to POM, the Proposed Rule and supporting documentation provides no such additional analysis justifying the need to regulate area source POM emissions to satisfy §112(c)(6). The preamble simply asserts, with no further analysis or supporting information, that "[w]e continue to believe that we must regulate POM from coal-fired, biomass-fired, and oil-fired area source boilers in order to meet the requirement in section 112(c)(6)."[2] In light of the failure of the 1998 notice to provide justification for regulating area source categories, this conclusory assertion does not provide a rational basis or adequate factual justification to support the proposed determination that area source industrial boilers must be regulated to satisfy the §112(c)(6) 90% requirement.

Similarly, with regard to Hg, the preamble to the Proposed Rule states that "based on the information we have learned to date as we are developing standards for various source categories, such as major source boilers, gold mines, commercial and industrial solid waste incinerators, and other categories, we believe that we only need coal-fired area source boilers to meet the 90% requirement set forth in section 112(c)(6) for mercury."[3] The area source MACT floor memo further explains that:

> EPA estimates that they have subjected to regulation or propose to regulate 90.3 percent of the 172.3 tons in the 1990 emissions inventory for mercury. Coal-fired area source boilers would provide an additional 0.72

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[1] 63 Fed. Reg. 17838, 17842 (Apr. 10, 1998).

[2] 75 Fed. Reg. at 31904.

[3] *Id.*

percent. Regulation of these boilers under MACT would provide an anticipated margin to ensure that the obligations under CAA section 112(c)(6) are met.[4]

Assuming for the sake of argument that the analysis is correct and adequately supported, §112(c)(6) does not obligate EPA to regulate in order to provide "an anticipated margin to ensure that the obligations under CAA section 112(c)(6) are met." EPA has either exceeded the 90% standard or not. When the facts show that the 90% standard is met, EPA has satisfied its §112(c)(6) obligation. When the facts are not sufficient for EPA to reliably draw conclusions, EPA's obligation is to seek the additional information necessary to determine whether additional regulations are needed to meet the 90% standard. EPA's obligation to provide record support for its regulatory decisions is turned on its head by the assertion that the lack of facts or uncertainty as to the available information justifies additional regulation under §112(c)(6).

Even if EPA Needed to Regulate Area Source Industrial Boilers to Meet §112(c)(6), It Would Not be Required to Adopt MACT Standards

CAA §112(d)(5) authorizes EPA in most cases to set standards for area sources using "generally available control technologies or management practices" (*i.e.*, "GACT") rather than "MACT." Section 112(d)(5) establishes a special rule for area source standards. It provides, "With respect to categories and subcategories of area sources listed pursuant to [§112(c)], the Administrator may, in lieu of the authorities provided in [§112(d)] ... elect to promulgate standards or requirements applicable to sources in such categories or subcategories which provide for the use of generally available control technologies or management practices by such sources." In other words, EPA may establish "GACT" standards for area sources rather than "MACT" standards under §112(d).

EPA takes the position in the proposal that it cannot use GACT to regulate HAP emissions from area source categories that are subject to §112(c)(6). This position suffers from two fundamental flaws. The first problem is that it ignores the language in §112(d)(5) that defines the scope of the agency's authority to use GACT. Section 112(d)(5) expressly states that EPA is authorized to use GACT "[w]ith respect to categories and subcategories of area sources listed pursuant to [112(c)]." The CAA provides only two ways for EPA to list an area source category for purposes of regulating HAP emissions from the category under §112

Section 112(c)(3) – which is aptly entitled "Area Sources" – provides that EPA "shall list" area source categories "which the Administrator finds presents a threat of

[4] MACT Floor Memo at 2.

adverse effects to human health or the environment ... warranting regulation under this section. Section 112(c)(6) similarly authorizes EPA to "list categories and subcategories of sources" - including area sources - as necessary to meet the specified aggregate control requirement for the seven listed HAPs. Since all area source categories - including those listed under §112(c)(6) - are listed "pursuant to §112(c)," EPA has authority under the express terms of §112(d)(5) to use GACT in regulating area source categories listed and regulated under to §112(c)(6).

The second fundamental problem with EPA's position is that it ignores the language in §112(d)(5) authorizing EPA to use the GACT method "in lieu of" the §112(d)(2) MACT procedure. EPA itself has observed that the term "in lieu of" is commonly understood to mean "in place the of" and, thus, has previously correctly concluded that, "CAA section 112(d)(5) authorizes EPA to promulgate standards under CAA section 112(d)(5) that provide for the use of generally available control technologies or management practices (GACT), instead of issuing MACT standards pursuant to CAA section 112(d)(2) and (d)(3)."[5] In short, the statute plainly says that the requirement to set a standard under §112(d)(2) can be satisfied by using the alternative GACT procedure specified in §112(d)(5). As a result, setting GACT under §112(d)(5) meets the §112(c)(6) requirement to regulate under §112(d)(2).

The "Pollutant by Pollutant" Approach to Determining MACT is Not Appropriate Because It Results in Standards That do Not Reflect the Performance of the Best Performing Boilers

The proposed area source MACT standards are based on pollutant-by-pollutant analyses that rely on a different set of best performing sources for each separate HAP standard. In other words, 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 "Frankenstein" approach[6] is contrary to the language of §112 and produces unrealistic and impracticable standards.

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

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[5] 73 Fed. Reg. 1916,1920-1921 (Jan. 10, 2008).

[6] *Industry Faults Strict EPA MACT Method for Regulating "Best" Sources*, Inside EPA's Clean Air Report, Sept. 3, 2009.

that standards must be based on actual sources, and cannot be the product of pollutant-by-pollutant parsing that result 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]

Even assuming for the sake of argument that the agency does have discretion to depart from a source-wide approach to standard setting, EPA has improperly exercised its discretion in this rule. EPA has failed to provide an assessment of how many existing boilers will be able to meet the proposed standards without taking any further control measures – *i.e.*, EPA has not shown or attempted to show that the proposed standards reflect the performance of any actual affected sources. This failure to investigate a fundamental aspect of the proposed rule renders the rule arbitrary and capricious.

EPA's database shows that very few units are best performers for more than one pollutant. For example, the best performing plants used for calculating the new source particulate matter (PM) and carbon monoxide (CO) standards for biomass shared no common units. 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.

The EPA database is also deficient in other ways. For example, EPA has dioxin data for five sources in the Gas 2 Subcategory (arguably applicable to process gas-fired units if not otherwise exempted as discussed below) but uses only one source to determine the MACT floor for existing sources. The Clean Air Act requires a minimum of five sources to calculate reasonable MACT floors for existing sources. EPA's approach would set MACT floors for existing units equal to those for new units, which is inconsistent with the statutory structure.

As another example, EPA uses a single data point to set Hg and hydrochloric acid (HCl) limits for Gas 2 units, and only two data points for the PM MACT limit. EPA has abused its discretion by establishing MACT floors for Gas 2 units without collecting adequate data to support the MACT calculation as Congress intended.

Moreover, coke oven gas is unique among fuels and in any case should not lumped into a Gas 2 subcategory based on emissions data collected for boilers burning other fuels. If coke oven gas-fired boilers and other process gas-fired units are not

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

entirely exempted as argued below and are to be regulated under the Area Source Rule, AISI believes it is necessary for EPA to develop a robust database specific to coke oven gas-fired units and to establish a unique subcategory for those units. Justification for this recommendation is contained in AISI's comments on the proposed Subpart DDDDD rule.

The Available Emissions Data are Not of Sufficient Quantity and Quality to Support the Proposed MACT Emissions Limitations. The Limited Data Result in Unachievable Standards That are Not Justified under the Facts or the Law

The emissions data on which EPA relies are scant, inaccurate, and not representative of the population of boilers that will be subject to the rule. In short, the data are inadequate to support the proposed standards – especially with regard to the proposed existing source numeric standards. The statute requires EPA to determine MACT according to the "available" emissions information; however, this does not excuse EPA from using its resources and information gathering authority to obtain enough data to adequately characterize the units that will be subject to the rule. The agency's failure to collect sufficient information is arbitrary and capricious and compromises the validity of the proposed standards.

The emissions data have three basic problems. First, the amount of data is wholly inadequate. Per the floor memo[8], EPA has collected very little emission data:

- no emission data for POM for any subcategory,
- no Hg emission data for the liquid subcategory,
- Hg emission data for only 9 coal boilers and 2 biomass boilers,
- no state regulations or permit data for Hg or POM,
- limited emissions data for CO (5 coal boilers, 30 wood boilers, and 68 oil boilers)

EPA has estimated that there are almost 183,000 existing area source boilers at 92,000 facilities (3,710 coal, 10,958 biomass, and 168,003 liquid)[9], so the small amount of data collected is representative of the performance of less than 1 percent of these boilers. Of course, for purposes of setting the existing source standard, EPA uses data from the top 12% of units for which data are available, which in this case represents an even smaller fraction of the units. So, EPA proposes to set a standard applicable to

[8] EPA-HQ-OAR-2006-0790-0049

[9] EPA-HQ-OAR-2006-0790-0037

thousands of boilers based on data from less than 0.1% of the units in the subcategory. This data record is facially insufficient.

Second, EPA makes no effort to show that the limited data that are available are in any way representative of the population of boilers that will be subject to the rule. Using the biomass subcategory as an example, the agency has failed to characterize the wood fired boilers in the database either by their size, the type of biomass fuel used (wood, bark, agricultural residue, moisture level, *etc.*), the boiler design or load pattern. Each of these important factors can affect HAP emissions. By way of contrast, in the proposed major source industrial boiler MACT rule, which has far fewer affected facilities than the Area Source Rule, the biomass boilers were subcategorized for design and size. EPA's failure to investigate whether the available data adequately characterize the boilers that will be subject to the Area Source Rule is arbitrary and capricious.

Third, the emissions dataset includes obvious errors that, if fixed, would have a significant impact on EPA's determination of the MACT floor and MACT standards. For example, several of the boilers used to determine the MACT floors have rated capacities of less than 10 MMBTU/hr. However, these units would not be subject to numeric emissions limitations under the Area Source Rule. Because EPA must determine existing source MACT standards based on emissions data from sources in the category or subcategory being regulated, emissions data from the small boilers cannot be used in setting emissions standards under the Area Source Rule.

Taken together, the available emissions data are inadequate and inaccurate and, thus, do not reasonably support the proposed standards.

The Proposed Rule Fails to Adequately Account for Emissions Variability That is Reasonably Expected from the Top Performing Sources

EPA proposes to use the 99% 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% 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 adequately account for 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.

This problem is magnified by the fact that performance tests are typically conducted when units are at least 90% of full load during normal operating conditions.

Therefore, a stack test is going to represent the best operation of any boiler. Thus, the data represent only a small snapshot in time, captured during the best operating conditions. This means that EPA's statistical approach to determining variability fails to reflect the full range of variability that reasonably is expected from the best performing boilers.

EPA's variability analysis also is magnified by the fact that 3-hour testing data are used to set standards with far longer averaging times. Thus, there is a fundamental disconnect between the form of the data used to determine the standard and the form of the standard itself. We support longer averaging times than proposed in the Area Source Rule, and these standards should be based on emissions data collected over comparable periods. Any emissions limits set for CO should be based on a 30-day averaging period to accommodate the significant variability in CO emissions reflected in long term CO monitoring data.

If EPA Proceeds to a Final Rule for Area Source Boilers, AISI Supports EPA's Proposal Not to Regulate Gas-Fired Industrial Boilers under the Area Source Rule

EPA is authorized to regulate area sources under §112 in only two circumstances. First, §112(c)(3) provides that EPA "shall list" area source categories "which the Administrator finds presents a threat of adverse effects to human health or the environment ... warranting regulation under this section." Second, §112(c)(6) authorizes EPA to "list categories and subcategories of sources" - including area sources - as necessary to meet the specified aggregate control requirement for the seven listed HAPs.

Gas-fired industrial boilers are clean burning and low emitting. There is no evidence in the rulemaking record (and no evidence generally) suggesting that HAP emissions from gas-fired area source industrial boilers present any "threat of adverse effects to human health or the environment," much less any threat that would "warrant regulation" under §112. Moreover, the agency has concluded that there is no need to regulate gas-fired area source industrial boilers to meet the requirements of §112(c)(6). Therefore, there is no basis for regulating gas-fired industrial boilers under the Area Source Rule.

Additionally, in the proposed MACT rule for major source industrial boilers (Subpart DDDDD), EPA proposes that work practice standards are appropriate and justified for units in the Gas 1 subcategory out of concern for the cost of complying with numeric emissions limitations and based on the adverse policy incentives that would be created. 75 Fed. Reg. at 32025. This rationale applies equally when considering the need to regulate gas-fired units under the Area Source Rule and lends additional support to EPA's proposal not to regulate these units.

The Definition of Gas-Fired Boilers Should be Amended

The definition of gas-fired boilers includes those units burning gaseous fuels, which by further definition includes process gases (*e.g.*, coke oven gas or blast furnace gas). However, the definition of gas-fired boiler is qualified by stating that gaseous fuels cannot be combined with any liquid fuel except during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuels. Without clarification of that definition, the exemption for gas fired boilers is potentially negated.

While process gas-fired boilers, such as coke oven gas-fired boilers, are primarily designed to burn process gas, usually with natural gas as a back-up fuel, they are sometimes supplemented with liquid fuels when the supply of process gas from the is interrupted due to operational difficulties or reduced operations necessitated by business conditions or when steam demands elsewhere in the plant cannot be met by the available process gas supply to the boilers. It is not clear from the definition of gas-fired boiler whether the terms gas curtailment and gas supply emergencies pertain to commercial natural gas supplies or can be interpreted to include occasions of curtailment and supply deficiencies from the process supplying the gas. In the absence of clarifying language in the definition, the occasional use of liquid fuel would place these boilers (as well as any units using any liquid fuel, except in the stated circumstances) into a category that requires stringent emission limits, the installation of costly emission control equipment, and testing, monitoring and recordkeeping obligations.

If the qualification of liquid fuel usage remains in the definition of gas-fired boiler, we suggest adding further clarifying language that is contained in the definition of a waste heat boiler in the proposed Subpart DDDDD applicable to boilers at major sources. Waste heat boilers are exempt from that rule. (Blast furnace gas - a process gas that is recovered for its heat value just as is coke oven gas and other process gases- is also exempt under that rule.) The waste heat boiler definition in the proposed rule for boilers at major sources is limited to units designed to use no more than 50% of the total heat input capacity of the unit with supplemental burners. We believe that the environmental and energy conservation benefits of using process gases are comparable to the use of waste heat or blast furnace gas and that the same provisions for using supplemental fuels should apply to units intended to utilize all process gas. Accordingly, applying the same rationale, we urge EPA to modify the gas-fired boiler exemption to include those units designed to use supplemental fuels up to 50% of the total heat input capacity of the unit.

In addition, AISI requests that EPA provide clarification that boilers firing liquefied petroleum gas (LPG) or propane-derived synthetic natural gas (SNG) as a backup fuel are considered a gas-fired boilers. We note that EPA proposes to incorporate ASTM D183503a to define "natural gas" for purposes of this regulation. It is

important that any standard incorporated by the regulation be broad enough to encompass the use of propane (a constituent of LPG) as natural gas and not just mixtures. Most LPG mixtures include butane, which reduces the effectiveness of LPG at low temperatures, causing many facilities to substitute propane. Propane (and/or LPG) is mixed with air to create SNG, which should be specifically allowed to be considered as natural gas for purposes of this rule. LPG-based SNG is often used for emergency backup and EPA should make this point explicit in the final rule.

Finally, we request clarification that a boiler combusting landfill gas (or similar gaseous fuels derived from landfills or monofills) is considered a gas-fired boiler and not in the biomass category. AISI considers these fuels to fall under the definition of biogases, which are included in the definition of gaseous fuels, but we are aware that EPA has taken the position that gas derived from landfills is "biomass" under other rules. We seek clarification that for purposes of this rule it is not the agency's intent to regulate boiler use of landfill or monofill gas, even if derived in whole or part from materials that might be defined as biomass.

Coke Oven Gas-Fired Boilers Should be Excluded from the Requirements of the Rule Because They are Regulated by Another MACT Rule

The proposed rule states that any boiler listed as an affected source in another standard established under 40 CFR 63 is exempt from this rule. Because coke oven gas combustion is already regulated by another MACT rule (Subpart L at 40 CFR 63.307), as a threshold consideration, AISI seeks EPA confirmation that the proposed rule does not apply to coke oven gas-fired boilers. Subpart L requires that all excess coke oven gas (which can be interpreted as that not used to underfire the coke ovens themselves, *i.e.*, coke oven gas utilized in boilers) must be efficiently combusted. The rule requires a properly operated flare or an alternate system (approved by the Administrator) that achieves 98% destruction of the coke oven gas vented to the system. Since all boilers achieve 98% combustion efficiency when properly maintained and operated, EPA may use the proposed area source boiler rule to impose an annual tune-up obligation as the sole requirement and approve the boiler as an alternate system under 40 CFR 63.307, which would clearly subject the coke oven gas-fired boiler to another MACT standard. This exclusion would support current efforts to encourage the energy recover of process gases to reduce fossil fuel consumption and greenhouse gas emission that would otherwise be emitted by flaring the coke oven gas and the fossil fuel used instead of coke oven gas in the boiler.

For Units Not Exempted, the Standard for Area Source Industrial Boilers Should Consist of Work Practices Rather Than Numeric Emissions Limitations

In situations where the use of Generally Available Control Technology (GACT) is authorized (as it is here), §112(d)(5) of the Clean Air Act on its face authorizes EPA to

establish "standards *or requirements* .... which provide for the use of generally available control technologies *or management practices*." (Emphasis added). In other words when setting standards based on GACT, EPA is expressly authorized to establish work practices instead of emissions limitations. There is no need under the express terms of §112(d)(5) for EPA to make a showing under §112(h) in order to set work practice standards. This interpretation is supported by the legislative history of §112[10] and is reflected in numerous existing GACT standards.[11]

For purposes of the industrial boiler Area Source Rule, EPA has ample justification to establish a work practice for all relevant HAPs requiring periodic tune-up of affected boilers. As EPA explains in the proposal, this approach is appropriate for Hg because Hg is a fuel dependent HAP and "[f]uel usage can be reduced by improving the combustion efficiency of the boiler."[12] Similarly, EPA asserts that, "A boiler tune-up requirement would potentially result in the same non-mercury metallic HAP reduction as a PM emission limit based on performance of multiclones but would also reduce emissions of organic HAP."[13] Thus, a requirement for affected boilers to be periodically tuned up is amply justified.

If EPA Adopts Numeric Emissions Limitations, the Final Rule Must Include a Separate Standard for Periods of Startup and Shutdown

The Proposed Rule does not include a separate standard for startup and shutdown. This is a fundamental problem that, if not corrected, will cause the final standards to be unachievable by even well designed and operated boilers. As a result, EPA must include a separate standard for startup and shutdown in the final rule.

EPA explains in the preamble that, "Based upon continuous emission monitoring data, obtained as part of the information collection effort for the major source boiler and process heater rulemaking, which included periods of startup and shutdown, over long averaging periods, startups and shutdowns will not affect the achievability of the standards." 75 Fed. Reg. at 31901. There are three fundamental problems with this justification for not including startup and shutdown standards in the rule.

First, the continuous monitoring data that EPA presents in the major source industrial boiler MACT proposal is for units that will not be subject to the Area Source Rule and that are not the unit(s) from which EPA obtained the data used in setting the

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[10] *See*, S. Rep. No. 101-228, 101st Cong. 1st sess. 171-172 (GACT is to encompass "methods, practices and techniques which are commercially available and appropriate for application by the sources in the category ....").

[11] *See, e.g.*, 72 Fed. Reg. 16636, 16639 *et seq.* (Apr. 4, 2007) (describing methods of determining GACT for 7 area source categories).

[12] 75 Fed. Reg. at 31906.

[13] *Id.* at 31908.

proposed area source standards. Thus, these emissions data cannot lawfully be used in determining the area source standards because these data are derived from sources that do not belong to the area source category. The conclusion that a separate standard for startup and shutdown is not needed can only be based on data from the source(s) that are actually used by EPA to set the area source standards or on a showing that the data from some other boilers are representative of the performance of the area source boilers used as the basis for the proposed area source standards.

Second, EPA's emissions database provides continuous emissions monitoring system (CEMS) data from several of the better performing sources. Contrary to EPA's assertion in the preamble, these data show that daily average emissions should be expected to vary considerably on a day-to-day basis and that the variability spans the proposed levels of the standards. While it is difficult to discern the reasons for this variability based on the information provided in the database, there is little doubt that startups and shutdowns significantly contribute to the variable emissions performance of these units. Thus, the data indicate that EPA needs to include express accommodation for startups and shutdowns.

Third, basic scientific and engineering principles support the need for a separate standard for startup and shutdown. Particularly for CO emissions, combustion conditions will not be optimum during startup periods due to the generally low firing rate and the fact that the firing rate will be ramped up over the startup period. Thus, a significant period of non-optimum firing conditions will result in CO emissions performance - even on a daily average basis - that will be markedly different than performance during normal operations. EPA's failure to acknowledge these basic technical and engineering principles renders the proposed standards arbitrary.

For these reasons, we believe that a separate standard for startup and shutdown is needed and is amply justified. We suggest that a work practice standard is most appropriate due to the lack of relevant data and the fact that an emission testing during startup is not technically and economically practicable. If EPA decides that a numeric standard is needed, the agency should rely on the available long term data from the better performing area source boilers to establish a standard with a reasonably long averaging time (such as a 30-day rolling average), rather than the proposed 24-hour averaging time.

The Proposed Rule Should Not Mandate Energy Assessments

Energy conservation measures are laudable and a core part of everyday life in the steel industry. In fact, many steelmaking facilities already perform many of the investigations associated with an energy assessment as they have implemented the EnergyStar guidelines for energy management. Nevertheless, as explained throughout this section, EPA lacks the statutory authority to mandate facility-wide energy

assessments for at least three reasons: (1) the energy assessment is not an "emission standard," (2) EPA may not reach beyond the defined source category to impose legal obligations, and (3) EPA has not demonstrated that the proposed energy assessment requirement is a cost-effective beyond-the-floor standard. Further, even if such a requirement was legally viable, there are serious implementation issues that would impair the viability and functionality of energy assessments in many instances.

Section 112 of the CAA does not authorize EPA to mandate that each facility housing a boiler or process heater perform an energy assessment. The Proposed Rule characterizes this energy assessment requirement as a beyond-the-floor regulation issued pursuant to the agency's authority under §112(d)(2). 75 FR at 32026. That provision, however, only authorizes EPA to promulgate "emission standards," which are carefully defined in CAA §302(k) to mean:

> A requirement ... which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction, and any design, equipment, work practice or operation standard promulgated under this chapter."

42 U.S.C. §7602(k). The proposed energy assessment requirement falls beyond that definition.

The proposed energy assessment would require an "in-depth energy study identifying all energy conservation measures appropriate for a facility given its operating parameters." 75 FR at 32026. Thus, that measure just mandates an evaluation of the facility's processes to "identify energy conservation measures ... that *can be* implemented to reduce the facility energy demand...." 75 FR at 32026 (emphasis added). That one-time identification of possible emission reductions and process changes will not "limit the quantity, rate or concentration of emissions of air pollutants," much less "on a continuous basis." Nor is the proposed energy assessment a "design, equipment, work practice or operation standard." As such, it falls beyond the defined concept of an "emission standard."

In fact, the U.S. Court of Appeals for the DC Circuit has held that a regulation imposing a general duty, without numerical emissions limits and without a mandatory plan for implementation, was not a free-standing emission limit and thus "not a section 112-compliant standard." *Sierra Club v. EPA*, 551 F.3d 1019, 1025-1028 (D.C. Cir. 2008). That same rationale applies here and confirms that the proposed energy assessment does not meet the threshold definition of an emission standard. As such, it is beyond EPA's authority under §112 to promulgate such a requirement.

In addition, EPA cannot impose requirements that reach beyond the defined source category. Section 112(c) establishes the scope of regulation under §112 by requiring EPA to publish "a list of all categories and subcategories of major sources and areas sources" for which "the Administrator shall establish emissions standards under subsection (d)." CAA §§112(c)(1) and (2), respectively. Pursuant to that requirement, EPA published a discrete list of major and area source categories. *See* 70 FR at 37824; *see also* 67 FR at 70428. Thus, that list of source categories sets both the maximum and minimum scope of EPA's regulatory authority to "establish emissions standards under subsection (d)."

The Proposed Rule explicitly states that the source categories affected by these rules are industrial, institutional, and commercial boilers and process heaters located at a major source. 75 FR at 32011 and 23049-50. Section 112 does not authorize EPA to promulgate regulations affecting sources beyond those specifically listed. Rather, as the legislative history confirms, "MACT standards shall be focused on *a specific portion* of a contiguous facility.... The entity covered by MACT would be defined at proposal of the standards." (emphasis added). A Legislative History of the Clean Air Act Amendments of 1990, 1990 CAA Leg. Hist. 731, 866. Thus, this rulemaking under CAA §112(d) only extends to the "specific portion" of the facilities identified in EPA's list under §112(c) and can go no further.

The proposed energy assessment requirement exceeds that focused statutory charge to develop emissions standards by reaching far beyond the "specific portion" of the facilities identified in EPA's §112(c) list. Specifically, the proposed energy assessment would require the inspector to "establish operating characteristics of the *facility*, energy system specifications, operating and maintenance procedures, and unusual operating constraints," "review ... available architectural and engineering plans, *facility* operation and maintenance procedures and logs, and fuel usage," and facilities containing major sources must develop a "*facility* energy management program" in accordance with the EnergyStar energy management program. 75 FR at 32068 (emphasis added). Additionally, the inspector is to "identify major energy consuming systems" and "list major energy conservation measures." *Id.* The inspector must then write up a comprehensive report summarizing his findings. *Id.* The only step properly limited to the regulated source category is the first one: "a visual inspection of the boiler system." *Id.* This step stands in stark contrast to the others, as it is the only one explicitly limited to the regulated source category. Save the first requirement of visually inspecting the boiler, the entire energy assessment requirement attempts to regulate operations beyond the defined source category.

EPA clearly lists the source categories subject to §112(d) and the Proposed Rule adheres to that same limitation by stating that it applies to industrial, commercial, and institutional boilers and process heaters. Nowhere is the source category defined as the facility that operates these units. Having defined the scope of this source category in its

§112(c)(1) listing, EPA may not now reach beyond that category to impose obligations and limits. *See New Jersey v. EPA*, 517 F.3d 574, 583 (D.C. Cir. 2008) ("EPA may not construe [a] statute in a way that completely nullifies textually applicable provisions meant to limit its discretion.") (quoting *Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 485 (2001)). As such, EPA may not require the conduct of facility-wide energy assessments or the implementation of findings made during such an assessment. Instead, §112 limits EPA to regulating the source itself, in this case boilers and process heaters.

In addition, the proposed energy assessment requirement is not cost-effective, particularly for complex steelmaking facilities. For beyond-the-floor controls, §112(d)(2) requires EPA to take "into consideration the cost of achieving ... emission reduction[s] and any non-air quality health and environmental impacts and energy requirements" which EPA "determines is achievable for new or existing sources in the category or subcategory to which such emission standard applies...." Thus, EPA must balance the cost of implementing pollution control measures with the magnitude of the reductions that will be achieved.

As an initial matter, the cost estimates in the Proposed Rule significantly underestimate the magnitude of conducting an energy assessment at large, complex manufacturing facilities like integrated steel mills. Our industries' extensive experience in voluntarily working to reduce energy consumption indicates that conducting the energy assessment described in the Proposed Rule at an integrated mill would be exceedingly costly - exclusive of the significant time and effort that plant personnel would need to dedicate to the task. Given our industries' existing focus on securing voluntary energy reductions, that significant expenditure would be duplicative and wasteful in many cases.

But more fundamentally, this undertaking is a means to no particular end. Any potential emission reductions, energy reductions, or non-air quality health and environmental benefits are not estimable because the proposed energy assessment requirement is just a study. While the Proposed Rule speculates that facilities may elect to implement certain findings, it cannot quantify any emissions reductions that may occur with the requisite level of certainty. Thus, this requirement fails EPA's traditional cost-effectiveness evaluation, which focuses on the annual cost per ton of HAP emissions eliminated. *See, e.g., Arteva Specialties S.A.R.L. v. EPA*, 323 F.3d 1088, 1089-90 (D.C. Cir. 2003). EPA apparently has not performed this calculation and it is impossible for any impacted entity to do so. While the Proposed Rule offers a rough emissions reduction estimate, 75 FR at 32026, that estimate apparently stems from presumed voluntary measures, with no solid indication that any HAP reduction will actually occur. Since there are no demonstrable emissions reductions from the proposed energy assessment requirement, the significant costs associated with that process are not

warranted. As such, this proposed beyond-the-floor control fails the threshold test imposed by §112(d)(2).

Even if viable, the proposed energy assessment requirement presents serious implementation difficulties. One threshold problem is that the proposed energy assessment must be performed by "qualified personnel." These inspectors may well have a conflict of interest - particularly where their firms would stand to benefit from implementing any suggested modifications. As a result, regulated entities would have a difficult time delineating between truly appropriate modifications and those suggested by the evaluator in hopes of gaining additional business.

In addition, the number of personnel qualified to perform energy assessments is unknown. The Proposed Rule would require assessors to complete the Department of Energy's Qualified Specialist Program or become a Certified Energy Manager by the Association of Energy Engineers. 75 FR at 32026. Given the huge number of facilities impacted by the Proposed Rule and related major source Boiler MACT standards,[14] there may well be a shortage of qualified personnel. That raises serious concerns, including: (1) personnel with significant experience and true expertise will be unavailable, (2) compliance may become difficult or impossible in a timely manner, and (3) competition for the limited pool of highly qualified assessors will cause their rates to increase significantly.

There would also be substantial inefficiency associated with getting a third-party inspector sufficiently "up to speed" to make informed conclusions regarding our industries' highly complex steelmaking operations. In contrast, existing operations personnel already have extensive steelmaking expertise and unique knowledge of the particular processes at each of our industries' facilities. As such, they are better situated to make informed, realistic determinations of where energy reductions may be achievable than outside assessors - and at far lower cost. Indeed, they have already been doing so effectively for years at most of our industries' major facilities.

Finally, we are concerned that the proposed requirement to conduct a facility-wide energy assessment will be duplicative and unnecessary. As recognized in the

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[14] For major sources, 1,608 facilities would be required to conduct energy audits. Methodology for Estimating Cost and Emissions Impacts for Industrial, Commercial, Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants - Major Source, from S. McClutchey, A. Singleton & G. Gibson, to J. Eddinger, at §3.4 (Apr. 2010), Docket ID No. OAR-2002-0058-0812. Up to 94,339 area source facilities may also be required to conduct energy audits. Methodology for Estimating Impacts from Industrial, Commercial, Institutional Boilers at Area Sources of Hazardous Air Pollutant Emissions, from G. Gibson, S. McClutchey & A. Singleton, to J. Eddinger, at §3.2 (Apr. 2010), Docket ID No. OAR-2006-0790-0032.

Proposed Rule, fuel and energy costs are major drivers at many facilities.[15] That is particularly true for steelmaking companies that require large amounts of fuel and energy to operate. Given those existing business incentives, AISI members have already invested heavily to assess cost-effective energy efficiency opportunities. Further, we have made (and continue to make) significant voluntary investments implementing key efficiency projects - including under the EnergyStar program. Requiring facilities that have already completed these efforts to repeat that effort offers little practical benefit.

The Definition of Hot Water Heater Needs to be Revised

In section IV.A of the preamble to the Proposed Rule, EPA states that the proposal would not regulate hot water heaters as defined in §63.7575. EPA recognizes that all hot water heaters meet the proposed definition of a boiler because they are enclosed devices that combust fuel for the purpose of heating water, but it is further stated that the when the hot water output from a hot water heater is intended for personal use rather than for use in an industrial, commercial, or institutional process, the hot water heater is more appropriately identified as a residential-type boiler and not an industrial, commercial, or institutional boiler.

EPA seeks to establish a definition for hot water heaters that would distinguish residential-type units or those used for non-process purposes from process-related units. However, the proposed definition bases the exemption solely on the size and output of the unit by limiting the capacity of an exempted hot water heater to 120 gallons, the pressure to 160 psig, and the temperature to 120 °F.

In order to maintain consistency with the rationale used to exempt hot water heaters, a hot water heater should be distinguished from a boiler by the intended use of its output, not its physical parameters. Accordingly, AISI recommends the following revision to the definition in §63.7575:

> *Hot water heater* means a device in which water is heated by combustion of gaseous or liquid fuel and is withdrawn for personal use and not for use in an industrial, commercial, or institutional process.

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[15] Sector-Based Pollution Prevention: Toxic Reductions through Energy Efficiency and Conservation Among Industrial Boilers, The Delta Institute, at §3.2, Docket ID No. OAR-2002-0058-0842 (July 2002) (concluding that Fuel is traditionally the "most costly item associated with boiler operation").

We appreciate the opportunity to offer our views on this important proposed rule. If EPA staff has any questions on our comments, please feel free to contact Bruce Steiner at 202-452-7198 or bsteiner@steel.org.

Sincerely,

s/s Kevin M. Dempsey

Kevin M. Dempsey
Vice President, Public Policy and General Counsel