BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In the Matter of the Final Rule:	)	
	)	
Standards of Performance for New	)	
Stationary Sources and Emission Guidelines	)	RIN 2060-A012
for Existing Sources: Commercial and	)	EPA Docket No. OAR-2009-0119
Industrial Solid Waste Incineration Units	)	
	)	
	)	

PETITION FOR RECONSIDERATION

Pursuant to Section 307(d)(7)(B) of the Clean Air Act, 42 U.S.C. § 7607(d)(7)(B), the American Chemistry Council ("ACC") hereby petitions the Administrator of the United States Environmental Protection Agency ("EPA") to reconsider portions of the final rule Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incineration Units ("Final Rule"), published in the Federal Register at 76 Fed. Reg. 15,704 (Mar. 21, 2011). As set forth in detail below, ACC respectfully requests that EPA:

- **Provide notice and an opportunity to comment on the affirmative defense provision for malfunctions**
- **Promulgate work practice standards for periods of startup and shutdown for CISWI units, as it did for both major and area source boilers in those respective rules**
- **Reconsider the CISWI emissions limits because of significant concerns ACC raised, and EPA ignored, with the quality of the data used to set those limits**
- **Set separate emission standards for PM, Hg, Pb, Cd and HCl from coal-fired units, and biomass units; these units should not be grouped in the same subcategory for these specific emission standards**
- **Reconsider and solicit comments on the O_2 monitoring requirements**
- **Revise CEMS provisions to adequately provide for existing dilution-extraction SO_2 and CO CEMS to be used**
- **Reconsider and take comment on the elimination of provisions that allow missing CEMS data**
- **Reduce excessive performance testing requirements to make the CISWI rule consistent with the more reasonable testing requirements of other rules**

- **Reconsider the deletion of the definition of "solid waste" and "contained gaseous material" in the Final Rule, which could result in numerous process and other gases being considered "solid waste" and regulated under CISWI**
- **Clarify that operating parameter limits do not apply during subsequent performance pretesting and testing**
- **Include a compliance option that allows the development of a feed stream analysis for fuel based pollutants (metals) that are not destroyed**
- **Provide the same allowance for varying OPLs with varying operating load in the CISWI Rule that was finalized in the major source boiler rule**
- **Reconsider the use of charge rate as an operating limit for energy recovery units**
- **Establish monitoring requirements for dry scrubbers in the rule and not by petition**
- **Increase the averaging time for parametric monitoring from 3 hours to 24 hours and exclude periods of startup from the averages to allow startup of ESPs without causing a deviation**
- **Allow emissions averaging in the CISWI rule similar to what is allowed in the major source boiler rule**
- **Set parametric monitoring ranges based on performance testing and allow use of supplemental information along with the test data**

In addition, ACC has included a number of issues that it believes require technical correction and/or clarification at the end of this petition for reconsideration.

I. THE PETITIONERS

ACC is a not-for-profit trade association that participates on its members' behalf in administrative proceedings and in litigation arising from those proceedings. ACC represents the leading companies engaged in the business of chemistry. These companies rely in part on the use of commercial and industrial solid waste incinerators that are subject to the Final Rule.

II. GROUNDS FOR RECONSIDERATION

Pursuant to section 307(d)(7)(B) of the Clean Air Act (CAA), if a petitioner shows "that it was impracticable to raise [its] objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment . . . and if such objection is of central relevance to the outcome of the rule, the Administrator shall convene a proceeding for reconsideration of the rule." 42 U.S.C. § 7607(d)(7)(B). There are a number of issues for which ACC seeks reconsideration that stem from the fact that, as EPA has conceded in public statements and court filings, it did not have adequate time to consider fully the thousands of comments it received on the suite of boiler rules. Due to that lack of time, EPA finalized similar

provisions one way in the major source boiler rule[1], and a different way in the CISWI final rule, without explaining why it did so. By failing to provide a rational basis for finalizing similar provisions differently or otherwise distinguishing the provisions, EPA provided an inadequate response to comment leaving these provisions vulnerable to a legal challenge that they are arbitrary and capricious. Because we could not have known that EPA would take such different approaches in the final rules, we believe that the finalization of certain provisions (which we favor) in the major source boiler rule supports a reconsideration of that similar provision in the CISWI rule. As detailed below, each of the specific provisions for which ACC seeks reconsideration meets these requirements.

III. SPECIFIC PROVISIONS FOR WHICH RECONSIDERATION IS SOUGHT

1. EPA should provide notice and an opportunity to comment on the affirmative defense provisions for malfunctions.

The 2000 CISWI rule provided that the standards did not apply during periods of startup, shutdown and malfunction.[2] 65 Fed. Reg. at 75355 (Dec. 1, 2000). In the revised CISWI rule, EPA proposed and then finalized precisely the opposite approach -- the emission limits and operating requirements apply at all times. *See,* §§ 60.2105 and 60.2670.

Moreover, for malfunctions, EPA rejected ACC's recommendation for work practice standards and instead promulgated an entirely new provision that allows the source to assert an affirmative defense if it exceeds a numerical emission limit during a malfunction event as long as several conditions are met. *See,* §§ 60.2120 and 60.2685. This new provision is not a "logical outgrowth" of the proposal because it was not a part of the proposal, so ACC did not have an opportunity to raise the issues associated with the affirmative defense discussed below. EPA stated in its March 21, 2011 Notice of Reconsideration that it intends to reconsider the affirmative defense for malfunction events for major and area source boilers and for CISWI units and we strongly support that action. 76 Fed. Reg. 15266, 15267 (March 21, 2011).

EPA should, however, reconsider not just the affirmative defense as promulgated. Rather, EPA should broaden its reconsideration to include the Agency's approach to malfunction in general. Accordingly, ACC recommends that EPA reconsider the following issues:

- EPA and case law has for decades recognized that all technologies fail at some point; therefore EPA must provide a safety valve for technology-based standards during such time periods, and this is consistent with the D.C. Circuit's *Sierra Club v. EPA*, 551 F.3d 1019 (D.C. Cir. 2008), *cert. denied*, 130 S.Ct. 1735 (2010) decision.

[1] National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 76 Fed. Reg. 15608 (March 21, 2011) (hereinafter "major source boiler rule").

[2] We note that EPA is initiating reconsideration of this issue. National Emission Standards for Hazardous Air Pollutants; Notice of Reconsideration, 76 Fed. Reg. 15266, 15267 (Mar. 21, 2011) (to be codified at 40 C.F.R. Parts 60 & 63) (hereinafter Notice of Reconsideration). We support this reconsideration to the extent it is consistent with ACC's comments.

- The *Sierra Club* decision should have no impact on the legality of source category specific SSM provisions for CISWI under Sections 111 and 129 of the Clean Air Act.

- EPA should promulgate work practice standards for malfunction periods, consistent with Sections 111, 42 U.S.C. § 7411, and 129, 42 U.S.C. § 7429, of the Clean Air Act and *Sierra Club.*

- EPA's affirmative defense is not a substitute for setting emission standards for periods of malfunction for many reasons:

    - It is not clear where EPA finds the legal authority in the Clean Air Act for shifting the burden of proving (or disproving) the key elements of an alleged violation -- normally EPA would have this burden in an enforcement action.

    - Being able to asset a defense is obviously not the same as complying with specific work practice standards that take into account the limitations of technology -- sources may have to conservatively report a violation or certify noncompliance until there has been an enforcement action in which the source has successfully asserted the defense. This is unacceptable.

    - EPA limits the affirmative defense to "civil penalties." First, it is not clear what this means. Does it cover civil administrative penalties under CAA § 113(d)? Does it cover noncompliance penalties under CAA § 120? How does the defense apply to state and local governments and citizen suits? Finally, EPA specifically states that the affirmative defense is not available for claims for injunctive relief. EPA does not provide a rationale for not extending the defense to injunctive relief, and there is no apparent reason why it should be so limited.

- The affirmative defense establishes nine criteria (with some further subparts) that a source must satisfy in order to assert the defense, together with stringent notification requirements. ACC believes that many of these criteria are inappropriate or so vaguely worded that they will vitiate the use of the defense, and ACC will provide detailed discussion of the criteria in its comments on reconsideration.

2. <u>EPA should promulgate work practice standards for periods of startup and shutdown for CISWI units, as it did in the final rules for both major and area source boilers.</u>

The proposed CISWI rule required compliance with emission limitations at all times, including during startup, shutdown and malfunction. ACC and others commented that EPA should instead set work practice standards for these time periods. *See,* ACC Comments at 24-25, 43-46. EPA rejected these comments, and finalized its proposal. EPA provided the rationale for its action in the preamble to the Final Rule as follows:

> We concluded that CISWI units would be able to meet the emissions limitations during periods of startup because most units used natural gas or clean distillate oil to start their incinerators and only add waste after the incinerator has reached combustion temperatures. *Id.* We proposed that emissions from burning natural gas or distillate fuel oil would generally be significantly lower than from burning solid waste. *Id*. We further proposed that emissions during shutdown would also be generally significantly lower because the waste would be almost fully combusted before the unit began shutting down. *Id.* We proposed that these factors, in conjunction with the variability built into the MACT standards and the longer averaging periods, meant that sources would be able to comply with the standards during periods of startup and shutdown. *Id.*

76 Fed. Reg. at 15737-38.

EPA assumes that because CISWI units burn natural gas or distillate oil during periods of startup and shutdown ("SS") it is technically feasible for these units to meet the strict emissions standards established for periods of normal operation during startup and shutdown. This assumption is flawed for several reasons.

First, because CISWI units are burning fossil fuels during SS periods, they are no different than the combustion units covered by the major source and area source boiler rules.[3] In both of those rules, EPA determined that it was not feasible to require stack testing during SS periods due to physical limitations and the short duration of those periods and therefore used its authority to require work practice standards (compliance with the manufacturer's recommended procedures or procedures for a similar design) during periods of startup and shutdown. *See,* § 63.7530(h) (major source); and § 63.11201(b) (area source).[4] These same technical limitations apply to CISWI units during SS periods, and EPA has failed to explain in the Final Rule why these units should be treated differently than major and area source combustion units. As stated above, since ACC could not have known that EPA would finalize work practices for major/area sources during periods of startup and shutdown in those final rules, and then arbitrarily treat combustion units under CISWI differently, we believe the issue is ripe for reconsideration.

Second, while EPA contends that CISWI units can meet the emission standards during SS periods, there is no factual support for this assertion in the record, and indeed, ACC provided

[3] National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers, 76 Fed. Reg. 15554 (March 21, 2011) (hereinafter "area source boiler rule").

[4] In the preamble to the final major source boiler rule, EPA states: "Consistent with *Sierra Club v. EPA*, EPA has established standards in this final rule that apply at all times. In establishing the standards in this final rule, EPA has taken into account startup and shutdown periods and, for the reasons explained below, has established different standards for those periods. EPA has revised this final rule to require sources to meet a work practice standard, which requires following the manufacturer's recommended procedures for minimizing periods of startup and shutdown, for all subcategories of new and existing boilers and process heaters (that would otherwise be subject to numeric emission limits) during periods of startup and shutdown. ... we considered whether performance testing, and therefore, enforcement of numeric emission limits, would be practicable during periods of startup and shutdown. EPA determined that it is not technically feasible to complete stack testing—in particular, to repeat the multiple required test runs—during periods of startup and shutdown due to physical limitations and the short duration of startup and shutdown periods. Therefore, we have established the separate work practice standard for periods of startup and shutdown. Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operations." 76 Fed. Reg. at 15613.

evidence to the contrary in its comments, which EPA did not address. *See* ACC Comments at 43-46. Finally, as set forth in the table appended to this petition (Attachment 1), when the CISWI emission limits are converted to a similar basis as the major source boiler MACT limits, it is apparent that some of the CISWI limits are actually more stringent than the major source boiler MACT limits for similar subcategories. EPA's assertion that CISWI sources could meet the emission limits during startup and shutdown periods is unfounded and further disproved when comparing the stringency of the CISWI emission limits with those established for major sources in the final boiler rule. EPA concluded, and rightly so, that major source boilers cannot meet emissions standards established for normal operations during periods of startup and shutdown; the Agency must therefore similarly conclude that CISWI units cannot meet even more stringent emissions standards established for normal operations during periods of startup and shutdown.

3. EPA should reconsider the CISWI emissions limits because of significant concerns ACC raised with the quality of the data the Agency used to set those limits.

ACC raised numerous concerns in its comments about the quality of the data that EPA used to set the emission limits in the final rule. EPA appears to have failed to respond to our concerns in its Response to Comments document and promulgated limits based on flawed data. We describe these flaws below.

A. Emission data from units not burning solid waste during their performance tests should be removed from EPA's MACT database, and the MACT floor should be recalculated.

In footnote 1 to its memorandum dated January 12, 2001 "CISWI Emission Limit Calculations for Existing and New Sources," EPA states that it based the standards on the performance of devices which would have been classified as CISWIs had the final waste definition been in place at the time of the performance testing. The problem, however, is that the five units shown in the table below were among the top performers (and hence determined the floors), but they were *not* burning solid wastes as defined in the March 21, 2011 Identification of Non-Hazardous Secondary Materials That Are Solid Waste: Final Rule, 76 Fed. Reg. 15456 ("NHSM Rule"), during their performance tests. Accordingly, these units and their data should be removed from the CISWI Database and the MACT floor determinations should be revised.

Boiler ID	Type	Reason for exclusion
NY Black River Generation 001	Fluid Bed coal fired boiler burning bituminous coal, PET coke, and Tire-derived-fuel (TDF) with wire.	Does not burn solid waste since TDF is a fuel with or without wire removal (*see* NHSM Rule, 76 Fed. Reg. at 15490–99) and the facility received the tires from a recycling program.
NY Black River Generation 002		
NY Black River Generation 003		
PA Kimberly Clark Chester Boiler 10	Fluid Bed boiler burning anthracite culm and PET coke.	Based on the discussion of coal refuse in the NHSM rule (*id.* at 15510), the anthracite culm burned in this circulating fluidized bed boiler would likely be considered a fuel.
TN Packaging Corporation or America Combo Unit #2	Combination grate/PC boiler burning bark, coal, TDF, and OCC rejects	Does not burn solid waste since TDF and OCC rejects determined to be fuel in the NHSM Rule. *Id.* at 15492, 15487.

B. *EPA must incorporate a fuel variability factor for coal fired boilers similar to what the Agency did in the major source boiler rule; the failure to do so renders the CISWI limits for these boilers arbitrary and capricious.*

ACC argues below that EPA should set separate emission standards for coal fired units and biomass units for certain pollutants. When EPA does so, and when the Agency also excludes units from the database that do not burn solid waste, as discussed immediately above, EPA will find that three coal fired boilers (owned by Eastman Chemical Company ("Eastman")) are the only units left in the database. The data for HCl, Hg, Pb, Cd, and SO_2, all fuel dependent pollutants, for the three boilers is very limited. There are only one or two emissions tests for HCl, Hg, Cd, and Pb, and only 30 days of SO_2 CEMS data. Along with its comments, Eastman submitted historical data on its coal supply which demonstrates the variability of the pollutant concentrations in the coal. Because of this demonstrated variability, Eastman urged EPA to use the same methodology it used in the final major source boiler rule to establish Fuel Variability Factors (FVFs) for each pollutant, which is then multiplied by the 99 percentile UPL determined from the stack test data. However, we have found no response from EPA to this comment in either the Response to Comments document or the preamble to the final rule. If EPA were to apply this methodology, it would result in the following FVFs:

HCl: 3.6
Hg: 1.3
Pb: 1.12
SO_2: 1.4

ACC requests that EPA reconsider its rejection of the use of FVFs in establishing the CISWI emission standards for coal fired units and revise these standards to incorporate FVFs as it did in

the major source boiler rule. Without such an adjustment, the calculated floors (based on Eastman's limited stack test and CEMS data) would result in standards that do not reflect what is being achieved in practice by the best performers, and cannot be reliably met due to the variability of the HAP content of the coal.

C. *EPA must either revise the CO limits to incorporate periods of startups in its MACT floor calculation, or establish work practice standards for periods of startup and shutdown.*

When EPA issued its Information Collection Request (ICR) for stack test data, the ICR specified that units be tested during normal operations while combusting solid waste. In response to the ICR, an ACC member company, Eastman, submitted thirty days of CO CEMS data from its Boiler 18 that, per EPA's instructions, did not include periods of startup, when CO is unavoidably higher than during normal operations. After EPA corrects its database by removing units that were not burning solid waste, as discussed above, Eastman's three boilers will be the top performers in the subcategory (in fact the only existing boilers in the coal subcategory). Based on the corrected database and EPA's standard setting methodology, the new CO standard would be 45 ppmv. And, because emissions data during startup was not included in EPA's methodology, the 45 ppmv CO standard is not representative of what is being achieved in practice by the best performers during periods of startup nor could the best performing units be assured of continuous compliance with this standards during periods of startup.

This point is further supported by data included in the Council of Industrial Boiler Owners (CIBO) comments. CIBO provided CO data from a startup period for one of Eastman's stoker boilers. *See,* Comments of the Council of Industrial Boiler Owners on EPA Proposed Rule for Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incineration Units at 35–38, submitted Aug. 20, 2010. That data shows relatively high CO emissions (as compared to normal operations) during a typical startup period and illustrates the impact one startup would have on a 30 day rolling average. While EPA claims to have considered emissions during periods of startup and shutdown in establishing the CO standard, we see no evidence of this in the record. Therefore, EPA either has to recalculate the CO emission standard taking into account emissions during startup and shutdown, or issue work practice standards for these periods as it did in the final major source boiler rule.

D. *EPA must revise CO limits for energy recovery units (ERUs) that were based on "high normal" steam load because such limits do not represent reserve units that often operate at low steam loads.*

Based on our review of the record, it appears that EPA used only CEMS data to set the CO emission standard for coal fired boilers. This CEMS data, requested by EPA and submitted pursuant to EPA's ICR, was exclusively from periods when the boilers were operating at high steam load. Since Eastman's Boiler 18 is the top performer, it should be capable of meeting the MACT floor emission standard at all times. However, this is not the case because the boiler often operates in "reserve" (low steam load) until it must be ramped up to meet facility steam load swings. At low steam load, stoker boilers such as this will have higher CO concentrations

than at full steady state load. Therefore, EPA needs to either (1) set the standard for this subcategory taking into account different, albeit typical modes of operation, or (2) limit the applicability of the standard to periods when the unit is operating above 50 percent of its rated heat input capacity. EPA recognized this inverse relationship of CO to load in the 2004 boiler NESHAP where it limited the applicability to greater than 50 percent load (*see* 40 CFR 63.7525(a)(6)). EPA again should acknowledge this technical fact in the CISWI rule and revise the CO limits for ERUs accordingly.

4. <u>EPA should have set separate emission standards for PM, Hg, Pb, Cd, and HCl for coal fired units and for biomass units.</u>

A. EPA must separate coal fired units and biomass units into distinct subcategories.

Several commenters (including Eastman – see pages 3-6) requested that EPA establish distinct subcategories for biomass and coal fired units.[5] Eastman's comment is shown in pertinent part below:

> To further support this rationale used by EPA in the Boiler and Process Heater MACT proposal and to justify its use in the CISWI rule, Eastman offers the following comments: (1) since the Clean Air Act requires EPA to set sulfur dioxide limits for CISWI units and since coal contains significant concentrations of sulfur and biomass generally would contain little of no sulfur, a subcategory just for coal-fired boilers should be established. Expensive control devices such as a spray dryer absorber could not reduce the outlet concentrations of sulfur dioxide to a level equivalent to those of a biomass boiler; (2) observation of the proposed Boiler MACT floor standards proposed for biomass and coal units shows that there are significant differences in outlet emissions of HCl, mercury, and carbon monoxide; (3) likewise, the NOx emissions from the top performing biomass, coal, liquid, and gas-fired units would all be significantly different due to inherent differences in the design of these units.
>
> While we are not commenting on EPA's Alternative Approach to the definition of solid waste, Eastman believes these distinct subcategories (biomass, coal, liquid) for energy recovery units is appropriate for whichever approach EPA takes.

EPA's response to Eastman's comment, set forth (in part) below, demonstrates that the Agency understood the problem. EPA states:

> The CAA allows EPA to divide source categories into subcategories based on differences in class, type, or size. For example, differences between given types of units can lead to corresponding differences in the nature of emissions and the technical feasibility of applying emission control techniques. The design, operating, and emissions information that EPA has reviewed indicates differences in unit design that distinguish different types of ERUs. <u>Data indicate that there are generally significant design and operational</u>

[5] We note that EPA is initiating reconsideration of this issue. Notice of Reconsideration, 76 Fed. Reg. at 15267.

> differences between units that burn coal, biomass, liquid, and gaseous fuels. Energy Recovery Units are therefore designed for specific fuel types and will encounter problems if a fuel with characteristics other than those originally specified is fired. Many ERUs in the database are indicated to co-fire liquids or gases with solid fuels, but, in actuality, most of these boilers commonly use fuel oil or natural gas as a startup fuel only and then operate on solid fuel during the remainder of their operation. In contrast, some co-fired units are specifically designed to fire combinations of solids, liquids, and gases. Changes to the fuel type would generally require extensive changes to the fuel handling and feeding system (e.g., a stoker using wood as fuel would need to be redesigned to handle fuel oil or liquid wastes). Additionally, the burners and combustion chamber would need to be redesigned and modified to handle different fuel types and account for increases or decreases in the fuel volume. In some cases, the changes may reduce the capacity and efficiency of the ERU. An additional effect of these changes would be extensive retrofitting needed to operate using a different fuel; therefore, the design of the ERU impacts the degree of combustion.
>
> In our investigations resulting from commenters' statements, we concluded that the data were sufficient for determining that a distinguishable difference in performance exists based on unit design type. Therefore, because different types of units have different emission characteristics which may influence the feasibility or effectiveness of emission control, they should be regulated separately (i.e., subcategorized) for affected pollutants. Accordingly, we have subcategorized ERUs based on unit design in order to account for these differences in emissions and applicable controls. The two primary ERU subcategories are units designed to burn solid wastes (solids) with other solid fuels, and units designed to burn liquid wastes with liquid or gaseous fuel (liquid/gas).

Final Rule, 76 Fed. Reg. at 15733 (emphasis added).

Notwithstanding its lengthy technical discussion of the significant operational and design differences between coal and biomass fired units, EPA inexplicably proceeded to ignore its own reasoning, combined coal fired units and biomass units into one subcategory and set standards for fuel derived HAP (PM, Hg, Pb, Cd, and HCl) for that combined subcategory.

The subcategory, when corrected through the elimination of units not burning solid waste (as discussed above), will include three coal fired boilers and approximately twenty other solid fuel energy recovery units (ERUs). Each of these ERUs is a biomass unit that burned no coal during its performance test.

Coal fired boilers are fundamentally different than biomass units. For example, a coal fired boiler by design cannot burn more than 10 percent biomass without experiencing unacceptable performance degradation, including fouling and loss of fan capacity. This is due to the differing chemical constituents of the ash, which influence fouling characteristics (increased fouling potential with biomass), and the significantly higher moisture in biomass versus coal, which increases volumetric flow rate and thereby limits fan capacity with biomass.

Additionally, there are fundamental differences between coal and biomass units for metals and chlorine (Cl) content. The concentration of Cd, Pb, and Cl in coal is a function of the geology and formation of the coal seams, and is a factor inherent to the coal mined from different basins, and seams within basins. The concentration of metals and Cl in biomass is a function of surface conditions (e.g., concentrations in the soil) and handling (e.g., logs floated down a brackish river can have very high concentrations of Cl). Similarly, the ash constituents in biomass tend to be high in certain alkalis that are largely absent in coal (e.g., much more MgO, Na_2O, K_2O), while significantly lower in other areas (SiO_2, Al_2O_3). There is no fundamental relationship between Hg and Cl concentrations, or ash constituents in coal and biomass that would warrant their being grouped into a single solid fuel subcategory.

Lastly, by grouping coal fired units and biomass units into one subcategory, the resulting standards for Hg and HCl were driven in large part on emissions from biomass units. Unfortunately, coal fired boilers cannot burn a higher percentage of biomass to meet the Hg and HCl standards without experiencing operational limitations, or requiring significant physical modifications.

EPA can remedy this problem by separating biomass units and coal units into separate subcategories for all emission standards and by using the same criteria it established in the major source boiler rule that a unit that burns more than 10 percent biomass on an average annual heat input basis should be classified as a biomass unit. *See,* § 63.7575. EPA has failed to explain why that same sound approach should not be followed in the CISWI rule.

B. *EPA should not include emissions data from combination units burning less than 90 percent coal when establishing standards for coal fired units.*

Combination (biomass/coal) units should not be grouped with coal fired units to set emission standards. Grouping combination units that burn biomass and coal with coal units raises two significant problems. First, because of different design constraints, combination units cannot be expected to meet the same CO limit as a coal fired boiler. Second, as discussed above, coal units and combination units have different designs for different blends of fuels, which in turn have different concentrations of mercury, chlorine, sulfur, cadmium and lead. Fundamentally, the combination units are unique and they should be placed in a separate subcategory. In the meantime, data from these units should be excluded from MACT floor determinations made for coal fired units. We note that in the major source boiler rule EPA excluded performance test data from co-fired units that burn less than 90 percent of a particular fuel type. That same approach should be taken in the CISWI rule.

5. <u>EPA should reconsider and solicit comments on the O_2 monitoring requirements</u>.

The final CISWI rule imposes a CO emission limit on all subcategories with compliance demonstrated by either a CO CEMS or an annual Method 10 CO emission test. In the case of ERUs with a heat input capacity of 100 MMBtu/hr or greater, the final rule alternatively requires that an O2 CEMS be used to continuously monitor oxygen. While ACC agrees that the use of a CO CEMS should be optional, the O_2 monitoring requirements as finalized for large ERUs are not appropriate or workable. The O_2 monitoring requirements were not part of the proposed

CISWI rule and are not a logical outgrowth of what was proposed. EPA therefore should reconsider and solicit comment on these requirements. [6]

In the proposed rule, EPA established CO emissions limits for ERUs, with compliance demonstrated as a 24 hour basis. Although CO CEMS monitoring was required at all times, the CO limits were based only on an analysis of 3-run stack test data, did not adequately consider variability, and did not exclude periods of SSM and low load operation.

ACC addressed the proposed rule CO limits and compliance methodology in our comments at 23-25. ACC and others provided extensive information regarding the variability of CO emissions and the inappropriateness of setting a limit using full load stack test data on the one hand, but on the other hand, requiring units to demonstrate compliance during all operating conditions with CO CEMS.

In the Final Rule, EPA provided two compliance options for ERUs with a heat input capacity of 100 MMBtu/hr or greater. Those units may either demonstrate compliance through use of a CO CEMS; or, use an annual Method 10 CO performance testing with an O_2 CEMS to demonstrate compliance on a 30 day rolling average. While ACC generally supports the adoption of compliance alternatives, we would like to point out some problems with the final requirements that might have been avoided had EPA solicited comment on the O_2 monitoring issue.

We do not believe that CO CEMS is an appropriate mandatory monitoring requirement for a CO limit based on stack test data obtained at full load conditions. We also do not believe that a requirement to monitor O_2 levels in the stack, or ductwork leading to the stack, to ensure continuous compliance is appropriate for all units. Many existing boilers and process heaters already utilize flue gas oxygen analyzers for indication, alarm, and O_2 trim control, where the fuel/air ratio is automatically controlled for optimum combustion conditions. The sensing location for existing O_2 monitors is typically in the optimum location to sense flue gas composition as reliably as possible, because sensing of oxygen in these cases maintains proper excess air levels and helps prevent unsafe operating conditions. For many types of combustion units, that location is near the combustion chamber outlet in a position upstream of any potential air inleakage points to avoid erroneous excess air indications which would drive controls in the wrong direction. This location is also upstream of air preheaters, where utilized, thus avoiding the erroneous (high O_2) indications due to inherent leakage across regenerative air preheater seals or potential tube leakage in recuperative air preheaters. For those units equipped with existing O_2 sensors and O_2 trim control systems, flue gas composition at those locations would already be used for combustion tuning and control characterization. Therefore, if O_2 monitoring was desired for continuous compliance under the CISWI rule, sensing O_2 at that current location would be logical and proper from a technical perspective. However, O_2 analyzers utilized for these existing purposes are not compliance CEMS meeting performance specification (PS) 3 requirements relative to positioning or other QA/QC requirements. They are, however, calibrated and maintained to provide reliable and safe service for combustion unit operation.

[6] We note that EPA may initiate reconsideration of this issue. Notice of Reconsideration, 76 Fed. Reg. at 15267.

Conversely, if O_2 was sensed prior to the stack or in the stack, that would be downstream of potential air inleakage points and air preheater leakage points, thus leading to variations in readings that can impact operation and long term compliance. Where CO or NOx CEMS are utilized in the stack with O_2 or CO_2 correction, the O_2 or CO_2 reading purposely corrects for variations in excess air from the furnace as well as any air inleakage or internal air heater leakage, so the impact is not of consequence from a combustion safety or direct compliance perspective. However, if it is required to actually monitor and maintain a specific O_2 level (which we note EPA did not establish), then the most appropriate location for sensing that level is upstream of any potential leakage points. By definition, those locations will not meet PS 3 requirements due to their close coupled nature and use of single or multiple point sensors that are most appropriate for the application.

ACC believes the most cost effective approach for using O_2 CEMS as a compliance alternative would be to allow sources use of existing O_2 analyzers. If a source wants to use a new O_2 analyzer, it should be of an appropriate design for the application and be located in an optimum position for the particular unit involved. Requiring periodic sensor calibration would be a way to ensure accurate O_2 monitoring.

EPA's requirement that any new O_2 sensor be located in the breeching or stack to meet PS 3 requirements, will result in additional and unnecessary capital and ongoing O&M expenses that will not provide any constructive compliance information. For this reason, we urge EPA to reconsider and take comment on these requirements.

6. <u>EPA should revise CEMS provisions to adequately provide for existing dilution-extraction SO_2 and CO CEMS to be used</u>.

Some energy recovery units have existing CEMS that utilize a dilution-extraction sampling system for compliance with other air emission regulations. Such systems use high-pressure ambient air to dilute the stack gas sample as a method of avoiding accuracy and reliability problems associated with liquids condensing out of the flue gas sample. Because these systems introduce air onto the stack sample, they do not measure O_2 and instead typically rely on CO_2 as the diluent gas. For units equipped with this type of CEMS, the requirement to monitor O_2 with a system capable of meeting PS 3 requirements would in effect mandate either a wholesale replacement of the existing CEMS, or the installation of an entirely redundant CEMS (e.g., probe, sample umbilical, sample conditioner, analyzer). Either of these approaches would unnecessarily impose significant capital and O&M costs.

The Final Rule allows for use of such CEMS by providing a CO_2 alternative in the case of NOx CEMS (*See*, 40 CFR 60.2710(t)(1) and (4)). These provisions require that O_2 and CO_2 be correlated so NOx emissions can be expressed to an equivalent 7 percent O_2 basis. The Final Rule also allows for use of CO_2 as an alternative diluent gas associated with SO_2 CEMS (see 40 CFR 60.2710(s)(1)), but the SO_2 subsection does not include a provision, like 60.2710(t)(4), that allows one to correlate CO_2 and O_2 when using an SO_2 CEMS. Such a provision is needed so that SO_2 emission concentrations measured using CO_2 as a diluent can be compared to the emission standard, which is expressed corrected to the 7 percent O_2.

Moreover, the Final Rule also failed to include similar provisions allowing use of CO_2 as a diluent for CO CEMS. *See*, 40 CFR 60.2710(g) and (w). Provisions similar to 40 CFR 60.2710(t)(1) and (4) are needed. We are seeking reconsideration of this issue because we believe these would have been included if EPA had had more time to read and fully consider all of the comments and to finalize this rule.

7. <u>EPA should reconsider and take comment on the elimination of provisions that allow missing CEMS data</u>.

In the proposed rule, EPA included several provisions that allow for some amount of missing data from continuous emissions monitoring systems. *See*, § 60.2710(q)(4) (requires 85% of hours in a day, 90% of hours in a quarter, and 95% of hours in a year for SO_2 CEMS) and § 60.2710(r)(4) (similar provisions for NOx CEMS). EPA also solicited comment on whether or not the rule should require valid emissions data from CEMS for all times that the facility is operated.

ACC's comments and those of many others on the proposed rule supported EPA inclusion of these provisions. Our comments also requested that EPA include a similar provision for CO CEMS, as well as expand the provisions to include continuous parametric monitoring systems (CPMS). The comment and EPA's response is shown below:

> We agree with the CEMS data availability requirements in the proposed rule and do not believe that it is appropriate to require 100 percent data availability for these units (e.g., redundant CEMS). However, it appears that EPA did not include CO CEMS is (sic) this provision. We assume that is an oversight as any CEMS would need some tolerance for missing data in the regulation. Facilities operate in a manner that ensures equipment is well maintained and strive to meet monitoring responsibilities. However, even top performers have equipment malfunctions, and the rule must accommodate occasional periods of missing data that are outside the owner or operator's control. In addition, ACC does not believe that EPA needs to prescribe redundant CEMS, since even redundant CEMS cannot guarantee perfection. Even with the proposed minimum data availability, some facilities may install redundant CEMS to ensure that degree of availability without EPA mandating it. ACC does not believe EPA should prescribe missing data procedures, owner/operator developed missing data, or parametric monitoring, especially since facilities have incentives to maintain monitoring systems without EPA prescribing how they should do it.
>
> **Response:** The final rule includes revisions to the general requirements for operating continuous monitoring systems that addresses this concern. We have not included any specific minimum data availability requirement, nor do we require substitute data below some threshold as the proposed rule indicated in certain sections. We believe that numerical missing data allowances quickly become targets or excuses, not incentives to conduct monitoring in a manner consistent with good air pollution control practices. For all monitoring required or applied as an option under this rule, we have included provisions that would require you to operate the monitoring system and collect data at all

> required intervals at all times the affected source is operating except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments). Further, you may not use data recorded during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities in calculations used to report emissions or operating levels. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

Response to Comments at 1068.

Needless to say, EPA's complete reversal of what it proposed is disappointing, even though it asked for comment on the removal of these provisions. We are particularly disappointed because in our review of the Response to Comments document, we found no comments that supported, much less advocated for the removal of these provisions. If EPA believes these provisions should be removed, it needs to be more transparent and actually propose that action. If it had done so, ACC and others would have focused their comments on why that is not a sound approach. For example, we believe that removal of these provisions along with the fact that CEMS are costly to install and maintain, will create a strong disincentive for sources to choose CEMS in lieu of periodic performance tests and parametric monitoring. We believe that EPA should provide proper, i.e., clearer, notice to allow the regulated community and others to focus their comments on the potential consequences and impact of removing these provisions.

8. <u>EPA should reduce the excessive performance testing requirements to make the CISWI rule consistent with the more reasonable testing requirements of other rules.</u>

Pursuant to the Final Rule, ACC members will be conducting annual stack tests for PM, D/F, Hg, HCl, SO_2, NOx, CO, Hg, Pb, and Cd. The suite of HAPs subject to stack testing may be reduced if a CEMS is used to monitor a pollutant's emissions.[7]

The frequency of testing is reduced somewhat if two consecutive tests are passed with at least a 25% margin; in which case, the source need only test every three years for a given pollutant. The stack testing frequency required in the final rule is unreasonable, particularly for units less than 250 MMBtu/hr. Indeed, several commenters requested that EPA reduce the test frequency. The requirement to conduct annual or even triennial performance tests is not usually found NESHAP and NSPS rules. For example, the Hazardous Waste Combustion ("HWC") NESHAP requires stack testing every five years. 40 C.F.R. § 63.1207(d)(1). Another example is NSPS Subpart Db, which requires no automatic retesting of the initial PM performance test.

[7] EPA believes that CEMS are an option for PM, D/F, Hg, HCl, SO2, NOx, and CO. See, 40 C.F.R. § 60.2165 (New Sources 76 Fed. Reg. at 15757): (h) for PM CEMS, (i) for D/F "continuous automated sampling system",(j) for Hg continuous automated sampling system, (k) for NOx CEMS, and (l) for SO2 CEMS; and 40 C.F.R. § 60.2730 (Existing Sources 76 Fed. Reg. at 15778) same sub-paragraphs (h though l).

EPA disagreed with the industry commenters, stating that "the combination of periodic compliance emissions testing and continuous monitoring of operational and parametric control measure conditions is appropriate for assuring continuous compliance with the emissions limitations. Without recurring testing, we would have no way to know if parameter ranges established during initial performance testing remained viable in the future." 76 Fed. Reg. at 15736–37.

We strongly disagree with EPA's statement that without recurring testing, the Agency would have no way to know if parameter ranges remain viable. Absent some change in the air pollution control device (APCD) or the source, there is no reason that a parameter range should not remain viable. We note that the Final Rule also requires that the APCD be inspected annually, which further diminishes the already low likelihood that the parameter range would not remain viable in the future. *Id.* at 15710. Moreover, companies inspect the unit and the control devices for proper operation during scheduled maintenance outages. If an APCD or its parameter control system were to be impaired between inspections, it would show up in the continuous parametric monitoring (e.g., deviations in ESP power, wet scrubber liquid feed rate, or pH, or detections of bag leakage.)

Accordingly, while EPA has made some improvements in the testing provisions from the proposed to the final rule, it should reconsider the onerous nature of these testing provisions. At the very least, EPA should reconsider the D/F testing requirements. Given the difficulty and expense of these tests and the analytical work, together with the very low dioxin levels detected in emissions from CISWI units, EPA should reduce the testing requirement to a one-time test as it did in the final major source boiler rule. *See,* 76 Fed. Reg. at 15649, 15667; 40 C.F.R. § 63.7515(a). Also, where a facility has fuel and waste analytical data showing that an emission standard for a constituent can be met when all of a regulated constituent that is fed to a combustion device is emitted, performance tests should not be required. Again, the final major source boiler rule included this option for Cl and Hg. *See* § 63.7510(b), *id.* at 15667. The HWC MACT also provides a similar option called maximum theoretical emission concentration ("MTEC"). *See,* 40 C.F.R. § 63.1207(m).

EPA has not explained why the emission test frequency requirements of the prior CISWI rules, i.e., initial performance test for all listed pollutants, with annual testing for PM, HCl and opacity only, with an allowance for triennial testing if emissions for three consecutive years meet the limits, needed to be changed. Those requirements have been in effect for a considerable period of time and units which were already subject to CISWI before the 2011 Final Rule should be allowed continued use of past test frequencies, though we believe these past frequencies should be applicable to all CISWI units.

Moreover, ACC believes that a once-in-five-year testing frequency would be protective of the environment, cost effective, and consistent with other EPA regulations. For example, the provisions for the Continuous Emission Monitoring for Air Programs require low mass emission units to establish NOx emission curves based on testing conducted every five years. 40 CFR 75.19(c)(1)(iv)(D). It is common practice in several states, e.g., Virginia, North Carolina, etc., to require that testing be conducted upon each five-year Title V permit renewal.

9. EPA should reconsider its deletion of the definition of "solid waste" and "contained gaseous material" in the Final Rule, which could result in numerous process and other gases being considered "solid waste" and regulated under CISWI.

The 2000 CISWI rule contained definitions of "solid waste" and "contained gaseous material" to the effect that only gases in a container that itself was combusted were considered to be "solid waste." *See* 40 C.F.R. Part 60, Subpart CCCC, § 60.2265; Subpart DDDD § 60.2265. Gases not in such containers when burned -- gases in pipes that were injected through nozzles into the combustion chamber for combustion -- were not solid waste and therefore not regulated under CISWI.

The proposed CISWI rule deleted the definitions of "solid waste" from sections 60.2265 and 60.2875, but left intact the definition of contained gaseous material. Therefore, since the proposed rule referenced the solid waste definition that included "contained gaseous material" and the definitions of "contained gaseous material" remained in CCCC and DDDD, there was no problem with the proposed rule language. In the final CISWI and the Identification Of Non-Hazardous Secondary Materials That Are Solid Waste (NHSM) rules, however, EPA for the first time, and without notice to the regulated community, deleted the term "contained gaseous material," thereby causing great confusion over whether gases in pipelines, vents, etc., that are combusted are now considered "solid waste" and therefore subject to CISWI. This is a significant reversal of EPA's previous and long-held position.[8] EPA did not propose this reversal in either the CISWI or NHSM proposals, and made only a passing reference to it in a response to comments on the NHSM rule.[9]

The ramifications of this reversal are enormous. Process gases in pipelines, ducts and vents that are combusted could become subject to CISWI unless the gases are combusted in air pollution control equipment considered part of the affected source under another NESHAP. Flares and other air pollution control equipment such as regenerative thermal oxidizers that are not associated with an affected source under another NESHAP, and boilers, furnaces, and kilns that burn process gases could be considered CISWI units. This significantly expands the universe of CISWI units, yet EPA's proposed CISWI did not consider nor include emissions from these gases.

EPA did not provide any opportunity for the regulated community to comment on this issue, and in comments on reconsideration, ACC will show that there is no basis for EPA to

[8] EPA established its position on this issue in 1982 at 47 Fed. Reg. 27520, 27530 (June 24, 1982); reaffirmed it in 1986, *see,* RCRA/Superfund Hotline Monthly Summary, 9488. 1986(03), available at "RCRA Online"; in 1987, *see* Memorandum from Matthew Strauss, Chief Waste Characterization Branch, to Clifford Ng, Engineer, EPA Region II (June 17, 1987), available at RCRA Online; in 1989, *see,* 54 Fed. Reg. 50968, 50973; in 1991, *see,* 56 Fed. Reg. 7134, 7200 (Feb. 21, 1991); and, in the 2000 CISWI rule, *see,* Response to Comments at 15.

[9] EPA stated, "In the first place, we are unable to find any Agency reasoning supporting previous EPA interpretations that only gases in containers may be considered "contained." Based on the facts of this case, EPA cannot see how gaseous secondary material that is generated in any particular system and is somehow sent to a gas-fired boiler, even through a pipeline, can be considered an "uncontained gas." NHSM, Response to Comments, at 212.

change its longstanding interpretation that "contained gaseous material" should include only gases that are in a container when that container is combusted.[10]

10. EPA should clarify that operating parameter limits do not apply during subsequent performance testing, including pre-testing.

In the proposed rule, EPA required that the source continuously monitor operating parameter limits (OPLs), and determined that any operation above or below parameter requirements would be a deviation. *See* Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incineration Units; Proposed Rule, 75 Fed. Reg. 31938, 31976 & 31992 (proposed June 4, 2010). In its response to comments submitted by ACC and others on these provisions, EPA stated that the final rule waives the applicability of operating limits during performance testing:

> EPA has revised the rule to waive the operating limits during source testing so that sources may adjust their operating limits to provide increased operating flexibility provided the emissions limits are met. The intention behind reassessing operating limits with new performance testing is to ensure that the limits remain appropriate for the source. By allowing the source to conduct performance test with less stringent operating levels that may have been initially determined, the source will be able to set the limits at levels appropriate for their operations while ensuring emissions limits are met.

Response to Comments, at 1111 (Feb. 20, 2011).

In the final rule EPA appropriately revised the regulatory language to reflect the above response to comments for Subpart CCCC as follows:

> Operation above the established maximum, below the established minimum, or outside the allowable range of the operating limits specified in paragraph (a) of this section constitutes a deviation from your operating limits subpart, except during performance tests conducted to determine compliance with the emission and operating limits or to establish new operating limits. Operating limits are confirmed or reestablished during performance tests.

See, Final Rule, 76 Fed. Reg. at 15753–54 (emphasis added). EPA did not, however, revise similar language for Subpart DDDD. *Id.* at 15773–77. ACC requests that EPA reconsider and correct what ACC believes to be an oversight with respect to subpart DDDD.

ACC is also concerned that, as written, the ongoing testing requirements, particularly for existing units (subpart DDDD), could result in a continual reduction of operating limits if facilities have to reset the operating limits every time a stack test is done. Facilities typically operate with a safety margin with respect to operating limits. Therefore, if the operating limits

[10] Since publication of the Final Rule on March 21, 2011, Suzanne Rudzinski, Director of the Office of Resource Conservation and Recovery, sent a letter on May 13, 2011 to the AF&PA regarding her office's position on "contained gaseous material" and clarified that EPA's long-held policy on contained gases has not changed. We appreciate this step towards rectifying the situation.

are reset with each performance test, they will continue to change, requiring a continual increase in energy and operating costs. Other combustion-related MACT rules, for example, HWC MACT, explicitly waives current OPLs during subsequent comprehensive performance testing. *See*, 40 C.F.R. § 63.1207(h)(1). The same waiver should be made explicit in the CISWI rule.

Lastly, ACC is concerned about the status of pre-testing associated with performance testing since pre-testing is usually an integral component of testing. The proposed CISWI rule was silent on the issue. It is common to conduct pretesting prior to conducting a performance test, particularly when there are numerous stack sampling trains to be used. For a unit to be able to operate at a new condition during a performance test, it must be allowed to operate at that condition for a period of time before the actual test so that the operator can determine if the condition is feasible. If the condition is outside the existing operating limits, there is no way for the operator to do this. Therefore, existing operating limits need to be waived for pre-testing associated with subsequent performance tests. Section 63.1207(h)(2) of the HWC MACT states: "current operating parameter limits are also waived during pretesting prior to comprehensive performance testing for an aggregate time not to exceed 720 hours of operation…" ACC urges EPA to reconsider and revise the language in the final CISWI rule to clarify that operator parameter limits are also waived during pretesting prior to performance testing.

11. <u>EPA should include a compliance option that allows a source to develop a feed stream analysis for approval by the permitting authority for fuel based pollutants (metals) that are not destroyed.</u>

The proposed rule provided only two compliance methods for feed dependent pollutants (Cd, Pb, Hg, SO_2, and HCl); stack testing/parameter monitoring or CEMS. ACC and others commented that EPA should allow for a third option similar to that allowed under the HWC MACT, i.e., allowing a source to develop a feed stream analysis plan for pollutants that are feed dependent and not destroyed in the combustion process. *See* 40 C.F.R. § 63.1209(l)(1)(ii).[11] In its response to comments, EPA either dismissed or misunderstood these comments when it responded (in a response to similar comments from CIBO) that if a source wants to use this kind of approach, it should petition the Administrator for an alternative monitoring method under the general provisions. *See*, Response to Comments at 1150–51.

First, we believe that requiring sources to petition EPA on a case by case basis to use an accepted compliance alternative is burdensome and a waste of both EPA and industry resources. Second, EPA offers no explanation as to why it believes that the emission standards it has established properly consider and address fuel and waste variability. EPA's dataset has no more than one stack test for few, if any top performing units. Moreover, in EPA's memorandum, "CISWI Emission Limit Calculations for Existing and New Sources," section II.B "Data Variability Analysis," the Agency purports to address variability but the only mention of EPA's accounting for fuel variability relates to waste burning kilns. The only review of data variability for energy recovery units looked at only three 1-hour stack tests runs for each top performer. A

[11] Maximum theoretical emissions concentration (MTEC) is an alternative method used in the HWC MACT for demonstrating emissions compliance and is especially useful for sources which have low concentrations of HAP in their feeds. *See*, 40 CFR 63.1206(m).

1-hour stack test for a best performing unit burning coal will not account for the inherent variability of HAP in the coal.

Further, EPA devoted little time to addressing the merits of the issues raised in the comments, responding that commenters provided no cost information to support the belief that a fuel sampling plan may be more cost-effective than a CEMS. To that end, we offer the following information from a member company. One member company reports a laboratory cost of $250 per coal sample to analyze for a suite of metals, chlorine and mercury. If the company analyzed one sample per shipment of coal, its annual analytical costs would total $50,000. Based on EPA's spreadsheet, "Cost Memo Table 6", EPA estimates the annualized cost of a mercury CEMS alone at $112,600. Add in the annualized cost of a HCl and a multi-metals CEMS and it is clear that the CEMS costs would exceed a rigorous fuel and waste sampling plan. In a case where the facility does not need to rely on system removal efficiency, the facility would also save in its periodic stack testing by eliminating one or more sampling trains. This could easily save the facility $20,000 – $30,000 per year.

Lastly, ACC and others were advocating for a substantive compliance option similar to that offered in the HWC MACT. *See,* Response to Comments at 1153–54. The HWC MACT, for example, provides a feed rate option for mercury for liquid fuel-fired boilers based on a rolling average not to exceed an annual rolling average. 40 C.F.R. 63.1209(l)(1)(ii). In addition, 40 CFR 63.1207(m) sets forth a performance test option when using MTEC for mercury, semi-volatile metals, low volatile metals, and chloride. This option is particularly useful when the concentration of HAP in the feed is low. If the feed concentration is low, then the maximum emissions of the pollutant can be no greater than what is present in the feed. If that amount would be less than the respective emission standard, then the performance testing for that pollutant can be based on a feed analysis and a stack flow rate, and there is no need for a stack sample. Sampling and analyzing feeds is much less expensive and complicated than using a stack sampling train. Under the HWC MACT, a unit that could avail itself fully of the MTEC option for the allowable pollutants, could save $50,000-$80,000 per test in the performance testing cost.

ACC's comments also highlighted and advocated for another compliance alternative, drawn from the HWC MACT, for sources that need to comply with a higher feed rate of metals than actually demonstrated in the performance test. *See,* 40 CFR 63.1209(l) and 63.1209(n). Under this alternative, sources with very low emissions of metals can sample both their feeds and emissions during the performance test and develop a system removal efficiency and then extrapolate a feed rate limit higher than the test demonstrated as long as the extrapolated feed rate is not significantly higher than historical levels. The Agency did not prescribe what the upper bound would be on the extrapolation, but during implementation EPA generally said no more than three times the historical value. Under HWC MACT, the manner in which the source followed one of these allowable alternatives was explained in a Feedstream Analysis Plan.

We believe EPA has failed to provide an adequate response to industry comments advocating these compliance alternatives and these alternatives would reduce the overall costs of the Final Rule, while still providing the same substantive compliance data, we urge EPA to reconsider its position.

12. <u>EPA should provide the same allowance for varying OPLs with varying operating load in the CISWI Rule as set forth in the major source boiler rule.</u>

The 2000 final CISWI rule required operating parameter limits ("OPLs") to be established based on average operating parameter levels demonstrated during the performance test, with additional allowances to increase maximum limits by 10% of the actual average level demonstrated and to reduce minimum limits by 10% of the actual average level demonstrated. *See* 40 C.F.R. §§ 60.2110, 60.2675. The 2010 proposed CISWI rule added OPLs for other air pollution control devices and required that the limits be set based on the data from the performance test, without any 10% increases for maximum limits or 10% decreases for minimum limits. However, the 2010 proposed rule did not revise the language of the 2000 rule, such that OPLs required by the previous rule were still allowed to be established with the 10% allowance. *See*, CCCC § 60.2110 p. 31974; DDDD § 60.2675 p. 31990.[12]

In response to the 2010 proposed CISWI rule, ACC, Eastman, and others commented that operating limits and monitoring requirements need to incorporate operating flexibility, and that EPA should allow sources to set operating limits based on data gathered during performance tests and any supplemental information. *See*, EPA Response to Comments, pp. 1103–04, 1111–12. In the Final Rule, EPA rejected these comments and eliminated the use of the 10% minimum and maximum allowances in the calculation of OPLs from the operating data demonstrated during the performance test. *See*, Final Rule, 76 Fed. Reg. at 15751, 15771.[13] The Final Rule also changed the methodology for calculating OPLs. Whereas the previous and proposed rules established the OPLs based on averages, the Final Rule establishes the OPLs as the lowest 1-hour average from the test for minimum limits, not from the overall test averages.

So, the fundamental issue here, which involves each of the technical issues discussed above, is that EPA did not address ACC's comments and the real world situation that ERUs and other units covered by the CISWI rule operate at various loads. At such varying loads, operating parameters also vary. A performance test at a high operating load does not allow the unit or its air pollution controls to operate efficiently at lower loads. Accordingly, EPA should reconsider this issue and allow for the variation of OPLs with operating loads. The approach we recommend is precisely the approach EPA took in the major source boiler rule.[14]

13. <u>Charge rate is not an appropriate limit to monitor on energy recovery units</u>.

[12] Note that in the proposed rule, these sections begin with (d), they do not amend (a), (b), or (c).

[13] The final rule did not change the use of a 10% allowance for the maximum charge rate for a wet scrubber. *See, Id.* at 15751, 15771.

[14] *See*, Table 7 of the major source boiler, i.e., "When your unit operates at lower loads, multiply your sorbent injection rate by the load fraction (e.g., for 50 percent load, multiply the injection rate operating limits by 0.5) to determine the required injection rate;" When your unit operates at lower loads, multiply your activated carbon injection rate by the load fraction (e.g., actual heat input divided by heat input during performance test, for 50 percent load, multiply the injection rate operating limits by 0.5) to determine the required injection rate." 76 Fed. Reg. 15696, Table 7 #3.

Section 60.2675(a)(1) requires any unit using a wet scrubber to comply with the emission limitations to establish maximum charge rate as an operating limit. The limit is set at 110 percent of the charge rate during the performance test. Until this Final Rule, this provision only applied to incinerators. Now that EPA is including energy recovery units in CISWI, commenters urged EPA to re-think this provision, arguing that there was no need for maximum charge rate of fossil fuel for a steam generating unit such as a boiler. This is not part of the compliance requirements for a solid-fuel boiler burning hazardous waste and subject to 40 CFR 63 Subpart EEE (HWC MACT). EPA rejected these comments with the following response, but the Agency did not address the distinction between incinerators and energy recovery units.

> Response: Disagree. As commenter points out earlier, operating conditions affect parameter range. Process operation outside conditions established during emissions testing can and will cause changes in emissions control device operation and in emissions. Source owners and operators, who best understand the operating characteristics of their processes, need to conduct emissions testing so that parameter ranges established reflect actual operating conditions.

Response to Comments at 1113.

Commenters further urged that if charge rate has to be monitored, it should be redefined as "operating load" for energy recovery units, similar to the major source boiler rule. However, this position is not reflected in the Final Rule. Accordingly, because EPA has (1) not addressed the difference between incinerators and energy recovery units; and (2) not addressed commenters proposal that charge rate could alternatively be redefined as operating load, this issue should be reconsidered.

14. <u>Monitoring requirements for dry scrubbers should be established in the rule and not by petition</u>.

The Final Rule sets forth monitoring requirements for wet scrubbers, activated carbon injection, SNCR and ESPs. *See*, 76 Fed. Reg. at 15751-52, 15771-72; §§ 60.2110, 60.2675. The proposal did not contain requirements for duct sorbent injection or dry scrubbers, meaning that sources that use those technologies for pollution control would have to petition EPA for monitoring requirements. Commenters requested that EPA promulgate monitoring requirements for these technologies[15] and EPA failed to respond adequately to the comments.[16] Accordingly,

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[15] One commenter stated, "A source should not have to petition to establish operating parameters for fabric filters, electrostatic precipitators (ESPs), activated carbon injection, selective noncatalytic reduction (SNCR), duct sorbent injection, or spray dryer absorbers. §60.2680 requires a source to petition the Administrator for specific operating limits if you use an air pollution control device other than a wet scrubber. However, in proposed § 60.2675(d), (e), and (f), EPA's proposes operating limits for fabric filters, ESPs, activated carbon injection, and SNCR. Therefore, no petition should be required in these cases. <u>Also, since spray dryer absorbers or duct sorbent injection are likely control technologies for coal-fired boilers, EPA should determine appropriate operating parameters and include them in the final rule</u>." Response to Comments at 1113 (emphasis added).

[16] EPA responded to the comments as follows: "EPA disagrees because the rule recognizes common types of emissions control devices and names appropriate operating parameters for each. <u>The rule allows source owners or operators flexibility to use other emissions control devices, subject to approval by the Administrator.</u> The commenter is incorrect concerning types of control devices for which operating parameters are specified In the rule; for example, the rule addresses SNCR and ESPs, like wet scrubbers, so these controls do not need the Administrator's approval to select appropriate parameters." Response to Comments at 1113–14 (emphasis added).

(Continued …)

because dry scrubbing technology will be a common technology applicable to coal-fired boilers to reduce emissions of HCl or SO_2, EPA should reconsider this portion of the rule and propose monitoring requirements for these technologies. EPA recognized the need for such provisions in the major source boiler rule and included the appropriate monitoring requirements. *See*, 76 Fed. Reg. at 15683, 15695-96; 40 C.F.R. Part 63, Subpart DDDDD, Table 7.

15. <u>The 3 hour averaging time for parametric monitoring is not realistic for energy recovery units and should be increased to 24 hours. In addition, periods of startup need to be excluded from the averages to allow startup of ESPs without causing a deviation</u>.

In the proposed CISWI rule, EPA set forth a three-hour averaging time for parametric monitoring. ACC commented that this is not realistic for energy recovery units, especially those that burn multiple fuels and have varying emissions characteristics, if those units are to preserve their operational flexibility and ensure cost-efficient operation. Response to Comments at 708–09. The facility must be able to operate the boiler in a manner that is responsive to process needs, which may not be at full load all the time. Longer averaging periods are necessary if the emission limits are going to apply at all times, including periods of startup, shutdown, and malfunction. ACC urged the use of at least daily block averages for both emissions and operating parameters. A 24-hour block averaging period acknowledges process variability, lessens the effect of short process upsets on compliance, and captures the variable emissions and operating characteristics of a unit over an operating day. EPA has used 24-hour block averages for control device parametric monitoring in other MACT rules such as the Hazardous Organic NESHAP (HON) (Subpart G) and the Miscellaneous Organic NESHAP (MON) (Subpart FFFF). *See*, 40 C.F.R. §§ 63.152(f)(5) and 63.998(b)(3). EPA responded as follows:

> In the final rule, a 30-day rolling average is used where a CEMS is used to determine compliance. For parameter monitoring, the final rule uses a 3-hour block average. We based the operating parameter 3-hour block average on the estimated sampling time required to perform a three run performance test under this rule.

Response to Comments at 1096.

This response is inadequate as it does not address the comment. As we stated, many rules set operating parameter limit averaging time longer than the three run performance test. The purpose of the parametric monitoring is to assure continuous compliance. EPA is not bound to the averaging time during a performance test. By definition, the performance test is done during periods of normal operation with no air pollution control device upsets or process upsets. EPA should reconsider this comment and set 24 hour averaging times for parametric monitoring.

If EPA leaves the averaging time at 3 hours, many sources will shut down units that are having temporary problems (e.g., an ESP that is having low power issues due to a water leak into the ESP) to avoid a permit deviation. Once the problem is corrected, the source will re-start the

(Continued …)

unit, resulting in a net increase in emissions caused by the re-start. Another example of the problems caused by a 3 hour average is when starting up a unit coming off its annual maintenance outage when the ESP has been washed. Until adequate dust loading has built up in the ESP, maintaining the minimum power may not be possible without more hours to average out the initial low periods of power. This is another reason that startups should be excluded from the averaging periods.

16. EPA should allow emissions averaging in the CISWI rule in a manner similar to the major source boiler rule.

Three major trade associations (CIBO, ACC, and AF&PA) requested in comments that an emissions averaging provision similar to that provided in the proposed major source boiler rule be included in CISWI. *See*, Response to Comments at 1124–26, 1127–28, and 1130–31. EPA's response, set forth below in its entirety, is inadequate and not entirely correct:

> Based on the limited number of comments received on this option, the concerns raised by state regulators on potential for increased emissions, and a review of the overall approach to the rule and its requirements, EPA elected not to incorporate an emissions averaging compliance option into the final rule. See the preamble generally for a discussion of the final approach on the units covered by this rule and the emission limits that apply.

Response to Comments at 1127. It is simply not true that there were a "limited number of comments." There were four commenters that requested emissions averaging. Three of these were major trade associations representing hundreds of companies that collectively represent a large majority of CISWI sources. While a provision such as emissions averaging may not be utilized by many sources, it is particularly of value to ERUs. If ERUs were allowed to use emission averaging the cost of this Final Rule would be reduced and ERUs could potentially save large sums of capital and operating expenses. It has proven to be of value in other NESHAP standards, and there is no good reason to deny its inclusion in the CISWI rule.

Moreover, we searched the record and it does not appear that there were any comments in opposition to emissions averaging. Moreover, we believe that a properly written provision would not create a potential for increased emissions. The emissions averaging provision in the HON, for example, ensures there are actually less emissions when using emissions averaging by applying a 10 percent discount to the emission credits and requiring an implementation plan be approved by the permitting authority to assure debits and credits are determined properly and that all appropriate performance tests, monitoring, and inspections are conducted. *See*, 40 CFR 63.151(d).

17. Parametric monitoring ranges should be set based on performance testing and allow use of supplemental information along with the test data.

Section 60.2675 of the proposed rule required that operating parameter (including minimum pressure drop and liquid flowrate for wet scrubbers, minimum voltage and secondary power or total power input for electrostatic precipitators, minimum wet scrubber pH, minimum sorbent for dry scrubbers, minimum carbon injection rate) limits be set exclusively (using a

preset fraction of the level demonstrated during the test) on operating levels for the parameters measured during the most recent performance test. Eastman commented that, "It is inappropriate and in many cases not technically feasible to use operating conditions during a performance test, which are typically conducted at or near the unit's maximum firing rate, to establish a minimum requirement for all possible load ranges." Response to Comments at 1111–12. Eastman urged to allow operating limits for parametric monitoring to be based on a combination of performance tests and supplemental information. Eastman went on to explain the technical basis for its comments:

> With many pollution control technologies, this approach to establishing operating limits would result in needless over-consumption of sorbents at great cost to the facility with little or no commensurate reductions in emissions. As an example, the sorbent injection rate of activated carbon for the control of mercury varies with the volume of flue gas generated during combustion. To establish a minimum sorbent injection rate at or near the unit's maximum continuous rating (MCR) would result in nearly double the sorbent injection rate `during turndown to 50% load. Because institutional, commercial and industrial boilers vary loads widely based on site conditions, business conditions, season and time of day, this would result in pointless expense to the facility with no benefit to the environment or to human health. Other pollution control technologies cannot practically maintain operating conditions established at or near full load during turndown conditions. For example, a Spray Dryer Absorber (SDA) slurry injection rate is limited by the ability of the flue gas to evaporate the liquid portion of the slurry. At or near full load, with high flue gas flowrates and high flue gas temperatures, the flowrate of slurry will be relatively high. If this were established as a site-specific minimum sorbent injection rate, the unit would inject more slurry than the flue gas could accommodate at low loads. Eastman has solid-fuel fired boilers equipped with SDA's and we have experienced catastrophic failures due to operation where more slurry was injected than the flue gas could evaporate. This operating mode caused a total shutdown of the unit that lasted several days and imposed considerable economic hardship (see submittal for Figures submitted by commenter).
>
> Other MACT standards recognize that it is not always possible to establish these operating ranges solely on performance test data. The HON (40 CFR 63 Subpart G) for example has the following relevant provision: 40 CFR 63.152(b)(2)(ii)(A) If a performance test is required by this subpart for a control device, the range shall be based on the parameter values during the performance test and may be supplemented by engineering assessments and/or manufacturer's recommendations. Performance testing is not required to be conducted over the entire range of permitted parameter values. This type of provision allows each source to use the performance test data to then extrapolate operating limits based on equipment specific considerations. This is done in an operating plan that is submitted to the air permitting authority for review. A similar provision is needed in the final rule to accommodate situations such as those we have described above.

Id.

EPA's response to this comment refers the reader to the preamble to the final rule,[17] but the preamble does not contain any discussion of the issue. Therefore, EPA should reconsider this comment. In the related rulemaking for major source boilers, EPA responded to a similar comment by defining "minimum sorbent injection rate" and "minimum carbon injection rate" such that the rates vary with "load fraction" (defined as the actual heat input of the boiler or process heater divided by the average operating load determined according to Table 7). *See* EPA, Major Source Boiler Rule, Response to Comments Vol. 2 at 631-32 (citing 76 Fed. Reg. at 15695-96; 40 C.F.R. Part 63, Subpart DDDDD, Table 7). This approach is equally applicable to CISWI units of all subcategories and types.

Technical Corrections/Clarifications

In reviewing the Final Rule, ACC identified a number of provisions that we believe require technical correction or clarification. We include them below for EPA's consideration and action.

1. 76 Fed.Reg.15765-66. In comparing final rule emission limits for new incinerators, Subpart CCCC, Table 5, to EPA Excel file Appendix E "Summary Table" sheet, the following two limits are significantly different:

    - SO2- the 99.0% UL in Appendix E is 39.5 ppmvd compared to the Table 5 limit of 11 ppmvd.
    - D/F TEQ- the 99.0% UL in Appendix E is 2.5 ng/dscm at 7% O2 compared to the Table 5 limit of 0.13 ng/dscm.

The D/F total Mass values are also different, but in the opposite direction (not as drastic): 0.023 ng/dscm in Appendix E compared to 0.052 ng/dscm in final rule Table 5. These values appear to require technical corrections (assuming the Appendix data is correct) since EPA's conclusions in the spreadsheet calculations are not reflected accurately in the final rule in these cases.

All limits for existing incinerators are reasonably comparable between the final rule Subpart DDDD Table 6 and Appendix C.

2. 76 Fed.Reg.15766. Table 6 does not include a CO limit for new coal fired energy recovery units. It is listed in the "Liquid/Gas" column of the table, which we believe is incorrect. We believe it needs to be listed in the "Solids" column.

3. Subpart CCCC, § 60.2265 and Subpart DDDD, § 60.2875. EPA added definitions in the final rules for "Burn-off oven," "Chemical recovery unit," "Cyclonic burn barrel", and "Laboratory analysis unit." Part of the purpose of these definitions is to clarify that they are not units subject to the requirements of the rules. The following sentence was included in the definitions of "Burn-off oven:

[17] Response to Comments at 1112, 1104.

"A burn-off oven is not an incinerator, waste burning kiln, an energy recovery unit or a small, remote incinerator under this subpart."

The definitions of "Cyclonic burn barrel" and "Laboratory analysis unit" include similar wording. However, the definition for "Chemical recovery unit" does not include this sentence relative to those units. The following sentence needs to be added to the "Chemical recovery unit" definition in § 60.2265 (Subpart CCCC) and § 60.2875 (Subpart DDDD) in order to provide consistency and avoid confusion: "A Chemical recovery unit is not an incinerator, waste burning kiln, and energy recovery unit, or a small, remote incinerator under this subpart."

4. For both Subpart CCCC and Subpart DDDD, EPA finalized QA/QC requirements for several types of parameter monitors. One of the types of devices was for measuring pH. There seems to be an error in § 60.2710(o) and (n) in that one repeats the other and both relate to pressure devices. When compared to the analogous section in Subpart CCCC, it seems that paragraph (o) was supposed to be for pH devices.

Attachment 1

Comparison of Major Source Boiler Rule (BMACT) and CISWI Emission Limits

HAP/Fuel	Major Boiler Rule Limits			CISWI Rule Limits for ERUs			Higher Limit	
	Final Existing	Final New	Units	Final Existing	Final New	Units	Existing Sources	New Sources
Hg Biomass	4.6	3.5	lb/TBtu	0.29	0.29	lb/TBtu	BMACT	BMACT
PM Biomass	0.039	0.0011	lb/MMBtu	0.22	0.22	lb/MMBtu	CISWI	CISWI
HCl Biomass	0.035	0.0022	lb/MMBtu	0.00059	0.00059	lb/MMBtu	BMACT	BMACT
Hg Coal	4.6	3.5	lb/TBtu	0.30	0.30	lb/TBtu	BMACT	BMACT
PM Coal	0.039	0.0011	lb/MMBtu	0.23	0.23	lb/MMBtu	CISWI	CISWI
HCl Coal	0.035	0.0022	lb/MMBtu	0.00063	0.00063	lb/MMBtu	BMACT	BMACT
Hg Oil	3.5	0.21	lb/TBtu	1.12	0.22	lb/TBtu	BMACT	CISWI
Hg Oil non-continental	0.78	0.78	lb/TBtu	1.12	0.22	lb/TBtu	CISWI	BMACT
PM Oil	0.0075	0.0013	lb/MMBtu	0.095	0.095	lb/MMBtu	CISWI	CISWI
HCl Oil	0.00033	0.00033	lb/MMBtu	0.018	0.018	lb/MMBtu	CISWI	CISWI
Hg Gas 2	13	7.9	lb/TBtu	1.06	0.20	lb/TBtu	BMACT	BMACT
PM Gas 2	0.043	0.0067	lb/MMBtu	0.090	0.090	lb/MMBtu	CISWI	CISWI
HCl Gas 2	0.0017	0.0017	lb/MMBtu	0.017	0.017	lb/MMBtu	CISWI	CISWI
CO Biomass stoker	490	160	ppm at 3%O2	631	206	ppm at 3%O2	CISWI	CISWI
CO Biomass FB	430	260	ppm at 3%O2	631	206	ppm at 3%O2	CISWI	BMACT
CO Biomass Dutch/ Suspension	470	470	ppm at 3%O2	631	206	ppm at 3%O2	CISWI	BMACT
CO Biomass Fuel Cell	690	470	ppm at 3%O2	631	206	ppm at 3%O2	BMACT	BMACT
CO Biomass Hybrid Suspension/ Grate	3500	1500	ppm at 3%O2	631	206	ppm at 3%O2	BMACT	BMACT
CO Coal pulverized	160	12	ppm at 3%O2	76	59	ppm at 3%O2	BMACT	CISWI
CO Coal stoker	270	6	ppm at 3%O2	76	59	ppm at 3%O2	BMACT	CISWI
CO Coal FB	82	18	ppm at 3%O2	76	59	ppm at 3%O2	BMACT	CISWI
CO Oil	10	3	ppm at 3%O2	46	46	ppm at 3%O2	CISWI	CISWI
CO Oil non-continental	160	51	ppm at 3%O2	46	46	ppm at 3%O2	BMACT	BMACT

HAP/Fuel	Major Boiler Rule Limits			CISWI Rule Limits for ERUs			Higher Limit	
CO Gas2	9	3	ppm at 3%O2	46	46	ppm at 3%O2	CISWI	CISWI
D/F Biomass stoker	0.005	0.005	ng TEQ/dscm at 7%O2	0.059	0.011	ng TEQ/dscm at 7%O2	CISWI	CISWI
D/F Biomass FB	0.02	0.02	ng TEQ/dscm at 7%O2	0.059	0.011	ng TEQ/dscm at 7%O2	CISWI	BMACT
D/F Biomass Dutch/ Suspension	0.2	0.2	ng TEQ/dscm at 7%O2	0.059	0.011	ng TEQ/dscm at 7%O2	BMACT	BMACT
D/F Biomass Fuel Cell	4	0.003	ng TEQ/dscm at 7%O2	0.059	0.011	ng TEQ/dscm at 7%O2	BMACT	CISWI
D/F Biomass Hybrid Suspension/Grate	0.2	0.2	ng TEQ/dscm at 7%O2	0.059	0.011	ng TEQ/dscm at 7%O2	BMACT	BMACT
D/F Coal pulverized	0.004	0.003	ng TEQ/dscm at 7%O2	0.059	0.011	ng TEQ/dscm at 7%O2	CISWI	CISWI
D/F Coal stoker	0.003	0.003	ng TEQ/dscm at 7%O2	0.059	0.011	ng TEQ/dscm at 7%O2	CISWI	CISWI
D/F Coal FB	0.002	0.002	ng TEQ/dscm at 7%O2	0.059	0.011	ng TEQ/dscm at 7%O2	CISWI	CISWI
D/F Oil	4	0.002	ng TEQ/dscm at 7%O2	0.320	0.002	ng TEQ/dscm at 7%O2	MACT	CISWI
D/F Gas2	0.08	0.08	ng TEQ/dscm at 7%O2	0.320	0.002	ng TEQ/dscm at 7%O2	CISWI	BMACT