Coalition for Responsible Waste Incineration

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The Coalition for Responsible Waste Incineration (CRWI) appreciates the opportunity to submit comments on *Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incineration Units; Proposed Rule.* 75 FR 31938 (June 4, 2010). CRWI is a trade association comprised of 27 members. Some of them own and operate solid waste incinerators, waste-burning energy recovery units, and burn-off ovens, three of the source categories covered by this rule.

CRWI has been extensively involved in the development of rules under the MACT program. MACT rules regulating hazardous waste combusters (40 CFR Part 63, Subpart EEE) , a source category covering most of our industrial members, have been at the forefront of many of the MACT's program legal and policy disputes over the past 12 years and were the subject of a decision by the DC Circuit Court of Appeals, *Cement Kiln Recycling Coalition v. EPA,* 255 F.3d 855, 862 (DC Cir. 2001). These rules, and others regulating our members, were also subject to numerous public notice and comment periods from 1996 – 2008, were extensively reviewed by the Agency in light of the *Brick MACT* court decision that plays a major role in this proposal. Consequently, CRWI has considerable expertise in MACT issues.

CRWI has concerns about following issues.

1. EPA's process for setting MACT standards is not the only way for the Agency to proceed.

2. EPA's MACT floor methodologies are inconsistent with the statute, Congressional intent, case law, and in some cases, EPA's own policies.
3. Existing case law does not support EPA setting floor standards based on actual emissions.
4. The method EPA is currently using to develop standards does not result in a "reasonable estimate" of sources' performance.
5. EPA has proposed some emission limitations that are beyond the ability of the referenced test methods.
6. Mercury CEMs should not be used as a compliance method for waste-burning kilns.
7. CRWI is concerned that EPA is using one method to develop standards and requiring a different method to show compliance.
8. CRWI requests EPA remove the mandatory requirement to use the WebFire database for submitting test results and to allow additional time to generate test reports.
9. EPA's proposed requirement that facilities meet steady-state standards during SSM events is not logical nor is it lawful.
10. CRWI suggests that EPA retain the current exemptions for EEE sources, burn-off ovens, and laboratory analysis units.
11. CRWI suggests EPA remove the prescriptive requirements related to continuous monitoring systems.
12. EPA should retain the sentence "Operating limits do not apply during performance tests" in Sections 60.2145(b) and 60.2710(b).
13. EPA should modify the bag leak detection requirements to allow a facility to either follow manufacturer's specifications or EPA's guidance but should not require them to follow both.
14. Facilities should be allowed to meet either a Total or a TEQ dioxin/furan standard but not both.

Our specific comments on each of the issues above are attached.

Thank you for the opportunity to comment on this proposed rule. If you have any questions, please contact me at (202-452-1241 or mel@crwi.org).

Sincerely yours,

Melvin E. Keener, Ph.D.
Executive Director

cc: CRWI members
C. Spells – EPA

Specific comments

1. EPA's process for setting MACT standards is not the only way for the Agency to proceed.

In the preamble to the proposed rule EPA sets forth the process that the Agency says it "must" use to set MACT standards. The Agency states: "In promulgating a MACT standard, EPA must first calculate the minimum stringency levels for new and existing solid waste incineration units . . . ." 75 FR 31941. CRWI does not agree.

Under CAA § 129(a)(2), EPA is required to set "achievable" standards. For new sources, these standards cannot be less stringent than the "emission control that is achieved in practice by the best controlled similar source, as determined by the Administrator." Standards for existing sources cannot be less stringent than "the average emissions limitation achieved by the best performing 12 percent of units in the category . . . ." These provisions require EPA to set achievable standards and then check to see if they are at least as stringent as the "floor" benchmarks.

It does not require that EPA establish floors first. That was a process choice the Agency made a long time ago when it set the medical waste incinerator MACT standards under § 129, the same authority which governs this rulemaking. *See Sierra Club v. EPA,* 167 F.3d. 658, 660 (D.C. Cir. 1999) ("*Sierra Club*). However, EPA could decide to first determine what standards are "achievable" and then check to see if these standards are as stringent as the floor benchmarks for new and existing sources. This would mean that the standard setting process would have been more like the process for setting new source performance standards and existing source guideline the Agency follows under Section 111. That different process would be particularly appropriate since § 129 MACT standards are to be established "pursuant to section 111" as well as section 129. CAA § 129(a)(1)(A).

If EPA had adopted this process, EPA's process would be very different than it is now. While the Agency would still have to check to make sure that the achievable standards were as stringent as the "floors," the Agency might have accomplished two things. First, it might have better reflected the Agency's duties under Section 111 thereby merging its standard setting responsibilities with those of § 129 as we discuss below. Second, it might have avoided much of the litigation surrounding the MACT standard setting process that has resulted in the D.C. Circuit Court of Appeals remanding 12 of the 13 MACT rules that it has reviewed.

Most of the issues in these 13 cases have centered on the court reviewing EPA's floor setting methodologies, with the court reproaching the Agency for not following its interpretations or understanding the difference between a standard that is "achievable" and one that is based on what has been "achieved."

While we point out some of the difficulties understanding the court's decisions in these comments, we note that a different process may have resulted in a different result before the court. Instead of EPA constantly defending its floor setting techniques, it may have been able to give the court a fuller understanding of the Agency's statutory authority, *i.e.*, to set standards based on the dictates of both § 111 and § 129, and a complete view of how the Agency sets "achievable" standards.

Even if the EPA adopts this process, it will still have to confront "floor issues" and battle the perception that any problem with its floor setting methodology deprives the public of mandated protections. However, the floor issue would be cast differently and, perhaps, lead the court to see how EPA makes decisions in light of all factors it has to consider.

2. <u>EPA's MACT floor methodologies are inconsistent with the statute, Congressional intent, case law, and in some cases, EPA's own policies.</u>

In the proposed rule, EPA chose to use the same methodology, *i.e.*, ""emission test data" to calculate the MACT floors," 75 FR 31943, for both new and existing sources, even though the statute indicates that two different bench marks should be used, *i.e.*, "emission control" for new sources and "emissions limitation" for existing sources. The Agency arrayed the emission data in its database for each subcategory from lowest to highest and, for existing sources, established the MACT floor at the numerical average of the test results from the lowest emitting 12% of sources in each category for each pollutant after incorporating a variability factor that was designed to estimate the level that is achievable by the best performing sources. 75 FR 31952. For new sources, EPA set the MACT floor standard at the lowest emission level for each pollutant, after incorporating a variability factor. 75 FR 31954.

EPA's floor-setting methodology is at odds with the statutory language because:

- EPA does not address specific factors it must consider under Section 111;
- The Agency merely accepts that this test data reflects levels "achieved" by the sources, *i.e.*, the Agency's took some action that resulted in the emission level; and

- The Agency's pollutant-by-pollutant approach is at odds with the statute and EPA's own interpretation of the standard setting provisions.

A. EPA does not address specific factors it must consider under Section 111 of the Clean Air Act.

Under Section 129 of the Clean Air Act, the emission standards and other requirements EPA establishes are to satisfy the requirements of both section 111 and 129. It states that the

> Administrator shall establish performance standards and other requirements pursuant to section 111 of this title and this section for each category of solid waste incineration units. Such standards shall include emissions limitations and other requirements applicable to new units and guidelines (under section 111(d) of this title and this section) and other requirements applicable to existing units.

CAA § 129(a)(1)(A).

The next subsection addresses emission standards. Similarly, it states that "Standards applicable to solid waste incineration units promulgated under section 111 of this title and this section shall reflect the maximum degree of reduction in emissions of air pollutants listed under section (a)(4) that the Administrator . . . determines is achievable."

Thus, these subsections establish that the standards EPA is proposing must meet the requirements of both section 111 and 129.

Under section 111, EPA must establish "standards of performance for new stationary sources" under subsection 111(f). The "guidelines" for existing sources are addressed in subsection 111(d). The difference between the two is that the new source performance standards are federal requirements that apply directly to newly built CSIWI, while the guidelines do not directly govern existing CISWIs. Instead, they are given effect through a requirement that states adopt rules that are at least as strict as the guidelines.

New source performance standards must be based on the "best system" of emission reduction achievable, taking into account cost and any nonair quality health and environmental impact and energy requirements that have been "adequately demonstrated." This BDT (best demonstrated technology) requirement must be capable of being met under the most adverse conditions reasonably expected to recur. Thus, EPA must show that the standard can be achieved under the range of conditions that may affect a source anywhere in the country. *National Lime Association v. EPA*, 627 F.2d 416, 431, n. 46, 433 (D.C. Cir. 1980). ("*NLA*")

Because EPA must consider these other factors, BDT may not always require the lowest emission standards that are achievable since that standard may create other negative consequences. In *Portland Cement Assn. v. Ruckelshaus*, 486 F.2d 375, 386, n. 42 (D.C. Cir. 1973), the court noted that, "The standard of the "best system" is comprehensive, and we cannot imagine that Congress intended that "best" could apply to a system which did more damage to water than it prevented to air."

In addition, EPA must account for startup, shutdown and malfunctions. The court recognized in *Portland Cement*, a case adjudicating standards under CAA § 111, that "'start-up' and 'upset' conditions due to plant or emission device malfunction, is an inescapable aspect of industrial life and that allowance must be made for such factors in the standards that are promulgated. *Id.* at 399. Similarly, in *Essex Chem. Corp. v. Ruckelshaus*, 486 F.2d 427, 432 (D.C. Cir. 1973), another § 111 case, the court held that SSM provisions are "necessary to preserve the reasonableness of the standards as a whole." *Id.* at 433. When coupled with *NLA's* requirement to consider the most adverse conditions reasonably expected to recur, it is clear that, under § 111, EPA must either exempt sources from compliance during periods of SSM (because they are reasonably expected to recur) or set standards that sources can comply with.

EPA, of course, must set standards that comply with § 111 and § 129. The question is how to do reconcile competing provisions. First, it is axiomatic that statutory provisions must be read i*n par materia* (in conjunction with each other) and that each statutory provision must be given effect. This has been seen in many environmental statutes where the Administrator must take actions consistent with other provisions. *Chemical Manufacturers Association v. EPA*, 673 F.2d 507 (D.C. Cir. 1982).

This means that whatever standards EPA promulgates under § 129 must also meet the requirements of § 111, to the extent that they are not in conflict. CRWI believes that none of the provisions in § 111 conflict with § 129. While § 129 provides a level of minimum stringency, the process that the statute requires to use in setting the NSPS is not precluded by the floor provisions. EPA can still go through the process of determining NSPS but check to see if the resulting standard meets the level of stringency required by § 129.

i. EPA has not performed any of the requisite analysis required by Section 111 relating to new source performance standards.

CRWI believes that construing § 111 *in para materia* means that § 129 standards must be "achievable" through application of the best system of emission reduction that EPA determines has been adequately demonstrated. EPA has not made any such demonstration. Instead, EPA has taken emission test data from any of the sources and accepted it as reflecting what has been "achieved" for the purpose of § 129, and that it comes from a system of emission reduction that has been adequately demonstrated.

As part of this demonstration, section 111 requires that EPA consider the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements be taken into account. There is no evidence EPA has done so, either.

EPA may believe it can escape this analysis when setting floor standards since analysis of BDT is akin to setting beyond-the-floor standards. CRWI does not agree. CRWI asserts that EPA cannot ignore the requirement in § 111 to consider other factors when EPA sets floor standards. Section 129 floor standards provide a minimum level of stringency based on what has been achieved. Consequently, conducting an analysis required for more stringent "beyond-the-floor" standards is not in conflict with the floor provisions, and must be done, to accommodate the requirements of § 111. In that way, if EPA establishes floor standards, EPA can affirm that these standards also meet the requirements of § 111.

ii. EPA must make sure that floor standards are achievable under the worst circumstance reasonably expected to recur.

CRWI also believes that the floor provisions in § 129 are not in conflict with the dictates of § 111. The floor standards require EPA to ensure that they establish minimum standards based on what has been "achieved" by the requisite number of sources. Floor standards certainly can be considered in light of the most adverse circumstances reasonably expected to recur. Hence, these provisions must both be implemented.

Consequently, floor standards must be capable of being met under the most adverse circumstances reasonably expect to recur anywhere in the country. This means that EPA must analyze the floor standard to ensure that they are achievable under worst conditions. There is no evidence in the rule proposal that EPA did that either.

B. EPA's MACT floors for new sources are unlawful because although section 129(a) may allow new sources floors to be based on emission levels, those emission levels must be the product of control.

Under Section 129, Congress specified that the floor levels for new sources are to be based on the "emission control achieved in practice" by the single best source. Under this criteria, whatever floor standard EPA establishes, must be the product of control. Likewise, floors for existing sources must have also been "achieved." This requirement is not in conflict with § 111, and in fact, is consistent with the § 111 requirement that the standard reflect "the best system of emission reduction" a requirement that calls for action by the source that reduces emissions.

As the Agency knows, emission levels can be achieved by intentional control, unintentional control, or no control ("happenstance" as the Agency often calls it). 70 FR 59402, 59444 (October 12, 2005). Thus, if the Agency chooses to use emission test data as the benchmark for measuring floors, it must make sure that this data is the result of "best system of emission reduction." Consequently, it can only use those emission test data that comes from systems that control their emissions (whether it is intentional control, or, as *National Lime Association v. EPA*, 233 F.3d 625 (D.C. Cir. 2000) ("*National Lime II*") recognized, unintentional control. See below, Section 3.B.i.

Consequently, establishing new source MACT floors by examining emission levels, without determining which ones were achieved by control from the best systems of emission reduction is unlawful. Since EPA has not examined the emissions in its database to see if the emission levels are based on control, its proposed MACT floors for new sources are unlawful.

C. EPA's pollutant-by-pollutant basis violates the statute and its own views of the statute.

EPA is proposing to set MACT floor standards on a "pollutant-by-pollutant" basis. 75 FR at 31592. This approach may result in EPA setting a suite of standards that have not been "achieved" by the best performing sources. This violates the statute.

The provisions for new sources state that floor standards cannot be less stringent than the emission control "achieved in practice" by the "best controlled similar source." Thus, EPA has a duty to find *the* best source. *Sierra Club*, *supra* at 665 (noting "use of the singular in the statutory language suggests" EPA look to the single "unit with the best observed performance").

For existing sources the floor standards cannot be less stringent than the average emission limitation achieved by the best performing 12 percent of the existing sources." CRWI asserts that this means all of the top 12 percent sources can meet the proposed standard.

That Congress expected EPA to base the MACT floor on a single source or technology is demonstrated in the legislative history by a colloquy in which Senator Dole asked Senator Durenberger about how EPA will select the best performing sources when confronted with differing technology that reduces different pollutants to different levels. This is a question that would not matter if EPA was allowed to set standards on a pollutant-by-pollutant basis.

> Mr. DOLE. This section also requires the development of standards for a variety of pollutants. It is entirely possible that different technologies may reduce one pollutant better than another. For example, technology A may reduce heavy metals better than technology B while technology B may reduce particulates better than technology A; yet, one would not be compatible with the other. I would assume that EPA would have adequate discretion to balance environmental benefits to determine which technology on the whole represents a better MACT. I would appreciate some discussion on this point as well from my distinguished colleague from Minnesota.
>
> Mr. DURENBERGER. The Senator is correct. Where differing air pollution control technologies result in one technology producing better control of some pollutants and another producing better control of different pollutants but it is technically infeasible according to the MACT definition to use both, EPA should judge MACT to be the technology which best benefits human health and the environment on the whole."

Senate Comm. on Environment and Public Works, 103d Cong., *A Legislative History of the Clean Air Act Amendments of 1990* at 1118.

In addition, ensuring that the requisite number of best performers can meet their proposed standards avoids what EPA has called an "impermissible" result. As EPA noted in other rules, it is "impermissible" for its methodology to result in standards which would force the best performing source to install upgraded air pollution control equipment because that "amounts to a beyond the floor standard without consideration of the beyond the floor factors: the cost of achieving those reductions, as well as energy and non-air environmental impacts." 70 FR 59402, 59443 (October 12, 2005). Since EPA's "pollutant-by-pollutant" methodology can result in best performing sources taking actions to meet the standards, it is an unlawful floor setting mechanism.

Finally, the case EPA usually relies upon to justify use of a pollutant-by-pollutant approach, *Chemical Manufacturers Association v. EPA,* 870 F. 2d 177, 238 – 239 (5th Cir. 1989), cannot save it. That case dealt with an EPA demonstration that all standards were "achievable," not that any facility "achieved" the limits as required by the floor provision in section 129(a)(2). Moreover, that case simply said that the court will defer to EPA's judgment to set standards in this fashion, as long as the statute and legislative history does not say otherwise. Here, the statute does say otherwise and EPA has already stated that such an approach leads to an impermissible result under the statute.

Consequently, EPA has set standards that are in excess of its authority.

3. <u>Existing case law does not support EPA setting floor standards based on actual emissions.</u>

Many cases have considered EPA's floor setting techniques, but none of them support a standard established on performance data. Instead, reliance upon test data can result in violating not only the statute, as noted above, but the strictures of an entire line of cases that require EPA to examine and consider all methods that best performers use to control emissions.

A. *Sierra Club* does not support EPA using a floor-setting methodology based on lowest actual emissions.

In *Sierra Club* the court considered a challenge to EPA's use of permit limits to set MACT floors instead of "performance data," *i.e.*, test data, to set the floors. The court rejected Sierra Club's claims and *held* that the use of actual emissions was not required. *Sierra Club, supra.* at 661-662. Instead, the court decided that in § 129, EPA is free to use whatever method it desires to set the floor as long as it represents a "reasonable estimate of what the best performers" do. *Id.* at 662, 665.

Thus, relying on the holding of *Sierra Club* to support EPA's use of actual emissions is inappropriate.

B. *CKRC* does not support EPA setting floor standards on test data and such a method may conflict with its holdings.

In *Cement Kiln Recycling Coalition v. EPA* , 255 F.3d 855 (D.C. Cir 2001) ("*CKRC")* the court considered Sierra Club's challenge that EPA could not set the floors based solely on the performance of one method: add-on technology. Thus, this case does not address EPA's authority to set floor standards using test data.

The court did, however, remand the rule because EPA did not consider all ways facilities control emissions. *Id.* at 866. Thus, the court's holding in *CKRC* is antithetical to an emission test approach since setting the floor in this fashion does not require the Agency to examine all methods of control. Instead, a performance data approach merely requires the Agency to examine its database, crunch some numbers, and set the floor without any examination of what sources actually do to reduce emissions.

Consequently, EPA's performance data approach in this rule may violate *CKRC* because EPA did not check for all methods that sources use to reduce pollution.

C. *Brick MACT* does not require that standards be set based on performance data.

In *Sierra Club v. EPA*, 479 F.3d 875, 884 (D.C. Cir 2007) ("*Brick MACT*"), EPA once again set a floor standard based on technology. However, the court vacated the final standards because they were based on the "second-best" technology. *Id.* at 879 - 880. Therefore, it too does not support floor standards based on test data.

i. The court's reference to "lowest emissions" in *Brick MACT* does not support a floor methodology based on actual emissions.

In discussing its holding that EPA could not base floor standard on "second best" technology, the court stated: "But EPA cannot circumvent *Cement Kiln's* holding that section 7412(d)(3) requires floors based on the emission level actually achieved by the best performers (those with the lowest emission levels), not the emission level achievable by all sources, simply by redefining "best performing" to mean those sources with emission levels achievable by all sources. *See* 255 F.3d at 861." *Brick MACT*, *supra* at 880 – 881.

This parenthetical reference to "lowest emissions" was not the court directing the Agency to use a performance data approach. The point of the court's statement, as evidenced by the text and the citation to the *CKRC* case at 861, was that EPA could not set floor standards that are achievable by all sources. Its reference to "lowest emissions" was simply a reference to the Agency's characterization of non-DLA technology as being the best. See *Brick MACT*, *supra* at 879. Consequently, the *Brick MACT* decision does not override EPA's responsibility to abide by *CKRC* and examine all methods facilities use to control emissions.

ii. The court did not decide that intent to control does not matter.

In addition, there seems to be some confusion, over *Brick MACT's* reference to the statement in *National Lime II, supra* at 625 that MACT floor standards under § 112 need not be the product of specific intent. This statement, if true, would seem to support setting floor standard on any test data that comes from a facility, because whatever is emitted is considered "achieved." CRWI does not believe this is a proper interpretation of what the court said in *National Lime II* or *Brick MACT*. The passage in *National Lime II, supra* at 640, cited by the *Brick MACT* court does not say control is irrelevant to standard setting.

In *National Lime II,* the court held that EPA could not refuse to set standards because sources did not use air pollution control technology to control emissions. *National Lime II*, *supra* at 631, 633. Other, non-technological control, methods were not before the court. *Id.*, at 632 - 633. Later in the opinion, when deciding a challenge from the National Lime Association, the court rejected their argument that PM was not a proper surrogate for setting a standard and wrote the language referred to in *Brick MACT*:

> According to the NLA, this methodology requires the agency to set a floor of "no control" for HAP metals because no cement plant intentionally controls HAP metals; metal emissions are controlled only incidentally by controls placed upon PM. The EPA's response is the correct one: "cement plants actually *are* controlling HAP metals[,] intentionally or not."

National Lime II, *supra* at 640.

Thus, the *National Lime II* court was not saying that control does not matter. Instead, the court was explaining that *as long as control is being achieved*, intent to control does not matter. Therefore, if a source is controlling one pollutant and that control also limits another pollutant, the Agency can consider the performance data for that second pollutant as well. Consequently, EPA may not use just any performance data to select best performers – it can only use emission data from sources that are controlling, intentionally or not, that pollutant.

4. The method EPA is currently using to develop standards does not result in a "reasonable estimate" of a sources' performance.

In *Sierra Club*, the court held that EPA must use floor setting methods that provide a "reasonable estimate" of the performance achieved by the best performers. CRWI does not believe that the methods EPA used in this proposed rule results in a "reasonable estimate" of what these facilities achieve in practice.

A. EPA's method for setting the floor standards is flawed because none of the facilities in the database can simultaneously meet all proposed standards.

CRWI believes that to be a reasonable estimate of what facilities are currently achieving in practice, at least 12% should be able to meet the proposed standard without making additional upgrades in their equipment or modifications to their operating procedures. EPA's current method for establishing standards fails to do this. Table 1 shows that for the burn-off oven category, only one facility comes anywhere close to meeting the new source standards by meeting 6 of the 10 emission standards and this facility is improperly classified (should be an incinerator – see burn-off oven comments). Table 2 shows that one facility can meet 7 of 10 proposed existing source burn-off oven standards and another can meet 6 of the 10. The company that operates these two facilities will submit comments that show these two units are misclassified as burn-off ovens when they should be incinerators. In addition, when the misclassification of this category is corrected, the floor for all of the pollutants will need to be re-calculated since these two units were only facilities with data for cadmium, hydrogen chloride, lead, mercury, and dioxin/furans. They were also in the top performers for carbon monoxide.

Table 3 shows that three energy recovery units can meet 3 of the 10 proposed standards for new sources and Table 4 shows that one unit can meet 8 of 10 proposed existing source standards. A similar pattern is true for incinerators where one facility can meet 6 of 10 proposed new source standards and two sources can meet 7 of 10 proposed existing source standards (Tables 5 and 6). Again, it should be noted that when EPA moves two units from the burn-off oven category to the incinerator category, the standards for the incinerator category will also need to be recalculated and this analysis will need to be redone.

Table 1. Does each burn-off oven meet the proposed new source emissions standards? The X represents a "Yes" and a blank represents a "No."

Facility ID	Cd	CO	HCl	Pb	Hg	NOx	PM	SO2	D/F tot	D/F TEQ	Total
KSCNHWichita	X	X	X	X	X				X		6
NDCNHAmerica	X	X									2
SCINVISTACamden		X					X	X			2
TXMadix		X					X	X			2
SCINVISTASpartanburg							X	X			2
INWabashNational855		X				X					1
VAQuadrantEPP							X				1
FLAscend							X				1
OHWhirlpoolClyde		X									1
NECNHAmericaGrandIsland		X									1

Table 2. Does each burn-off oven meet the proposed existing source emissions standards? The X represents a "Yes" and a blank represents a "No."

Facility ID	Cd	CO	HCl	Pb	Hg	NOx	PM	SO2	D/F tot	D/F TEQ	Total
KSCNHWichita	X	X	X	X	X			X	X		7
NDCNHAmerica	X	X	X	X	X				X		6
SCINVISTACamden		X				X	X	X			4
TXMadix		X				X	X	X			4
OHWhirlpoolClyde		X				X		X			3
SCINVISTASpartanburg						X	X	X			3
VAQuadrantEPP						X	X	X			3
INWabashNational855		X				X					2
FLAscend						X	X				2
NECNHAmericaGrandIsland		X									1

Table 3. Does each energy recovery unit meet the proposed new source emissions standards? The X represents a "Yes" and a blank represents a "No."

Facility ID	Cd	CO	HCl	Pb	Hg	NOx	PM	SO2	D/F tot	D/F TEQ	Total
TXInternationalPaperQueen			X						X	X	3
ALIPRiverdale			X	X			X				3
MEHuberEngineeredWood				X			X	X			3
WAEmeraldKalama U-2		X				X					2
TNPackagingCorpCounce				X					X		2
NYBlackRiverGen					X		X				2
MIHermanMiller					X			X			2
WAEmeraldKalama U-7		X				X					2
CAWheelabratorShasta	X										1
WINSPWAshland			X								1
MNFibrominn				X							1
LAIPMansfield					X						1
LAInternationalPaperRedMill						X					1
LADeltech						X					1
MEBoralex								X			1
OKIPValiant								X			1
WAPortTownsendPaper								X			1

Coalition for Responsible Waste Incineration

Table 4. Does each energy recovery unit meet the proposed existing source emissions standards? The X represents a “Yes” and a blank represents a “No.”

Facility ID	Cd	CO	HCl	Pb	Hg	NOx	PM	SO2	D/F tot	D/F TEQ	Total
MEHuberEngineeredWood	X		X	X	X	X	X	X	X		8
ALIPRiverdale	X	X	X	X			X		X		6
MNFibrominn	X			X		X	X		X		5
TNPackagingCorpCounce		X		X			X		X		4
TXInternationalPaperQueen			X		X					X	3
MIHermanMiller					X	X		X			3
LAInternationalPaperRedMill		X			X	X					3
ORGPToledo	X					X	X				3
PAKimberlyClarkChester	X	X			X						3
TNTempleinland2426			X		X				X		3
WALongviewFPP #20			X				X		X		3
CAWheelabratorShasta	X			X							2
WAEmeraldKalama U-2		X				X					2
WINSPWAshland			X						X		2
LAIPMansfield	X				X						2
NYBlackRiverGen					X		X				2
LADeltech		X				X					2
WAEmeraldKalama U-7		X				X					2
OKIPValiant						X		X			2
MEBoralex								X			1
WAPortTownsendPaper								X			1
ARDomtar		X									1
WALongviewFPP #12			X								1
WALongviewFPP #13			X								1
TNEastman_NO_CBIDATA									X		1

Table 5. Does each incinerator meet the proposed new source emissions standards? The X represents a "Yes" and a blank represents a "No."

Facility ID	Cd	CO	HCl	Pb	Hg	NOx	PM	SO2	D/F tot	D/F TEQ	Total
WVDuPontWashingtonWorks	X	X	X			X		X	X		6
TXBASFFreeoprt IN-5500	X	X	X	X							4
ILFlintHillsResources NB-800	X		X	X							3
ILFlintHillsResources HB-2301			X		X			X			3
NCGlaxoSmithKline	X			X							2
PASmithKlineBeecham		X						X			2
SCEastmanColumbia		X									1
TXBASFFreeoprt IN-4702			X								1
ILFlintHillResources MB-1012			X								1
TXReichhold							X				1
LAShellChemical								X			1
NJNovartis								X			1
CTPfiszer									X		1

Table 6. Does each incinerator meet the proposed existing source emissions standards? The X represents a "Yes" and a blank represents a "No."

Facility ID	Cd	CO	HCl	Pb	Hg	NOx	PM	SO2	D/F tot	D/F TEQ	Total
WVDuPontWashingtonWorks	X	X	X		X	X		X	X		7
TXBASFFreeoprt IN-5500	X	X	X	X	X	X			X		7
ILFlintHillsResources NB-800	X	X	X	X	X			X			6
NEGreatDane		X	X		X		X	X			5
SCEastmanColumbia		X	X				X		X		4
PASmithKlineBeecham		X	X		X			X			4
TXBASFFreeoprt IN-4702	X		X	X	X						4
ILFlintHillsResources HB-2301			X	X	X			X			4
ILFlintHillResources MB-1012			X	X		X		X			4
CTPfiszer			X			X	X		X		4
NCGlaxoSmithKline	X			X			X				3
TXReichhold	X					X	X				3
LAShellChemical			X				X	X			3
PAAshlandNevilleIsland	X		X				X				3
INCovanceLabsGreenfield		X	X								2
NJNovartis								X			1
CAArmtecdefense			X								1
WABoeingDevelopmentalCenter			X								1
TXSterlingChemTexasCity						X					1

CRWI believes that at least 12% of the sources should be able to meet all relevant existing source standards without adding additional controls. If this is not demonstrated, CRWI believes that EPA has not demonstrated that the proposed standards are "achieved in practice" as the statute requires. If EPA cannot demonstrate that at least 12% can simultaneously meet all standards, CRWI believes that in effect, EPA has improperly circumvented the § 129 for establishing "beyond-the-floor" standards because the "floor standards would force industry-wide technological upgrades without consideration of the factors (cost and energy in particular) which Congress mandated for consideration when establishing beyond-the-floor standards." (70 FR at 59448).

B. EPA's method for setting the floor standards is flawed because the Agency failed to capture the variability in emissions from these source categories.

In the supporting statement for their Information Collection Request (ICR), EPA addresses variability for boilers and process heaters by gathering one month of

CO CEMs data and additional fuels analysis for mercury hydrogen chloride, ash, arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium. The ICR does not appear to contain a comparable section for CISWI units. For CISWI units, it appears that EPA made no attempt to gather data to address any long-term variability in the emissions. As a result, CRWI believes that the data EPA used to develop the standards does not capture the long-term variability for CISWI units. To demonstrate this, CRWI developed Tables 7, 8, and 9. These tables show the number of test conditions that were used for each top performer for the burn-off oven, energy recovery units, and incinerator categories.

Table 7. Number of 3-run tests for the top performers used to set the floor standards for burn-off ovens. The numbers across the first row represent the rankings of the top performers.

HAP	1st	2nd	3rd	4th	5th
Cd	1	1			
CO	1	1	1	1	1
HCl	3	1			
Pb	1	1			
Hg	1	1			
NOx	1	1	1	1	1
PM	1	1	1	1	1
SO2	1	1	1	1	1
D/F total	1	1			

Table 8. Number of 3-run tests for top performers used to set the floor standards for energy recovery units. The numbers across the first row represent the rankings of the top performers.

HAP	1st	2nd	3rd	4th	5th
Cd	1	1	1	1	1
CO	2	2	1	1	1
HCl	1	1	1	1	1
Pb	1	1	1	1	1
Hg	1	2*	2*	2*	1
NOx	2	2	1	2	1
PM	1	2	2*	2*	2*
SO2	2	1	1	1	1
D/F total	1	1	1	1	1
D/F TEQ	1	2	3		

* This facility has three boilers and a common stack. The values for run 1 are the same for all three boilers. The same is true for runs 2 and 3. The facility apparently only reported one set of data and EPA applied this to all three boilers, creating three sources with identical data. The data for PM is even more confused in that part of runs 2 and 3 are the same and parts of 1 and 3 are the same.

Table 9. Number of 3-run tests top performers used to set the floor standards for incinerators. For this source category, EPA used 4 facilities to set the floor standard. The numbers across the first row represent the rankings of the top performers.

HAP	1st	2nd	3rd	4th
Cd	1	1	1	1
CO	1	2	4	5
HCl	1	3	4	1
Pb	1	1	1	1
Hg	1	1	1	2
NOx	4	2	1	1
PM	1	3	3	3
SO2	1	4	1	2
D/F total	1	1	1	1
D/F TEQ	2	2	2	1

For most, the proposed standards are developed from a single set of 3-run tests. This limited snapshot of data cannot capture the amount of variability these units experience over time. When a facility conducts a performance test, it makes every effort to minimize variation. Agency observers expect such and question differences when they observe them. There is very little guidance on how much variability is allowed during stack tests. From the Guidance on Setting Permit Conditions and Reporting Trial Burn Results. Volume II of the Hazardous Waste Incineration Guidance Series (EPA/625/6-89/019, January 1989, EPA states on page 13: "During each test, the replicate runs are performed under as similar conditions as practical; however, a slight variation in the mean temperature is common."

The Texas Commission on Environmental Quality published guidance (Appendix A) where they suggest that variation of more than +/- 10% from the average operating rate of each run is a reason for requiring a re-test. During a recent test for a hazardous waste boiler, an EPA observer questioned whether run 3 of a three run test was valid because the feed rate of a particular feed component was 4% lower than in the previous runs. Because of this type of formal and informal guidance, facilities have made significant efforts to minimize run-to-run variability during individual tests. Because of this required test implementation strategy and its resulting lack of run-to-run variability, EPA cannot state that the results of a single test comprises a "reasonable estimate" of long-term emissions variability from this category.

This flaw in capturing variability is further compounded in requiring compliance with standards at all times, including periods of startup, shutdown, and malfunction. Almost without exception, testing is not done during those periods. In fact, if a malfunction occurs during a test, the facility suspends sampling until they can remedy the situation. As a result, any variability introduced by these periods would not have been accounted for since data from those periods are excluded from reported results.

In addition, EPA has treated one energy recovery source (NYBlackRiverGen) as three separate sources (Table B-24 of the MACT Floor Analysis for the Commercial and Industrial Solid Waste Incinerators Source Category memo, April 26, 2010). Using three data points that are exactly the same will significantly reduces the amount of apparent variability and inappropriately lowering of the mercury and PM floor standards.

C. EPA's method for setting the CO standard is flawed because the Agency did not take into account any long-term data when setting the standard.

EPA has CO CEMs data for one CISWI unit (Domtar Industries in Ashdown, AR). This facility was originally classified as a boiler but is now in the energy recovery category of the CISWI rule. The data base has 29 days of either partial or complete hourly data. The proposed rule requires all energy recovery units to install, maintain, and operate a CO CEMs. EPA states that compliance with the proposed 150 ppmv standard would be based on a 24-hour block average. While this facility is not a top performer for CO, it is ranked as number 6 (just outside the top performer cutoff). In addition, the average CO emission during its test was 107 ppmv (see Table B-21, MACT Floor Analysis for the Commercial and Industrial Solid Waste Incinerators Source Category memo, April 26, 2010). Its test average (107 ppmv) is well below the proposed limit for existing sources of 150 ppmv. In an effort to see how this facility would comply over the 29 days, CRWI calculated the daily average CO emissions based on the CEMs data. For this analysis, where hourly data were missing, those hours were ignored and a daily average was calculated from whatever data were available for that day. It can be seen from Table 10 that this facility would be able to meet the 150 ppmv standard only 4 days out of 29. In fact, for most days, the daily average was significantly higher than the proposed standard. The overall hourly average (based on the CEMs data) was 2624 ppmv. It is difficult to understand how this facility could have an average hourly CEMs reading for the better part of 29 days of over 2600 ppmv and have a short term test reading of 107 ppmv. The CEMs data show that the CO data developed during the test conditions does not come anywhere close to representing the long-term variability experienced by this facility.

Table 10. The 24-hour average CO readings for ARDomtar and whether they would meet the 150 ppmv standard.

Day	24 hour average ppmv @3% O2	Above 150 ppmv standard
1	2886	Yes
2	2901	Yes
3	1654	Yes
4	1663	Yes
5	2587	Yes
6	1853	Yes
7	797	Yes
8	3330	Yes
9	3670	Yes
10	4301	Yes
11	3452	Yes
12	3769	Yes
13	486	Yes
14	211	Yes
15	963	Yes
16	430	Yes
17	857	Yes
18	527	Yes
19	1583	Yes
20	765	Yes
21	1113	Yes
22	1551	Yes
23	376	Yes
24	3	No
25	3	No
26	249	Yes
27	163	Yes
28	31	No
29	19	No

Because this is only one facility, it is difficult to draw broad conclusions but it is obvious that the test result of 107 ppmv does not capture the variability that this facility experiences over time. In addition, the use of a longer averaging period does not address the problem. It would simply increase the time this facility would be out of compliance. For an averaging period to be used to properly address variability, the data used to establish the standard value must capture that variability, and must assess it over a time period similar to that proposed for the averaging time. In this way, the standard addresses both the magnitude and duration of process variability.

D. EPA's method for setting the CO and NOx standards is flawed because the Agency did not take into account the inherent conflict in complying with two standards.

The relationship between CO and NOx is complicated. CO is the simpler of the two. It is well known that as temperature increases, the CO concentration decreases. Most combustion processes are run at elevated temperatures for this reason. It is also well known that as combustion temperature increases, the amount of thermal NOx increases. Thus, on the surface, the two would seem to conflict. However, NOx is formed during combustion from two processes: one by fixing the nitrogen in the air with the oxygen in the air in a high temperature environment (referred to as "thermal NOx") or from the direct oxidation of nitrogen contained in the fuels ("fuel NOx"). Obviously the presence of nitrogen in the fuels makes getting a low NOx value much more difficult.

The reason for the conflicting relationship between NOx and CO is linked to the relationship between oxygen concentration and temperature, and the mechanisms that form CO and NOx. A certain amount of excess oxygen is necessary for complete combustion. However, too much oxygen lowers the thermal efficiency. High temperatures are desired to drive the combustion reactions (and lower CO), but when the temperature goes above a certain level, the nitrogen also tends to bond with oxygen to form NOx. As excess oxygen is reduced, one formation mechanism for NOx is discouraged (not having enough oxygen for the nitrogen to bond with), but more CO is formed if the oxygen gets too low. At the same time, as the excess oxygen is reduced, this takes away a heat sink so the overall temperature goes up, which tends to increase the kinetics of NOx formation, so that the nitrogen will bond faster with whatever oxygen is present to form NOx. Of course, as the oxygen is depleted below the amount needed for complete combustion, NOx is significantly reduced but this also increase CO. The bottom line is that in parts of the operating window for most boilers and many incinerators, it is difficult to control both CO and NOx simultaneously. Low-NOx burners or flue gas recirculation can help, but this is generally something not suitable (or only a partial fix) for systems burning bulk solids and only addresses the thermal NOx. A significant amount of nitrogen in the fuel will get converted to NOx and completely change the ratios.

About the only reliable way to control both NOx and CO is to run at relatively high temperature and a reasonable excess oxygen for good CO control and then add on "back-end" NOx control (selective catalytic control or non-selective non-catalytic reduction).

Most incinerators will be expected to operate at an equivalence ratio[1] of between about 0.5 and 0.9 (which normally gives an oxygen concentration of 10% by volume or less, and usually not much below about 4%). Many boilers run much closer to 1.0 (they try to minimize excess air to increase efficiency, and keep oxygen down in the range of 3% or less). Some systems may operate with individual areas of the system (solids bed in a kiln or in a waste feed lance flame envelope) under fuel-rich conditions even though the overall system is oxidative. When one looks at the theoretical relationship between CO and NOx (Appendix B), you will notice that over this range sometimes the CO and NOx trend together, and sometimes they are reversed. That's why it difficult to establish a consistent relationship between these two pollutants. This relationship is highly site-specific.

Thus, EPA's current method of selecting the lowest emitter for CO to set the CO standard and the lowest emitter of NOx to set the NOx standards is ignoring the fundamental chemical processes that occur during combustion and does not represent a "reasonable estimate" of what these units are actually achieving. EPA must use some other method for determining best performers for CO and NOx.

E. The lowest emitters are not always the best performers.

CRWI does not believe that the lowest emission method EPA used in this proposed rule results in a "reasonable estimate" of what these facilities achieve in practice. EPA has faced this issue since the *CKRC* and *National Lime II* decisions. In developing the Hazardous Waste Combustor MACT rule (70 FR 59419, October 12, 2005), EPA came to the conclusion that the lowest emitters are not always the best performers (70 FR 59443).

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[1] Equivalence ratio is a measure of fuel-oxygen ratios. Ratios of 1.0 or greater are considered as fuel-rich and ratios less than 1.0 are considered as fuel-lean.

Comment: The commenter states that because MACT floors must reflect the "actual performance" of the relevant best performing hazardous waste combustors, this means that the lowest emitters must be the best performers. The commenter cites *CKRC* v. *EPA*, 255 F. 3d at 862 and other cases in support.

Response: As explained in the introduction above, the statute does not specify that lowest emitters are invariably best performers. Nor does the case law cited by the commenter support this position. The D.C. Circuit has held repeatedly that EPA may determine which sources are best performing and may "reasonably estimate" the performance of the top 12 percent of these sources by means other than use of actual data. *Mossville Environmental Action, Now v. EPA,* 370 F.3d at 1240-41 (DC Cir. 2004) (collecting cases) ("*Mossville*"). In *Mossville,* sources had varying levels of vinyl chloride emissions due to varying concentrations of vinyl chloride in their feedstock. Individual measurements consequently did not adequately represent these sources' performance over time. Not-to-exceed permit limits thus reasonably estimated sources' performance, corroboration being that individual sources with the lowest long-term average performance occasionally came close to exceeding those permit limits. *Id.* at 1241–42. The facts are similar here, since our examination of best performing sources with multiple test conditions likewise shows instances where these sources would be unable to meet floors established based solely on lowest emissions (including their own). As here, EPA was not compelled to base the floor levels on the lowest measured emission levels.

In addition, EPA explains why they used a technology based methodology (which has been upheld in *Sierra Club v. EPA* 353 F.3d 976 (D.C. Cir. 2004) (*Copper Smelters MACT*), and, as we explained above, was implicitly blessed in *Brick MACT*) to set the MACT standard (70 FR 59448).

b. *Why not select the lowest emitters?* Although sources with baghouses tended to have the lowest emission levels for particulate matter, this was not invariably the case. There are certain instances when sources controlled with electrostatic precipitators (or, in one instance, a venturi scrubber) had lower emissions in individual test conditions than sources we identified as best performing which were equipped with baghouses.[96] Under the commenter's approach, we must always use these lowest emitting sources as the best performers.

We again disagree. We do not know if these sources equipped with control devices other than baghouses with lower emissions in single test conditions would actually have lower emissions over time than sources equipped with baghouses because we cannot assess their uncontrollable emissions variability over time. Our data suggests that they likely are not better performing sources. We further conclude that our statistical procedures that account for these sources' within test, run-to-run emissions variability underestimates these sources long-term emissions variability. This is not the case for sources equipped with baghouses, where we have completely assessed, quantified, and accounted for long-term, test-to-test emissions variability through application of the universal variability factor.[97] The sources equipped with control devices other than baghouses with lower snapshot emissions data could therefore have low emissions in part because they were operating at the low end of the "uncontrollable" emissions variability profile for that particular snapshot in time. The bases for these conclusions, all of which are supported by our data, are found in section 16 of volume III of the technical support document.

We therefore conclude sources equipped with baghouses are the best performers for particulate matter control not only based on engineering judgment, but because we are able to reliably quantify their likely performance over time. The straight emissions methodology ignores the presence of long-term emissions variability from sources not equipped with baghouses, and assumes without basis that these sources are always better performing sources in instances where they achieved lower snapshot emissions relative to the emissions from baghouses, emissions that have notably already been adjusted to account for long-term emissions variability.

A straight emissions approach also results in inappropriate floor levels for particulate matter because it improperly reflects/includes low ash feed when identifying best performing sources for particulate matter. 69 FR at 21228. For example, the MACT pool of best performing liquid fuel boilers for particulate matter under the straight emissions approach includes eight sources, only one of which is equipped with a back-end control device. These sources have low particulate matter emissions solely because they feed low levels of ash. The average ash inlet loadings for these sources are well over two orders of magnitude lower than the average ash inlet loading for the best performing sources that we identify with the Air Pollution Control Technology approach. (Of course, since ash loadings are not a proper surrogate for HAP metals, these sources' emissions are lowest for particulate matter but not necessarily for HAP metals.) The straight emissions approach would yield a particulate matter floor level of 0.0025 gr/dscf (with a corresponding design level of 0.0015 gr/dscf). There is not one liquid fuel boiler that is equipped with a back-end control that achieved this floor level,

> much less the design level. The best performing source under the air pollution control technology approach, which is equipped with both a fabric filter and HEPA filter, did not even make the pool of best performing sources for the straight emissions approach. Yet this unit has an excellent ash removal efficiency of 99.8% and the lower emitting devices' removal efficiencies are, for the most part, 0% because they do not have any back-end controls. EPA believes that it is arbitrary to say that these essentially uncontrolled devices must be regarded as "best performing" for purposes of section 112(d)(3). We therefore conclude that a straight emissions floor would not be achievable for any source feeding appreciable levels of ash, even if they all were to upgrade with baghouses, or baghouses in combination with HEPA filters, and that a rote selection of lowest emitters as best performers can lead to the nonsensical result of uncontrolled units being classified as best performers.

(Emphasis supplied, footnotes omitted.)

CRWI believes that EPA's conclusions for these decisions are correct. We believe that EPA needs to develop a method that selects facilities that do the best job under the worst conditions. Said differently, almost all units will have low emissions when burning the cleanest materials. But using this criterion does not define them as the best performers. This would be analogous to defining the best hitter as the ones who can hit softballs instead of a 98 mph fastball. The best hitters are the ones who can consistently hit any type of pitch thrown, not just the easy ones. Just like in baseball, the best performers are the facilities that can consistently handle all materials burned. Control of emissions from combustion sources can be from control of the materials burned, control of the combustion process, and air pollution control systems. All three are viable methods of controlling emissions, and need to be appropriately balanced to identify best performance. Facilities that burn clean materials are essentially only exhibiting one method of control (feed) for some pollutants (e.g., metals, PM, SO2, etc.), and at best only two methods of control (feed and combustion) for others (e.g., CO), while completely ignoring the third method (add-on). To completely ignore one or two of the three methods of control inappropriately biases the identification of best performance to those who control virtually nothing. It is illogical to think that doing nothing is best. We believe that the best performers are not defined by how they perform on the easiest tasks but by how they perform on the hardest tasks.

5. <u>EPA has proposed some emission limitations that are beyond the ability of the referenced test methods</u>

Tables 6-10 of the proposed rules for new sources (75 FR 32001 – 32004) show the proposed standards for the respective sub-categories. Several of the proposed standards are less than the ability of the currently available test methods can measure in a defensible manner.

A. Carbon monoxide (incinerator subcategory)

CRWI is concerned that the data collected during the 114 performance tests did not correspond to the proposed requirements. For example, if the CO was measured during the tests using a CEMs calibrated for a 0-200 ppmv range, Performance Specification 4B has an acceptable daily error of +/-3% of span (or 3% of 200 ppmv = 6 ppmv). Even though a facility's CO CEMs is working properly, it is possible that a reported measurement of 2 ppmv could actually be 2 ppmv, as much as 8 ppmv, or as little as 0 ppmv simply because of the accuracy of the instrument at that level. In calculating the floor, EPA should account for this uncertainty in the measurement itself. EPA may have already done this but there does not appear to be any discussion of this in the support documents. Of course, if the data is collected from a CEMs with an even larger span than 0-200 ppmv, this concern is magnified.

Also, if data were collected using CEMs with a 0-200 ppmv span, it would be improper to require future CEMs to be spanned 0-10 ppmv. The span basis required for future compliance should be the same as the span basis on which the data was collected. CRWI suggests that EPA go back to the raw data and determine the span for the CO CEMs used in the data gathering. EPA should set the required span for compliance at the same span as used to collect the data used to develop the standard. Otherwise, the accuracy of the data used to develop the standard and the ability of the regulated community to show compliance is compromised.

Performance Specification 4B for CO CEMs on HWCs specifies a calibration drift of no more than 3% of span, while Performance Specification 4A for CO CEMs on other sources specifies a calibration drift of 5% of span. As proposed, the new requirement is for a calibration drift of 2% span. This defines a new level of performance compared to all previous performance specifications. Further, this information says nothing about calibration error or relative accuracy requirements. Considering that the limited information available defines a new standard for CEMs performance, CRWI is concerned that facilities cannot determine if CEMs technology could accurately or precisely determine compliance, since they have not previously been proven at these levels.

EPA's proposed rule references EPA Performance Specification 4A for a CO CEMS. Section 1.2.1. of Performance Specification 4A states that this specification was developed primarily for CEMS that comply with low emission limits (less than 200 ppmv). CRWI is concerned that EPA may need to make additional adjustments if CO emission limits are indeed set at a level of less than 10 ppmv for gas due to QA/QC issues as discussed below.

EPA has proposed new source CO limits of 1.4 ppmv (7% oxygen) for incinerators, 3.0 ppmv (7% oxygen) for energy recover units, and 4.0 ppmv (7% oxygen) for small, remote incinerators. To use a CO CEMs for new units in these three sub-categories, the instruments will have to be ranged from 0 to 10 ppmv. The accuracy of a CO CEMs meeting the requirements of Performance Specification 4A is ~ 5% of the range or in this case + 0.5 ppmv (see Section 13.2 of Performance Specification 4A). This level is troubling in that the uncertainty of the measurement is 13-36% of the proposed emission limits in this case, thus further contributing to the challenges of meeting these standards (1.4 ppmv, 3.0 ppmv, or 4.0 ppmv) on a consistent basis.

In addition, such a small allowable emission level will make conducting the Relative Accuracy (RA) Audits and Tests very difficult. Section 13.2 of Performance Specification 4A requires that the RA of the CEMs must be no greater than 5 percent when the applicable emission standard is used to calculate RA. Although EPA makes some allowance for this difficulty in the Subpart CCCC Tables 5, 6 and 9 by changing the RA requirement to 0.5 ppmv, it is still an issue. Thus, one would be comparing values that are less than either 1.4 ppmv, 3.0 ppmv, or 4.0 ppmv and looking for agreement between those values when the accuracy of EPA Method 10 itself is only about 0.2 ppmv or in this case 5%, 7%, or 14% of the allowable CO emission concentration. CRWI suggests that the final rule should instead allow for an absolute difference of less than 1 ppmv or more for example instead of the proposed 0.5 ppmv value.

Demonstrating compliance with the proposed 2.2 ppmv CO standard for existing incinerators using EPA Reference Method 10 will be very difficult, and may not be possible. CRWI's interpretation of Methods 10 and 7E is that the span of the CO analyzer cannot be greater than 5 ppmv, as Section 3.4 of Method 10 notes that the measured emissions should be between 20-100 percent of the calibration span. EPA makes some allowance for this requirement by allowing a 10 ppmv span gas. So, even if measured emissions were 2.2 ppmv, the span could not exceed 10 ppmv. Section 9.0 of EPA Method 7E has a QA/QC table that states that the analyzer and calibration gas performance must be within 2% of the calibration span of the analyzer (2% of 10 ppmv = 0.2 ppmv) or alternatively 0.5 ppmv. Using the 2% criteria means that the acceptable result of the span calibration verification would have to be within 2% or within 0.2 ppmv of the calibration gas. This borders on the reasonable detection capabilities of a CO emission analyzer. Thus, one would be forced to use the alternative 0.5 ppmv for QA/QC purposes. This level is troubling in that the uncertainty of the measurement is 23% of the proposed emission limit in this case (2.2 ppmv), thus further contributing to the challenges of meeting a 2.2 ppmv standard on a consistent basis.

In addition, EPA Method 7E requires the use of three calibration gases between the 0-5 ppmv level (or alternatively 0-10 ppmv level as per Table 6 of Subpart DDDD) in order to meet the QA/QC requirements for the analysis. Obtaining and using three different calibration gas standards in this range is excessive and may be difficult to accomplish. CRWI suggests that the QA/QC requirements should be modified to require only a single point calibration at these low concentrations.

Similar to the calibration concerns, CRWI also notes that allowable drift would also have to meet the same alternative criteria of 0.5 ppmv (or 0.2 ppmv as per Table 6), which again is 50% (or alternatively 10%) of the allowable CO concentration.

CRWI believes EPA has proposed CO emission limits in the above described instances that are challenges to measure even given the few adjustments that EPA made to Performance Specification 4A and the test methods in the respective Tables for Subparts CCCC and DDDD. We believe that making more adjustments to the Performance Specification or the test methods is not a solution. We are also concerned that EPA has not followed proper procedure by making the Performance Specification and test method adjustments in the middle of a large rulemaking. CRWI believes those adjustments should have been part of a separate rulemaking activity and not as a part of this proposal. CRWI believes that the proposed emission limits are simply too low to be reliably and defensibly measured in such a manner that a unit can comply. CRWI is concerned that EPA is forcing changes to CEMs QA/QC to mathematically support establishing such small CO emissions limits without determining if CO CEMs can actually perform this well. We believe EPA's approach is impractical. Instead, we suggest the Agency should upwardly adjust the emissions limits to reflect the uncertainties (three subcategories in Subpart CCCC and one subcategory in Subpart DDDD) so that the existing Performance Specification and test methods work.

B. Opacity

Section 129(a)(4) lists the substances or mixtures for which EPA must develop numerical emissions limitations. Opacity is listed but Congress included a parenthetical (as appropriate) for this substance. This gives EPA the option of not setting numerical emission limits for opacity. CRWI does not see any reason for having both a PM and an opacity standard, especially at the PM levels proposed. Since EPA proposed opacity levels of less than 5% (other than small remote incinerators) and since single digit opacity readings are beyond the capability of a certified reader, opacity should simply not come into play at the PM emission levels proposed. In addition, if any type of wet scrubbing is used, the condensed water vapor will interfere with instrumental opacity readings, making them worthless. In fact, the estimated opacity for this proposed rule is not based on Reference Method 9 but on a ratio of PM to opacity of 0.053. As a result, CRWI sees no reason to include both PM and opacity. CRWI suggests that EPA drop the opacity requirements when the final rule is promulgated.

Should EPA decide to keep the opacity requirement, there are several flaws in this proposed standard. For the various subcategories (incinerator, waste-burning kiln, burn-off oven, and small remote incinerator), compliance with the opacity limit is proposed to be determined using Method 9 of appendix A-4. The opacity limits are:

- 1% opacity - incinerators
- 1% opacity - energy recovery units
- 4% opacity - waste-burning kilns
- 2% opacity - burn-off ovens
- 13% opacity - small, remote incinerators
- For all categories of units, you can avoid an annual performance test if your previous test result was only 75% of the emissions limit (Section 60.2155 of Subpart CCCC and Section 60.2720 of Subpart DDDD).

At 75 FR 31955, EPA discussed the approach for developing the opacity limits, which involved taking the test data from the facilities that had both PM and opacity, doing a correlation between PM and opacity, and developing a ratio of opacity to PM of 0.053. That ratio was then used to establish the opacity standard for each subcategory. Said differently, the PM standard was based on the average of the best performers which was then multiplied by 0.053 to get the opacity standard. That methodology resulted in opacity values that are not supported by the prescribed test method.

Method 9 is a visual determination by a certified reader. According to the method, a certified reader is only able to distinguish opacity in increments of 5%. Single digit distinction is beyond the capabilities of the method. Any opacity detection would have to be a minimum of 5%. In setting opacity limits at values less than 5% for four of the subcategories, EPA has essentially set a compliance value of 0%, which conceivably would be a beyond-the-floor limit. Since EPA did not set beyond-the-floor limits, Method 9 would require a minimum opacity value for these four subcategories of at least 5%. For small, remote incinerators, a similar problem exists. Since EPA did not set a beyond-the-floor limit for this sub-category, Method 9 would require minimum opacity of at least 15%.

In addition, proposed Section 60.2155 of Subpart CCCC and proposed Section 60.2720 of Subpart DDDD are provisions that allow a unit to conduct less frequent testing as long as the test results are less than 75% of the respective opacity limit. By instituting such low opacity values for incinerators, energy-recovery units, waste-burning kilns and burn-off ovens that are beyond the capability of the test method, EPA has provided provisions that can never be used for opacity, since 75% of zero opacity reading is still zero and a unit could not have a reading below zero. If EPA does really intend for these provisions to have use, then the opacity limits for the respective sub-categories need to be adjusted upwards even further, so that 75% of the limits can be distinguished from the actual limits. CRWI believes doing so would result in an opacity limit of 10% for the incinerator, energy-recovery, waste-burning kiln, and burn-off oven subcategories. As a result, the limit for a less frequent test on these units would be 5%, since 7.5% (or 75% of the 10% limit) would not be a distinguishable value. If the small, remote incinerator subcategory were adjusted upward to 15% because of Method 9 capabilities, 75% of that limit would be 11.25% opacity or essentially 10% which is still a distinguishable value, so it may not need further upward adjustment.

In summary, CRWI believes that there is no need to set an opacity standard in the final rule. If the Agency feels compelled to set opacity standards, CRWI believes that the opacity limits need upward adjustment as follows:

- 10% opacity - incinerators
- 10% opacity - energy recovery units
- 10% opacity - waste-burning kilns
- 10% opacity - burn-off ovens
- 15% opacity - small, remote incinerators

C. Dioxin/Furan standards

Analytical Perspectives (a CRWI Associate Member and one of the laboratories that analyze dioxin/furan samples) prefers to work at a level of quantification (LOQ) of 14.5 TEQ pg/dscm for dioxin and furan samples. This is based on a sample time of three hours drawing a cubic meter per hour. The proposed dioxin/furan standards for new sources for incinerators is 0.73 pg/dscm, for energy recovery units is 2.7 pg/dscm, and for burn-off ovens is 0.86 pg/dscm. To meet the LOQ for these units, a new incinerator would have to sample approximately 60 hours (14.5 divided by 0.73 times 3 hours), a new energy recovery unit would have to sample for 16 hours, and a new burn-off would have to sample for 51 hours. If EPA changes the minimum sample volume for D/F to 4 cubic meters, this would effectively increase the sample time requirements above by 33%, further compounding the problem. The sample times for existing source standards are a little better. Here the standards for incinerators, energy recovery units, and burn-off ovens are 2.5 pg/dscm, 59 pg/dscm, and 25,000 pg/dscm, respectively. A three hour sample time would obviously be adequate for the energy recovery units and burn-off ovens (additional concerns in the next paragraph). However, one would need a 16 hour sample time for incinerators.

It should also be pointed out that the cycle time for many burn-off ovens may only be 6-7 hours (including start-up, hold time, and cool down). The time at the desired temperature may only be 1-3 hours. With an operating period of only one hour, it would be impossible to sample for three hours without extending the testing for three separate runs. In reality, the actual time the operator has to keep the unit at a constant operating level during the test is often longer than just the desired sampling time. Facilities will usually try to keep operations steady for a short period of time before they start sampling as well as a short time period after sampling is finished. This adds to time needed to take a single sample. If the sampling period requires 51 hours, that becomes even more absurd.

D. Required sample volumes

CRWI also notes that the minimum sample volumes vary from one standard dry cubic meter (e.g., hydrogen chloride for existing incinerators, see Table 6 to Subpart DDDD, 75 FR 32001) to four standard dry cubic meters (e.g., cadmium for new incinerators, see Table 5 to Subpart CCCC, 75 FR 31985). CRWI is not sure why EPA is proposing to specify minimum volumes. There does not appear to be any discussion for this in the preamble. We see no reason to specify the minimum sample volumes required. Facilities know the standards that need to be met during their testing. They can design their testing program to show they meet the standards required. Besides, a specification of minimum volume may be counterproductive in the future. As analytical methods continue to improve, facilities may be stuck with a required four cubic meter sampling volume when the analytical methods no longer require that to meet the desired quantification limits.

E. PM standard

The proposed new source incinerator standard for PM is 0.0077 mg/dscm. CRWI estimates that to show compliance with this proposed standard, the facility will need to sample 125 dry standard cubic meters to gather enough mass on a Method 5 filter in order to be able to reliably measure any PM captured on the filter. Typically, a Method 5 probe will sample one dry standard cubic meter per hour. This means that a new incinerator would need to sample for 125 hours to be able to show compliance with this proposed standards. This seems a bit ridiculous and points out the problems of using data without questioning the validity of that data.

F. Method imprecision.

EPA states that measurement imprecision at or near the method detection level is about 40 to 50% and that the imprecision decreases to about 10-15% at about 3 times the method detection level (75 FR 31944). This conclusion was based on the work done by the American Society of Mechanical Engineers ReMAP study. EPA describes a two step process to address this issue. The first step is to identify the highest test-specific method detection level reported in the data set that is at or less than the floor limit. The second step would be to determine a level three times the representative method detection level and then compare it to the floor limit. If three times the method detection limit is less than the floor, they would conclude that measurement variability is adequately accounted for. If not, EPA could use three times the method detection level as the floor.

We agree that an adjustment to data near the detection limit may be warranted. However, to do this properly, the Agency should start with the Reporting Limit. This is the lowest value at which an instrument is calibrated. Anything below the Reporting Limit is extrapolation and may not be reliable or defensible. Before we discuss that concern, a common understanding of what "detection limits" means is needed.

EPA has addressed detection level issues in the past. A 1995 paper written by EPA's Engineering and Analysis Division (*Development of Compliance Levels from Analytical Detection and Quantification Levels*) explores the different ways to describe the limits of analytical methods and concludes that the Minimum

Level (ML) was the appropriate quantification level for both setting standards and showing compliance. A copy is attached (Appendix C).

The lowest level an analyte can be detected is generally termed the "detection limit." EPA's commonly used term for the detection limit is the Minimum Detection Limit (MDL). 40 CFR 136, Appendix B defines MDL as "the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte." EPA's Appendix B contains the procedure for determining the MDL.

Quantification limits are the levels above the detection level where reliable quantification measurements can be made. The Practical Quantification Limit (PQL), the Reliable Detection Limit (RDL) and Reliable Quantification Levels (RQL) are all calculated by multiplying the MDL by various factors. However, none include using a calibration point. The ML, on the other hand, is a quantification level that corresponds to the lowest level at which the entire analytical system gives reliable signals and includes an acceptable calibration point. This use of an acceptable calibration point is critical in showing that this number is real and not just an extrapolation of statistics from a "detection limit." Most laboratories now use the term Reporting Limit (RL) instead of ML. The meaning of the two terms is the same. CRWI believes that the lowest number that can be used for developing standards and showing compliance with those standards is the ML or RL.

The first thing CRWI suggests is that EPA re-examine the data used to set the standards to make sure that all reported data is either reported as ML or RL. If it is, then, the discussion of adding variability because the data is at or near the detection limit goes away because all numbers would be real numbers and not some undefined number between the detection limit and zero. Any number below the RL is not reliable and statistical methods should not be used on that data.

If the data reported is not based on an RL, CRWI suggests that the quality of the data is not adequate to set standards and other data must be used. To do anything different would be in violation of EPA's own guidelines (*Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* EPA/260R-02-008 October 2002). CRWI believes that the entire basis for setting standards and showing compliance with those standards is reliable and quantifiable data. Unless the current standards are developed on that foundation, the entire process is suspect. CRWI strongly recommends that EPA examine or re-examine their data base to ensure that all data reported meets these quality requirements.

6. <u>Mercury CEMs should not be used as a compliance method for waste-burning kilns.</u>

EPA is proposing to require waste-burning kilns to use either continuous emission monitors (CEMs) or sorbent monitoring traps to measure compliance with the proposed mercury standard. There is limited discussion in the preamble of the ability of these units to work on cement kilns. CRWI has specific concerns about the accuracy and reliability of mercury CEMs.

CRWI would like to remind EPA of a study carried out in 1997 where a number of mercury CEMs were installed on a cement kiln burning hazardous waste located in Holly Hill, NC. When EPA published the report on this experiment (62 FR 67788, December 30, 1997), the Agency concluded there were numerous problems with these instruments. In the notice for this report, EPA states:

> In summary, the Agency found certain aspects of the testing program revealed substantial problems regarding the measurement of the Hg CEMS accuracy and precision. EPA found it difficult to dynamically spike known amounts of mercury (in the elemental and ionic form) and obtain manual method and Hg CEMS measurements that agree at the test source. As a result, the Agency now believes it has not sufficiently demonstrated the viability of Hg CEMS as a compliance tool at all hazardous waste combustors and should not require their use.

In the September 30, 1999, final rule for hazardous waste incinerators, cement kilns, and lightweight aggregate kilns (64 FR 52930), EPA made similar statements:

> In the March 1997 NODA, we elicited comment on early aspects of our approach to demonstrate total mercury CEMS. And, in the December 1997 NODA, we presented a summary of the demonstration test results and our preliminary conclusion that we were unable to adequately demonstrate total mercury CEMS at a cement kiln, a site judged to be a reasonable worst-case for performance of the total mercury CEMS. As new data are not available, we continue to adhere to this conclusion, and comments received in response to the December 1997 NODA concur with this conclusion. Therefore, we are not requiring total mercury CEMS in this rulemaking.

CRWI understands that these experiments happened more than ten years ago and it is possible that mercury CEMs have improved significantly since then. However, some of the same issues plaguing these instruments in 1997 are still around today. The primary issue facing mercury CEMs is whether there is a NIST traceable standard that can be used to calibrate the unit at the levels required for this rule.

Second, the reliability of mercury CEMs on cement kiln stacks has not been demonstrated in the U.S. While they have been used in Germany, these units must conform to CEN (Comite Europeen de Normalisation; European Committee on Standardization) regulations for monitoring emissions, but they are not required (nor demonstrated) to utilize gas calibration standards to verify performance on a daily basis as required by 40 CFR 60.13(d) or 40 CFR 63.8(c). In addition, they are not subject to relative accuracy test requirements. In regards to the mercury CEMs used at coal-fired power plants, these instruments have been demonstrated in a fairly consistent gas stream environment, meaning consistent mercury concentrations and effluent conditions. These conditions may not be similar to the stack gas environment at cement kilns. These differences are likely to impose new technical challenges and problems that have not been encountered in the evaluation of mercury CEMs at coal-fired power plants. Based on the evidence EPA has presented so far, the problems observed at Holly Hill, and the experience of CRWI members, we believe that mercury CEMs do not provide a reliable method for assuring compliance.

7. <u>CRWI is concerned that EPA is using one method to develop standards and requiring a different method to show compliance.</u>

CRWI is concerned that EPA is developing a standard for PM based on stack test data while requiring compliance based on a PM CEMs. It appears that EPA is using one method to set the standard and a totally different method to show compliance. The U.S. Court of Appeals for the D.C. Circuit has ruled that "a significant difference between techniques used by the Agency in arriving at standards, and requirements presently prescribed for determining compliance with standards, raises serious questions about the validity of the standard." *Portland Cement*, *supra*, at 396. CRWI believes that using stack test data to set the standards and then PM CEMs to show compliance qualifies as "a significant difference between techniques." The primary difference between these two methods will be that the variability experienced during normal operations will not be captured during the stack test but will become apparent as the facility operates a CEMs over time. CRWI believes that if EPA wishes to use PM CEMs to show compliance with the standard, then the standard must be developed using PM CEMs data. The same logic can be applied to the mercury CEMs requirements.

8. CRWI requests EPA remove the mandatory requirement to use the WebFire database for submitting test results and allow additional time to generate test reports.

§ 60.2235(b) of the proposed subpart CCCC and § 60.2795(b) of the proposed subpart DDDD requires that, beginning December 31, 2011, all test data conducted to demonstrate compliance be entered electronically into EPA's WebFire database within 60 days of completing a performance demonstration. CRWI has the several concerns with this proposed requirement.

A. Lack of justification

EPA provides no insight or justification in the preamble or otherwise for requiring this form of data submittal. The cost of this requirement, as compared to conventional reporting, is not evaluated or disclosed in discussion of the cost and impact of the proposed rule. Although a number of affected facilities may be already trained and equipped to accomplish such electronic reporting, many of the affected facilities have not had to participate in such reporting procedures in the past. These facilities will require additional staff time, equipment and training to accomplish this requirement. The proposed effective date of this requirement means that even the initial reporting must be conducted electronically. This further burdens the affected facilities in unnecessarily having to develop new reporting techniques and procedures concurrent with the other tasks required to implement a new rule. EPA has failed to describe any benefit of this requirement as compared to these additional burdens.

B. Reporting time

As is discussed in other sections of the rule, test results must be reported within 60 days of the completion of the test. Test results for some parameters may not even be available until weeks following the completion of testing. Sixty days does not provide sufficient time to properly review all data results (including requisite quality control and assurance), perform and review the calculations and conclusions resulting from the test, prepare and certify reports and submit results electronically or manually. Similar requirements under the Hazardous Waste Combustion (Subpart EEE) and other MACT standards allow for reporting 90 days following testing. In addition under Subpart EEE itself, there is a provision to request additional time to complete a report in case 90 days is not enough time. EPA has given no reason for requiring such a short reporting period.

C. Potential lack of state acceptance

It is also likely that implementation of the initial testing and most subsequent testing will be done under state authority. Unless state agencies are willing to use this same electronic reporting tool, facilities will have a dual requirement for reporting. EPA has also failed to describe any effort to convince state agencies to use this tool as their preferred reporting mechanism. At a recent conference, a number of state regulators were asked about using WebFire to report test results. They responded that just having the numbers does not tell the whole story. It is important to look at the qualifiers, the test methods, the QA/QC plans, and the justifications before making any decisions on the validity of the numbers. For example, test results from testing companies can incorporate a number of "qualifiers" in their data reporting, especially when results are near detection limits (i.e., ND for not detected, LOQ for limit of quantification, BLQ for below limit of quantification, "<" for less than, etc.). Sometimes a test will include additional sampling runs that are not used for demonstrating compliance in case there was a reason to abort a sampling run. Facilities report that data too, since it was part of the testing effort. Testing companies also report and explain deviations from a test plan or test method or analytical method in case conditions arose during the test that required the deviation. These small deviations are usually discussed with agency observers at the time so the testing can continue and be completed. If the electronic tool cannot accommodate the use of textual explanation about these anomalies, then the tool's usefulness and accuracy is suspect and could cause additional burden on the facility to explain.

In summary, CRWI requests that EPA

- eliminate the use of WebFire as a mandatory requirement but instead allow facilities to have the option to report performance evaluations electronically,
- revise the provision for test reports, such that these reports be due no sooner than 90 days following completion of testing, and
- add a provision to allow requests for additional time for submitting test results.

9. <u>EPA's proposed requirement that facilities meet steady-state standards during SSM events is not logical nor is it lawful.</u>

EPA's proposal to require CISWI units to comply with the same emission standards during periods of startup, shutdown, malfunction, and steady state conditions is neither logical nor lawful.

Before the court's decision in *Sierra Club v. EPA*, 551 F.3d 1019 (DC. Cir 2008) ("SSM Decision") addressing the SSM provisions in the MACT program, the DC Circuit had consistently held that technology-based standards promulgated under § 111, *must* contain exemptions or less stringent standards during periods of startup, shutdown, and malfunction (SSM) than would usually apply during steady state periods. Since § 129 rules must also reflect § 111, EPA cannot rely on an *SSM Decision* decided under a different section (§ 112) to override the long-standing requirement that EPA must account for SSM events in § 111 standards.

For example, in *Portland Cement, supra* at 375, 396, 398 (D.C. Cir. 1973), *cert. denied*, 417 U.S. 921 (1974), the DC Circuit recognized that "'start-up' and 'upset' conditions, due to plant or emission device malfunction, is an inescapable aspect of industrial life and that allowance must be made for such factors in the standards that are promulgated. The Court, which was addressing EPA's NSPS rules, also noted that including the startup, shutdown, and malfunction provisions "imparts a construction of 'reasonableness' to the standards as a whole and adopts a more flexible system of regulation than can be had by a system devoid of 'give.'" *Id.* at 399.

In *Essex Chem. Corp. v. Ruckelshaus*, 486 F.2d 427, 432 (D.C. Cir. 1973), petitioners argued that lesser or no standards should apply during startup, shutdown or malfunction conditions. The Court agreed, holding that such provisions "appear necessary to preserve the reasonableness of the standards as a whole." *Id.* at 433. And in *NRDC v. EPA*, 859 F.2d 156 (D.C. Cir. 1988), the court held that, although water-quality permit limits need not incorporate an "upset defense," "[a] technology-based standard discards its fundamental premise when it ignores the limits inherent in the technology." *Id.* at 208 (citing *Marathon Oil. Co. v. EPA*, 564 F.2d 1253, 1273 (9th Cir. 1977)). Consequently, because all pollution control technologies will occasionally malfunction and take time to get to their steady-state conditions (such as during startup, shutdown or malfunction), "achievable" technology-based standards must contain provisions for compliance during such unavoidable events.

Now that the court has decided that MACT compliant standards must apply during periods of SSM, the Agency must develop standards that are "achievable." Indeed, the court has already spoken to this issue when it stated, that for standards to be "achievable," they must be achievable under the most adverse circumstances which can reasonably be expected to recur. *Sierra Club, supra* 666, citing *National Lime Ass'n v. EPA* 627 F2.d 416 (D.C. Cir. 1980)

("*National Lime I*"). Thus, since startup, shutdown, and malfunctions will recur, EPA must set standards that must be achievable during those times.

EPA has stated that CISWI units can meet the standards during startup because most units use natural gas or clean distillate oil to start the units and then add waste once the unit has reached combustion temperature (75 FR 31964). This is simply not correct for burn-off ovens. For this sub-category, most of these units are charged with the parts to be cleaned and then the burners are turned on. The majority of the entire cycle is taken up by startup and shutdown. Thus, for one entire sub-category, facilities may not be able to meet the steady-state standards during startup and shut down.

CISWI facilities cannot comply with the standards EPA is proposing during periods of SSM. For example, facilities with baghouses cannot comply during startup periods because they have to bypass the bags until the temperature gets above the condensation point. Otherwise, they will prematurely damage their bags. There similar issues for other types of air pollution control devices.

Another major flaw is that EPA did not include emissions data during either startup or shutdown in the development of these standards because all data was collected under steady-state conditions. Emissions under non-steady-state conditions may vary significantly during these events and that variability is not captured in the data EPA used to set the standards. The only place where such data might be available is in the CO CEMs data. The CISWI unit that EPA has CO CEMs data is ARDomtar. This unit labels two hourly data points as startup – one has 346 ppmv and the other is 3075 ppmv. This is not enough information on which to draw any conclusions. Of the boiler units where EPA has CO CEMs information, only one (VAPhilipMorris) labeled the operations as normal, startup, or shutdown. They did not identify any times that were malfunctions. The average of the hourly average CO CEMs readings for normal operations was 54 ppmv. This unit identified 34 hours where they were in startup mode. The average of the hourly CO CEMs readings for these 34 hours was 162 ppmv. There were 12 hours identified as shutdown mode. The average of the hourly CO CEMs reading for these 12 hours was 55 ppmv. This seems to indicate is that the CO readings during shutdown may be similar to those during normal operations but that the reading during startup may be significantly higher. However, this is a very limited set of data from one source and EPA should not make decisions based on such a limited data set. What it does indicate is that there may be differences during startup and the Agency should collect additional data.

Just because EPA states that the goal of best performing sources is to have no malfunctions (75 Fed. Reg. at 31964) does not make malfunctions go away. Even the best operated and maintained facilities will have malfunctions and the courts have recognized the need to allow for "upset" conditions. For example, any facility that is tied into the external electric power grid (most have at least a small tie-in) will face power disruptions potentially causing malfunctions. We have all lost power in our homes at one point in time – it's an inevitable. We also agree that it is difficult to develop the data necessary to set numerical emissions limits for transient conditions. For example, if a facility ran a Method 5 test during startup, a single test would take 3 – 6 hours (each run takes at least an hour, three runs are required for a valid test, and the sampler must have time in between runs to change out the sampling trains). During those six to eight hours, the conditions would have changed so significantly that it would be virtually impossible to understand what that data meant or to extrapolate the results (which will be one hour averages) to other transient conditions.

As such, EPA must establish and explain why facilities can comply with the standards it promulgates. As the court noted in *National Lime I*, "by failing to explain how the standard proposed is achievable under the range of relevant conditions which may affect the emissions to be regulated, the Agency has not satisfied this initial burden." *National Lime I*, *supra*, at 433.

While it is appropriate to use data gathered under steady-state conditions to set emission standards for steady-state conditions, it is not appropriate (from either a logical or legal perspective) to apply those standards to non steady-state conditions. Since standards developed under steady-state conditions do not include transient events, they cannot possibly incorporate the variability that occurs under these conditions. Expecting a facility to comply with emission standards developed under steady state conditions during transient events is neither logical nor is it lawful. If appropriate sampling methods can be developed, EPA should gather data during startups, shutdowns, and malfunctions and incorporate this data into the data gathered during steady-state conditions to set numerical emission standards. Emissions standards based on data collected during all modes of operation could then reasonably apply at all times.

CRWI would like to make one additional point. EPA should allow an alternate oxygen correction factor during SSM events. During the first part of startup and the last part of shutdown, the oxygen concentrations will approach ambient concentrations. When it does that, the equation used to calculate the correction factor will approach infinity (dividing by zero). Under these conditions, it is not appropriate to apply the oxygen correction factor as proposed. The HWC MACT rule allows facilities to set up an alternate correction factor for these conditions. See 40 CFR 63.1206(c)(2)(iii). This is one example of how this problem can be addressed.

10. <u>CRWI suggests that EPA retain the current exemptions for EEE facilities, burn-off ovens, and laboratory analysis units.</u>

In the 2000 rule, EPA exempted 15 different types of units. In this proposed rule, EPA eliminated some of these exemptions because they thought that the rule was drafted in such a way that some of these exemptions are not needed. CRWI believes that EPA needs to retain a number of those exemptions. Our reasons are as follows.

CRWI is concerned that the 2008 Information Collection Request (ICR) did not adequately explain the scope of EPA's desired information. As a result, respondents did not supply information on units exempt from the current CISWI regulation. Our comments detail how some, if not most, of the universe of laboratory analysis units and burn-off ovens (particularly part reclamation units) were not included in the ICR responses. Indeed, there may have been omissions for other types of units, as well. In addition, a number of these units are located at Section 112 area sources which were not included in the scope of the ICR. In fact, because of the broad nature of the proposed CISWI changes (i.e., theoretically, CISWI applicability could be triggered by the combustion of a single molecule of solid waste, even if inadvertent or accidental), CRWI believes that the number of CISWI sources that were once Section 112 area sources may greatly outnumber the Section 112 major sources. As a result, we believe that the data used to develop subcategories and the resultant emission limits is incomplete and flawed.

Likewise, without knowing how non-hazardous secondary materials would be addressed under the companion proposal for the non-hazardous definition of solid waste, facilities would not have thought to respond for a number of units that EPA is now intending to regulate under the proposed revisions to CISWI.

If EPA must regulate these units, CRWI believes that the Agency must, at a minimum, conduct a more thorough survey of these units before proposing emission limits and the other accompanying CISWI requirements (e.g., operator certification, operating limits, testing, recordkeeping, reporting, etc.). However, CRWI believes the superior path forward is to retain the existing exemptions for these units.

A. EEE sources

Certain EEE sources will follow the RCRA approach under 40 CFR 270.62 (incinerators) or 40 CFR 270.66 (BIF's) and 40 CFR 270.235 to transition certain RCRA provisions from a RCRA permit to a Title V permit. CRWI members are concerned that this transition may eliminate the exemption for hazardous waste combustion units in Section §60.2020 of Subpart CCCC and Section §60.2555 of Subpart DDDD. It is possible that this exemption is not needed in this circumstance since RCRA still retains some jurisdiction over such a unit, although with fewer specific RCRA requirements. However, CRWI members are concerned that the uncertainty that removing the exemption may create and requests that EPA clarify that the exemption is not needed or that EPA retain the exemption if EPA determines it is needed.

B. Burn-off ovens

CRWI believes that EPA has made a number of serious errors in proposing to remove the exclusion for burn-off ovens.

1) Purpose and operations of burn-off ovens

Burn-off ovens typically consist of two chambers. The first is a controlled temperature oven that is used to melt or pyrolyze the coating on the metal parts. The gas stream from the oven is then passed through a secondary chamber (afterburner) where an open flame is used to destroy any organic vapors driven off by the oven.

It is common practice in industry (such as plastics or latex manufacturers, plastics or latex processors, polymer production facilities, as well as others) to use on-site ovens (electric or gas-fired) to clean solidified material off of small metal parts (extrusion dies, screen packs, extrusion screws, filters, gears, etc.) during maintenance so these parts can be reassembled properly after the maintenance is completed. Most of these units do not use incineration or combustion processes. Rather, they use lower temperature processes such as melting or pyrolysis to melt/decompose materials such as plastic or polymer. Some of these ovens are specifically designed to avoid flaming conditions which would damage the parts being cleaned. In general, these units are loaded with the parts to clean. The oven is turned on and the temperature starts to rise to the optimum cleaning temperature. As the temperature rises, the initial cleaning is accomplished by melting the material, in which the molten material can be collected in a pan or separate chamber. At some point, the conditions are such that the physical change (melting) is replaced by a chemical change (pyrolysis) to any remaining material. A number of these units have water spray controls to prevent flames and to keep the materials on the parts from burning and increasing the temperature on the part. However, some of the smaller, electric powered ovens do not have water spray controls. In many cases, the on-site units may be no larger than a residential or commercial self-cleaning oven and will have a fossil fuel BTU ratings of 1MM BTU/HR or less.

A description of several types of burn-off ovens operated by CRWI members follow:

i. Dow has at least two pyrolysis units that are equipped with water sprays and means of detecting conditions that could lead to flame generation, so that the water sprays can prevent a flame and protect the integrity of the part being cleaned. If combustion is employed at all, it would generally only occur in a separate chamber designed to receive vapors from the oven. Conceivably these vapors would not be contained gases under the definition of solid waste. In essence in these units, there would be the pyrolysis of solids followed by the combustion of vented gases. Combustion of solids is purposely avoided by design. In all cases, the primary function of the units is to generate a clean part.

ii. Dow has at least one very small pyrolysis device that is electrically heated, and is also equipped with a small pan for collecting melted residue. The emissions from this oven are currently exempt from state regulation since the emissions amount is so insignificant. In addition, the vent size from the oven is only 2-3 inches in diameter and could not accommodate any sampling equipment. Finally, the vendor for the unit said their devices should not be subject to this proposal since they employ pyrolysis, not incineration.

iii. In both examples, vendors are very careful to design these units to prevent combustion (not to avoid regulation but to avoid damage to parts) and say so in the accompanying operations manuals/descriptions. Both vendors describe a controlled oxidizing cycle at the end of the pyrolysis cycle to prevent flaming should the oven be opened due to malfunction or operator mistake and there be any solid residual material still present on the metal parts.

iv. There may be some units that melt plastic residue off parts being cleaned which collect the molten polymer in trays for later disposal. In these cases, solid material is not being combusted/incinerated/burned. However, during the melting process, some vapors can be released that are combusted in a separate chamber. CRWI does not believe these units would be in the scope of the proposed CISWI rule since no solid waste is being incinerated and believes EPA should concur.

It is also unclear if these units would include self-cleaning ovens that are located in lunch rooms or other eating facilities at industrial and commercial establishments. In fact, some self-cleaning ovens are larger than some of the burn-off ovens used to clean plastics, latex, or other materials off of parts. CRWI requests that EPA clarify that these devices are not in the scope of CISWI.

2) These units should not be regulated under Section 129.

Section 129 of the Clean Air Act requires EPA to set numerical standards for solid waste incineration units. Congress defines a "solid waste incineration unit" as "a distinct operating unit of any facility which combusts any solid waste material..." Congress did not define combust or pyrolysis so one is left to common definitions of combustion. Combustion or burning is the sequence of exothermic chemical reactions between a fuel and an oxidant accompanied by the production of heat and conversion of chemical species. In combustion, the release of heat can result in the production of light in the form of either glowing or a flame. Pyrolysis is the chemical decomposition of condensed substances by heating that occurs spontaneously at high enough temperatures or a chemical change or degradation of material brought about by the action of heat. Melting is only a physical change brought on by heat. In fact, the prevention of combustion is particularly desired in a burn-off oven so as not to damage the metals parts being cleaned. CRWI believes these units should not be in the scope of this proposal since they practice pyrolysis of solids, are purposely designed and operated to avoid combustion, and are already appropriately addressed under various state mechanisms due to the nature of the small potential for emissions. We believe that these units were appropriately excluded in the original CISWI rule and that they should continue to be excluded.

CRWI wonders if these units are not more appropriately considered as materials recovery units. Section 129 specifically excludes material recovery units. While these units do not use combustion to recover metals as specified in the statute, they certainly recover metal parts. CRWI suggests that EPA consider all burn-off ovens that recover metal parts to be materials recovery units and exempt them from these regulations.

3) CRWI believes that EPA significantly underestimated the number of these units

Should EPA decide to regulate these units under the CISWI rule, we believe that the Agency has significantly underestimated the number of these units. In the docket memorandum "MACT Floor Analysis for the Commercial and Industrial

Solid Waste Incinerators Source Category", EPA states there are 36 existing burn-off ovens. Two units from one CRWI member (INVISTA) are included in the data base. However, other CRWI members do not have any units listed in the data base. Since the rule was proposed, one member has determined they have at least five units that could be potentially regulated and another has found 4 units that potentially could be regulated. We suspect EPA is unaware of the actual number of these units because these sources did not realize EPA was including burn-off ovens in the requests for data. Burn-off Ovens are specifically exempted from the definition of solid waste incinerators in the current NSPS Subparts CCCC and DDDD. Also, many of these units do not actually incinerate or combust the materials adhered to the parts being cleaned. Rather, they melt or use pyrolysis to decompose the materials. Thus, it is not clear which units would be covered and which units would be regulated by other provisions (if any). It is highly likely that our members are not the only respondents who may have overlooked these units. It is our understanding that one vendor submitted comments that estimated there have been more than 4500 burn-off ovens sold in the United States.

Based on this, CRWI believes that EPA's data base for these units is inadequate and vastly underestimated the number of burn-off ovens at area and major sources in the U.S. Therefore, CRWI believes EPA must conduct a more thorough and targeted survey of these units before proposing emission standards.

4) CRWI believes that two of the units are improperly classified as burn-off ovens. They should be re-classified as incinerators.

It is CRWI's understanding that units "KSCNHWichita" and "NDCNHAmerica" are improperly categorized as burn-off ovens when they should be classified as incinerators. It is our understanding that CNH will submit comments showing that these units are being operated as incinerators, not as burn-off ovens.

EPA's current database for burn-off ovens has data from two facilities for five pollutants (cadmium, hydrogen chloride, lead, mercury, and total dioxin/furan), data from 9 units for one pollutant (sulfur dioxide), and data from 10 units for 3 pollutants (carbon monoxide, nitrogen oxide, and particulate matter). The two units in question have data for all nine pollutants. When these two units are taken out of the burn-off oven category and put into the incinerator category, it leaves eight units in the data base with data for sulfur dioxide, carbon monoxide, nitrogen oxides and particulate matter. It is our understanding that when some of the units in the data base were asked to develop data on all nine pollutants, they informed EPA that they did not emit several of the pollutants in question. EPA responded that they should only test for the pollutants present. Thus when the units are put in the proper categories, EPA will not have data for cadmium, hydrogen chloride, lead, mercury, and total dioxin/furan emissions for the burn-off oven category. Given the lack of data and the large number of units that will be potentially impacted (as shown earlier), CRWI suggests re-instating the exclusion for this source category. If the Agency feels the need to set numerical standards for this source category (and we are not sure EPA methods can be used to develop emissions data for this source category – see comments below), CRWI suggests that EPA temporarily withdraw the proposed standards and restart the rulemaking process for this category.

5) Many burn-off ovens do not have stacks or their stacks are too small to use EPA standard methods.

Many burn-off ovens are not equipped with stacks because of the small size of the units. The small units may only have a vent of 2-3 inches in diameter, which cannot accommodate the methods requirements for sampling (Method 1 requires a minimum stack diameter of 12 inches – Part 60, Appendix A). In addition, these units (both small and large) are batch operated and many run on short cycles. For example, the cycle can consist of 2 hours of heat-up, followed by 2-3 hours of pyrolysis, and finally by 2-3 hours of cool down. The sampling methods for a number of the regulated pollutants require a sample time of three or more hours which can easily exceed the pyrolysis time of the units. In essence, EPA is proposing requirements that in many cases have no test methods to accommodate the operations of these units. For example, CRWI is enclosing an excerpt from a performance test plan under a different regulation to illustrate the difficulty facing part reclamation units in both minimum sample size and minimum sampling duration.

Emissions Sampling Specifications

Parameter	Sampling Method	Minimum Sample Size	Minimum Sampling Duration
Particulate Matter, HCl and Cl_2	EPA Methods 5 and 26A	1.7 dscm (60 dscf)	2 hours
PCDDs/PCDFs	EPA Method 23	2.5 dscm (88 dscf)	3 hours
Metals	EPA Method 29	1.7 dscm (60 dscf)	2 hours
Flow Rate	40 CFR 60, Appendix A, Method 1, 2	N/A	With all isokinetic methods
CO_2, O_2, N_2	EPA Method 3A	N/A	Sampled over entire test run
Moisture	40 CFR 60, Appendix A, Method 4	N/A	With all isokinetic methods

The proposed Table 8 for the NSPS (Subpart CCCC) requires a minimum sample volume of 4 dscm for dioxin/furan which could easily require a sampling duration of 6 hours for a single test – well above the cycle time for many of these units. The proposed Table 9 for the emission guideline (Subpart DDDD) requires a minimum sample volume of 1 dscm for dioxin/furan, but CRWI believes a sampling volume of three cubic meters or more may be necessary to obtain the quantification levels needed to show compliance with the proposed standards. Similar issues exist for the requirements for testing for PM, HCl, and metals. In addition, most EPA approved methods require a minimum stack diameter of 12 inches (Method 1, Part 60, Appendix A). Also, a number of these methods require a minimum stack gas flow rate to be able to sample isokinetically. These stacks (vents) are not likely to have the minimum flow rates necessary to properly sample these units.

Thus, it may be impossible for these units to use approved testing methods to conduct their initial tests or to show future compliance.

6) EPA should not set standards for dioxin and furans for burn-off ovens.

Dioxins and furans are not fed to these units. The only source of potential dioxin/furan emissions from these units would be *de novo* synthesis. Research[2] has shown that for *de novo* synthesis of complex organic molecules post combustion requires certain sets of conditions. These conditions are a minimum of 2 seconds residence time within a temperature window of 400 to 750 F, the presence of chlorine, the presence of a surface catalyst, and the absence of sulfur. The structure of burn-off ovens does not allow for these conditions to occur. The temperatures and residence time for the afterburners of burn-off ovens are typically 1500 F to 1800 F. Since these units do not have any air pollution control devices and relatively short stacks (5-8 feet), the temperature will not change significantly from the afterburner until it is vented to the atmosphere. Once vented, the air will pass through the temperature window necessary to form dioxins so rapidly that there will not be an opportunity for any formation. In addition, there will be limited availability of chlorine and surface catalysts needed for the *de novo* synthesis to occur. Thus, there minimal opportunities to form these compounds post combustion. Since there is no dioxin fed to these units and the possibility of post-combustion formation of dioxin is extremely low, there is no reason to set dioxin standard for this category. In

[2] The best summary of the research on this topic can be found in Chapter 3.2 of the Technical Support Document for the 1999 Hazardous Waste Combustion rule, Volume 4.

addition, once they reclassify the two burn-off ovens as incinerators, EPA has no data on D/F emissions from this category.

7) Current SSM provisions will not work for these types of batch processes.

Burn-off ovens are batch operated units that must be loaded with the parts to be cleaned at ambient or near-ambient conditions. Properly situating parts in the oven is generally very labor intensive and cannot be accomplished mechanically, especially after the oven has reached operating conditions. Typically these units will have a 6-8 hour cycle time taking 2 hours to come up to temperature, 2-3 hours to clean the part, and 2-3 hours to cool down. Given the short cycle time with a major portion of that cycle being in either startup or shutdown, EPA cannot rationally apply the same standards to these units at all times. If EPA decides to set standards for these units, they must set standards for at least three different operational modes (startup, normal operations, and shutdown).

8) Alternatives will cause more environmental harm

As proposed, this rule will actually be a disincentive to reuse parts, especially small parts. This appears to be in conflict with resource recovery objectives and may show that these standards do not adequately consider cost and environmental impact necessary to promulgate standards under § 111. If the added expense of cleaning can be justified, facilities will need to ship these small metal parts to larger commercial units and will be forced to keep more spare parts on hand (a prohibitively large expense for many specialized machined parts). Of course, such shipment assumes even the larger ovens can comply, which is not certain since EPA fully expects most of these ovens to shut down. CRWI believes that the transportation emissions during transport of the small metal parts would dwarf the emissions from these small units or the expected reduction in emissions could they even be retrofitted.

In many cases, industry began to use burn-off ovens because the previous option of chemical cleaning of these parts involved chlorinated solvents, caustic solutions or other means were much more environmentally unfriendly, resulting in greater potential for exposure to employees and generating a great deal more waste. Abrasive cleaning is not a viable option for machined parts since abrasion can damage the parts rendering them useless for further process use. In essence with this action, EPA will be removing a superior cleaning method. EPA's expectation that industry will transition to other methods ignores the fact that the other cleaning methods are environmentally and physically inferior.

9) Congress did not intend to shut down the industry.

It is particularly troubling that EPA fully expects most of these units to cease operation if the rule is promulgated as proposed (75 FR 31956). EPA states, "We have determined that most facilities with units in the incinerators, small remote incinerators, or burn-off ovens subcategories will choose to cease operations once the proposed MACT floor limits are promulgated and that all units in these three subcategories will cease combusting waste if beyond-the-floor levels are adopted." CRWI does not believe that Congress intended for rules triggered by Section 129 to eliminate a particular industry or the use of a needed device. It is inconceivable that EPA would purposely regulate a useful device from existence with the full awareness that their action would do exactly that. Whether or not these units exist does not diminish their apparent useful purpose, to reuse resources. CRWI believes regulating these devices would be in opposition to resource recovery objectives and cost considerations that need to be considered for § 111 performance standards. We believe EPA has the ability to consider the impact of its standard and avoid regulating devices when such regulation would lead to absurd results and would burden permitting agencies unnecessarily.

In addition, CRWI believes that EPA has not adequately considered the costs facilities will incur if burn-off ovens are shutdown. In the docket document "Compliance Cost Analyses for CISWI Units", EPA presents its cost-effectiveness estimates. On page 9 of the document, EPA states:

> "The nationwide average cost effectiveness for all units to choose the lowest cost option between complying and using an alternative disposal method was estimated as follows: $57,700/ton for burn-off ovens, $6,000/ton for waste-burning kilns, $7,700/ton for energy recovery units, 2,500/ton for incinerators, and -$26,600/ton for small, remote units."

Even EPA's estimates illustrate the high costs ($57,700/ton) of subjecting these trivial units to the CISWI regulation relative to the other subcategories. However, CRWI believes this estimate is far underestimated. Again, from page 9 of the CISWI cost analyses document, EPA states:

> "For burn-off ovens, sandblasting was considered as an alternative disposal method. As shown in Table 7C, an estimated operational cost of $53.75 over 2000 hrs per year for each burn-off oven was assumed, with an additional 10 percent assumed for contingency costs. The result was an estimated flat rate of $118,250 per year to utilize an abrasive blasting service."

EPA's estimate indicates that they simply do not understand the nature of these parts and what environments they can be subjected to without damage. Sandblasting is not a viable alternative for machined surfaces and intricately designed parts and equipment. In addition, EPA has failed to recognize that the purpose of having on-site burn-off ovens is so that facilities can quickly clean parts and re-use them. If a facility has to send parts to an off-site facility for cleaning (assuming the off-site oven facility will continue to exist), the facility will have to stock additional parts so that it will not lose production time waiting on the parts to be returned from the cleaning facility. These expensive parts such as dies, extruder screws, heat exchangers, etc. would add substantially to EPA's cost estimates.

10) A number of states have already developed methods to regulate this source category.

Some, if not most, states already realize that the potential for emissions from these units is inconsequential because of the small amount of material that they remove and the small amount of emissions that these units could conceivably produce. The vendor for one of the units that Dow operates advertises in their literature that many states have long recognized that regulating the emissions from these units is a somewhat useless activity. The vendor lists the states of Alabama, Connecticut, Georgia, Hawaii, Iowa, Kansas, Maine, Minnesota, Montana, Nevada, North Carolina, Oklahoma, South Dakota, Tennessee, Texas, and Wisconsin as having various mechanisms for addressing this miniscule concern (exemptions based on amount of emissions, exemptions based BTU release rate, exemptions based on solids capacity, permits by rule with only minimal requirements, etc). To include these units as CISWI regulated units would force these states, and likely others not listed, to regulate something that they have long known to be a useless activity.

11) The potential to emit the listed pollutants is low

In many applications, the material being removed is food grade material or other materials directly used by consumers (e.g., polyethylene, polypropylene, latex etc.). As such, these materials would not be expected to contain or generate most of the Section 129 substances of concern (sulfur, chloride, lead, cadmium, and mercury). Because of the lower pyrolysis temperatures and the low potential for chloride content, the potential to generate dioxins and dibenzofurans is likewise low. Even if EPA believes they must regulate these units, there should be ample opportunity for EPA to limit any emission standards to those constituents that might be expected instead of the full Section 129 list.

By proposing to eliminate the exemption for burn-off ovens (especially part and rack reclamation units) in Section §60.2020 of Subpart CCCC and Section §60.2555 of Subpart DDDD, EPA may have inadvertently created a multitude of issues regarding these units, including increasing the applicability of these standards by a huge number. CRWI believes that in many cases this action by EPA will lead to useless results. In addition, we believe that the regulation of these units employing melting or pyrolysis is unsupported by the language of Section 129.

In summary for burn-off ovens, CRWI urges EPA to do the following:

- Retain the exemption for these units or at least clarify that burn-off ovens employing pyrolysis or melting to remove residue are not included in the scope of regulated units since they are not incinerating/combusting/ burning solid waste.
- If EPA decides to regulate these units under this rule,
  - The Agency should remove the two units that are operated as incinerators form the current database,
  - The Agency should re-survey the industry to determine the size of the category,
  - The Agency should gather additional emissions data to fill in the gaps,
  - The Agency should determine how to modify current methods to be able to sample for short time periods and in small stacks,
  - The Agency should include startup, shutdown, and malfunction provisions for this category, and
  - The Agency should re-estimate the costs for alternatives to include older, less environmentally friendly methods since most will not use sandblasting as an alternative.

C. Laboratory analysis units

By proposing to eliminate the exemption for laboratory analysis units in Section §60.2020 of Subpart CCCC and Section §60.2555 of Subpart DDDD, EPA may be inadvertently increasing the applicability of these standards by a huge number. Our description of the issues and potential solutions for these units follows.

1) EPA has underestimated the number of CISWI units and the economic impact of the proposed standards because of flaws in the data collection activity

EPA is proposing to remove the existing description of lab analysis units (units that burn samples of materials for the purpose of chemical or physical analysis) is in §60.2020(o) [Subpart CCCC] and §60.2555(o) [Subpart DDDD]. This proposed removal creates uncertainty as to what these units are and what EPA intends to regulate. The Preamble (75 FR 31959) states that these units "may be CISWI units under this proposed rule." Later on the same page with reference to laboratory analysis units and five other types of formerly exempted units, EPA states, "These six types of units would be regulated under the revised proposed CISWI standards if they burn solid waste at a commercial or industrial facility." The existing description uses the term, "materials," whereas the Preamble uses the term, "solid waste." It is uncertain in this context if EPA is saying that the combustion of a material in a lab analysis unit implies that it is a solid waste or something else. Regardless, to subject a laboratory analysis unit to the suite of CISWI requirements is problematic whether or not EPA means that the combustion of a material implies it is solid waste. The fact that EPA formerly thought that these units needed an exemption causes a new concern that EPA fully believes that these units would now be regulated.

A number of laboratory methods involve combustion of some sort in order to generate analytical results (ash analyses, flame ionization detection, bomb calorimetry, atomic absorption spectroscopy, total organic carbon, etc.). The use of these technologies is not restricted to commercial and industrial establishments. Indeed, these devices are used extensively in educational and governmental locations. If EPA is intending to regulate such devices, it would seem inappropriate to only be concerned about those located at commercial and industrial establishments.

For example, a number of EPA regulations require ash analysis. The standard method used is ASTM-482 in which a muffler furnace or microwave oven is employed to combust the sample in order to generate ash results. The sample size may be as small as 5 grams, and the combustion chamber in the device may be no larger than 100 in^3 (about the size of a large box of facial tissue). It is inconceivable that EPA would be interested in emissions from such a small device. The number of these units alone at commercial and industrial establishments across the U.S. is huge. Since it is physically impossible to comply with many CISWI requirements for most, if not all, of these units (lack of stacks, very small vents that cannot accommodate stack sampling equipment, etc.), the use of the device at commercial and industrial establishments would most likely have to end. Since the analyses would still be required by many EPA regulations, it seems the only alternative for generating compliance data would be to use university and governmental laboratories. CRWI believes such a result would be ludicrous. In addition, these types of units are also commonly used in research activities and in manufacturing operations where product quality demands an ash analysis (combustion of product-grade material to obtain quality data for customers), and which use the same ASTM-482 method to generate the same type of data but for a different reason.

Other examples could be given for each type of laboratory device that employs combustion. In all cases, those examples would lead to similar absurd results as described for ashing ovens or furnaces. In addition, EPA's action would lead to conflicting results, since in many applications EPA would still demand analytical data that could no longer be generated by the current testing methodology.

EPA may not know about the potential large number of these devices because they have been previously exempt from Subparts CCCC and DDDD. In addition, the 2008 CAA Section 114 ICR did not make it clear that these units were included in the scope of the survey. In using the existing description of a laboratory analysis unit, one member estimates that they have a large number of these devices located in virtually every facility or research lab that analyzes samples, and none of those devices were included in the response to the 2008 ICR. This was because they had no idea they may have been within scope. In addition, it is CRWI's understanding that the 2008 ICR was sent only to major sources under Section 112. There are most likely many of these units located at area sources that were not included in the ICR. Since EPA stated in the "MACT Floor Analysis for the Commercial and Industrial Solid Waste Incinerators Source Category" that there are only 179 existing CISWI's, CRWI believes that EPA's data base for these units is woefully inadequate. In addition, proposing to eliminate the exemption for laboratory analysis units has potential to cause a host of difficulties such as the sheer number of them, no regard for the size of many of these units, the difficulty in conducting performance testing on them, etc.

CRWI questions whether or not these units should be included in this Section 129 program at all and suggests that the exclusion be re-instated. However should EPA believe that they must include these units, CRWI believes EPA must conduct a more thorough analysis of them before proposing emission standards.

2) Lack of sampling ability

Laboratory analysis units could not accommodate sampling equipment. Indeed, most, if not all, would not have stacks. It would seem ludicrous to employ test methods to sample devices that, themselves are required by test methods. In essence, EPA is proposing requirements that in many cases have no test methods to accommodate the operations of these units.

3) Other CISWI requirements

There are a number of other CISWI requirements that would be unworkable for these units or useless. CISWI operator certification requirements would seem useless, especially since the primary activity is operating a piece of analytical equipment, as opposed to operating a CISWI. Performance tests would likely be impossible due to the size of the devices and virtually non-existent emissions that could not be measured. Startup, shutdown, and malfunction requirements do not seem to fit this type of activity. Continuous Parameter Monitoring System requirements would not make sense, as well as recordkeeping and recording requirements.

4) EPA admission of eliminating most of the units

In the Preamble (75 FR 31956), it is particularly troubling that EPA fully expects most of these units to cease operation if the rule is promulgated as proposed. EPA states, "We have determined that most facilities with units in the incinerators, small remote incinerators, or burn-off ovens subcategories will choose to cease operations once the proposed MACT floor limits are promulgated and that all units in these three subcategories will cease combusting waste if beyond-the-floor levels are adopted." If the exclusion for laboratory instruments is removed, each of these units would potentially become an incinerator.

CRWI does not believe that Congress purposely intended for rules triggered by Section 129 to eliminate a particular industry or the use of needed devices. It is inconceivable that EPA would purposely regulate useful devices from existence with the full awareness that their action would do exactly that. Whether or not these units exist does not diminish their apparent useful purpose.

As proposed, there will actually be a disincentive to analyze samples or to conduct research. Since many EPA programs require these methods to be used to generate compliance data, EPA's proposal to eliminate the exemption for laboratory analysis units is unworkable. Industry would be forced to send samples to other entities that are not commercial or industrial establishments, such as university or government institutions. That possibility seems arbitrary, if not unethical.

Summary of requested changes - CRWI urges EPA to clarify in some fashion that these types of units are not included in the scope of CISWI applicability. We do not know if it would be better for this clarification to be in the CISWI regulation or in the proposed Definition of Solid Waste. Possibly, EPA could include language in the proposed Definition of Solid Waste that combustion in such devices is not considered discard or that samples are not solid waste. There is a definition of discard in the current Subparts CCCC and DDDD that EPA could possibly modify to accomplish this need. CRWI believes EPA could clarify in those two places that samples undergoing these various types of analytical methods is not discard. At the most, if any discard were occurring, it would only be incidental to primary purpose of the analytical instrument and not worth regulating.

11. CRWI suggests EPA remove the prescriptive requirements related to continuous monitoring systems.

On October 9, 2008, EPA proposed "Performance Specification and Quality Assurance Requirements for Continuous Parameter Monitoring Systems and Amendments to Standards of Performance for New Stationary Sources; National Emission Standards for Hazardous Air Pollutants; and National Emission Standards for Hazardous Air Pollutants for Source Categories" or the "CPMS Rule." CRWI and a number of others commented on the prescriptive nature of these requirements and the erroneous cost estimates that were made for implementation of these requirements. Please refer to CRWI's comments on this proposal entered into the docket, EPA-HQ-OAR-2006-0640. Ultimately, EPA withdrew this proposed rule for further study and modification. It would seem redundant to propose continuous monitoring system requirements in the CISWI proposal (§60.2145 of Subpart CCCC and §60.2710 of Subpart DDDD) while continuing to work on a new CPMS proposal. Of particular concern are the prescriptive general requirements for instruments [subparagraph (j) of both (§60.2145 and §60.2710] and the prescriptive specific requirements for a flow measurement device [subparagraph (k) of both (§60.2145 and §60.2710], a pressure measurement device [subparagraph (l) of both (§60.2145 and §60.2710], and a pH measurement device [subparagraph (m) of both (§60.2145 and §60.2710]. As CRWI commented in the 2008 CPMS proposal, we still believe that these prescriptive requirements are well in excess of what might be needed to ensure that CPMS devices are maintained and calibrated and do not recognize the advancements made in recent years in instrument technology. As CRWI commented in the 2008 CPMS proposal, any QA should be performance-based and not prescriptive.

In addition, EPA should modify the language in 63.7525(g)(3) to make the calibration requirements for pH meters site-specific. As proposed, EPA would require all pH meters to have a two point calibration every 8 hours. CRWI members have extensive experience with pH meters and consider this level of attention to be unnecessary. The length of time between checking the calibration of a pH meter is site-specific and the unit should have flexibility to determine a frequency of calibration based on the historical experience without EPA prescribing a one-size-fits-all frequency. A set frequency for all instruments regardless of the sophistication of the instrument and regardless of the service environment for the instrument is not appropriate. In other words, one size does not fit all. Companies that have gone to the expense of using sophisticated instruments such as smart transmitters and other instruments with self-diagnostics as opposed to continuing to use older, less sophisticated systems would not benefit from upgrading their systems. It is the facility's responsibility to develop and implement an adequate monitoring program. This is already required as a part of their site-specific monitoring plan. Putting this level of detail in a regulation does not help; it only creates unnecessary work under most circumstances.

12. EPA should retain the sentence "Operating limits do not apply during performance tests" in Sections 60.2145(b) and 60.2710(b).

It is important to retain this sentence as a practical matter when repeating tests. Similar provision is allowed in other places such as 63 Subpart EEE because you cannot repeat a test at the exact same condition as previously demonstrated without accidentally exceeding an earlier operating limit. As long as an emission standard is not exceeded, it should not matter that the operating limits from the previous test are exceeded. Without such an allowance, each successive test will gradually result in more stringent operating limits in order to avoid deviations. Otherwise, a unit can easily experience a deviation each time a performance test is conducted. CRWI requests that this sentence be retained. Facilities need some assurance that they can complete a performance test and not be threatened with the potential for deviations during the test itself.

13. EPA should modify the bag leak detection requirements to allow a facility to either follow manufacturer's specifications or EPA's guidance but should not require them to follow both.

Proposed 60.2710(p)(2) would require facilities that install bag leak detectors to follow both manufacturer's specifications and EPA's bag leak detection guidance document. EPA's bag leak detection guidance is restricted to triboelectric monitors and specifically states in the opening paragraph that the guidance is only one approach for using bag leak detectors. It goes on to state that "proper setup and operation of a bag leak detector can vary with site-specific conditions and those conditions may dictate variances from the approach suggested in this guidance." While the bag leak detector guidance document has been used for a number of years, it is recognized that the guidance has a number of limitations.

First, CRWI believes that requiring a facility to follow this guidance document is not appropriate. This guidance document itself points out that proper set up and operations can vary with location and that it describes only one way to set up these detectors. In addition, the manufacturer's specification and the guidance document may differ in how to install, operate, and maintain these instruments. If they do, which requirement should the facility follow? CRWI suggests that EPA modify the language in this paragraph so that facilities can follow either the manufacturer's specifications or the guidance but not both.

14. Facilities should be allowed to meet either a Total or a TEQ dioxin/furan standard but not both.

For all source categories, EPA is proposing that facilities meet two dioxin/furan standards – one that is based on total mass and the second that is based on TEQ. CRWI does not see the need to meet both. The hospital/medical/ infectious waste incinerator rule requires facilities to meet one or the other but not both. For example see Table 1A to Subpart Ec to Part 60 (74 FR 51414). CRWI suggests that the final rule allow facilities to meet either the Total standard or the TEQ standard but not both.

In calculating the standards for dioxins and furans, EPA encountered circumstances where the standard for TEQ exceeded the standard for total dioxin. While this may seem absurd at first, it is completely possible when one examines the method used to calculate TEQ from test runs. Because of the low levels being measured, it is very likely that a congener will go from non-detect to barely detected from one run to the next. The fact that "non-detect" congeners are counted as "zero" leads to high variability in the TEQ computation among runs. Therefore, when EPA applied its statistics to account for variability, the resulting TEQ standard came out higher that the total dioxin standard. EPA should not attempt to reconcile the TEQ and total dioxin results. They are separate measurements and EPA should allow compliance with either.