



Comments of  
the Coalition for Responsible Waste Incineration  
on  
EPA's Proposed Hazardous Waste MACT Rule,  
National Emission Standards for Hazardous Air Pollutants:  
Proposed Standards for Hazardous Air Pollutants  
for Hazardous Waste Combustors  
(Phase I Final Replacement Standards and Phase II)  
Direct Request for Comments (February 4, 2005).

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The Coalition for Responsible Waste Incineration (CRWI) appreciates the opportunity to submit comments on EPA's proposed hazardous waste combustion MACT regulations, more formally entitled National Emission Standards for Hazardous Air Pollutants: Proposed Standards for Hazardous Air Pollutants for Hazardous Waste Combustors (Phase I Final Replacement Standards and Phase II), Direct Request for Comments (February 4, 2005). CRWI is a trade association comprised of 26 members with interests in hazardous waste combustion. CRWI's members operate incinerators, boilers, process heaters, hydrochloric acid production furnaces, and cement kilns. CRWI has met with EPA staff several times regarding this rule and related issues of interest to its members. We appreciate the effort EPA has put into promulgating this proposal and look forward to working with the Agency to develop an effective rule that is consistent with the requirements of the Clean Air Act and good engineering practices.

CRWI's comments will be restricted to three of the issues raised by EPA's Direct Request for Comments: (1) the validity of the triple ranking approach for determining who are the top performers; (2) the validity of the "Max Dev" approach for determining the variability inherent in non-detect values; and (3) the mercury standard for a mixed-waste liquid fuel-fired boilers. In summary, we have concerns about the triple ranking methodology for setting floor standards, tentatively support the Max Dev method for handling non-detects, and support the request from Diversified Scientific Services, Inc., regarding compliance with the mercury standard. In addition, we have a strong concern that EPA has not provided either sufficient data, an explanation for the rule, or the time to properly evaluate either the triple ranking or the Max Dev concepts. CRWI requested that EPA provide the revised database but EPA declined to do so. Once the revised data are available and we have had a chance to see how these theoretical ideas are put



into practice, we may have different opinions on these two methods. Detailed comments are below.

1. CRWI Has Concerns Regarding the Agency's Triple Ranking Methodology.

A. EPA's Direct Request for Comments Violates the Clean Air Act's Rulemaking Procedures.

Before we offer substantive comments on the Agency's proposed new methodology, we note that EPA's request for additional comments does not provide any reasons for EPA considering the new triple ranking method other than it was suggested by the Environmental Technology Council. Under the Clean Air Act, EPA has specific procedures that it must follow when promulgating rules under Section 112(d). Clean Air Act, Section 307(d)(1)(C). This includes publishing the rule in the Federal Register and providing a "statement of basis and purpose" that must "provide a summary of —

- (A) the factual data on which the proposed rule is based;
- (B) the methodology used in obtaining the data and in analyzing the data; and
- (C) the major legal interpretations and policy considerations underlying the proposed rule."

Clean Air Act, Section 307(d)(3).

In addition, all of the data, information and the documents on which the rule relies, must be included in the docket on the date the rule is proposed. *Id.* Despite CRWI's request for the data underlying the rule, EPA did not provide either the factual data or the major legal interpretations and policy considerations underlying this new proposed rule.

- 1) EPA failed to meet the statutory requirements of the Clean Air Act by not providing an adequate statement of basis and purpose.

With the limited amount of information provided in this request for comments, it is difficult to discern why EPA is proposing to change its methodology so late in the rulemaking process. If, as EPA states in the preamble to the proposed rule, 69 Fed. Reg. at 21223, the double ranking system considers all of the factors that effect emissions, it would comply with the Court's interpretation regarding how to determine the MACT floor. The Direct Request for Comments does



not provide any explanation of the legal interpretations or policy considerations underlying the new triple ranking methodology. The only explanation given seems to be that EPA is responding to a suggestion made by the Environmental Technology Council. As such, this notice does not comply with the procedural requirements of the Clean Air Act to provide an adequate "statement of basis and purpose."

- 2) EPA failed to provide for an adequate opportunity to comment by not providing even a summary of factual data on which the rule is based.

In addition to not providing any discussion of the legal and policy considerations on which the rule relies, EPA failed to provide sufficient factual information to allow stakeholders to develop adequate comment. CRWI and others requested the database which EPA used to propose new emission limits based on the triple ranking methodology. EPA refused stating that it did not believe commenters needed to evaluate the new methodology in a "results oriented manner in order to have a meaningful opportunity to comment."

Regardless of EPA's beliefs, the statute requires that EPA provide commenters with a certain amount of information so they can adequately review the proposal. Some of this information is the factual basis for the proposed rule. Only when one applies a new method to the current database, can one understand how the new method really works. However, EPA simply providing the results of the calculations, without at least a summary of the factual data on which the rule is based, violates the Clean Air Act. Indeed, because EPA has changed both the ranking methodology and its consideration of non-detect values, CRWI believes that without the database it does not have sufficient information with which to make a proper evaluation. Without it, we cannot determine how EPA chose the top performers and calculated the floor values since EPA has revised both the database and changed the way they are handling variability in some cases (Max Dev approach). With these changes, it is not possible to use the prior database — even as a summary of the factual data — to evaluate the new method. Thus, EPA has not provided sufficient data for commenters to evaluate this approach.

To thoroughly evaluate the method, commenters need to check the revised database to ensure that the data included are correct. They also need to repeat the calculations to ensure that they were done correctly and that the ranking process was done properly. The



comment period is often used to correct mistakes (as witnessed by a ranking mistake in the total chlorine ranking in the proposed rule for one incineration facility that changed the list of top performers and subsequently the calculated floor level). In addition, the revised method of estimating variance would need to be evaluated to determine if it makes sense using actual data. Finally, the floor calculations would need to be evaluated to determine if they are actually achievable (e.g., all standards simultaneously achievable). None of this can be done with the information provided during this Direct Request for Comments. Thus, we believe that EPA's failure to provide the database and the exact calculation methods used does not give us adequate opportunity to provide comments on the triple ranking system.

#### B. CRWI Questions the Validity of the Triple Ranking Methodology

In addition to commenting on the procedural aspects of the Agency's Direct Request for Comments, CRWI has several substantive concerns about the triple ranking methodology.

As the Agency knows, it is particularly difficult to determine who the top performers are within these source categories. Under the Court's decisions, EPA is free to use any methodology it chooses as long as the method leads to a "reasonable inference" as to the performance of the best units. *Sierra Club v. EPA*, 167 F.3d 658, 663 (D.C. Cir. 1999); *CKRC v. EPA*, 255 F.3d 855, 862 (D.C. Cir. 2001); *Mossville v. EPA* 370 F. 3d 1232, 1241-1242 (D.C. Cir. 2004). CRWI believes that a straight emissions test is not the most reasonable way of determining best performance for this source category because it would allow low feeders to dominate the floor setting process. This would lead to a floor standard that is not reproducible by others in the source category. In addition, it may also violate the statute because it is not based on "similar" sources.

- 1) EPA's methodology must lead to a standard that is reproducible by other sources in the category

The purpose of the MACT program is to discover what the best performing sources achieve and require all sources to achieve it. In doing so, the Agency must consider all potential methods that sources use to achieve low emission levels. Since sources control their feedrates as well as reduce emissions by using stack emission control technology, the Agency decided to rely on those two methods for



developing its “reasonable inference” of what the top performers achieve.

There are, however, severe limits on using feedrate control as a method for setting the MACT floor. Some sources simply do not have certain HAPs in the waste that they combust. This means that without careful subcategorization, sources that do not have HAPs in their feed could be the basis for establishing emission levels for sources that have such HAPs. This could make the emission standards unachievable by the sources who have the HAPs because they cannot reproduce the method of achieving the emission standard, *i.e.*, they cannot limit the HAP in their feed to zero. While sources may have some ability to raise or lower the rate at which they feed HAPs into their combustion unit, sources who have HAPs in their feed cannot achieve a “no emissions” level unless they refuse to combust that material by sending it to another facility. However, since many of the wastes that are being combusted are required to be incinerated under RCRA’s land disposal restrictions, *someone* will have to combust them and that source will not be able to comply with a no emissions standard — or even an artificially low standard that results from considering sources with no HAP in their feed as part of the MACT floor determination process. Consequently, EPA is justifiably concerned about the reproducibility of any standard that it promulgates. See discussions 69 Fed. Reg. at 21229, 21232, 21238 fn. 31, 21250, 21259, 21282, 21292, 21293, 21304 fn. 182, and 21311. No amount of upgrading pollution control equipment or tweaking of feedrate can make a facility that must combust a particular waste containing a HAP achieve a standard that is based on sources that are combusting wastes that do not feed that HAP.

Indeed, EPA is acknowledging the limitations of using feedrate as a control method in the Direct Request for Comments relating to mercury emissions from the Diversified Scientific Services, Inc., (DSSI) facility. In its notice, EPA states that DSSI is combusting “legacy” waste that contains “far more mercury” than the sources that make up the MACT floor. This is simply an acknowledgement that in many cases a facility has to burn the waste that is sent to it and that without properly considering source subcategorization and reproducibility, EPA risks promulgating standards that cannot be achieved no matter how feedrate or stack controls are applied.

- 2) EPA’s authority to subcategorize could be used to establish appropriate MACT floors for similar units



Looking at this issue in another way, we note that EPA has a duty to set limits based on what "similar sources" achieve. CAA § 112(d)(3). A source that does not have a particular HAP in its feed is simply not a source that is similar to others in the source category. There is no ability to switch wastes or use material substitution as a method of complying. See e.g., Clean Air Act §112(d)(2). Therefore, using sources that do not have a particular HAP in its feed may run afoul of the statutory requirement to base the MACT floor on similar sources.

3) EPA's double ranking properly considers all of the factors that effect emissions

To avoid having low feeders dominate the floor determination, yet comply with Court holdings that require EPA to consider all factors that affect emissions, EPA developed a double ranking system. By considering an approach that relied on "the best combined front-end hazardous waste feed control and back-end air pollution control efficiency," 69 Fed. Reg. at 21223, EPA considered the two primary factors that control emissions: how much HAP is fed into the combustor, and how much is removed. EPA proposed this approach because the double ranking methodology *also* accounts for "the effects of the myriad factors that indirectly affect emissions such as level of maintenance of the combustor or emission control equipment, and operator training, as well as design and operating parameters that directly affect performance of the emission control device . . ." *Id.* at 21224. In light of this conclusion, it is difficult to understand why EPA feels that it is necessary to add emissions to the ranking. EPA seems to be suggesting that there is something else that will influence the performance of a facility. However, if the double ranking considers *all* of the factors that affect emissions, then adding a direct consideration of emissions means that some factors are given greater weight than others. Such a consideration, biases the Agency's floor ranking system in ways that, without the data, we cannot fully understand.

From a mathematical standpoint, the equation to calculate the back-end air pollution control efficiency is a function of the HAP feed rate and the emission rate. There are only two degrees of freedom in the equation. Employing a ranking scheme that utilizes all three appears to be mathematically and statistically flawed. For example, if a baseball manager wanted to decide who to keep as a designated hitter, he might look at the number of plate appearances and efficiency of getting a hit. But if he added the number of hits to the process, then



his analysis would be skewed towards those players that had more plate appearances rather than the potential best performer. Similarly, incorporating the emissions achieved, when the Agency has already considered them in calculating removal efficiency, skews the analysis in ways that are not easily discernable.

In conclusion, it is difficult to understand the theoretical reason why a triple ranking method is superior to a double ranking method and it is impossible to determine this with the information provided during this comment period. We also believe that changing the methodology at this stage of the rulemaking does not significantly enhance the Agency's chance of surviving a legal challenge. We suggest that if the Agency wants to incorporate a triple ranking method in the final rule, they must provide the revised database and extend the comment period so that a thorough evaluation of the method can be performed.

## 2. CRWI Tentatively Supports the Max Dev Method for Handling Non-detects

We agree with other commenters that using the detection limit for non-detects will underestimate the run-to-run variability. We also agree that the use of maximum likelihood estimates can be problematic in some cases. It appears that EPA may have found a simple solution (Max Dev) that can be applied uniformly to all cases where non-detect data are used and provide a consistent method of estimating variability. Without having the actual data on which to test the ideas, it is difficult to completely evaluate the idea. When the method is applied to the selection of the top performers and to development of the floor values for each HAP in each sub-category, problems may be encountered that could not be anticipated from a theoretical evaluation. Since EPA has chosen not to share the revised database, it is impossible to rigorously evaluate the Max Dev concept.

As with the triple ranking method, we suggest that the Agency provide the revised database and extend the comment period to allow for a thorough evaluation of this concept.

## 3. CRWI Supports DSSI's Request for Alternative Standards

EPA also asks for comments on a request by Diversified Scientific Services, Inc., (DSSI) to allow them to use the incinerator mercury standard for its liquid fuel-fired boiler rather than the mercury emission standard that applies to liquid fuel-fired boilers. The reason given is that the waste being burned is a "legacy" waste which has "far more" mercury than the other sources in their source subcategory. DSSI reports that they have already applied feedrate



control and despite operating back-end control that is superior to the other source permitted to accept such waste, they will not be able to achieve the limit. In addition, if DSSI is forced to achieve the MACT mercury limit for liquid-fired boilers, then it will generate *more* hazardous waste which will have to be land disposed.

CRWI sees no logical reason why EPA cannot accommodate DSSI's request. Like many sources in this hazardous waste combustion category, DSSI is "stuck" with the waste it is required to burn and EPA's failure to perform additional subcategorization puts them in a bind. In essence, this is an example of EPA including a non-similar source in the liquid fuel-fired boiler subcategory. We believe that EPA should either consider subcategorization for such a source or consider exempting the source from the mercury standard and deferring to RCRA requirements under the authority of Section 112(n)(7).

Under Section 112(n)(7), the Agency has a duty to make sure that the MACT and RCRA rules are consistent with each other. EPA has noted that "the Clean Air Act voices a strong preference for consistency of CAA section 112 standards and RCRA standards where practicable (see section 112(n)(7))." 61 Fed. Reg. 59932, 59938 (November 25, 1996). Indeed, in the original RCRA hazardous waste boiler and industrial furnace rule EPA stated that there may be times when the Clean Air Act rules should not apply to RCRA sources. However, at that early time, the Agency stated,

It is premature for the Agency to attempt to provide a definitive opinion on the relationship of these provisions to today's rule. *Sources covered by the present rule may not ultimately be required to be further regulated under amended section 112.* In this regard, amended section 112(n)(7) provides that if sources' air emissions are regulated under subtitle C, "the Administrator shall take into account any regulations of such emissions \* \* \* and shall, to the maximum extent practicable and consistent with the provisions of this section, ensure that the requirements of such subtitle and this section are consistent." Thus, *at a minimum*, Congress was concerned about the potential for duplicative regulation and urged the Agency to guard against it. Since the Agency regards today's rules as protective (based on present knowledge), it may be possible to avoid further air emissions regulation.

56 Fed. Reg. 7134 (February 21, 1991) (emphasis supplied).





EPA has subsequently decided that it must examine whether to subject RCRA facilities to more stringent standards under the MACT program. But that does not mean that EPA must require sources to achieve those more stringent rules where it is not practicable or consistent with the general policies behind RCRA regulation. As EPA noted in its brief in the first HWC MACT case, "Nothing in the statutory language prohibits EPA from considering the broader policies behind RCRA regulation of a source category in determining whether a MACT standard is consistent with the requirements of RCRA." EPA Brief, *CKRC v. EPA*, Case No. No. 99-1457 at 125. Unquestionably, making sure that Clean Air Act MACT regulations do not require the generation of *more* hazardous waste, falls within the broader policies behind EPA's regulation of mixed hazardous wastes. See e.g., RCRA Section 6902(a)(6) and the general good sense of decreasing the amount of mixed hazardous waste that needs to be managed. Therefore, EPA could decide to simply allow DSSI, or facilities like it, to comply with the RCRA requirements instead of HWC MACT requirements.

We also note that EPA should consider subcategorization or deferral to RCRA for other units as well. Chemical demilitarization units, for example, also have no control over their waste feed. They also manage "legacy" wastes. Similarly, there are competing requirements based on other United States laws and international agreements to destroy these materials. Like DSSI, these units have limited life. In addition, they have supplemental controls that are not common to other combustors. It seems logical that they should also have the ability to create standards that are unique. There may be other examples.

Thank you for considering these comments. If you have additional questions, please contact us at 202-452-1241 or [crwi@erols.com](mailto:crwi@erols.com).

Sincerely yours,

Melvin Keener, Ph.D.  
Executive Director

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