

memorandum

DATE: November 7, 1996

REPLY TO

ATTN OF: Office of Environmental Policy and Assistance (EH-413):Whitehead:6-6073

SUBJECT: **Consolidated Departmental Response to Revised Standards for Hazardous Waste Combustors;
Notice of Proposed Rulemaking (NPRM)**

TO: Distribution

PURPOSE To inform Program Offices and Field Organizations of the availability of the consolidated Departmental response to the Environmental Protection Agency (EPA) on the Revised Standards for Hazardous Waste Combustors NPRM.

BACKDROP On March 20, 1996, the Administrator of the EPA signed the subject NPRM stating that it was an outgrowth of the Agency's "Waste Minimization and Combustion Strategy" released in May, 1995. Notification of the NPRM and request for comment was provided to DOE elements via an Office of Environmental Policy and Assistance (EH-41) memorandum dated March 22, 1996.¹ On April 19, 1996 (61 FR 17358), the EPA published the subject NPRM under the joint authority of the Resource Conservation and Recovery Act (RCRA) and the Clean Air Act (CAA). The NPRM addressed:

- Integrating monitoring, compliance, testing, recordkeeping and permitting requirements of RCRA and CAA;
- Emission standards for dioxin/furans, mercury, two semivolatile metals (cadmium and lead), four low volatility metals (antimony, arsenic, beryllium, and chromium), hydrochloric acid and chlorine gas (combined), and particulate matter, as well as two bulk gas surrogates (carbon monoxide and hydrocarbons);
- Limiting emissions from major and area sources to maximum achievable control technology (MACT) levels, and use of continuous emissions monitoring systems and operating parameter limits, based on comprehensive performance tests, to comply with MACTs.

On May 2, 1996, EH-41 notified DOE elements of the NPRM publication in the Federal Register, and established a due date for submission of comments for consideration in the development of a consolidated Departmental response.² In a subsequent memorandum on May 23, 1996, EH-41 notified the Program Offices and Field Organizations of an extension to the comment period until August 19, 1996.³

¹See Office of Environmental Policy and Assistance memorandum, "Technical Standards for Hazardous Waste Combustion Facilities -- Notice of Proposed Rulemaking (NPRM)," March 22, 1996.

²See Office of Environmental Policy and Assistance memorandum, "Revised Standards for Hazardous Waste Combustors Proposed Rule -- Notification and Request for Comment," May 2, 1996.

³See Office of Environmental Policy and Assistance memorandum, "Revised Standards for Hazardous Waste Combustors Proposed Rule -- Notification of Extension of Comment Period," May 23, 1996.

AREAS OF COMMENT

The Departmental consolidated response included comments from the Office of Environmental Management (EM), General Counsel (GC), Oak Ridge Operations Office, Savannah River Operations Office, Idaho Operations Office, Los Alamos Operation Office, DOE Idaho Mixed Waste Focus Group, and an internal EH-412 and EH-413 review. The consolidated response addressed impacts to DOE's current and future waste management activities and strategies and, in particular, management of radioactive mixed waste (RMW) involving *thermal treatment*. Key issues discussed included:

- Appropriateness of creating a subcategory for mixed waste incinerators, and waste feed variability; and
 - Applicability of the new MACT standards to hazardous waste combustors used for research, development, and demonstrations and/or treatability studies;
 - Difficulties with continuous emissions monitoring (CEM) for mercury and particulate matter in mixed waste incinerators; and
 - Impact on Federal Facility Compliance Act requirements and schedules.
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ACCESS & ADD'L INFO

A copy of the consolidated Departmental response is available through the Internet on the EH-41 World Wide Website for viewing and/or downloading at <http://www.eh.doe.gov/oepa> under the "WHAT'S NEW" and "DOE COMMENTS" sections.

If you have any questions regarding this consolidated Departmental response, or the proposed rule in general, please contact Beverly Whitehead of my staff by...

- calling (202) 586-6073
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-

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Department of Energy
Washington, DC 20585
September 23, 1996

RCRA Information Center (RIC)
Crystal Gateway One
1235 Jefferson Davis Highway, First Floor
Arlington, VA

Docket Number: F-96-RCSP-FFFFF

Dear Sir or Madam:

Re: 61 FR 17358, "Hazardous Waste Combustors; Revised Standards; Proposed Rule"

The U.S. Department of Energy (DOE) would like to re-submit (with additional comments provided) the enclosed consolidated Departmental response to the proposed rule on *Revised Standards for Hazardous Waste Combustors* issued on April 19, 1996 (61 FR 17358). DOE commends the U.S. Environmental Protection Agency (EPA) efforts to develop Maximum Achievable Control Technology (MACT) standards that are protective of human health and the environment. The enclosed comments represent the combined viewpoints of both DOE Program Offices and Field Organizations.

This re-submittal is in response to EPA's request for additional data. Several DOE Field Organizations collected information regarding hazardous waste combustors in the DOE complex. The enclosed comments are representative of this collaboration and consolidation of information and data regarding DOE sites.

DOE appreciates the opportunity to provide input in response to the proposed rule. This proposed rule, however, poses unique concerns relative to the Department's current and future waste management activities and strategies and, in particular, its management of radioactive mixed waste (RMW) involving thermal treatment. The concerns are elaborated in the enclosed comments.

The enclosed comments have been divided into two sections: general and specific. The general comments discuss the primary DOE proposals and positions in response to the proposed hazardous waste combustion rule and address broad concerns. The specific comments relate directly to potential regulatory approaches and issues raised in particular sections of the proposed hazardous waste combustion rule. For clarity, each specific comment is preceded by a reference to the section of the proposed rule to which it applies and a brief description of the issue within that section to which DOE's comment is directed.

Sincerely,

Raymond F. Pelletier
Director
Office of Environmental Policy and Assistance

Enclosures

cc: Michael Shapiro, Director
Office of Solid Waste

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UNITED STATES DEPARTMENT OF ENERGY
COMMENTS ON HAZARDOUS WASTE COMBUSTORS; REVISED STANDARDS
PROPOSED RULE
(61 FR 17358; April 19, 1996)

SUMMARY

The U.S. Environmental Protection Agency (EPA) is proposing *Revised Standards for Hazardous Waste Combustors* under the joint authority of the Resource Conservation and Recovery Act (RCRA) and the Clean Air Act (CAA). EPA proposes to integrate the monitoring, compliance testing, recordkeeping and permitting requirements of the RCRA and CAA. Standards are being proposed to address the emissions of several hazardous air pollutants (HAPs) including: dioxins/furans (D/F), mercury (Hg), two semivolatile metals (SVM)(cadmium and lead), four low volatility metals (LVM) (antimony, arsenic, beryllium, and chromium), hydrochloric acid (HCl) and chlorine gas (Cl₂)(combined), and particulate matter (PM), as well as two bulk gas surrogates -- carbon monoxide and hydrocarbons. When finalized, standards will address major and area sources by limiting emissions from the affected sources to the level of the maximum achievable control technology (MACT). EPA is proposing that sources use continuous emissions monitoring systems (CEMS) averaging periods and operating parameter limits, which are established based on comprehensive performance tests, to comply with MACTs. These standards, when finalized, will constitute a National Emission Standards for Hazardous Air Pollutants (NESHAPs) and, by reference in the 40 CFR Parts 260 through 271, will govern the combustion of hazardous waste in cement kilns, incinerators, and lightweight aggregate kilns.

GENERAL COMMENTS

The United States Department of Energy (DOE) appreciates the efforts expended by EPA in developing this challenging proposed rule under the joint authorities of RCRA and the CAA. This proposal illustrates EPA's commitment to a vision of streamlining environmental regulatory programs without compromising protection of human health and the environment. This proposed rule, however, poses unique concerns relative to the Department's current and future waste management activities and strategies and, in particular, its management of radioactive mixed waste (RMW⁴). This proposed rule is of significant interest to the Department due to its potential impact on the Department's cradle-to-grave management of hazardous waste/RMW including compliance-driven activities, and current technology development activities and plans, particularly those involving thermal treatment. DOE recognizes that RMW comprises a small portion of the hazardous waste whose management will be directly affected by this rulemaking. DOE also recognizes that, in light of today's limited resources, EPA must target activities/operations that impact and influence the largest number of emitters. However, DOE believes that RMW is a very significant component of the hazardous waste universe with unique and difficult management issues that require unique regulatory solutions. Furthermore, the Department, as a Federal rather than private entity, must contend with additional operational constraints, such as a Congressionally-dictated budget with the associated lag time between budget submittal and receipt of funds. As the proposed rule is currently written, the Department foresees major implementation issues which are outlined in our general and specific comments below. For the reasons outlined above, the Department believes that RMW combustors should be addressed separately in this proposed rule. Justification for establishing a separate subcategory for radioactive mixed waste combustors (RMWCs) is further addressed in our comments beginning on page 3.

⁴ RMW contains a hazardous waste component subject to RCRA subtitle C and a radioactive component that is subject to the Atomic Energy Act (AEA) provisions.

DOE offers the following general comments on the broad themes contained in the proposed rule and comments affecting multiple sections of the proposed rule. Specific comments focusing on particular sections of the proposed rule follow the general comments. The comments are organized and presented with the same numbering convention as the proposed rulemaking.

The Department has general concerns on the following specific issues: (1) implementation of the proposed rule at Federal facilities, particularly DOE facilities; (2) the appropriateness of creating a subcategory for mixed waste incinerators; (3) the appropriateness of creating a subcategory for Federal facilities/government; (4) basing subcategories on waste feed variability; (5) the applicability of the new MACT standards to hazardous waste combustors (HWCs) used for research, development, and demonstrations and/or treatability studies; (6) the relationship of this rule to the public participation requirements proposed on June 2, 1994 (59 FR 28680); and (7) the role (or perceived role) of hazardous waste combustion units. Although many of our comments could be applied more generally they are focused on issues that affect hazardous waste incinerators (HWIs) which are the primary type of HWCs that the Department operates.

- 1. Under joint authority of the CAA and RCRA, EPA is proposing revised standards for hazardous waste combustion facilities, to include incinerators, cement kilns, and lightweight aggregate kilns. This ambitious rule proposes many new and challenging requirements associated with the monitoring, compliance testing, recordkeeping, and permitting of both existing and new HWCs. Some of these requirements include: the use of CEMS for specified HAPs; additional and comprehensive performance testing (every three to five years); lower emission standards than currently exist (for specified HAPs); and a three-year period to come into compliance after the effective date of the rule. Additional complications arise due to the fact that this rule is proposing to integrate these requirements under the CAA and RCRA for HWCs.**

The Department has evaluated the proposed rule addressing hazardous waste combustors to identify its overall impact throughout the DOE-complex. In DOE's view, the proposed MACT standards present significant implementation issues and challenges, especially regarding the time to comply and potential costs. DOE shares many of the same concerns voiced by other stakeholders relative to the use of continuous emissions monitoring systems and their availability/reliability; the frequency and extent of testing (e.g., trial burns, comprehensive and confirmatory performance testing); and the use of specified operating parameters (e.g., carbon injection for D/F emission standards). In addition, EPA's proposed approach to integrating the requirements (e.g., permitting and enforcement) under the joint CAA/RCRA authority introduces a number of unknown variables relative to future compliance strategies.

The Department's compliance with the proposed standards is further complicated by the presence of radionuclides in DOE feedstreams. DOE asserts that EPA's regulations must take into account certain measures and management strategies which are deemed necessary to protect workers from excessive radiation exposure while managing RMW. Final MACT standards should also recognize these programmatic limitations. Finally, unlike commercial entities, DOE must operate within the constraints of the Federal budgeting and appropriations process and a Federal procurement process, which results in limited funding and additional time constraints. Relative to reducing the overall and inordinate impact on the Department, a reasonable protective management strategy can be realized if EPA elects to use its CAA statutory authority and establish subcategories (e.g., RMW combustors, Federal facility incinerators) in correlation with DOE suggestions. DOE addresses these issues in detail in the following general and specific comments.

2. **The CAA specifies in Section 112(d)(3) that when establishing the MACT floor, the degree of reduction in emissions that is deemed achievable for existing sources shall not be less stringent than the average emission limitation (i.e., median) achieved by the best performing 12 percent of units in a category or the best performing five sources. For new sources, the CAA dictates that the degree of reduction in emissions that is deemed achievable shall not be less stringent than the emission control that is achieved by the best-controlled similar unit. EPA cites this statutory language when explaining its justification for selecting its proposed approach to setting MACTs (61 FR 17366). The proposed MACTs are generally applied equally to sources within a category, regardless of size or classification. To date, EPA has used the term “category” to designate all of the groupings of HAP-emitting sources. However, as noted in the July 16, 1992, Federal Register (57 FR 31579), “[EPA] may in some cases find it appropriate to...further divide a category.**

DOE recommends EPA evaluate the merits of establishing a separate subcategory for HWCs that burn radioactive mixed waste (RMW). Establishing a separate subcategory and effective date for radioactive mixed waste combustors (RMWCs) will ensure additional information can be collected relative to the types of mixed waste feedstreams and their prevalence, proper waste characterization strategies, proper identification of emission limitations, and appropriate emission monitoring methods and protocol, among others. Obtaining and evaluating detailed information will assist EPA in crafting regulations that reflect sound technical information and data. It will also facilitate EPA’s conformance with the CAA statutory direction in developing MACT standards. Additional reasons for establishing a separate RMWC subcategory are outlined below.

Although EPA’s application of the CAA statutory language relative to establishing MACT standards for HWCs that burn **hazardous waste** appears reasonable, based on our review of the *Draft Technical Support Documents for HWC MACT Standards: Vols I - VII*, it appears that EPA fails to identify/evaluate emission limitations (average emission limitations and best-controlled similar source) for HWCs burning radioactive mixed waste. The Department believes that EPA has not met its statutory obligation under paragraph 112(d)(3) and that the proposed rule fails to adequately consider the unique problems DOE facilities will encounter while dealing with feedstreams containing a radioactive component. DOE recognizes that use of the six percent approach to developing MACT standards for RMWCs may not be feasible due to a lack of existing RMW incineration operations. Based on information contained in a recent Federal Register notice that addresses the management of mixed waste, it appears that a number of commercial mixed waste incinerators have come online or will soon be online [April 26, 1996, Federal Register (61 FR 18589)]. Thus, it appears that by combining DOE and commercial RMW incinerators into a new subcategory, EPA can meet its statutory obligation under section 112(d)(3)(B) to identify an average emission limitation achieved by the best performing five sources.

To further support DOE’s request for a new RMWC subcategory, DOE notes that the CAA statutory language [e.g., paragraphs 112(c)(1)-(5)] specifically offers the Administrator an option of listing any category **or subcategory**. This reflects Congress’ intent that a one-size-fits-all approach is not desirable and affords EPA the latitude to establish different MACT standards for dissimilar sources that would otherwise fall within the same category. Furthermore, in the July 16, 1992, Federal Register (57 FR 31579), EPA discusses its rationale for using only the term category to designate groupings of HAP-emitting sources. EPA goes on to note, however, that during the standards setting process, it may be appropriate to “further subdivide a category” and that the decision to use categories for grouping “does not affect [EPA’s] authority to define

subcategories of sources at a later date.”

DOE believes that the justification (i.e., impetus) underlying EPA’s development and application of MACT standards to HWCs is not directly applicable to RMWCs. EPA is statutorily required to promulgate regulations that establish emission standards which: (1) regulate major sources; (2) address area sources that pose a significant threat of adverse effect to human health or the environment; or (3) assure at least 90 percent of the aggregate emissions of each of seven high priority pollutants enumerated in Section 112(c)(6) are subject to emission standards. Relative to RMWCs qualifying as major or area sources, in the July 16, 1992, Federal Register (57 FR 31576), EPA responds to several commenters’ requests that it specifically include DOE facilities that emit radionuclides on the initial list of major and area source categories. EPA responds by stating “...no source of radionuclide emissions meets the major source threshold for HAPs. Section 112(a)(1) allows the Agency to define criteria for differentiating between major and area sources of radionuclide emitters....the Agency has not decided how to define these different criteria. Hence, because categories of major and area sources of radionuclide emissions are not differentiated...and cannot be differentiated based on the ...threshold in section 112(a)...the Agency considers their inclusion on today’s list inappropriate” (57 FR 31585). Furthermore, when listing categories of area sources under Section 112(c)(3), EPA must find a threat of adverse health or environment effects. Once listed, EPA is directed to promulgate regulations establishing emission standards for such sources. DOE is not aware of any such finding for RMWCs. Relative to the enumerated HAPs [Section 112(c)(6)] and as further discussed below, mixed waste combustion units are relatively small (i.e., input feed between 200 to 2,000 lb/hour). Moreover, the DOE-complex current estimated quantities of mixed wastes in storage and projected generations are relatively minute (i.e., approximately 25,000 tons per year of incinerable mixed waste) when compared with EPA’s estimate of 3.5 million tons of hazardous wastes combusted annually. Therefore, DOE believes RMWCs’ contribution to aggregate emissions of the enumerated HAPs will be minimal.

It should be noted that previous EPA Subtitle C rulemaking efforts associated with air emissions recognize that RMW poses unique issues and concerns and, therefore, require a separate rulemaking strategy. For example, in a December 6, 1994 rulemaking, EPA exempted waste management units that are used solely for the management of RMW from complying with organic air emission controls because the 40 CFR 264/265 Subpart CC provisions were viewed as incompatible with Nuclear Regulatory Commission (NRC) requirements for safe handling of radioactive mixed wastes (59 FR 62914).

As with Subpart CC, the “incompatibility with requirements” argument also holds true when evaluating the management of mixed waste under the proposed MACT standards. The following paragraphs highlight some of the reasons the Department believes mixed waste combustion is incompatible with the proposed 40 CFR Part 63, Subpart EEE standards.

1. The proposed rule [40 CFR 63.1208(d)] requires that HWCs conducting comprehensive performance testing to define the facility’s operating envelope operate the source “under representative conditions” that include the use of representative types of organic compounds and chlorine/ash feedrates. Ensuring representative conditions, in part, relies on the presence of a feedstream with limited variability and will require precise data on inputs and assumes that constituents of waste streams are well known. A significant portion of the RMW to be treated within the DOE complex consists of legacy waste (i.e., RMW resulting from a site’s former nuclear weapons production operations starting in the World War II era and continuing throughout the Cold War period). These legacy wastes may present unusual variability issues and complete characterization data may not be

available. Thus, DOE will be required to perform extensive characterization to establish feedrate and device parameters so that operating limits can be established. Characterization of the mixed waste feed stream presents unique issues due to the radioactive component. Characterization testing procedures will be complicated by such issues as uncertainty and availability of technology and resources to accurately characterize required mixed waste volumes or whether adequate volumes of materials are available to develop representative samples. The indirect effect could be an increase risk to workers through increased exposure and handling requirements. It is worth noting that DOE's Mixed Waste Focus Area is pursuing technology development activities to address concerns such as the potential for worker exposure when conducting intrusive sampling, non-intrusive methods of characterization, and on-line monitoring. Development of an integrated characterization and monitoring strategy will be critical to accomplishing timely RMW treatment, however, these and other issues associated with mixed waste have not been recognized in EPA's April 1996 rulemaking. In fact, the proposed MACT standards could have a significant impact on DOE's technology development efforts (see comment regarding research, development and demonstration permits and treatability studies beginning on page 11).

2. Based on the proposed standards, DOE anticipates an increased use of systems such as carbon injection (CI) or carbon bed (CB) absorption for control of D/F and mercury (61 FR 17382). When RMW is burned, the combustion process does not destroy the radioactivity associated with waste, only the chemical and physical forms of radionuclides. Carbon injected into dry systems will adsorb radionuclides, along with mercury, suspended particulate fumes and other products of incomplete combustion and will be captured in exhaust scrubbers and filtration devices. This beyond-the-floor (BTF) technology, however, will result in an increase in the amount of mixed waste generated. These newly generated mixed wastes must then undergo further treatment. This would be counterproductive to DOE's goal of reducing the generation of RMW solids requiring treatment and disposal. For example, if carbon injection were employed at DOE's Waste Experimental Reduction Facility (WERF), DOE estimates it would create over 16 tons of mixed waste per year requiring incineration. Furthermore, spent activated carbon that is contaminated with residues from the incineration of any of the toxicity characteristic wastes (e.g., organics identified in 40 CFR 261.24) may require additional treatment (e.g., a treatment train of incineration followed by stabilization or macroencapsulation) to meet the universal treatment standards (UTS) for any underlying hazardous constituents listed in 40 CFR 268 Table UTS that are "reasonably expected to be present" [40 CFR 268.9 and 268.40(e)]. Additionally, obtaining grab samples of the retreated residue and conducting a sampling and analysis⁵ may be necessary to determine whether the UTS have

⁵ Regarding the identification of underlying hazardous constituents (UHCs), EPA has clarified that the determination of "reasonably expected to be present" for compliance may be based on knowledge of the raw materials used, the process, and potential reaction products, or "...the results of one-time analysis for the entire list of [UTS] hazardous constituents that may be present in the untreated hazardous waste" (May 24, 1993, Federal Register, 58 FR 29872). In a section entitled "Economic Impact Screening Analysis," EPA goes on to state that the testing costs in the long term will be negligible, as it is believed that facilities will shift to using professional knowledge following the initial testing; however, it estimates the high-bound cost for testing to be \$3000 per test (58 FR 29881). DOE has serious concerns because, as previously noted, DOE often lacks detailed information regarding the character and composition of its legacy wastes, which often are numerous and unique. Under this proposed rule, therefore, each unique legacy waste that exhibits the characteristic of toxicity could require testing to determine the presence of UHCs.

been met.

The increased costs associated with management of these wastes has apparently not been included in the analysis of economic impacts supplied to the Office of Management and Budget. Management of hazardous waste residues generated by incineration also appears to be missing from the impact analysis for this regulation. These omissions may result in a gross underestimation of the cost of compliance, especially for DOE mixed waste incinerators. These costs should be included in the evaluation of BTF standards relative to the cost-effectiveness of attaining these standards. See also specific comment 4.III.B.9 on page 37.

3. EPA offers no exclusions from PM CEMS for offgas systems equipped with High Efficiency Particulate Air (HEPA) filtration even though HEPAs are recognized as MACT for PM control. DOE facilities routinely use HEPA filters to control radionuclides. These HEPA filters achieve over a 99.97% removal efficiency at .3 microns for particulate. Therefore, DOE believes that the requirement to use CEMS to measure PM to the level proposed in the rule is unnecessary under the DOE approach which achieves much more stringent particulate removal levels than the proposed MACT rule would require.
4. The Department will also encounter significant additional costs that far exceed the costs typically incurred by incinerators that burn solely hazardous waste when complying with test burn and compliance monitoring requirements. For example, testing equipment once used will be radioactively contaminated and have to be replaced or handled as contaminated material. Some CEMS (e.g., Hg, multi-metals), whose performance in a radionuclide environment is questionable (at best) or unknown, may require slight modifications (e.g., replace a faulty probe, or sensing surface) by the manufacturer or manufacturer's representative. Equipment manufacturers and their representatives are not equipped to deal with radioactively contaminated monitoring equipment. Most likely, DOE will end up purchasing replacements for radioactivity contaminated equipment, unless the equipment can be decontaminated to remove the radioactive contamination.
5. Systems to treat RMW that are engineered to address concerns with radiological exposure to workers and the environment are not practical to use as dual purpose facilities for combustion of exclusively hazardous waste. Most mixed waste combustion units will be relatively small. Input feed will typically be 200 to 2,000 lb/hour. Since the potential or likelihood for installing larger units is not present due to the small size of the units and their specific capabilities, EPA should reconsider whether the overall rationale for setting performance based emission concentration limits should be applied to mixed waste treatment systems. EPA should consider setting mass-based emission limits for mixed waste combustors taking the above factors into consideration.
6. The proposed HWC standards target MACT for dioxin, furan, mercury (Hg) and other metals. The target pollutants for control in mixed waste combustion are primarily radionuclides. No consideration is given in the proposed rule for conflicting control technologies as could arise for mixed waste combustors and their need to comply with the existing NESHAP standards found in 40 CFR 61, Subpart H. These standards are based on effective dose equivalents that are designed to limit exposure of the public to radionuclides emissions from DOE facilities and provide a way of assessing risk. Controls for mixed waste combustion may be approached differently than the approach used by the incinerators that burn solely hazardous waste and have been evaluated as part of the rulemaking. DOE believes that EPA should consider the requirements already applicable through the NESHAP for radionuclides. For example, it is unknown as to whether the addition of new emission control technologies to comply with new MACT standards will

cause an existing RMW incinerator to increase the effective dose equivalent by one percent or greater; thereby requiring an application for approval (40 CFR 61.96).

Finally, DOE believes that the amount of incinerable mixed waste is negligible relative to the total amount of hazardous waste combusted. Currently, estimates for RMWs in storage and projected generations show approximately 25,000 tons per year of incinerable mixed waste. By comparison, EPA estimates that 3.5 million tons of hazardous wastes are combusted annually. This results in mixed waste comprising approximately 0.7% of all wastes combusted annually. Moreover, since the mixed waste estimate includes projections as opposed to actual generation rates, this number is most likely much lower.

For the reasons stated above, DOE recommends EPA consider deferring RMWCs from the definition of HWCs or creating a subcategory and craft regulations that prescribe requirements for incinerators that burn RMW. If EPA determines that RMWCs should be subject to both the existing 40 CFR 61 Subpart H and proposed 40 CFR 63 Subpart EEE standards, DOE requests that EPA identify equipment and technologies which can be used to meet all of the MACT standards simultaneously for all of the air toxics regulated at a mixed waste incinerator. Alternatively, DOE requests that EPA identify and allow optional compliance strategies (e.g., use of surrogates in characterizing RMW) for RMWCs. In making these proposals, DOE notes that the Administrator has the ability to establish different criteria for radionuclide sources as specified in Section 112(a)(1). Regardless of whether EPA elects to regulate RMWCs as HWCs, DOE requests that EPA clarify in the final HWC rule the relationship between RMWCs regulated under 40 CFR Part 61 Subpart H relative to RMWCs regulation under Subpart EEE (e.g., if EPA elects to defer regulation of RMWCs from Subpart EEE, EPA should clearly state that the RMWC is not subject to Subpart EEE, but remains subject to the 40 CFR 61, Subpart H only).

- 3. Section 112(I)(3)(A) of the CAA allows a maximum compliance period of three years after the effective date. Accordingly, EPA proposes that existing HWCs be in compliance with the MACT standards within three years after the date of publication of the final rule in the Federal Register. The proposed MACTs are generally applied equally to sources within a category, regardless of size or classification. To date, EPA has used the term “category” to designate all of the groupings of HAP-emitting sources. However, as noted in the July 16, 1992, Federal Register (57 FR 31579), “[EPA] may in some cases find it appropriate to...further divide a category. In the HWC proposed rule, EPA invites comments to assist them in determining whether subdividing incinerators by other classifications would be appropriate (61 FR 17372).**

DOE requests EPA consider that incinerators, in addition to classified by size and type of waste burned (i.e., radioactive mixed waste), be subcategorized as either federal/governmental or commercial facilities. This comment is based on the difficulties federal facilities consistently (and ever increasingly) face in obtaining funding for modifications to existing facilities required by the proposed rule. The procedural requirements of federal acquisitions for these modifications include a budgeting and appropriations process which must be initiated approximately three years prior to expenditure. Additionally, time constraints could restrict DOE's implementation of the necessary contractor procurement process and procedures, which must be followed in accordance with Federal Acquisition Regulations. For example, the DOE funding cycle for large capital projects, such as would be required for the Oak Ridge Toxic Substances Control Act (TSCA) incinerator, is three years from the inception of a project until the start of construction. Thus, once the new rule is finalized, it will be three years from the date of promulgation until construction activities (to upgrade the facility) could begin. Consequently, the 36 month period proposed by Section 63.1206 (b)(ii)(A) would likely not be attainable and these facilities would have to terminate operations under Section 63.1206(a)(2)(ii) and perhaps even begin closure procedures.

Therefore, the proposed rule can significantly impact the waste management schedule requirements and make it difficult for the DOE to keep its commitments to the public and other regulators. This is particularly true in states where the Department has negotiated agreements with state regulators.

As noted above, Section 112(I)(3)(A) of the CAA allows a maximum compliance period of three years *after the effective date (emphasis added)*. DOE recommends EPA evaluate the merits of establishing a separate subcategory and effective date for government-owned HWCs. DOE believes that the classification of federal and public incinerators should provide a temporary exemption from compliance with the schedules by allowing EPA to place the subcategory on a new rulemaking track with a different effective date. The time period will also allow additional knowledge to be collected on mixed waste testing in order to substantiate compliance schemes. DOE can then develop a roadmap to define what testing, certification, and verification needs to be conducted. If, however, EPA determines that a separate subcategory for government-owned HWCs is not warranted, the Department requests that federal facilities be given some flexibility from the compliance dates codified in 40 CFR 63.1206. The Department recommends that the Administrator be allowed to enter into agreements for compliance dates that can be worked within the federal acquisition cycle. DOE suggests EPA should consider providing some sort of extension if a governmental agency is making a good faith effort to make the necessary modifications.

An additional complicating factor is that many DOE facilities have negotiated agreements under the Federal Facility Compliance Act (FFCA). These agreements require DOE to implement specific Site Treatment Plans (STP) which may include thermal treatment. These agreements contain specific compliance dates and schedules which may not be compatible with compliance dates specified in this proposed rule. For example, DOE's Savannah River Site (SRS) signed a consent order with the South Carolina Department of Health and Environmental Control (SCDHEC). DOE believes it will be difficult to meet the STP milestones and comply with MACT standards in the required three-year period.

Finally, while DOE recognizes that some existing sources may require only minor modifications to emission control equipment to be able to comply with the rule, the Department wishes to emphasize that federal facilities are subject to constraints that go beyond those placed on private industry (e.g., procurement that requires competitive bidding to obtain contractor/equipment and limited control over appropriations and the resulting budgetary constraints). DOE requests EPA consider these constraints should it select a strategy that requires compliance by the earliest possible date. Finally, DOE requests EPA acknowledge that budgetary constraints beyond the control of the source (such as those imposed by Congress) may constitute a valid reason for granting [in accordance with 40 CFR 63.6(I)(4)(I)(A)] an existing federal facility HWC up to one additional year to comply with MACT standards.

4. Although EPA requests comment regarding the appropriateness of subdividing incinerators, EPA proposes little flexibility relative to the broad spectrum of HWIs covered by this rulemaking. Combustion facilities are subject to the regulations regardless of size. One factor affecting emissions characteristics that does not appear to have been given significant consideration in the proposed rule is feed variability.

An on-site hazardous waste combustor (HWC) that is used for treatment of one or several well understood feed streams will exhibit much more predictable emissions characteristics than a commercial HWC that receives feed from numerous sources. DOE believes consideration should be given to creating a category or subcategory of HWCs that are used to treat one or several homogenous waste streams. HWCs falling into this subcategory should receive a measure of regulatory relief. Although subdividing incinerators by "commercial" vs. "on-site" would not be appropriate if some on-site incinerators receive highly variable feed streams, subdividing incinerators based on incinerator type and feeding mechanism should also be examined. Liquid injection incinerators will have better

control over the residence time and mixing in the primary combustion chamber than solid-fed multiple hearth type incinerators. Consequently, the emissions characteristics from liquid injection incinerators will be more consistent and exhibit fewer perturbations than a solid-fed incinerator. DOE believes that EPA needs to address other subcategories within small sources, that may be less capable of complying with the proposed standards. This concern leads to another suggestion that EPA consider relaxing other affiliated requirements, such as CEMS, for appropriately defined small source subcategories. DOE also responds to EPA's explicit request for comments on issues affecting small sources in our "Specific Comments" section beginning on page 24.

- 5. The EPA Office of Solid Waste and Emergency Response (OSWER) has stated its intent to foster the use of innovative treatment technologies in order to pursue statutory and regulatory mandates, improve the availability of performance data, broaden the inventory of acceptable treatment-based solutions, and decrease remediation costs.³ Innovative treatment technologies may be new technologies, or may be available and in use for various industrial applications other than hazardous waste/RMW remediation. Under current hazardous waste regulations, facilities may rely on research, development, and demonstration permits to operate any hazardous waste treatment facility that proposes to utilize an innovative and experimental hazardous waste treatment technology or process for which permit standards have not been promulgated (40 CFR 270.65). Additionally, treatability studies, which may be exempt from subtitle C regulation under 40 CFR 261.4(e) and (f), may be used when potentially applicable treatment technologies are being considered for which no or limited performance or cost information is available in the literature.**

DOE requests that EPA clarify the applicability of MACT standards to facilities that are operating in accordance with a research, demonstration, and development permit or conducting innovative thermal treatment technologies when these units appear to meet the definition of incinerator. Researchers will need some freedom to experiment with innovative techniques before demonstrating that the MACT standards can be met. The Department suggests EPA clarify how the MACT rules allow for research activities to be undertaken on a small scale without first proving compliance with MACT standards. DOE believes that EPA should consider a category of combustion units which are either for research or are very small and address them differently⁶. DOE currently has several pilot scale smelters in development at different sites across the country. Requiring these facilities to meet MACT emission and monitoring standards before operation will significantly delay DOE compliance with the FFCAct and STPs.

- 6. Facility owners/operators seeking a RCRA subtitle C hazardous waste management permit are required to comply with the procedures found in 40 CFR Part 124 including public participation requirements. On June 2, 1994, EPA issued a proposed rule that expanded the opportunities for public participation and revised the combustion permitting procedures (59 FR 28680-28711). In the final rule dated December 11, 1995, (60 FR 63417), EPA defers finalizing changes to the combustion permitting procedures. EPA indicates that it intends to coordinate any changes in the combustion permitting procedures (which were an outgrowth of the Agency's Combustion Strategy) with the development of comprehensive HWC emissions standards under RCRA and CAA. DOE notes that proposed revisions to combustion permitting, which appear in the June 2, 1994, Federal Register are not mentioned in the HWC proposed rule (61 FR 17358).**

⁶ DOE points out that section 112(c)(7) of the CAA requires EPA establish a separate category covering research or laboratory facilities where such a source is operated under the direct supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale.

DOE requests that EPA clarify the current status of the proposed changes to the combustion permitting procedures and the relationship of those proposed revisions to the currently proposed HWC standards.

- 7. Arguments and statements made by stakeholders at different junctions of the hazardous waste combustion emissions rulemaking process have called into question the role (relative to EPA’s waste management hierarchy) of hazardous waste combustion units. For example, as summarized on page 10 of an EPA document entitled *Executive Summaries of Roundtables on Hazardous Waste Minimization and Combustion*, “[several members of the audience asserted that the continued identification of sites for incinerators seems contrary to efforts to achieve successful waste reduction. Concern was expressed about EPA’s failure to curtail further permitting of toxic waste incinerators for additional capacity.”**

DOE shares other stakeholders’ interest in focusing efforts and limited resources on the top of the hierarchy (e.g., source reduction). Some wastes, however, do not lend themselves to such waste minimization opportunities. Techniques responsible for waste minimization (e.g., materials substitution; performing as much work as possible outside of radiologically-controlled areas; and recycle/reuse) are generally not applicable to “legacy wastes”; that is, waste currently in inventory and resulting from DOE’s former nuclear weapons production operations. Legacy wastes also may include mixed and radioactive wastes in storage and wastes that will be generated in the course of performing environmental restoration and facility decommissioning operations. DOE approximates that 200,000 cubic meters of low-level mixed waste⁷ (LLMW) and 69,000 cubic meters of nonwastewater hazardous waste are expected to be generated/managed by DOE over the next 20 years⁸.

DOE also points out that incineration is an effective, protective, and in certain instances, required treatment technology. As EPA acknowledges in its final strategy⁹, “...of the limited alternative treatment technologies commercially available today or..over the next 5-10 years, none have been shown...comparable to combustion...” In addition, for many nonwastewaters, EPA has determined that combustion (i.e., incineration and fuel substitution) qualifies as the best demonstrated available technology (BDAT) under EPA’s land disposal restriction (LDR) program. For example, in the September 19, 1994, Federal Register (59 FR 47980), EPA discusses the universal treatment standards (UTS) that must be achieved under LDR for organic nonwastewaters. Specifically, EPA states that “[u]nder UTS, organic nonwastewater standards are based on and achievable by combustion” (59 FR 47990). Furthermore, based on a cursory review of the table found in 40 CFR 268.40 (“Treatment Standards for Hazardous Wastes”), it appears that EPA explicitly specifies “INCIN” or “CMBST” technology codes for more than 180 separate waste codes (both wastewater and nonwastewater forms). When EPA specifies a treatment method as the treatment standard, the waste must be subjected to that treatment before it can be viewed as having met the LDR treatment standard.

Relative to DOE hazardous and radioactive mixed wastes, DOE-SRS studied alternative technologies in 1993 to determine if DOE’s Consolidated Incineration Facility (CIF) processes (rotary kiln incineration, neutralization, and solidification) were the best available technologies for site-related

⁷ LLMW contains both a RCRA classified hazardous waste component and a radioactive component.

⁸ DOE, August 1995. *Draft Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste: Summary*, DOE/EIS-0200, Office of Environmental Management, Washington, D.C.

⁹ EPA, November 1994. *Strategy for Hazardous Waste Minimization and Combustion*, page 13, EPA/530-R-94-044, U.S. Environmental Protection Agency, Washington, D.C.

hazardous and low-level mixed waste streams. The study found that some commercially available alternative technologies were feasible for treating aqueous wastes contaminated with metals and radionuclides, or some solid mixed wastes. Because SRS projected waste streams are almost entirely either solid or organic liquid wastes, alternative technologies (i.e., other than thermal treatment) can only treat a maximum of about 8 percent by weight of these wastes. Aqueous wastes would require wastewater treatment and precipitation, while treatment of the solid wastes would probably require acid digestion, wastewater treatment, and precipitation. The other 92 percent of the hazardous and mixed wastes which are organic liquids would still require some type of thermal treatment. Incineration is also the preferred treatment option for SRS low-level radioactive waste which does not contain a hazardous component. The alternative treatment option, shredding and compaction, achieves a volume reduction of 10:1, while incineration achieves a 20:1 reduction. In addition, the final waste form resulting from incineration of low-level waste, blowdown, and ash stabilized in concrete, is more resistant to leaching of radionuclides and metals.

In summary, DOE feels that incineration plays and will continue to play an integral role in the waste management hierarchy due to the following: (1) its ability to achieve permanent reductions in waste volume, toxicity, and/or mobility; (2) its ability to treat or manage organic fluids, solids, and sludges; (3) its timely availability; and (4) the diminished risks posed by residuals from the process or from long term management. Furthermore, DOE feels that incineration is a necessary technology for addressing legacy wastes and wastes generated during environmental restoration, neither of which are amenable to source reduction. Finally, in certain instances (e.g., to meet the LDR treatment standards for certain nonwastewater organics), incineration is required to achieve regulatory compliance.

SPECIFIC COMMENTS

1. BACKGROUND

1.II. Achieving Waste Minimization National Plan (WMNP) Goals

Both the RCRA and the Pollution Prevention Act (PPA) encourage pollution prevention at the source. In addition, Section 112(d)(2) of the CAA identifies pollution prevention as a means of meeting MACT standards. In the proposed rule, EPA recognizes the significance of pollution prevention and waste minimization and discusses the relationship between the proposed rule and the WMNP goals of reducing persistent, bioaccumulative, and toxic constituents in hazardous waste nationally by 25 percent by the year 2000, and by 50 percent by the year 2005 (61 FR 17361).

DOE fully supports and is committed to assisting EPA (and the nation) in realizing the WMNP goals of reducing persistent, bioaccumulative, and toxic constituents in hazardous waste nationally by 25 percent by the year 2000, and by 50 percent by the year 2005. Since DOE voluntarily initiated efforts to reduce the amount of complex-generated waste, great strides have been realized in areas such as material substitution; increasing the accuracy and timing of processes and reagent conditions to minimize excess reagent usage, process volumes, and, in some cases, worker hazards; the recovery, recycle, and reuse of equipment, reagents, or reaction by-products; and novel unit processes, among others¹⁰.

DOE appreciates the flexibility allowed in the WMNP for individual generators to select a base year for measuring their progress against their own goals and the national goal, to account for reduction they

¹⁰ See, for example: DOE, 1992. Department of Energy Defense Programs Integrated Contractors Waste Minimization Program Accomplishments, Fiscal Years 1990, 91, & 92, Return on Investment Document; Los Alamos National Laboratory, Los Alamos, NM.

have already achieved.¹¹ For the purpose of measuring progress, DOE believes EPA should clarify in the preamble to the final rule that while it may be feasible to achieve these goals for wastes that are still being generated, some wastes [e.g., DOE “legacy wastes” resulting from former nuclear weapons manufacturing operations, wastes that will be generated in the course of environmental restoration and facility decommissioning operations, and radioactive mixed waste (RMW) already in storage] do not lend themselves to waste minimization. Although mentioned in a different context, EPA recognizes that waste minimization efforts must focus on wastes routinely generated and identifies certain wastes that do not lend themselves to source reduction and environmentally sound recycling (see page 2-4 of the *Setting Priorities for Hazardous Waste Minimization*).¹² Specifically, EPA identifies a group of waste that should not be the focus of waste minimization opportunity assessments. This group includes the following non-routinely generated or previously counted wastes:

- remediation waste
- spill cleanup, equipment decommissioning, and other remedial activity waste; and
- residuals from on-site treatment, disposal, and recycling.

DOE suggests that EPA incorporate into this group those hazardous wastes (including radioactive waste and RMW) that were placed in storage prior to initiation of a generator’s documented waste minimization program (i.e., a generator’s baseline year). Although independent of this rulemaking, DOE further requests that EPA consider incorporating the full list of non-routine/previously counted wastes into the final *Waste Minimization Program in Place* guidelines as wastes that need not be counted toward generator totals when measuring their waste minimization progress.

2. DEVICES THAT WOULD BE SUBJECT TO THE PROPOSED EMISSION STANDARDS

2.I. Hazardous Waste Incinerators

EPA proposes to subject hazardous waste incinerators to regulation under MACT as major sources. The proposed rule offers under 40 CFR 63.1201 a definition for “hazardous waste incinerator,” and broadly defines it as “a device defined in 40 CFR 260.10 that burns hazardous waste” (61 FR 17515, col. 2).

First, DOE points out that 40 CFR 260.10 does not include a definition for “device,” nor does EPA offer a definition for device in the HWC proposal. Rather than defining device, the RCRA subtitle C program relies on the definition of “incinerator” under 40 CFR 260.10. Second, concerns have been raised by DOE Field Organizations that various regulating agencies, perhaps based on EPA’s proposed definition of hazardous waste incinerator, are attempting to apply the proposed MACT standards to thermal treatment units (e.g., calciners, melters, vitrifiers). Although these units typically do not qualify as “incinerators” under 40 CFR 260.10, they could be viewed as hazardous waste incinerators under the overly broad 40 CFR 63.1201 definition.

DOE recognizes hazardous waste permit writers have the authority under the omnibus provision [RCRA Section 3005(c)(3)] to apply performance standards that have been issued for incinerators to thermal treatment units, provided the standards are necessary to protect human health and the environment. DOE does not believe, however, that thermal treatment units are appropriately regulated

¹¹ EPA, 1994. *The Hazardous Waste Minimization National Plan*, page 3, footnote 4, EPA530-R-94-045, Office of Solid Waste and Emergency Response, Washington, DC.

¹² EPA, 1994. *Setting Priorities for Hazardous Waste Minimization*, EPA530-R-94-015, Office of Solid Waste and Emergency Response, Washington, DC.

by standards designed for combustion units. DOE suggests EPA consider revising the definition of hazardous waste incinerator to reference the 40 CFR 260.10 definition of incinerator . Furthermore, DOE requests EPA explicitly clarify that, in general, the proposed performance standards were not meant to be applied to thermal treatment units.

3. DECISION PROCESS FOR SETTING NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPs)

3.III. List of Categories of Major and Area Sources

3.III.B. Hazardous Waste Incinerators

EPA has various authorities under Section 112 for listing and regulating major and area sources of HAP emissions. Section 112(c)(1) requires that EPA prepare (and revise) a list of categories of major and area sources that emit one or more listed HAP. On July 16, 1992, (57 FR 31576), EPA published the initial list of categories of major and area sources. In this notice, EPA specifically lists as categories of major sources of HAPs hazardous waste incinerators and several other categories (e.g., hard and decorative chromium electroplating; commercial/industrial dry cleaning (perchloroethylene); secondary lead smelting). EPA also clarifies several definitions including “area source” and “categories of area sources.” EPA explains that sources that neither exceed the major source HAP emission threshold nor are commonly located on the premises of major sources qualify as categories of area sources (57 FR 31578). EPA continues by explaining that, in order to list categories of area sources as warranting regulation under Section 112, it must find a threat of adverse health or environmental effects (57 FR 31586).

Title V of the CAA, as amended, requires States to develop programs for issuing operating permits to sources and categories of major sources that are covered by emission standards for HAPs pursuant to Section 112 of CAA. The Administrator may, however, exempt certain categories of nonmajor (i.e., area) sources from the requirement to obtain a permit. On June 3, 1996, (61 FR 27785), EPA issued a final rule that allows a 5-year deferral from permitting (Title V) for several sources previously recognized in the July 16, 1992, FR notice as categories of major sources. Specifically, EPA recognizes that resources are limited and amends the regulations to allow a 5-year deferral from permitting. To demonstrate stakeholder support of this approach, EPA explains “[c]omments on the proposed rule were received from the industry and State and local regulatory agencies. Except for one State agency, all commenters concurred with the EPA option to allow states to defer title V permit requirements for nonmajor sources” (61 FR 27785).

Under a separate authority -- Section 112(c)(6) -- EPA is required to list and promulgate MACT standards for categories and subcategories of sources emitting specific pollutants (e.g., mercury; polychlorinated biphenyls (PCBs); certain dioxins and furans). In the HWC proposed rule, EPA acknowledges that most incinerators do not meet the major source criteria¹³ and, therefore, proposes to regulate HWCs as major sources under the authority of Section 112(c)(6). EPA clarifies, however, that it will use its discretion to avoid regulating area source categories with trivial aggregate emissions of specific Section 112(c)(6) HAPs (61 FR 17365).

In light of the final rule issued June 3, 1996, (allowing a five-year deferral from Title V permitting) and

¹³ EPA has determined that approximately 30 percent of the incinerators evaluated meet the major source criteria when using the maximum emission rate values, and only 15 percent meet the criteria using the average emission rate values (61 FR 17365).

the fact that most incinerators do not meet the major source criteria under Section 112(a)(1), DOE urges EPA to either: (1) develop HAP-specific quantities to define “trivial aggregate emissions of specific Section 112(c)(6) HAPs” (61 FR 17366, col. 1) such as those found in the April 27, 1995, Federal Register¹⁴; or (2) craft a new provision in Subpart EEE by which States can develop and utilize emission levels that, as a matter of State policy, constitute insignificant activities or emissions [see 40 CFR 70.5(c), and Section II.C. of EPA’s “White Paper Number 2 For Improved Implementation of the Part 70 Operating Permits Program” (March 5, 1996)].

DOE further requests that EPA codify language that allows for a deferral from title V permitting (perhaps until EPA completes the statutory assessment of residual risks) for incinerators that neither meet the major source criteria under the current definition in Section 112(a)(1) or exceed the EPA or State-quantified trivial aggregate emission level for Section 112(c)(6) enumerated pollutants. This action may substantially reduce the unnecessary and undue regulatory burden for States and local agencies, the EPA Regional Offices, and the industry during a time when all available resources are necessary for the initial implementation of the Title V permit program for **major sources**. DOE recognizes that deferred HWC sources would still be required to meet the compliance schedule for HWCs and all applicable emission control requirements established by the respective MACT standard(s).

3.IV. Proposal to Subject Area Sources to the NESHAPs Under Authority of Section 112(c)(6)

- 1. EPA solicits comments on an alternative reading of Section 112(c)(6) of the CAA whereby the provision would require MACT control for the enumerated pollutants but not necessarily for other hazardous air pollutants (HAPs) emitted by the source, but which are not enumerated in Section 112(c)(6) (61 FR 17365, col. 3, footnote 12).**

The alternative reading whereby Section 112(c)(6) would require MACT control for the specific pollutants enumerated in Section (c)(6), but not for other pollutants, seems to be preferable and the most in keeping with Congressional intent. These categories of pollutants were of special concern to the Congress "because of their environmental impacts and their propensity to bioaccumulate or otherwise harm aquatic organisms and migratory bird populations" (U.S. Senate Report No.101-228, 101st Congress, 1st Session, page 166). Congress determined that 90% of the aggregate emissions of each of the seven categories enumerated in Section 112(c)(6) should be subject to MACT standards irrespective of what EPA might conclude under Section 112(c)(3) about the 30 most threatening urban air pollutants. This determination by the Congress, however, only applies to the seven categories of pollutants enumerated in Section 112(c)(6) and not to other hazardous air pollutants (HAPs). DOE believes that other HAPs should be regulated under other provisions of Section 112, as appropriate (i.e., under applicable MACT standards when the source qualifies as a major source, or the potentially less stringent generally available control technology (GACT) standards when the source is an area source).

- 2. In two locations in the preamble to the HWC proposed rule, EPA discusses emissions of dioxins and furans (D/F) in relation to total U.S. emissions of D/F (61 FR 17366, col. 1 and 17477, col. 2).**

DOE points out that there appears to be a discrepancy in the numbers used for D/F emissions. At page 17366, the preamble states that "HWCs account for 51 percent of the annual national emissions of D/F." At page 17477 the preamble states that "hazardous waste burning sources represent about 9 percent of total anthropogenic emissions of dioxins in the U.S." The implications of this discrepancy

¹⁴ EPA promulgated new regulations in the July 1, 1996, Federal Register ["Federal Operating Permits Program; Final Rule" (61 FR 34202)] in which it identifies insignificant emission levels for HAPs (e.g., 1,000 lb per year) [see 40 CFR 71.5(c)(11)(ii)(B)].

should be discussed in the preamble to the final rule.

If the figures at page 17477 are correct, hazardous waste incinerators, cement kilns, and lightweight aggregate kilns are the source of only about 0.9 percent of U.S. dioxin emissions. These percentages may be low enough that those source categories should not be subject to regulation (at least for dioxins) pursuant to EPA's statement at page 17366, col. 1 that "the Agency will use its discretion to avoid regulating area source categories with trivial aggregate emissions of specific Section 112(c)(6) HAPs."

3.V Selection of MACT Floor for Existing Sources

3.V.A. Proposed Approach: Combined Technology-Statistical Approach

EPA has proposed separate MACT floor [or beyond-the floor (BTF)¹⁵] emission standards for individual HAPs, groups of HAPs that behave similarly (i.e., metals), and two bulk gas surrogates. Briefly, EPA's proposed MACT floor levels were selected for each source category (e.g., incinerators) using the following process: arraying HAP emission data from existing sources; identifying the emission control technology(ies) used to achieve emission levels at or below the best performing 6 percent of the sources; compiling and arraying the average emissions data from all sources that employ a control technology used by sources falling within the best performing 6 percent; selecting from all data the test condition with the highest mean emissions; and using a statistical approach to identify an emission level that could be routinely achieved by the MACT floor. EPA also considered another approach ("12 percent approach") in which emissions data from control technology(ies) used to achieve emission levels at or below the best performing 12 percent of the sources was arrayed and evaluated.

EPA expresses some concerns that, in accounting for operating variability in these two analyses, it may have overcompensated so that the identified floor levels are unduly lenient. The test data on which the proposal is based to some extent reflect worst-case performance conditions because RCRA sources try to obtain maximum operating flexibility by conducting test burns at extreme operating conditions (61 FR 17366-17367).

DOE appreciates EPA's tenuous position. However, DOE believes that the use of data collected during HWC test burns, while conservative, appears reasonable for use in establishing MACT standards. A suitable and universally acceptable alternative data base (with appropriate quality assurance safeguards) most likely does not exist. Absent long-term data, DOE suggests that EPA might consider developing and assigning weight-based factors to the emissions data from the best performing six percent and the best performing 12 percent of sources (as discussed at page 17367). By statistically combining the two, EPA may better reflect real-world variability and arrive at a suitable compromise.

3.V.D. Establishing Floors One HAP or HAP Group at a Time

Developing the proposed MACT floor levels required that EPA identify existing sources that achieved emission levels at or below the levels emitted by the best performing 6 percent of the sources (i.e., the "MACT pool"), as well as the control technology(ies) they use (i.e., the "MACT floor"). As discussed in the April 19, 1996, Federal Register,

¹⁵ CAA requires the MACT standard reflect the maximum degree of reduction of HAP emissions achievable regardless of cost or other considerations. (CAA 112(d)(2)) The BTF analysis involves the consideration of additional factors including cost, non-air health and environmental impacts and energy requirements, technologies currently used within the industry sector, and more efficient and appropriate technologies that have been demonstrated and are available. Of these cost effectiveness is the primary factor.

EPA’s proposed MACT floors appear to have been established separately for individual HAPs or, in the case of metals, in two groups of HAPs (61 FR 17366), rather than from sources that are simultaneously achieving the MACT floors. EPA justifies their approach based on the fact that Congress has not spoken to this precise question (61 FR 17367-17368).

DOE suggests that by using the pluralized phrase “hazardous air pollutants” in Section 112(d)(3) of the CAA, as opposed to the singular form of the term (“hazardous air pollutant”) where it is defined in Section 112(a)(6), Congress intended that EPA promulgate MACT standards that were based on emission control technologies that could achieve MACT standards simultaneously.

In addition to such a semantic argument, however, DOE believes that EPA should provide more than one page in the notice of proposed rulemaking to justify and document that the standards can be met simultaneously. In fact, EPA acknowledges the potential for not achieving standards simultaneously when it states, “...if optimized performance is not technologically possible due to mutually inconsistent control technologies (for example, metals performance decreases [degrades] if organics reduction is optimized), then this would have to be taken into account in establishing a floor (or floors).” (61 FR 17368)

DOE suggests that EPA provide a stronger base of evidence to ensure that air pollution control devices (APCDs) proposed to address individual HAPs categories are integrated more carefully. Specifically, DOE believes that the Agency needs to explore situations where compliance with the APCD requirements for all individual HAPs categories addressed in the proposed rule would impose redundant and duplicative control technology requirements for PM and HC controls. For example, EPA states, “Thus, low-volatile metal emissions are more strongly related to the operation of the PM APCD than to the feedrate.” (61 FR 17374) DOE questions why separate MACT standards for LVMs should be required when they could be controlled through a PM surrogate. Furthermore, EPA also states, “As combustion becomes less efficient or less complete, at some point, the emissions of total organics (measured as HC) will increase.” (61 FR 17375) If EPA already intends to use a PM MACT standard as a surrogate to control adsorbed organic HAPs, DOE questions why a separate standard for HC is necessary. Consequently, in response to EPA’s request for comment (61 FR 17376), DOE supports only a national standard for CO to address good combustion practices. By extension, DOE recommends that EPA use a PM MACT standard as a surrogate for control of both HC (as organics) and LVM emissions.

3.VIII.C Use of Site-Specific Risk Assessments under RCRA

- 1. EPA has conducted a risk assessment to evaluate the protectiveness of the proposed rule. Specifically, the risk assessment process was used to determine if the proposed MACT standards are protective of human health and the environment. This was primarily accomplished by the quantitative evaluation of potential risks to individuals living in the vicinity of hazardous waste combustors. Four example hazardous waste incinerators were included in the quantitative risk assessment, which is presented in the Background Information Document (BID). (61 FR 17371 - 17372).**

The quantitative risk assessment presented in the BID is based on the methodologies presented in standard EPA reference documents. In general, these EPA methodologies are considered to be conservative; that is, they are likely to overestimate potential impacts. However, the methodology used in the BID for assessing health risks associated with indirect exposures (i.e., non-inhalation pathways)

is controversial. The BID uses the methodology described in the Addendum to the Methodology for Assessing Health Risks Associated with Indirect Exposure to Combustor Emissions (EPA/600/AP-93/003, November 1993). This document, which is a review draft, contains the statement that the methodology should not be construed to represent EPA policy, nor should it be cited or quoted.

This situation presents a problem for RCRA permit applicants as there is no EPA-approved methodology for the performance of indirect exposure assessment. To address the situation, DOE urges EPA to provide guidance for the performance of indirect risk assessments if a site-specific risk assessment will continue to be required for RCRA permitting. The conclusions of the risk assessment in the BID for the proposed rule should be used by EPA to develop guidance for permit applicants. At a minimum, the BID results should be used to streamline the risk assessment process by emphasizing the most significant emission sources, contaminants, pathways and receptors.

2. In the proposed rule, EPA discusses the historical perspective and use of site-specific risk assessments under the Strategy for Hazardous Waste Minimization and Combustion. EPA explains that it plans on continuing its policy of recommending that, “if necessary to protect human health and the environment,” site-specific risk assessments be conducted as part of RCRA permitting (61 FR 17371 - 17372).

The Department does not specifically agree with EPA regarding the continued use (or usefulness) of site-specific risk assessments under the Combustion Strategy. DOE believes that MACT standards that are established and met should supersede the requirement for site-specific risk assessments, which are currently conducted using omnibus authority. EPA’s Strategy clearly establishes that site-specific risk assessments continue in place until the technical combustion emissions standards are proposed. EPA states that once proposed, the emission standards and controls should be implemented using omnibus authority¹⁶. If EPA has confidence in the in-depth evaluation of incinerator emissions and the current state of technology involved in developing this proposed rule, it would seem that additional site-specific risk assessments would no longer be required. In col. 3 at page 17371, EPA states that it recommends site-specific risk assessments, if necessary to protect human health and the environment, for HWCs until national standards for HAPs of concern are in place. Presumably after the final rule is issued for the HAPs being addressed in the HWC proposed rule, site specific risk assessments would no longer be needed for such HAPs. The proposed standards either are sufficient to protect human health and the environment (i.e., meet the definition of protectiveness under RCRA) or they are insufficient. Issuing this regulation without resolving and clarifying this issue places the operator at a severe disadvantage in the event that an EPA Regional Office or State agency decides to require a risk assessment. The risk assessment would likely be required subsequently and independently of the MACT upgrades to a facility due to the 3-4 year implementation timeframe for MACT. An operator could discover after completion of the MACT upgrades that a risk assessment indicates that additional or different upgrades are required. This possibility places an incinerator operator in a very uncertain, double jeopardy situation.

DOE points out that no codified regulatory provisions requiring site-specific risk assessments for incinerators have been issued to date, nor does EPA codify its policy in the proposed HWC. According to the preamble (61 FR 17371), risk assessment beyond MACT will continue to be driven by Agency policy that will be implemented by EPA regional and authorized state permit writers, at least until the residual risk provisions of CAA 112(f) are finalized. Although a legal/regulatory basis appears to exist supporting the EPA policy to require risk analyses beyond MACT for the CAA

¹⁶ EPA, November 1994. *Strategy for Hazardous Waste Minimization and Combustion*, pages. 18-19, EPA/530-R-94-044, U.S. Environmental Protection Agency, Washington, D.C.

112(c)(6) pollutants (Mercury, Polycyclic Organic Matter, and 2,3,7,8 - TCDD/TCDF) when regulators determine it is "necessary to protect human health and environment," it is unclear when and/or if such a determination will be made. Therefore, an operator cannot be certain that a full-fledged risk analysis will be required as part of the permitting procedure. Lack of a definite rule or policy regarding the need for risk assessment poses a significant uncertainty for both the regulated community and the regulators. DOE requests that EPA explicitly clarify which approach (site-specific risk assessments or implementation of the MACT standards) is to be followed.

In the event that risk assessments are required, DOE has the following comments related to conducting risk assessments for HWCs relative to EPA's exposure assessment guidance¹⁷, DOE requests EPA clarify that its assumptions are not universally applicable and that existing or reasonably anticipated land use scenarios should be characterized for the expected life of the facility using the following types of information:

- Current land use
- Zoning laws
- Zoning maps
- Comprehensive community master plans
- Population growth patterns and projections (e.g., Bureau of Census projections)
- accessibility of site to existing infrastructure
- Institutional controls currently in place
- Site location in relation to urban, residential, commercial, industrial, agricultural, and recreational areas
- Federal/State land use designations
- Historical or recent development patterns
- Cultural factors (historical sites, native American religious sites)
- Natural resources information
- Potential vulnerability of ground water to contaminants that might migrate from soil
- Environmental justice issues
- Location of on-site or nearby wetlands
- Proximity of site to a floodplain
- Proximity of site to critical habitats of endangered or threatened species
- Geographic or geologic information
- Location of wellhead protection areas, recharge areas, and other areas identified in a State's Comprehensive Ground-Water Protection Program

If future land use is uncertain, a range of reasonably likely future land uses should be considered and more than one future land use assumption may be considered when decision-makers wish to understand the implications of unexpected exposures.¹⁸

Additionally, EPA's presentation of risk from existing incinerators is misleading as it assumes the presence of all receptor pathways using emission estimates from the Combustion Emission Technical Resource Document (CETRED). Only the appropriate receptor pathways should be used. This is especially relevant to mercury, which is a target of the proposed rule making. EPA states that the most significant receptor pathway is through the aquatic food chain (61 FR 17370). If this pathway does not exist due to a facility's location, then mercury risk would be much less.

¹⁷ EPA, April 1994, Exposure Assessment Guidance for RCRA Hazardous Waste Combustion Facilities, EPA 530-R-94-021, U. S. Environmental Protection Agency, Washington, D.C.

¹⁸ EPA, 1995. *Land Use in the CERCLA Remedy Selection Process*, OSWER Dir. 9355.7-04, Assistant Administrator, EPA, Washington, DC.

Finally, DOE requests that EPA include the potential cost of performing risk assessments in the cost of implementing this regulation so that the overall impact, cost, and cost-effectiveness of this regulation is not deceiving.

3. **Although the connection between the HWC rulemaking and other laws and regulations is not discussed in the HWC proposed rule, DOE requests further guidance regarding the relationship between this rulemaking and response actions conducted under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) program. In many cases, DOE, EPA, and/or authorized states may enter into an agreement to conduct response actions under the CERCLA using CERCLA section 120 Interagency Agreement (IAG)/Federal Facility Agreement (FFA). As an element of CERCLA response actions, DOE typically will be required to prepare a detailed analysis of both long- and short-term human health risks associated with each remedial alternative that is carried through the screening phase of the Feasibility Study (FS). EPA has previously explained “short-term human health risks are those risks that occur during implementation of the remedial alternative (e.g., risks associated with emissions from an onsite air stripper).¹⁹**

It is unclear if DOE will be allowed to use any risk assessments developed under other statutory authorities such as the National Environmental Policy Act (NEPA) or CERCLA [e.g., CERCLA remedial investigation/feasibility studies (RI/FS)] to satisfy a requirement to perform a risk assessment for a HWC. DOE believes that risk assessment information from other environmental regulatory programs should be evaluated on its own merit (e.g., data quality objectives and data useability criteria; conceptual model exposure pathways; method detection limits; receptors) and if appropriate, used in developing risk assessments for HWCs. DOE cautions against disallowing risk assessment information strictly because it was generated under another program as it would greatly impact the cost of complying with HWC standards dramatically and add time to the permitting process.

In the future, the Department may be faced with using either a stationary or mobile combustion technology to address CERCLA wastes (e.g., low-level RMW) at DOE sites. DOE requests EPA clarify in EPA’s Response to Comments the appropriateness of using its *Guidance for Performing Screening Level Risk Analyses at Combustion Facilities Burning Hazardous Waste*²⁰ to screen combustion technologies at CERCLA sites when incineration (or another form of combustion that results in HAP emissions) is the remedial alternative subject to detailed analysis. DOE considers the evaluation of short-term risks that is conducted during the detailed analysis of remedial alternatives as comparable to the risk assessment conducted in accordance with EPA’s exposure guidance for hazardous waste combustion facilities. The Department requests that EPA clarify in EPA’s Response to Comments, relative to incineration, the relationship between the short-term human health risk evaluation (under CERCLA) and its RCRA-based exposure assessment guidance. Additional guidance is solicited regarding the appropriateness of using documentation that demonstrates a mobile treatment unit (MTU) has met MACT standards that ensure “protectiveness” at a previous site (for a particular type of feedstream). Specifically, DOE requests that EPA clarify that this documentation can serve to

¹⁹ EPA, 1991. *Risk Assessment Guidance for Superfund: Volume 1 -- Human Health Evaluation Manual (Part C, Risk Evaluation of Remedial Alternatives)* Interim, EPA/540/R-92/004, Office of Research and Development, Washington, DC.

²⁰ Attachment C of EPA, April 1994, *Exposure Assessment Guidance for RCRA Hazardous Waste Combustion Facilities*, EPA530-R-94-021, U. S. Environmental Protection Agency, Washington, D.C.

satisfy the detailed analysis requirement during a CERCLA focused feasibility study²¹ (or during the Engineering Evaluation/Cost Analysis for removal actions) and, therefore, be viewed as a generic remedy²² at sites with similar feedstreams.

Additionally, DOE requests that EPA allow a CERCLA long-/short-term detailed risk analysis of combustion operation to serve in lieu of or contribute to the information required during a site-specific risk assessment in the event a site is deferred to RCRA authority or if a MTU is relocated from a site undergoing CERCLA remediation to a RCRA facility addressing corrective action.

4. RATIONALE FOR SELECTING THE PROPOSED STANDARDS

4.I. Selection of Source Categories and Pollutants

4.I.A. Selection of Sources and Source Categories

4.I.A.1 Consideration of Subdividing Incinerators by Size

Incinerator size may vary substantially (i.e., from 1,000 actual cubic feet per minute (acfm) to 180,000 acfm). EPA proposes that, with limited exception, subdividing incinerators by size [as measured by gas flow rate in acfm] is not warranted. EPA does, however, recognize that some requirements should hinge on the size of the incinerator and, therefore, provides limited relief (e.g., comprehensive performance testing requirements) for small incinerators (gas flow rates of less than 23,127 acfm). EPA invites comments on whether differentiating between incinerators based on size or other classifications (e.g., commercial , on-site) is appropriate. (61 FR 17372 - 17373).

DOE supports a subdivision of incinerators based on size. As previously noted, the CAA statutory language [e.g., paragraphs 112(c)(1)-(5)] specifically offers the Administrator an option of listing any category **or subcategory**. This reflects Congress' intent that a one-size-fits-all approach is not desirable and affords EPA the latitude to establish different MACT standards for dissimilar sources that

²¹ As EPA clarifies in the March 8, 1990, Federal Register, (55 FR 8704) a more streamlined analysis (i.e., a focused RI/FS) is appropriate when site problems involve a single group of chemicals that can only be addressed in a limited number of ways.

²² Historically, a substantial amount of time and taxpayer money has been expended addressing similar or recurring contamination problems encountered during the remediation process. As stated in the August 22, 1994, memorandum entitled, "Guidance on Accelerating CERCLA Environmental Restoration at Federal Facilities," Federal agencies, with the cooperation and concurrence of EPA and the States, should focus on developing standardized solutions (i.e. presumptive remedies) consistent with the requirements of the NCP. Standardized approaches offer the opportunity to streamline the investigation and cleanup process and provide consistency in dealing with recurring problems and should result in significant saving of resources at all agencies.

would otherwise fall within the same category. In the July 16, 1992, Federal Register, EPA discusses its rationale for using only the term category to designate groupings of HAP-emitting sources. EPA goes on to note, however, that during the standards setting process, it may be appropriate to “further subdivide a category” and that the decision to use categories for grouping “does not affect [EPA’s] authority to define subcategories of sources at a later date.” (57 FR 31579)

In addressing the HWI subdividing issue, EPA states that it is not proposing separate standards for incinerators because they emit similar types and concentrations of HAP emissions (61 FR 17372, col. 3). DOE disagrees with EPA on this point. DOE believes that the need to promulgate and apply new MACT standards such as those proposed should be driven by risk to human health and the environment. In fact, the statutory requirement to list categories of area sources under Section 112 of the CAA is contingent upon finding a threat of adverse effects. Moreover, risk is not just a function of concentration, but of emission rates from the individual facilities. In addition, small incinerators burn small amounts compared to large incinerators. Therefore, the Department feels that EPA should factor emission rates, not just concentrations, into the equation when considering the appropriateness of establishing a separate category with separate, less stringent standards for small HWIs.

Although a slope analysis of gas flow rate provides a reasonable statistical method of distinguishing between small and large sources, it fails to recognize the character and use of certain small sources. As a means of incorporating additional flexibility regarding the classification of small incinerators, DOE requests EPA consider offering HWIs the option of measuring gas flow **or feedrate** to distinguish between small and large incinerators. Further, in its classification of HWIs, EPA recognizes that some will be operated as mobile units, such as those used for site remediation (61 FR 17362). For smaller mobile units, which DOE may use, it would be difficult, if not impossible, to fit proposed air pollution control devices to their equipment configuration. Although EPA’s cost of compliance for these sources may seem low, in some cases the expected costs, on a per unit basis, are high enough to force units to close and seek to consolidate hazardous waste at a centralized, regional, larger, and perhaps commercial, HWI. Perhaps, EPA favors this trend, due to the greater ability of larger sources to install state-of-the-art control technology (see for example, 61 FR 17382). Certainly the Agency recognizes that small HWCs may leave the waste management business altogether (61 FR 17479). In fact, this approach could produce highly adverse effects. For example, it could contravene arrangements that DOE facilities have made, or would like to make, with state agencies to burn on-site in order to avoid extensive transport of hazardous waste over state roadways.²³ Furthermore, many of those small, mobile units process fairly uniform waste which in some cases may not ever contain sources of the more toxic HAPs, such as D/F and mercury.

The Department recommends that EPA carefully consider two approaches. First, small sources which can consistently document that they burn waste feedstreams which do not contain or produce D/F or mercury emissions should be subject to less stringent GACT standards, to be defined by EPA. This waste characterization approach is similar to the “low risk waste” exemption that EPA intends to change for boilers and industrial furnaces (BIFs) (61 FR 17470). Moreover, it follows, by extension, directly from EPA’s proposal to waive MACT performance testing for HWCs feeding *de minimis* levels of metals and chlorine (61 FR 17447).

Second, for the remaining small sources that emit the full range of HAPs of concern in the proposed rule, EPA should carefully examine the development of other subcategories within the small source

²³ The Department believes that conducting on-site incineration reduces the number of shipments that travel along public highways and, thereby, may reduce the potential for general public exposure to hazardous waste/RMW.

classification. The purpose behind this examination would be the delineation of certain small source subcategories that should face less stringent versions of the proposed MACT standards. One of these subcategories could be mobile units. In general, these subcategories will find it much more difficult to comply with the requirements to install certain control technologies (due to potential problems such as incompatibility of the required control technologies with existing unit configurations, and cost-effectiveness issues). Indeed, for D/F, EPA recognizes that "...the cost effectiveness of the BTF level for small on-site incinerators may be high" (61 FR 17382). Furthermore, EPA recognizes that "...small on-site facilities are not likely to present the same level [lower than] of potential risk as other facilities." (61 FR 17371)

DOE believes that affiliated requirements for continuous emission monitoring systems (CEMS) should also be modified in parallel with application of GACT to accommodate less restrictive requirements for certain small sources. The Department believes that small sources can successfully and cost effectively substitute operating parameter limits for CEMS requirements. Since recordkeeping is strongly influenced by the degree of monitoring performed, DOE recommends a parallel reduction in recordkeeping requirements. In addition, the Department supports less frequent comprehensive performance tests and confirmatory performance tests for small sources relative to large sources.

One further point regarding the definition of "small" requires clarification. In the discussion addressing gas flow rate and its use in defining the break between small and large incinerators (61 FR 17372, col. 3), EPA uses the term small. Whereas, in other sections of the rule (61 FR 17428, col. 2) as well as the codified language, EPA uses the term "small on-site" as the means to designate small incinerators subject to reduced requirements. DOE believes limiting the definition to small incinerators which receive on-site generated waste only is arbitrary and unwarranted. Using the definition "small on-site" will, in the Department's view, unduly penalize small units that receive off-site wastes by requiring that the facilities comply with large commercial facility standards. One example of this disparity is the Department's TSCA incinerator in Oak Ridge, Tennessee. This facility would be considered a small facility via the definition of the gas flow rate, but it receives off-site mixed waste as well as waste generated on-site. The Department does not see the correlation between location of a source and the implementation of an effective sampling and analysis program. The Department questions whether the location of an emission source has a bearing on the HAP emissions (i.e., an on-site source that burns variable hazardous wastes will be as difficult to sample and analyze as an off-site source). It should be noted that, in the November 8, 1995, Federal Register (60 FR 56492), EPA proposes to modify (i.e., expand) the definition of on-site to include transportation between contiguous properties owned by the same person, regardless of how access is gained (e.g., along a public road). If EPA finalizes this definition as proposed, facilities that currently qualify as receiving waste from off-site generators may be viewed as receiving waste from on-site. Therefore, DOE requests EPA allow small incinerators (as defined by gas flow rate of feedrate) to comply with either option regardless of the HWI's location. DOE further requests EPA codify regulatory language clarifying this approach. All facilities, regardless of size or waste stream sources, should be allowed as much flexibility as possible to meet the emission limits that are being proposed. Options for compliance with the floor levels should allow facilities to find the optimum scenario for cost-effective implementation and yet be protective of human health and the environment.

Finally, DOE believes that EPA needs to address other subcategories within the HWI arena, that may be less capable of complying with the proposed standards. First, based on the Department's review of the *Technical Support Documents for HWC MACT Standards* (Vols. I -VII), it appears that EPA has failed to fully consider incinerators that burn RMW. Therefore, DOE, in addition to supporting a subdivision of incinerators by size, recommends that EPA establish a subcategory for incinerators used to burn RMW. (see General Comments, page 3 for additional comments regarding this subcategory). Second, DOE requests EPA consider that incinerators, in addition to size and type of waste burned, be

classified as either Federal or commercial facilities. This request is based on the difficulties Federal facilities will face in obtaining funding for modifications to existing facilities required by the proposed rule. This cumbersome budgeting and appropriations process will make it difficult for DOE to meet the three year schedule for compliance (see General Comments, page 8). Third, a review of the standards proposed in 40 CFR 63 Subpart EEE (e.g., 40 CFR 63.1200(a) and 40 CFR 63.1207(a)] suggests that any HWC pilot plants in existence or created would be subject to the regulations. This offers no flexibility for DOE to pursue innovative technology development. DOE suggests EPA evaluate the merits (and appropriateness) of establishing a subcategory for HWCs either undertaking treatability studies or conducting innovative and experimental research, development, and demonstration activities as further described in the General Comments beginning on page 10. DOE explicitly requests EPA convey their policy regarding the applicability of Subpart EEE to these types of HWCs in the final rule.

4.I.B. Selection of Pollutants.

Analyses of metals data for the various tasks of the program were performed for three major groups of metals which represent the toxic metals of concern. These include the low-volatility group represented by antimony, arsenic, beryllium, and chromium; the semi-volatility group represented by cadmium and lead; and the high-volatility group represented by mercury. EPA requests comment on the appropriateness of grouping metals by volatility (61 FR 17375).

DOE believes that grouping toxic metals by volatility is reasonable and appropriate. However, the volatilities of metal oxides should be considered in addition to the volatilities of the reduced metals. DOE requests, however, that EPA clarify that the new rules are all-inclusive and that hazardous waste combustors will not be subject to regulation of additional pollutants such as those metals regulated under the BIF rules but not addressed in the present rule-making. DOE also suggests that EPA clarify how grouping metals by volatility will be implemented through the risk assessment phase.

4.I.B.2. Organic Compounds

EPA is proposing to use carbon monoxide (CO) and hydrocarbons (HC) as surrogates to control emission of non-D/F organic HAPs. CO and HC are both indicators of combustion intensity and completeness. EPA invites comment on whether standards for both CO and HC are unnecessarily redundant (61 FR 17375 - 17376).

If combustion conditions are monitored such that the facility is maintaining good combustion practices, then there should be no need for dual CO and HC monitors. Implementation of best management practices for good combustion (i.e., adequate time, temperature, and turbulence) should insure proper combustion. Thus, DOE feels the requirement to add additional monitoring equipment (to support dual monitoring) is not necessary.

DOE suggests that EPA RCRA and Air program personnel may benefit from discussions with the TSCA program personnel and review of PCB regulations in 40 CFR 761. PCB incinerators are required to monitor combustion efficiency continuously to ensure that good combustion conditions exist. Specifically, 40 CFR 761.70(a)(7) requires continuous monitoring for CO. This requirement could be imposed with little extra cost to currently operating incinerators. DOE believes that dual monitoring for CO and HC is redundant and should not be required for HWIs, and especially PCB/HWIs, since they are already subject to the requirements governing combustion efficiency.

4.I.C. Applicability of Standards Under Special Circumstances

4.I.C.1 Nondetect Levels of Metals or Chlorine in All Feedstreams

For some HAPs (e.g., metals), controlling the feedstream to a HWC will directly influence the presence of that constituent in the HWC emissions. EPA proposes to allow facilities a waiver from complying with metals and chlorine MACT standards, performance testing, monitoring, notification, and recordkeeping provided the facility implements a feedstream sampling and analysis plan and determines that no feedstream to the HWC contains detectable levels of Hg, SVM, LVM or chlorine. EPA requests comment on the types of measures that should be prescribed to ensure that the appropriate analytical procedures are followed (61 FR 17376).

DOE supports the option of a waiver from emission standards and ancillary performance testing, monitoring, notification, and recordkeeping for those HWCs that can demonstrate their feedstream does not contain detectable levels of Hg, SVM, LVM or chlorine. DOE suggests EPA also consider crafting an additional waiver from D/F monitoring (or, at a minimum, reduced monitoring requirements) for HWCs that can demonstrate their feedstream contains nondetectable (or trace levels if established by EPA) of chlorine. Without chlorine, it is not possible to form dioxin, therefore the source should not be subjected to the MACT standards for dioxin emissions.

In the final rule promulgating new source performance standards for new municipal waste combustor (MWC) units and emission guidelines for existing MWCs [December 19, 1995, Federal Register (60 FR 65387)], EPA allows for reduced D/F monitoring. Specifically, EPA allows new plants achieving D/F emission levels of less than 7 ng/dscm total mass dioxins/furans (approximately 0.1 to 0.2 ng/dscm TEQ) the option of less frequent monitoring. DOE requests that EPA include a similar provision under the HWC rule.

Regarding EPA's request for comments regarding minimum detection limits, DOE believes that existing RCRA Subtitle C controls and analytical procedures prescribed in HWC site-specific waste analysis plans (WAPs) should be used to satisfy the sampling and analysis plan provisions necessary to obtain a waiver of emission standards [40 CFR 63.1200(g)]. Currently, HWIs operating under either a hazardous waste management permit or interim status facilities must develop and follow a written WAP that, at a minimum, specifies the parameters (e.g., Hg, Pb, Cd, Sb, Ar, Be, and Cr) for which each hazardous waste feedstream will be analyzed. The WAP must also provide the rationale for their selection, the test and sampling methods that will be used, and the frequency with which the initial analysis will be reviewed or repeated (40 CFR 264/265.13). In many cases existing hazardous waste incinerators will identify many or all of the required parameters (Hg, SVM, LVM and chlorine) in their existing WAP. Furthermore, WAPs include quality assurance/quality control procedures, many of which are parameter-specific. Finally, individual HWC owner and operators will recognize whether their selected compliance strategy should include obtaining a waiver of emission standards and, therefore, will determine the following:

- whether the appropriate hazardous constituents (i.e., parameters) are addressed in their existing WAP; and
- whether they need to modify their existing WAP to specifically address feedstream sampling and analysis for Hg, SVM, LVM and/or chlorine.

The Department does not support additional prescriptive measures (e.g., specifying minimum detection limits) beyond those required in 40 CFR 264/265.13. DOE also suggests that EPA remove the ambiguous reference under 40 CFR 63.1200(g) requiring "a feedstream sampling and analysis plan" and incorporate a specific reference to 40 CFR 264/265.13 provisions. For HWIs, the establishment of

appropriate minimum detection limits can be ensured by permit writers during the hazardous waste management permit application review process. For interim status HWCs, compliance with appropriate minimum detection limits can be evaluated by regulators through a review of written WAPs during site-specific compliance assessments.

4.I.C.4 Sources that Terminate Hazardous Waste Burning

EPA is concerned that owners/operators of HWCs that temporarily cease burning hazardous waste may argue that MACT regulation should revert to MACT standards applicable to combustors that do not burn hazardous waste. In the preamble, EPA discusses two criteria for defining when a source has terminated hazardous waste burning. These include the following: (1) the HWC ceases burning hazardous waste, and (2) the HWC stops complying with the MACT standards proposed for HWCs. As an additional requirement, EPA proposes that sources notify the Administrator in writing within 5 days of the termination (61 FR 17377).

DOE suggests that EPA consider replacing the proposed language in 40 CFR 63.1200(c)(1)(ii) -- the five-day termination notification requirement -- with the second criterion discussed in the preamble, which addresses HWC's that discontinue compliance with the hazardous waste-related MACT standard (61 FR 17377, col. 1). First, closure provisions prescribed in 40 CFR 264/265 Subpart G apply to all hazardous waste management facilities. These provisions include a requirement that an owner/operator notify the regulators in writing at least 45 days prior to the date on which he expects to begin final closure (i.e., 30 days after receipt of the known final volume of hazardous waste or one year after receipt of the most recent volume of hazardous waste) of a facility with only incinerator units [40 CFR 264/265.112(d)]. The Department sees no value-added in imposing an additional five-day notification requirement. Second, regulators will be able to discern whether a facility has complied (or not complied) with the applicable MACT standards by reviewing the monitoring data maintained within each source's operating record. If a source cannot produce the requisite monitoring data during a compliance inspection, appropriate enforcement actions can be taken.

4.II Selection of Format for the Proposed Standards

4.II.B. Averaging Periods.

Averaging periods are the time periods over which emissions or feedstream and operating parameters are set. The rule allows alternative performance specifications for batches [i.e., Performance Specification 10 (multi-metals) section 4.5.3; Performance Specification 11 (PM) section 4.5.2; Performance Specification 12 (mercury) section 4.6.3; Performance Specification 13 (HCl) section 4.5.3].

Instead of relying on response time for batch CEMS, DOE supports EPA's use of reporting time. Since the objective of the CEMS is to ensure that emission limits are not being exceeded, multi-metals do not necessarily require a continuous response in order to determine compliance set on a twelve (12) hour rolling average. An evaluation of reporting time can determine whether emission limits are being exceeded just as well as continuous response, and this approach also provides greater flexibility.

4.II.B.1. Manual Methods

- 1. MACT standards for HWCs are based on the average of data from three test runs. To ensure sufficient samples of the various congeners are obtained, EPA proposes a three-hour minimum sampling time for Method 0023A. EPA further explains that in some cases, nondetects are calculated into the average as zero. However, as EPA further explains, RCRA programs typically use the nondetect value, not zero, in calculating toxicity equivalents (TEQs) (61 FR 17378).**

DOE considers it appropriate that if a three hour minimum sampling time for Method 0023A is used for the detection of polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans (PCDD/PCDF), then any congeners that are reported as non-detect should be counted as zero for the purpose of calculating the total concentration of PCDD/PCDF. It is also appropriate that EPA clarify this information in the preamble to the final rule as well as in the codified language. Because the sampling method is a CAA provision, DOE supports use of zero as opposed to the use of the nondetect value. DOE points out that in recent RCRA guidance addressing indirect exposure analysis, EPA recommends²⁴ using one-half the detection limit for compounds on the products of incomplete combustion (PIC) that are not detected, but which are likely to pose significant risks at concentrations near the detection limit. Additionally, EPA points out that requiring 3 test runs will result in the generation of additional radioactive waste for RMWCs. DOE requests that EPA consider allowing some flexibility in how the testing might be accomplished to minimized the amount of contamination from the test runs.

- 2. EPA invites comment on whether minimum sampling periods for manual methods should be specified directly (61 FR 17378, col. 3).**

DOE believes that it is appropriate to rely on manual methods which specify minimum sample collection and thereby, specify indirectly the minimum length of time by identifying collection gas flow specifications which result in obtaining the required sample volume.

4.II.B.2. Continuous Emission Monitoring Systems (CEMS)

EPA has proposed to require HWCs to be equipped with CEMS for PM, Hg, CO, HC, and O₂. In addition, EPA allows the facilities to elect to use CEMS for compliance monitoring for SVM, LVM, HCl, and Cl₂. CEMS must be operated at all times hazardous waste is fed into or remains in the combustion chamber (61 FR 17379).

DOE points out that the requirement for a CEMS to be operating “at all times hazardous waste is fed” will result in the need for facilities to shut down whenever the CEMS is not operating. DOE believes that it is very onerous to require a facility to shut down every time a CEMS is down without consideration for the reliability of the CEMS. Estimated availability (operation time per year) for mixed waste units is already much lower at typically 5,000 hours or less (around 50% availability) than typical hazardous waste incinerators (which are at around 90% availability), due to operating and maintenance issues related to the radiological containment. DOE feels that to impose added risk of shutdown from inadequately demonstrated and difficult to operate CEMS (that may be unreliable) is not reasonable. DOE suggests that a more reasonable requirement would be for EPA to allow facilities to assess the up-time of the CEMS and then calculate some percentage of down time from there. If

²⁴ EPA, April 1994, Exposure Assessment Guidance for RCRA Hazardous Waste Combustion Facilities, EPA530-R-94-021, U. S. Environmental Protection Agency, Washington, D.C.

EPA is envisioning requiring redundant CEMS to support up time, then DOE requests that EPA justify the cost of redundancy through the Office of Management and Budget.

4.II.B.2.d. All Averages are Rolling Averages

EPA proposes that all CEMS averaging periods are on a rolling basis (61 FR 17380, col. 3).

DOE believes rolling averages are acceptable for operating limits. This approach will allow facilities to better handle spikes that normally occur during routine operating conditions. Batch size and feeding frequency are currently established according to the waste content and feed rate limitations.

DOE points out that for some HAPs such as lead and cadmium, the standards set for hazardous waste incinerators require a 12-hour rolling average. Currently, there are some methods available that are not continuous *per se*, but still meet the intent of the rule (i.e., they can support a 10-hour rolling average). As a result, it would create greater flexibility in achieving compliance if EPA would change the performance specifications to allow the use of some not quite “continuous” CEMS. The Department requests EPA consider defining “continuous” in terms of the objectives to be achieved with the CEMS and the averaging period acceptable for that pollutant.

4.III. Incinerators: Basis and Level for the Proposed NESHAP Standards for New and Existing Facilities

EPA explains that to conduct the MACT floor analyses, EPA compiled available data. The majority of this data were generated during trial burns that represent worse-case emissions. EPA requests additional operating data for incinerators under normal operating conditions (61 FR 17381).

Two reports related to the DOE TSCA incinerator in Oak Ridge, Tennessee may supply helpful data. The references are as follows:

- L. V. Gibson, Jr., H. W. Hermes, W. D. Bostick, D. P. Hoffman, D. P. Schaefferkoetter, J. E. Dunn, F. Perez and H. T. Lee; Partitioning of Cesium and Strontium in the TSCA Incinerator; 1994 International Incineration Conference Proceedings; Houston, Texas; May 9 - 13, 1994.
- M. P. Humphreys, V. Adams, L. M. Graves, and L. V. Gibson, Jr.; Informational Stack Testing of a U. S. DOE Mixed Waste Incinerator in Preparation for Proposed Emission Limits Under the Draft EPA New Hazardous Waste Combustion Strategy; Air and Waste Management Association 89th Annual Meeting and Exhibition, Nashville, Tennessee; June 23 - 28, 1996.

4.III.A. Summary of MACT Standards for Existing Incinerators

4.III.A.1. Dioxins and Furans (D/Fs)

1. **EPA is identifying temperature control to below 400 F at the PM control device as the MACT floor. Given that approximately 45 percent of the test conditions in EPA’s database have average D/F emissions below 0.20 ng/dscm (TEQ), EPA believes that it is appropriate to express the floor as “0.20 ng/dscm (TEQ), or temperature at the PM control device not to exceed 400°F” (61 FR 17381).**

It is not clear why the proposed D/F emission standards at 40 CFR 63.1203(a)(1) and 40 CFR 63.1203(b)(1) do not include the temperature control consideration discussed at pages 17381-17382 of the preamble. Also, the preamble discussion on page 17382 concerning "Beyond-the-Floor (BTF) Considerations" does not clearly indicate why the temperature control requirement was omitted.

In many incinerators, thermocouples are located at the point of lowest temperature in the combustion chamber. This ensures that the entire combustion chamber is at a specified minimum temperature. The relocation of thermocouples closer to the burners in the combustion zone will indicate higher temperatures. However, in any case, trial burns will be required to establish the proper operating temperatures for the thermocouple locations to ensure good combustion is achieved.

2. EPA states that it evaluated D/F emissions from all incinerators that are equipped with wet PM control systems and that the average D/F emissions for test conditions ranged from 0.01 ng/dscm to 39 ng/dscm. Additionally, in the following section (1.b), EPA states that it "estimates that 50 percent of incinerators are currently meeting a Beyond-the-Floor (BTF) level of 0.20 ng/dscm" (61 FR 17382).

DOE has data that actual total dioxin emissions from hazardous waste incinerators range from 0.3 to 270 ng/dscm and furan emissions ranged from 0.4 to 1,300 ng/dscm²⁵. This report by Helble is cited in a Westinghouse Savannah River Site report prepared by the Georgia Institute of Technology entitled "Air Emissions Estimate for the Savannah River Site Consolidated Incineration Facility - Part 2: Organic Emissions." The data in the Helble report, which is based on trial burn reports, indicates that actual D/F emissions may be 10 to 50 times higher than the data that EPA used to set a MACT floor for D/F emissions. DOE believes that the top 12 percent of hazardous waste incinerators (the criteria for setting a MACT standard) cannot meet the 0.20 ng/dscm standard. DOE recommends that EPA review the Helble report and re-evaluate the establishment of the MACT standard for D/F emissions.

Based on information discussed during an April 29, 1996, meeting in Washington, D.C., EPA could not completely correlate emission rate and feed rate results to substantiate the proposed standards. Therefore, DOE believes that EPA has not adequately justified the cost expended to achieve beyond-the-floor standards by the slight additional risk reduction. This lack of justification is especially true for dioxin/furans since EPA recognizes that there is uncertainty about the total emissions and the associated reduction to be achieved as a result of the proposed regulation.

For the reasons outlined above, the Department recommends EPA set the MACT standard for existing and new sources [40 CFR 63.1203(a)(1) and (b)(1)] at the floor level (400 F or less prior to the first air pollution control device) or, for facilities that cannot meet the temperature standard, the emission level corresponding to that currently met by the best 12 percent of facilities (most likely an established emission rate somewhat greater than 0.20 ng/dscm).

3. The Agency invited comments and data on whether small incinerators should be subject to the floor levels or the Beyond the Floor (BTF) dioxin emission levels (61 FR 17382).

DOE requests EPA consider the cost-effectiveness of applying CI/CB MACT standards to small incinerators, especially relative to managing wastes (and incinerator residues) that are subject to LDRs. DOE questions the added value of applying the more stringent BTF standards to small incinerators that burn only small amounts compared to commercial incinerators. (See also Specific Comment 7.III.C.)

²⁵ Helble, J.J., 1993, *Analysis of Dioxin Emissions from the Incineration of Hazardous Waste*, EPA Office of Solid Waste, Washington, D.C.

4.III.A.2.b. Particulate Matter

In the preamble, EPA discusses the rationale of setting a BTF PM standard of 69 mg/dscm which is based on well designed and well operated electrostatic precipitators, ionizing wet scrubbers, and fabric filters. In 40 CFR 63.1203(a)(8) (61 FR 17516), EPA proposes the PM emission limit for existing HWCs (e.g., HWIs) as 69 mg/dscm, over a 2-hour rolling average corrected to 7 percent oxygen. However, in the proposed regulation 40 CFR 63.1210(j)(6), EPA states that “PM shall be limited to the level achieved during the comprehensive performance test” (61 FR 17383).

DOE disagrees with EPA’s requirement that hazardous waste incinerators establish a site-specific PM emission standard. If the site-specific emission level is very low, the level may be below or near the detectable level of the PM CEMS which could cause multiple automatic waste feed cutoffs (AWFCOs) during facility operations (i.e., separating out the signal from the noise would be difficult for a monitor). DOE recommends that EPA require HWIs only be required to meet the BTF level of 69 mg/dscm to ensure facilities are not unnecessarily restricted to a lower level achieved during the facility’s performance test.

4.III.A.3.a. MACT Floor for Mercury

EPA states that a BTF mercury emission level based on the use of carbon injection technology is warranted for new and existing industrial incinerators and the proposed MACT standard is 50 µg/dscm based on a 10-hour rolling average. The proposed monitoring requirement for mercury is either CEMS [40 CFR 63.1210(k)] or an alternative option (i.e., waiver of Hg CEMS), which requires monitoring a feedstream for its mercury content [40 CFR 63.1210(a)(3)] (61 FR 17384 and 17520).

As previously discussed (see DOE General Comment 2), the Department does not consider the use of either CI or CB technology practical for hazardous waste incinerators combusting radioactively contaminated waste materials. The disposal of the fabric filters or other PM control devices used to remove the injected carbon as RMW will increase the amount of radioactively contaminated materials which DOE would have to dispose. Additionally, the use of carbon injection could impact the use of HEPA filters which is the preferred pollution control technology for controlling radionuclide emissions. With carbon injection, the filters could become clogged so frequently that the use of HEPA technology may become impractical. Thus, complying with the proposed MACT standards and continuing to meet 40 CFR part 61 Subpart H NESHAP standards may not be feasible.

DOE believes that EPA's evaluation of actions needed to comply with the beyond-the-floor limits are not realistic. It is likely that in many cases, CI units cannot be simply "plugged" into operating incinerator unit configurations. A further reduction of the limit to the beyond-the-floor level would require not only the addition of CI but extensive facility modification due to the inability to retrofit CI into the existing off-gas system. The cost to install such a system would be well beyond the projected annualized cost (between \$486,000 and \$731,000) (61 FR 17386) to meet the requirements for the entire proposed rule. The actual cost would be in excess of \$10,000,000 for only the design, construction, and permitting of a CI unit. This cost is based on an engineering study for a similar upgrade recently completed for the DOE's TSCA incinerator at Oak Ridge, Tennessee. Operating costs of the new units may cost an additional \$500,000 per year. It is also unclear whether or not EPA considered the following cost elements in their economic analysis: management and cost of the

collection, storage, and treatment of the mercury contaminated carbon that would be generated; and the additional units that would need to be constructed to manage this waste stream. In the case of radioactive mixed waste, the waste stream has no available treatment and waste would be placed into permanent mixed waste storage while awaiting the design, funding, and construction of a treatment facility, which could be 5-10 years after the determination that the CI unit is needed.

In light of the above discussion, DOE requests that EPA revise the economic analysis of the BTF for Hg to consider more realistic costs of applying CI/CB standards to incinerators, and managing resulting wastes (and incinerator residues) that are subject to LDRs. (See General Comment on page 3). DOE feels that a more realistic cost-based analysis may show that meeting the MACT floor level for Hg emissions is all that is justified.

Regarding the proposed MACT standard, it appears that the MACT standards for mercury was established assuming feed control in conjunction with a wet scrubber system for emission control. Data in the mercury data set (shown on Table 3-6 of the *Technical Support Document for HWC MACT Standards; Volume III: Selection of MACT Standards and Technologies*) that represent high input of mercury [high maximum theoretical emission concentration (MTEC)] was disqualified from the MACT pool. This disqualified 14 of 59 data points. The disqualified data points are those representative of likely feed to mixed waste incinerators. Feed control by DOE on legacy radioactive drummed waste would require manual opening, sampling, and sorting each waste package. This activity would result in significant personnel radiation exposure and cost. Therefore, the feed control assumption of this MACT standard is not valid for mixed waste incinerators.

4.III.A.4. Semivolatile Metals (SVM) (Cadmium and Lead)

Lead emission numbers used to set MACT standards are based on low concentrations of lead in feed (61 FR 17385).

DOE feels that these emission numbers do not appear to represent realistic levels, particularly for mixed waste. This comment is also applicable to other metals limits. The standard for SVM was established assuming that feed control can be used. In fact, all data in the data set (Table 3-9 of Volume 3 of the Technical Support Document) that represented high input of SVM was disqualified from the MACT pool. Twenty four data points, the ones most representative of the DOE situation, were disqualified from the MACT pool for this standard. Feed control by DOE on old radioactive drummed waste would require manual opening, sampling, and sorting each waste package. This activity would result in significant manpower radiation exposure and cost. Therefore, the feed control assumption of this MACT standard should not be applied to radioactive mixed waste incinerators.

4.III. A.7.a. MACT Floor for HC

EPA states that its database for HC emissions from 31 hazardous waste incinerators indicates a range from a low of 0.2 to a high of 35.8 parts per million by volume (ppmv). Additionally, EPA states that this data may be low due to the fact that “Facilities generally obtained HC emissions data for their own information and often used an unheated (probe) flame ionization detector, in which soluble volatiles and semivolatiles are condensed out before entering the detector.” With these data, EPA is proposing a BTF limit for hydrocarbons of 12 ppmv based on an hourly rolling average (61 FR 17386).

A paper published by Dempsey and Oppelt , indicates that the range of hydrocarbon emissions,

obtained during trial burns from a number of rotary kiln incinerators similar to DOE's Savannah River Site CIF, varies from 0.5 to 61.7 ppm with a mean concentration of 21.07 ppm. This paper by Dempsey and Oppelt is cited in a Westinghouse Savannah River Site report prepared by the Georgia Institute of Technology entitled "Air Emissions Estimate for the Savannah River Site Consolidated Incineration Facility - Part 1: Metal and Radionuclide Emissions." Additionally, the studies show that the destruction efficiency of organics correlates inversely with the organic feed concentration indicating that obtaining high destruction efficiency at low initial concentrations is difficult.

DOE urges EPA to review published data on hydrocarbon emissions concentrations from hazardous waste incinerators using the proper EPA testing methods (i.e., heated probe) prior to setting a BTF hydrocarbon emission level that, as stated by EPA, "the average source can achieve 99 percent of the time." DOE believes that the proposed standard would not be achievable for the "average source."

4.III.A.7.c. Beyond-the-Floor Considerations

EPA invites comments on the use of CO and HC as surrogates for non-dioxin organic emissions (61 FR 17386).

Relative to the use of HC as a surrogate, DOE believes that operators of HWCs who exceed the hydrocarbons (HC) standards should have the option of identifying and quantifying the makeup of their HC emission to demonstrate what fraction comprises HAPs regulated under Section 112. DOE requests EPA clarify that only the fraction comprising HAPs should be subjected to the MACT standard. If the fraction of HC consisting of HAPs is less than the MACT standard, no additional controls should be required.

4.III.B.9. MACT New Cost Impacts

EPA provides estimates of incremental capital, operation, and maintenance costs for new hazardous waste incinerators. Specifically, EPA estimates costs of \$336K, \$514K, and \$722K respectively for small, medium, and large HWIs based on the proposed control levels (61 FR 17388).

DOE feels that EPA has significantly underestimated the costs of complying with the new MACT standards and, as pointed out throughout these comments, the increased cost impacts associated with facilities that incinerate radioactive mixed waste. Specifically, DOE believes that EPA has not factored in the costs associated with: (1) managing additional wastes generated through the use of required treatment technology, particularly as it relates to LDR requirements; and (2) the required performance verification testing. Furthermore, DOE feels that EPA has significantly underestimated the costs of certain systems (such as CI and CEMSs) and the associated costs of retrofitting existing facilities to accommodate these systems. DOE further points out that standards for similar municipal waste incinerators (MWIs) are less stringent than those proposed in this rulemaking.

As DOE points out in our General Comment #2, (page 3), the use of CI or CB systems will result in a significant volume of hazardous wastes (or in DOE's case, RMW) which will need to be managed.

²⁶

Dempsey, C.R., and Oppelt, E.T. (1993), Air and Waste Management Association, Vol. 43.

DOE estimates that more than 16 tons/year of additional mixed waste would be created at the DOE Idaho WERF alone. Costs for RMW facilities would exceed those for incinerators burning solely hazardous waste; and required test burn and compliance monitoring requirements results in the creation of additional radioactively contaminated wastes (see General Comment #2). Furthermore, additional treatment may be required to meet the UTS. In these instances, additional sampling and analysis (at approximately \$3000/test) would be required to determine if the UTS has been met.

DOE also questions whether or not the operational cost estimates include costs for performance verification testing. It appears likely that the operational cost estimates are the costs associated with the air pollution control devices (e.g., labor, reagents, and associated energy costs) and do not include costs associated with the performance tests required by proposed 40 CFR 63.1208. These tests can be quite expensive. Significant labor is required in the preparation of test plans and for operations during the performance testing. Based on the experience of DOE's Pacific Northwest National Laboratory (PNNL) and vendor estimates provided to PNNL, the collection and analysis of stack gas samples (in triplicate) for volatile organic compounds (VOCs) and D/F require three to four weeks of labor, and cost on the order of \$25,000, including laboratory analyses. Typical analytical costs for D/F are likely to be on the order of \$1200/sample.

DOE also believes that the cost of permitting, design and construction, and/or retrofitting and installation of required systems is underestimated. Installation of some CEMS (e.g., Hg, multi-metals whose performance in a radionuclide environment is questionable or unknown) would likely require some modifications by the manufacturer or their representative. Likewise, installation of CI systems would likely require a retrofit of the facilities' off-gas systems. DOE estimates that the cost to install a CI system would exceed \$10,000,000 for the design, construction, and permitting of one unit alone (data taken from an engineering study of DOE's TSCA incinerator at Oak Ridge, Tennessee - see comment 4.III.A.3.a.; page 35). The cost of complying with this one requirement far exceeds the projected annualized cost of between \$486,000 and \$731,000 for compliance with the entire proposed rule.

Finally, DOE notes that the standards for MWI and HWC differ, particularly in the case of D/F and Hg. EPA provides Tables VII.1 and VII.2, respectively (61 FR 17411), which compare the proposed standards for existing and new sources, respectively, to other final or proposed standards. DOE notes that the standards for D/F and Hg are significantly more stringent in this proposal than those being proposed for MWIs. DOE questions why this is the case. Although EPA did not provide an inventory of Hg emissions in the proposed rule, the Agency does provide an inventory of D/F emissions (61 FR 17477) which indicates that HWCs account for only 10 percent of the national D/F emissions. It appears that more stringent standards are being proposed for facilities which make up only 10 percent of the emissions, while less stringent standards would be applied to the remaining 90 percent of D/F emissions from major emitters. This does not seem to be the approach which is most protective of human health and the environment.

DOE believes that the issues discussed above represent some of the additional cost considerations which were apparently not factored into (or were underestimated in) the economic analysis for this proposed rule. DOE strongly believes that a reevaluation of the costs associated with compliance with this proposed rule would not justify many of the stringent and BTF standards.

5 IMPLEMENTATION

5.I. Selection of Compliance Dates

Currently, EPA defines "compliance date" under 40 CFR 63.2. The existing definition

allows sources to complete certain activities (e.g., performance testing, notification of compliance) after the compliance date. In this proposed rulemaking, EPA proposes a different definition for compliance date for HWCs. Basically, the proposed definition of compliance date requires that compliance-related activities be completed on or before the compliance date (61 FR 17415).

DOE believes that the proposed change in the definition of “compliance date” adds a substantial burden to facilities in meeting the statutorily-driven requirement of three years to come into compliance with the MACT standards. As noted in our previous comments (see General Comment #3 on page 8) compliance with this deadline is further exacerbated for Federal facilities by constraints that go beyond those placed on private industry (e.g., a procurement process that requires competitive bidding to obtain contractors and equipment; limited control over appropriations and resulting budgetary constraints). Although DOE recognizes that some facilities may require only minor modifications to emission control equipment to come into compliance with this rule, DOE believes that the majority of sources will be severely impacted by the requirement to comply within three years. By changing the definition of “compliance date”²⁷ to require compliance by the earliest date possible, EPA is adding a significant (and unjustified) additional burden on MWCs and RMWCs. DOE urges EPA to consider changing the definition of “compliance date” and strongly advocates that the existing definition at 40 CFR 63.2 be retained.

5.I.A. Existing Sources

1. **Relative to existing facilities, EPA discusses the provision under 40 CFR 63.6(I)(4)(I)(A), which provides for a one-year extension for the installation of controls (61 FR 17416).**

DOE supports the proposal allowing a one-year extension for the installation of controls. DOE feels that if operators make a good faith effort to comply with the standards but cannot do so for reasons beyond their control, a one-year time extension should be granted. However, it is not clear whether the one-year extension may be renewed, if necessary. A reading of the proposed regulations and CAA requirements suggests that the one-year extension for installation of controls is a one-time, non-renewable extension. Based on technical, public participation, and budgetary considerations, this would impose severe scheduling and compliance problems for DOE. DOE recommends that the extension be renewable, on a case-by-case basis. Relative to EPA’s authority to grant a one-year extension under 40 CFR 63.6(I), the Department requests that EPA acknowledge that budgetary constraints beyond the control of the source (such as those imposed by Congress) constitute a valid reason for granting a time extension.

2. **EPA discusses its concerns that only those facilities that plan to comply with the new regulations are allowed to burn hazardous waste. Owners/operators of facilities that do not plan to comply with the new regulations must terminate hazardous waste burning on the date they determine that notification of compliance will not be submitted by the**

²⁷ "EPA is proposing a different definition of compliance date for HWCs than is provided by existing 40 CFR section 63.2." "40 CFR 63.7 requires performance testing after the compliance date ... The Agency is proposing to define compliance date for HWCs in 40 CFR 63.1201 as the date when a HWC must submit the initial notification of compliance. In addition, notification of compliance would be defined as a notification in which the owner and operator certify, after completion of performance evaluations and tests, that the HWC meets the emissions standards, CMS, and other requirements of Subpart EEE, Part 63, including establishing operating limits to meet standards for which compliance is not based on a CEM" (61 FR 17415).

compliance date (61 FR 17416 and 17517) (61 FR 17416).

If EPA elects to issue this provision in the final rule, it may serve as a disincentive to planning and implementing the types of waste minimization measures that could eliminate the need or preference for onsite combustion. DOE requests EPA acknowledge that facilities that elect to pursue waste minimization/pollution prevention in lieu of implementing actions necessary to bring their HWC into compliance with the MACT standards will not be viewed as having elected not to comply and therefore will not be required to cease burning hazardous waste upon choosing that course of action.

- 3. EPA proposes that existing facilities be in compliance with the MACT standards within three years after the date of publication of the final rule in the Federal Register. On page 17416 of the preamble discussion, EPA states that it considers three years to be a reasonable amount of time for facilities to complete all of the activities that it considers necessary to comply with the proposed rule. EPA then delineates a list of nine activities that it believes must be achieved to comply with the proposed rule (61 FR 17416, col. 1).**

Judging from EPA's list of activities, DOE believes some activities may not have received full consideration when EPA was contemplating the appropriateness of the three year period and the definition of compliance date. Specifically, DOE notes that "obtain sufficient funding" is not among the activities identified in EPA's list. The constraints of both the Federal budget process and the federal procurement process may present unique challenges in meeting a three year compliance schedule. Please refer to General Comment #3 for comments related the constraints associated with the Federal budget process and the federal procurement process.

In addition to "obtain sufficient funding," another consideration that appears to be missing from the list is "obtain a permit modification." DOE recognizes that the MACT standards would take effect automatically under the CAA (i.e., they are self-implementing), and that EPA has proposed streamlined procedures to address the RCRA permit modifications that will be necessary to modify existing RCRA permits. As EPA notes, however, changes facilities might make to conform to the new standards would likely qualify as Class 2 or 3 modifications under the current scheme (61 FR 17455). DOE has several concerns. First, if EPA promulgates permit modification option 4 or 5, the time necessary to complete a permit modification of this magnitude becomes an important time constraint. Second, EPA notes that State regulations have not been assessed against the proposed Federal regulations (61 FR 17457). If a State has existing comparable standards that they administer under State law or if states are required (under state statute or code) to implement State-specific permit modification procedures for all State-issued (e.g., incinerator) permits, the time associated with completing the permit modification process will influence a facility's schedule dramatically. DOE requests EPA clarify whether they intentionally omitted "obtain a permit modification" and, if so, state the reason(s) underlying its decision (e.g., EPA anticipated issuing a final HWC rule that incorporates permit modification option 1 or option 2; EPA plans on, as a matter of policy, issuing temporary authorizations if the final HWC rule incorporates permit modification option 4 or option 5).

5.I.B. New Sources

EPA proposes a definition for "new source" under the proposed rule at 40 CFR 1201 that differs from the current definition at 40 CFR 63.2 (61 FR 17415).

First, it is unclear to DOE why EPA is proposing a new definition for "new source" in 40 CFR 63.1201. Such a new definition will likely be confusing to the regulated community. No explanation for the new definition is provided in Section VIII of the proposed rule at page 17458. In fact, the discussion in the first paragraph under Section VIII adds to the confusion by stating that new

definitions are proposed in 40 CFR 63.1201 for terms not already defined in 40 CFR 63.2. Since the term “new source” is already defined in 40 CFR 63.2, it is not clear why it is being redefined in proposed 40 CFR 63.1201. Moreover, in col. 1 at page 17417, EPA refers to the 40 CFR 63.2 definition of “new source” as if it applies to 40 CFR 63 Subpart EEE.

Second, DOE is very concerned about application of the proposed definition of “new source” in 40 CFR 63.1201 (61 FR 17515) to certain DOE facilities. A strict reading of this proposed definition suggests that the CIF designed to incinerate radioactive mixed waste at DOE’s SRS could be considered a new source. The CIF facility is constructed, but has not yet undergone a trial burn or begun normal operations. The facility has, however, burned chemical product mixtures as surrogates for hazardous waste during its shakedown period. Under the proposed definition of “new source,” the CIF facility could potentially be considered a new source because it technically had not burned hazardous waste as of April 19, 1996. DOE believes such an interpretation would be highly inequitable because the facility was designed and constructed well before the April 19, 1996, proposal date. The CIF facility could be interpreted as having a status similar to an existing HWC that becomes subject to the Subpart EEE emission standards because of changes to the definitions of what constitutes a hazardous waste. In this case EPA notes at the bottom of col. 2, page 17416 that “it would be inappropriate to apply new source MACT to a facility which has not altered its conduct, and which only becomes subject to this rule because of additional regulatory action taken by EPA (or an authorized state).” The CIF facility could also be interpreted as having a status similar to a facility which commences construction between proposal and promulgation for which three years can be granted for a source to be in compliance with a standard that is more stringent than that in effect at the time construction began (61 FR 17417, col. 1). Finally, DOE points out that under the definition of “new source” at 40 CFR 63.2, the CIF facility would not be considered a new source because construction on it was commenced well before the April 19, 1996, proposal date.

In light of the above discussions, DOE urges EPA to reconsider proposing a new definition for “new source.” The Department believes that the existing definition should be retained as it is clearer, more equitable, and would result in less confusion among the regulated community responsible for implementing this rule.

5.I.C. One Year Extensions for Pollution Prevention/Waste Minimization

EPA proposes extending the compliance deadline for up to one year (beyond the three-year compliance deadline) on a case-by-case basis, for facilities requesting an extension to implement pollution prevention/waste minimization measures that will enable the facility to meet MACT standards, but cannot be implemented within the three-year compliance deadline (61 FR 17417).

DOE supports EPA’s proposal to allow an extension for up to one year (beyond the three-year compliance deadline) for facilities implementing pollution prevention/waste minimization measures. In fact, the Secretary of Energy has recently set performance goals for reducing waste generation within the DOE complex.²⁸ One goal is to reduce by 50% the generation of hazardous waste by December 31, 1999, using calendar year 1993 as a baseline year. Achievement of this goal will depend on Congressional appropriations and mandated competing uses for the funds, particularly those related to DOE’s cleanup mission.

²⁸ Memorandum from Secretary of Energy Hazel O’Leary to Heads of Departmental Elements dated May 3, 1996: Subject Departmental Pollution Prevention Goals.

To ensure consistency, DOE recommends that EPA codify a definition for “pollution prevention planning and implementation.” To ensure that the complete timeline associated with developing a pollution prevention program is considered by regulators making their case-by-case determination, DOE further recommends that the codified definition include, but not be limited to, those activities beginning at the point a facility-specific decision is made to investigate the establishment of a pollution prevention program (e.g., official memorandum prepared and circulated) through the point the facility begins measuring pollution prevention progress. This period would, therefore, include life-cycle assessments, as well as laboratory screening, and bench-scale and/or pilot-scale testing. Furthermore, the definition should ensure regulators consider the realized or expected impact of pollution prevention/waste minimization measures relative to all points of hazardous waste generation, regardless of whether the waste is generated on-site or off-site, provided the measures, when fully implemented, will ensure the HWC facility meets MACT standards and provided the HWC and the point(s) of generation are owned by the same person. DOE notes to EPA that Congress expressly defines MACT as the “...application of measures, processes, methods, systems, or techniques including, but not limited to, measures which reduce the volume of, or eliminate emissions of, such pollutants through process changes, substitution of materials and other modifications” [CAA Section 112(d)(2)].

5.II.A. Monitoring Hierarchy

EPA has developed the proposed compliance monitoring requirements by examining the hierarchy of monitoring options for specific processes, pollutants, and control equipment. The top tier of this hierarchy is the use of continuous emissions monitoring system (CEMS), which EPA indicates is also known as “CEM.” (61 FR 17417, col. 3).

EPA defines and redefines the CEMS acronym throughout the preamble of the proposed rule. For example, on page 17388, col. 1 and 2; page 17495, col. 3; page 17512, col. 2; and page 17520, col. 3 EPA defines the CEMS acronym as: 1) continuous monitoring system, 2) continuous emissions monitoring systems, 3) continuous emission monitoring system, and 4) continuous emission monitors. DOE suggests that EPA select a single definition of CEMS.

5.II.B.1 Averaging Periods for Limits on Operating Parameters

EPA proposes various averaging periods for the limits on operating parameters including a ten-minute rolling average; a one-hour rolling average; and a 12-hour rolling average. To demonstrate compliance with any of these rolling averages, EPA proposes the monitor measure the parameter once each 15 seconds, and four 15-second measurements must be averaged each minute to determine a one-minute average. EPA further proposes that all 15-second measurements be used without smoothing, rounding or data checks and that no 15-second observations may be “thrown out” for any reason (61 FR 17417 - 17418).

Although DOE generally supports EPA’s method for calculating one-minute rolling averages, DOE has substantial concerns regarding EPA’s requirement that all 15-second observations be retained. The Department does not recognize the usefulness of maintaining data (whose use would be distortional) from 15-second measurements that may be skewed due to equipment malfunction, power surges, or outages. EPA should clarify that abnormal observations that can clearly be attributed to equipment malfunction or other error either need not be retained, or if retained such data be flagged as suspect and not used in calculating one-minute rolling averages. Such data should be treated as missing analytical data.

5.II.C.1. Continued Applicability of RCRA Omnibus Authority

Under the proposed rule, RCRA permit writers will continue to have authority under 40 CFR 264.345(b)(6) (for incinerators) and 266.102(e) (for BIFs) to supplement the proposed operating parameters and compliance monitoring requirements as necessary to protect human health and the environment on a site-specific basis (61 FR 17419).

DOE recognizes that under RCRA, permit writers have the authority to impose stricter emissions limits and monitoring requirements than those promulgated if such measures are necessary to protect human health and the environment. This is one of the reasons that DOE urges EPA to develop a permit-by-rule approach (i.e., site-specific issues related to the CAA/RCRA interface can be resolved by permit writers using this authority).

If EPA determines that it cannot separate the CAA/RCRA programmatic responsibilities using a permit-by-rule approach (i.e., the RCRA omnibus provision [RCRA Section 3005(c)(3)] cannot be used to override the minimum destruction and removal efficiency (DRE) requirement [RCRA Section 3004(o)(1)(B)] and EPA is legally bound to retain DRE), then DOE urges EPA to consider developing a combined set of RCRA and CAA combustion regulations and a format for a combined RCRA/CAA permit (see section 5.VI.A of these comments). A complete set of codified regulations, referencing EPA's format guidance, should appear within the regulations promulgated under CAA authority (i.e., 40 CFR Part 63 Subpart EEE) and the regulations issued under RCRA authority including, but not limited to, 40 CFR 264/265 Subpart O; Part 266 Subpart H; 40 CFR 270.19 (for incinerator-specific permitting information); 40 CFR 270.22 (for industrial furnace-specific permitting information); Appendix I to 40 CFR 270.42 for incinerator/industrial furnace permit modifications); and 40 CFR Part 270 Subpart G.

If consolidated regulations are not developed, DOE believes that the proposed regulations could result in having different emissions limits and monitoring requirements in CAA and RCRA permits issued to the same site, causing considerable confusion among the regulated community, and Federal, State, and local regulators.

5.II.C.2.b.iv. Good Combustion: Combustion Zone Temperatures

EPA proposes limiting the combustion zone temperature in each chamber to the minimum level occurring during the comprehensive performance test documenting compliance with the D/F standard (61 FR 17422-17423).

DOE notes that in many incinerators, thermocouples are located at the point of lowest temperature in the combustion chamber. This ensures that the entire combustion chamber is at a specified minimum temperature. The relocation of thermocouples closer to the burners [i.e., "at a location as close to, and as representative of, each combustion chamber as practicable;" (see 40 CFR 63.1210(j)(2)(I))] in the combustion zone will indicate higher temperatures. DOE suggests, however, that EPA not specify the location as an operating limit for this parameter. Trial burns/performance tests will serve as the vehicle for establishing the proper operating temperatures regardless of the thermocouple location(s). DOE believes that thermocouple location is inconsequential provided the D/F emission limit is met and the combustion zone temperature in each chamber is then set at the minimum level occurring during trial burn/performance testing.

5.II.C.2.b.vi. Good Combustion: Batch Size, Feeding Frequency, and Minimum Oxygen.

Some HWCs burn fuel in batches, such as metal or plastic containers. EPA proposes to establish site-specific limits on maximum batch size, batch feeding frequency, and

minimum oxygen concentration (61 FR 17423, col. 3).

DOE feels a loss of operating flexibility would result from site-specific limits which would be established on batch size, feeding frequency, and minimum oxygen. Batch size should be limited by the physical constraints of the feed system. A waste analysis plan, "feed management plan," and operating experience should eliminate the need for these limits which are intended to ensure that the operators do not "overwhelm" the system.

Furthermore, experience has shown that extractive systems described by EPA to measure oxygen levels in high temperature combustion chambers are difficult to maintain. DOE believes that oxygen measurements in the stack are sufficient to monitor for good combustion conditions.

5.II.C.2.b.xii. Rapid Quench

EPA notes that some facilities may elect to use a rapid quench to lower flue gas temperature to meet the D/F standard. EPA doubts that any facilities will use a rapid quench without a dry PM control device and invites comment on whether the final rule should establish a maximum flue gas temperature to address such a situation which is viewed as hypothetical (61 FR 17426).

EPA appears to suggest that some facilities with a dry PM APCD would elect to install a rapid quench downstream of the dry device to lower the exit temperature below the limit (400°F) to meet the D/F standard. EPA states "it doubts, however, that there will be any facilities which use a rapid quench without a dry PM control device." This implies that EPA believes all facilities with a rapid quench will elect to install a dry PM control device (i.e., carbon injection followed by a dry PM control device) to meet the new rule for D/F emissions. However, it has been shown that wet off-gas systems are superior to dry systems for controlling D/F emissions. A rapid quench minimizes the likelihood of D/F precursors to combine to form D/F due to the absence of an adequate residence time necessary for reformation to occur. In fact, DOE operates a unit that has a rapid quench followed by a wet scrubber. For reasons similar to the logic used for dry PM devices (that it is not necessary to establish temperature limits as the cloth bag material makes the unit's temperature self limiting), DOE does not feel it is necessary to impose temperature limits for wet scrubbers. DOE's system is constructed using fiberglass which also limits the maximum temperature. EPA should note that there are several facilities in existence without dry PM devices (e.g., all wet air pollution control systems) that meet the MACT floor levels.

5.II.C.3.a. Evaluation of Monitoring Options

1. Several types of CEMS are available which measure Hg. EPA proposes the use of a Hg CEMS to document compliance with the Hg standard (61 FR 17426-17428).

DOE believes that the Hg emission limit is at a level that facilities will need to impose a feed rate limit on Hg to ensure compliance, regardless of whether or not the facility employs a Hg CEMS on the stack. Therefore, it would follow that a Hg stack CEMS would become redundant. DOE suggests that EPA investigate this matter further and consider establishing a less restrictive Hg limit.

2. EPA states that incinerators must add a mercury CEMS and states that one is made by a German company called Verewa (61 FR 17427, col. 2).

DOE questions the appropriateness of crafting regulations that require facilities to add monitoring equipment that 1) is made outside the USA, and 2) appears to be a offered by a limited number of

companies. One DOE concern is that such equipment may not be commercially available within the United States. DOE suggests EPA evaluate other RCRA uses of the term “available” such as under the land disposal restriction program [see the November 7, 1986 Federal Register (51 FR 40589)].

5.II.C.3.d. Alternative to CEMS

As an alternative to a CEMS, if the final rule does not require that Hg emissions be continuously monitored, the rule would ensure compliance by establishing limits on the operating parameters (61 FR 17428).

DOE supports the use of operating limits in lieu of requiring CEMS. In fact, DOE believes that the alternatives to CEMS that are described in the proposed rule are actually more likely to ensure that emission limits are not exceeded.

5.II.C.4.b.i. How to Address Metals that a CEMS May Not Be Able to Measure

EPA requested comment on whether a multi-metal (MM) CEMS which does not measure all metals can be used so long as the facility assumes that all metal fed is emitted at the stack and the total metal feedrate is used to calculate emissions for the metal groups (61 FR 17429).

DOE believes that the list of metals which can be regulated under the MM CEM performance specification (PS) conforms to the list of metals regulated under the BIF rule, and not to the list set in this proposed rule. DOE suggests that EPA clarify that the PS for the MM CEM applies only to regulated metals under the proposed rule.

DOE further suggests that EPA clarify that “all metal feed” means all metal feed that is not being measured by a CEM. EPA may wish to consider that ratios of feed metals (semi-volatile or low-volatile) to emitted metals be established during the performance test. These data could be correlated to CEM data to project emission levels for the non-CEM metals.

5.II.C.4.c. Option 2: Use of Limits on Operating Parameters to Document Compliance

If a source elects not to use a MM CEMS or a CEMS is not available, the proposed rule would require a site-specific PM limit and comply with limits on metals feedrate, chlorine feedrate, and maximum temperature at the inlet to the PM control device (61 FR 17430-17431).

DOE believes that the use of feed analysis and monitoring of scrubber operational parameters should make HCl and Cl₂ CEMS redundant. DOE suggests EPA consider making these CEMs optional.

5.II.C.6.b.ii. Maximum Total Chlorine or Chloride Feedrate

EPA proposes to limit the amount of chlorine or chloride in all feedstreams and requires sources to perform sample and analysis of each feedstream for total chlorine and chloride (61 FR 17433, top of col. 2).

DOE's comment here is the same as comment 5.II.F.2.a..

5.II.C.6.c.ii. Cl CEMS

EPA explains that incinerators must add a chlorine CEMS and states that one is made by a European company called Opsis (61 FRR 17434, col. 3).

DOE's comment here is the same as #2 under comment 5.II.C.3.a.2.

5.II.C.7.a. Evaluation of Monitoring Options

EPA proposes under 40 CFR 63.1210 that PM is a surrogate indicator for metals and semivolatile organic emissions and thus PM should be monitored using a PM CEMS (61 FR 17435, col. 1).

DOE believes that the proposed limits for metals and D/F emissions levels are so low that PM emissions will never reach the proposed limit of 0.03 gr/dscf for PM. Thus, PM CEMS is not warranted. Facilities proposing to implement metals feed rate limits to control metals emissions would not need to install a PM monitor because PM emissions will be thereby controlled. DOE requests that EPA allow the installation of PM CEMS to be optional. DOE believes that facilities should be free to select normal waste feeds that have the highest ash content for the trial burn in which soils and liquids should be used.

DOE points out that its Mixed Waste Focus Area is working to develop emission monitors which can be used for existing facilities which treat RMW. It is estimated that an additional 10 to 24 months will be required to develop these monitors.

5.II.C.8. Waiver of Operating Limits

EPA discusses allowing the Director to grant a waiver from any or all of the operating limits (61 FR 17439).

DOE supports allowing the "Director" to grant a waiver from any or all operating limits. However, DOE believes that additional language needs to be added to both the preamble and the codified section [40 CFR 63.1210(t)] clarifying that 1) "the Director" is the Director of the AIR program and (2) approval from the Director of waste management (i.e., RCRA) is NOT also required. Without such clarifying language, facilities may be restricted from receiving a waiver of the operating limits without first receiving approval from both Directors.

5.II.C.9 Request for Comment on Waiver of CEMS Requirements for Small, On-Site Sources

EPA proposes to offer small on-site sources the option of complying with the operating limits in lieu of using CEMS for Hg and PM. EPA proposes to use gas flowrates to determine whether a source qualifies as small and that sources with gas flowrates of less than 23,127 actual cubic feet per meter (acfm) be considered small (61 FR 17439).

Although DOE supports creating a distinction between small and large sources, DOE does not believe that the compliance options should be limited to on-site sources. DOE questions whether the location of an emission source has a bearing on the HAP emissions (i.e., an on-site source that burns variable hazardous wastes will be as difficult to sample and analyze as an off-site source). Therefore, DOE suggests that EPA allow small incinerators, regardless of location, to comply with either option. The importance of this classification can be illustrated as follows. As a result of the FFCAct, DOE's SRS must now receive a small amount of waste from several other small east coast Federal facilities that do not have an incinerator and for which there is no other capacity available in the USA to treat their wastes. However, the bulk of the waste treated is generated by on-site activities. Given the fact that they receive off-site wastes, they would not be allowed to apply for the waiver even though they were

incinerating relatively small amounts of a defined wastestream.

DOE assumes that by limiting the scope of the waiver to small on-site sources, EPA was attempting to preclude commercial facilities (that have little, if any, control over the waste they receive) from taking advantage of the waiver. DOE suggests that additional flexibility be provided such that sites like DOE's SRS can remain eligible for the waiver. In the case of Federal facilities that can result in large cost savings to the American taxpayer.

Relative to the proposed use of gas flowrate for defining what constitutes a small source, DOE requests EPA consider other options for defining "small." For example, another option might be flow rate of combustion gas only. Gas flow rate to the stack contains steam injected into the scrubber and air leakage. Increasing steam flow is a positive effort to increase scrubber efficiency. If a facility should choose to add more steam to increase the scrubber efficiency and if that causes the gas flow rate to the stack to increase, the facility should not be penalized by no longer qualifying as a small source. DOE believes that the gas flowrate should be adjusted for the steam injection and air leakage.

5.II.D. Combustion Fugitive Emissions

1. EPA proposes combustion fugitive equipment control requirements under 40 CFR 63.1207(b) and conforming changes under 40 CFR 264.347(e), 265.347(c), and 266.102(e). EPA further proposes that the method used for fugitive emissions control must be specified in the operating record (61 FR 17439).

EPA's policy statement in which EPA clarifies "If leaks occur, each occurrence is a violation, and would require an automatic waste feed cutoff" (61 FR 17439), raises serious concerns. The proposed rule offers no definition for "leaks." Furthermore, for fugitive leaks, the duration, intensity, and frequency of occurrence of a leak determines whether the facility is having a significant problem with fugitive emissions. DOE requests that EPA clarify the term "leaks" for the purpose of compliance with Subpart EEE (i.e., whether or not an occasional puff of only a few seconds duration and that occurs infrequently should not trigger a waste feed cutoff or a reportable incident). DOE suggests that EPA revise the proposed rule to state that an automatic waste feed cutoff be required only if a continuous combustion fugitive emission occurs for a period exceeding an averaging time of one minute.

DOE has serious concerns over the proposal in the preamble to require video surveillance in certain situations; specifically, DOE disagrees with the following as written in the preamble: "There are cases, however, particularly at munitions incinerators, where combustion fugitive emissions are a problem even when less than ambient pressure is apparently being maintained. In these cases, the Director may require in the RCRA operating permit continual video surveillance of the equipment to ensure there are no leaks (page 17439)." DOE believes that continual video surveillance is not an effective method of monitoring combustion fugitive emissions from incinerators. In cases where fugitive emissions are a problem, sophisticated and redundant air monitoring systems would be more appropriate and efficient. Continuous video surveillance is properly used at some incineration facilities to maintain security, not to detect fugitive chemical emissions.

2. EPA also discusses fugitive emissions and states that the incinerator must maintain the maximum pressure on an instantaneous basis in the combustion chamber to the stack at lower than ambient pressure at all times (61 FR 17439).

DOE is concerned that the very strict, specific wording in this section will not allow for site-specific variances which pose no threat to human health and the environment. For example, DOE's SRS incinerator burns solid waste in the form of 21" cardboard boxes which are ram fed to the kiln every 4

to 6 minutes. Experience has show that when a charge is fed to the kiln, the pressure would increase momentarily as the box of waste ignites. It would go to a positive pressure of 1 - 2 inches water column for less than a second. However, it would be long enough to trigger AWFCO on high pressure under this proposal. Some facilities have addressed this issue by incorporating a five-second time delay. The Department requests EPA clarify that there are situations where periodic small pressure increases of a momentary nature are acceptable and should not trigger AWFCO.

DOE suggests that Section II.D. be reworded as follows: "from the combustion chamber to the induced draft fan." This suggestion is made because most facilities have an induced draft fan in the air quality control system ductwork to push the exhaust gas up the stack. Therefore, the ductwork between the fan and the stack is normally not lower than ambient pressure.

5.II.E Automatic Waste Feed Cutoff (AWFCO) Requirements and Emergency Safety Vent Openings

5.II.E.1. Automatic Waste Feed Cutoff System

EPA proposes regulations that require combustors to be equipped with AWFCO systems that automatically activate when a facility exceeds an operating limit or a standard, when the AWFCO system fails, or when measurements are registered that are beyond the scale of a CMS. Causes of AWFCOs must be monitored and reported if more than 10 occur in a 60-day period (61 FR 17439-17440 and 17518).

DOE has numerous concerns regarding the requirements for AWFCO discussed on page 17439-17440 and 17518 of the proposed rule. DOE believes that the regulations are drafted which such strict standards that most facilities would likely experience considerable downtime due the AWFCO requirements. Both private and federal facilities will be impacted by such shutdowns, and DOE is concerned that many shutdowns would not be warranted on a health/safety basis. DOE has the following suggestions for revising this section to: reduce the number of unnecessary shutdowns; make the reporting requirements more realistic and achievable; and offer alternatives to AWFCO requirements.

DOE recommends that EPA delete the proposed requirement in 40 CFR 63.1207(a)(2) that an HWC must be operated with a functioning system that automatically cuts off the hazardous waste feed when the span value of any CMS detector is exceeded (61 FR 17518). This condition most often occurs when the instrument fails rather than as a result of facility operation, a condition that is readily recognizable and which poses no threat to human health and the environment. Alternatively, DOE suggests that EPA assign tiers or levels to different types of exceedances (e.g., power outages vs. clear exceedances of MACT using CEMSs). Further, DOE recommends that EPA remove the phrase "...the automatic waste feed cutoff system fail..." from the series of items that must trigger the AWFCO when they are exceeded. In this case, it is a malfunction, not an exceedance that must trigger the AWFCO system; moreover, the requirement requires activation of a malfunctioning AWFCO system. DOE suggests that EPA include a prohibition on further waste feed in the event of a malfunctioning AWFCO system as a separate requirement.

For CEMS operations, DOE recommends that EPA allow the concept of data availability to be incorporated into the Quality Assurance Plan for all CEMS except oxygen and carbon monoxide which are currently required for facilities burning hazardous waste. By requiring a data availability of >90 percent, EPA would allow facilities to burn hazardous waste when a CEMS is temporarily off line. While the CEMSs are off line, feed limits for metals, particulates and HCL/CL, as determined by comprehensive performance test data, would be in effect for each effected CEMS. With a data availability requirement of >90 percent, the affected CEMS cannot be off line longer that 10 percent of the time without AWFCO.

EPA has proposed at 40 CFR 63.1207(a)(2)(v) that if a HWC experiences more than 10 AWFCOs in any 60-day period that result in an exceedance of any parameter required to be interlocked with the AWFCO system, under that section, a written report must be submitted within five calendar days of the 10th such event. First, DOE believes that owners/operators should be given more than five days to prepare a written report documenting the result of the investigation of the AWFCOs and the corrective measures taken. Preparation of an accurate, well-reasoned report in this time period would be extremely difficult. As a more reasonable and feasible approach, DOE suggests that EPA require an initial verbal notification within 5 days that provides the essential known facts of the events, to be followed within 30 days by a written report describing the results of the investigation and the corrective measures taken. Second, DOE believes that the proposed requirement for a written report after 10 AWFCOs in 60 days is overly restrictive. DOE experience has shown that even a well-operated facility typically has 10 or more AWFCOs in a 60-day period. DOE recommends a time limit of 50 AWFCOs within a 60-day period before a written report is required. Finally, DOE notes that EPA has neglected to specify which regulator should receive these written reports and which regulator is responsible for taking any necessary enforcement actions (i.e., CAA regulator, RCRA regulator or both). DOE suggests that EPA specify that an AWFCO report be submitted pursuant to 40 CFR 63 and that 40 CFR 270.11 signatory requirements do not apply.

As an alternative to AWFCO, DOE suggests public notification similar to that of public water system (PWS) notification that includes EPA-developed template health advisory information similar to that in the PWS public notification provisions. Template language would address those contaminants (i.e., HAPs/HAP surrogates) under the HWC rulemaking. This alternative would create a powerful incentive to comply with (and not exceed) MACT standards to avoid public relations issues and maintain credibility (as well as avoid fines and penalties). This could be driven by a requirement that HWC distribute monitoring results to stakeholders that request a copy.

Lastly, DOE suggests the following language changes to 40 CFR 63.1207(a)(2)(vi). It currently states that the Administrator may limit the number of AWFCOs per operating period on a case-by-case basis. Based on the preamble discussion, DOE believes that EPA meant to say "The Administrator may require an extensive AWFCO report after fewer than 10 AWFCOs in any operating period on a case-by-case basis." DOE also notes that one of recordkeeping provisions is already required in RCRA Part B permit application (i.e., documentation in the operating record that weekly testing of AWFCO systems and alarms is not necessary).

5.II.E.2 Emergency Safety Vent Openings

EPA proposes a number of requirements applicable to emergency safety vent (ESV) openings including requirements that the owner or operator 1) investigate the cause of each ESV opening, 2) take appropriate corrective measures, 3) record the findings and corrective measures in the operating record, and 3) submit a written report within 5 days of an ESV opening documenting the result of the investigation and the corrective measures taken. These requirements are proposed in 40 CFR 63.1207(a)(3) and 264.340(g) (61 FR 45 FR 17518 and 17530, respectively).

The final rule should specify which agency should receive these reports and which is responsible for taking enforcement action. In addition, similar to the case for AWFCO reporting, DOE believes it would be difficult to provide an appropriately considered report within the required 5-day period, and suggests that EPA instead require a verbal report that conveys the known facts of the event within 5 days, to be followed within 30 days with a written report documenting the result of the investigation of any ESV opening and the corrective measures taken. In most cases, it will be difficult for the owner/operator to: 1) complete a definitive investigation of such an event, 2) propose corrective

measures, and 3) submit a report to a regulator within 5 days of this type of event. DOE points out that existing regulation under subtitle C requires a written report be submitted to the Administrator within 15 days after an incident requiring implementation of the contingency plan [40 CFR 264/265.52(j)].

5.II.F.1.b. Quality Assurance Procedures

EPA proposes that owners and operators be required to develop and implement a quality assurance and quality control (QA/QC) program which defines the QA procedures that are necessary for the control and assessment of the quality of CEMS data and identifies requirements for determining compliance with applicable performance specifications. If a CEMS component is not in compliance with QA procedures or performance specifications, hazardous waste burning must cease immediately (61 FR 17441).

DOE believes that no commercially available particulate matter or mercury CEMS have been shown to meet EPA's performance specification. While EPA seeks to confirm that monitors meet the performance specification for particulate matter and mercury, it is unclear what will happen if none of the monitors being tested conform to the performance specifications. Although DOE recognizes that EPA provides a waiver from one component of CEMS (response time requirements) if no mercury CEMS can meet the applicable performance specification at the time of purchase [Performance Specification 12, section 4.6.2.], EPA does not propose a similar provision for PM in Performance Specification 11. Further, EPA does not elaborate on the procedures that must be used to demonstrate that a particular CEMS is unavailable. Moreover, DOE questions whether the proposed waiver should be broader in scope (i.e., waive compliance with the entire Performance Specification). DOE requests EPA consider either waiving compliance with the entire performance specification until a CEMS that can meet the specification becomes available, or modify the performance specification as necessary relative to the success of the tests.

Finally, DOE believes that the performance specifications, controls, and means of confirming compliance with the MACT standards should not be so specific that innovation is discouraged, particularly where facilities are burning mixed waste. DOE suggests that EPA include a means for providing prompt resolution of requests to achieve the objectives through alternative approaches.

5.II.F.1.e. EPA Certification of CEMS

EPA invites comment on whether a process should be established whereby CEMS manufacturers could certify that their CEMS meet the established performance specifications (61 FR 17442).

DOE suggests that EPA establish a process whereby CEMS manufacturers could certify that their CEMS meet the established performance specification. The program would include a requirement that the manufacturer confirm that the CEMS meets the specification, and delineate the testing required to demonstrate that the specification can be met as well as the test conditions under which the manufacturer should operate. It is recommended that EPA draft a request for proposal regarding the certification protocol that would identify who should perform the certification and how it should be accomplished. DOE is currently aware of two efforts which might assist EPA in pursuing a certification program. The first is the state of California program (supported in part by an EPA grant) for certification of technologies. [Several states have agreed to accept the California certification in their state as well.] The second is the Interstate Technology and Regulatory Cooperation group initiated by the Western Governors Association. This group now has broad representation from states across the nation. Its goal is to develop agreed upon protocols for testing and demonstration of technology which would result in technologies more readily acceptable in a variety of jurisdictions.

DOE suggests EPA consider contacting the National Sanitation Foundation (NSF)²⁹ if it determines that it is necessary to establish a certification program. NSF currently certifies commercial point-of-use drinking water treatment units (as well as conducting other studies and tests related to water quality) and may be able to offer some valuable lessons learned. As a final note, DOE suggests that EPA identify more than one supplier that can be certified.

5.II.F.2.a. Feedstream Analysis Plan

EPA proposes to require that owners/operators obtain an analysis of each combustor feedstream sufficient to document applicable feedrate limits, develop a feedstream analysis plan (FAP) and record it in the operating record, and submit the feedstream analysis plan to the Administrator for review and approval if requested (61 FR 17442-17443 and 17521).

DOE notes that the feedstream analysis requirements proposed by EPA in 40 CFR 63.1210(c)(1)-(3) are basically the same as the waste analysis plan (WAP) requirements already applicable to HWCs in 40 CFR 264/265.13. This is recognized by EPA in the preamble discussion on page 17442, and implicitly in EPA's suggestion that owners/operators use RCRA WAP guidance to prepare feedstream analysis plans (see 61 FR 17443). One difference worth noting is that under RCRA regulations the WAP must be submitted to the regulators as part of the Part B permit application, while under the proposed CAA standards a feedstream analysis plan must only be submitted to the regulators if it is requested. DOE notes that if these regulations are promulgated as proposed, the regulated community will have to comply with basically the same technical requirements under RCRA and CAA, yet they will be subject to two different sets of administrative and enforcement procedures. For example, under the RCRA regulations, amending the WAP requires a permit modification. Under the CAA regulations, amending a FAP does not require a permit modification (or any other type of regulator approval). DOE requests that EPA clarify which procedure should be followed and notes that the Department prefers that EPA specify the more streamlined CAA procedure should the option be available. In addition, to avoid duplicative efforts, DOE suggests EPA consider delineating both the CAA use of the FAP and the RCRA use of the WAP as highlighted in the following examples:

- Evaluate compliance with waste acceptance criteria (i.e., indicator parameters) for receipt of off-site shipments of hazardous waste -- RCRA WAP.
- Evaluate HWC residues for compliance with LDR treatment standards -- RCRA WAP.
- Verify waste feed is within operating limits specified in the permit -- CAA FAP.

Specifying uses will promote plan consistency, reduce plan overlap/redundancy, and ensure that the regulators responsible for evaluating the technical adequacy and completeness of a FAP/WAP evaluate it relative to its intended uses. DOE further suggests EPA consider placing the information in tabular form.

Relative to the use of CEMS, DOE believes that the requirements for installing CEMS and developing and implementing a feedstream analysis plan are somewhat redundant. The Department believes that if CEMS are required, then the need for extensive characterization is greatly reduced. This is of great importance to DOE as many of our wastestreams are radioactive, and sampling and analysis of RMW during operations poses additional exposure risks and higher costs.

²⁹

National Sanitation Foundation, 3475 Plymouth Road, P.O. Box 1468, Ann Arbor, MI 48105 (313) 769-8010.

Regarding DOE operations, mixed waste and mixed waste sampling are of paramount concern to DOE relative to feedstreams and feedstreams analysis. Some DOE incinerators burn mixed liquid hazardous wastes and mixed solid wastes. The solid wastes are often accumulated in lined, cardboard boxes. Some of the solid wastes incinerated includes job control waste (i.e., protective clothing, rags, mop heads, etc.), absorbant materials, empty plastic containers, etc. that are not homogeneous. In some cases, it is not feasible to sample and analyze the waste fed to the incinerator for the following reasons:

- 1) Some of the liquid and solid wastes can not be analyzed if the radioactivity of the waste is high enough to jeopardize personnel health and equipment contamination.
- 2) Some of the solid waste is not homogeneous and a representative sample can not be obtained.

Therefore, DOE requests that EPA recognize these situations in the final rule and allow facilities the option of incorporating process knowledge into the CAA FAP when it is not feasible to obtain a representative sample.

5.III. MACT Performance Testing and Related Issues

EPA proposes requirements for comprehensive and confirmatory performance testing. EPA requires that large and/or off-site HWCs perform comprehensive and confirmatory performance testing once every three years, whereas small, on-site HWCs are required to conduct this testing once every five years (61 FR 17444, col. 3). Following initial compliance with MACT, EPA proposes to allow extensions of up to one year for any performance test, subsequent to initial compliance to facilitate the coordination of MACT performance testing and RCRA trial burns (61 FR 17445, col. 3; 17447, col 3). EPA crafted this distinction for reasons related to cost-effectiveness and EPA's belief that small HWCs which do not burn wastes from off-site may pose lower risks. EPA invites comments on this approach (61 FR 17444-17448 and 17519-17520).

Although the Department's previous comments support the less frequent performance testing option for small, on-site sources (Specific Comment 4.I.A.1. on page 26), DOE has several concerns related to the requirement to conduct periodic performance testing. First, EPA presents no supporting data or rationale for selecting the three and five year time frame for small, on-site sources and off-site/large sources respectively. DOE believes that the use of CEMS should allow a facility to operate for longer periods between performance testing and/or trial burns. DOE feels that a testing schedule of 10 years is not unreasonable for facilities employing CEMS, provided they are properly maintained and calibrated, and continue to function in accordance with the governing performance specification(s) prescribed in Appendix B to 40 CFR Part 60, and the quality control/quality assurance procedures identified in the Appendix to Subpart EEE. Furthermore, the comprehensive and confirmatory performance testing required will necessitate a similar expenditure of resources as trial burns currently conducted under RCRA. DOE notes that, based on information from trial burn contractors, EPA estimates that preparing a trial burn plan and conducting a trial burn will cost between \$110,000 to \$550,000 per facility [June 2, 1994 Federal Register (59 FR 28705)]. EPA acknowledges the cost issue on page 17444 where it states "The proposed testing frequency would be less for small on-site sources because of cost-effectiveness concerns." DOE believes that the proposed frequency of three and five years is not cost-effective, given all the other controls built into this proposed rule (e.g., requirement for CEMS). For facilities which may have demonstrated compliance problems in the past or for other reasons, DOE suggests that EPA retain the option of requiring more frequent performance testing, as discussed in proposed 63.1208(b)(1)(ii). For the reasons cited above, DOE requests that EPA consider extending the time period between required performance testing from the proposed three years/five years to a minimum of 10 years.

Second, DOE agrees with EPA that for small sources, less stringent testing frequencies are generally appropriate. However, DOE questions the rationale for limiting the less stringent testing frequency to strictly small, on-site sources. EPA states on page 17444 that "...from the RCRA perspective, small, on-site sources are more familiar with the wastes they burn, the waste may be more homogenous and less complex, and they burn smaller volumes of waste." as the rationale for specifying a less frequent testing schedule. As we note in Specific Comment 4.I.A.1 on page 26, DOE believes that certain small sources may receive wastes from off-site (thus not qualifying for less frequent testing), yet still meet EPA's above stated rationale. This is particularly true for entities such as DOE which operate many facilities in different states and routinely ship waste between facilities for treatment. DOE places the same controls (if not more) on shipments of waste from one DOE facility to another. In fact, existing RCRA controls require that waste analysis data, where available, accompany each [off-site] shipment of waste [for example, 40 CFR 268.7(a)(1)(v)]. Therefore, DOE points out that the same waste characterization data will be available and conveyed to small DOE sources whether they are located on-site or off-site. Moreover, as discussed above, the Administrator retains the authority to determine whether or not a small source poses the same potential hazard as a large or off-site source, and final discretion to require increased testing frequency belongs to the regulating agency overseeing the small source. For these reasons, DOE requests that EPA expand the option of reduced testing frequency to include all small sources owned by the same person, regardless of their location.

If, however, EPA selects to limit the option to small, **on-site** sources, DOE requests EPA clarify whether the reduced testing frequency was intended to include units that qualify as on-site under the expanded RCRA definition. EPA has proposed to expand the definition of "on-site" [November 5, 1995, Federal Register (60 FR 56492)] to include contiguous properties controlled by the same person, even if access is gained by traveling along (as opposed to across) the public right-of-way. Since proposed Part 63, Subpart EEE does not include a definition of "on-site," DOE requests clarification as to whether EPA intent is to use the existing or, if finalized, the recently proposed RCRA definition of "on-site."

Lastly, DOE is concerned that: 1) the requirements for both RCRA trial burns and MACT performance testing results in facility owner/operators following two different processes; and 2) EPA has not proposed a method for reconciling these processes. Although DOE recognizes EPA has proposed time extensions for performance testing that would make it easier to conduct RCRA trial burns and MACT testing at the same time, these allowances do not address the main problem. DOE feels that it is essential for EPA to address, in the final rule, the reconciliation of MACT performance testing and RCRA trial burns such that facilities are not overburdened with potentially duplicative testing and the associated additional costs.

5.III.A.1.d. Operating Conditions During Subsequent Tests

EPA proposes to only allow burning of hazardous waste under the operating limits established during the previous comprehensive performance test to ensure compliance with emission standards not monitored with a CEMS. However, EPA proposes two types of waivers from this requirement during subsequent performance tests: (1) an automatic waiver to exceed current operating limits up to five percent; and (2) a waiver that the "Director" may grant if warranted to allow the source to exceed operating limits without restriction (61 FR 17445).

DOE supports the proposal for an automatic waiver to exceed current operating limits by up to five percent. DOE agrees with EPA's assessment that without the waiver, the operating limits would become more and more stringent with subsequent comprehensive performance tests.

DOE has questions regarding the second waiver. It appears that this waiver must be granted by the Administrator under the CAA regulations; however, it is unclear how this affects a facility's RCRA hazardous waste management permit. Specifically, the Department does not know if a RCRA permit modification would be required to perform the comprehensive testing under the second waiver. DOE assumes that a Class 3 permit modification would be required to implement less stringent limits based on the results of the comprehensive performance test. As these issues are not addressed in the proposed rulemaking, it is unclear to DOE how the second type of waiver would be implemented.

DOE notes that EPA did not provide additional, necessary information regarding the application of these waivers including: proposed regulatory language for either waiver (see proposed section 63.1206(d)); an explanation of how the RCRA/CAA interface would work; and, propose changes to the RCRA permitting regulations which would clarify how emission limits in a RCRA permit could be modified based on MACT comprehensive performance testing. DOE requests that EPA address these issues in the final rulemaking.

5.V. Notification, Recordkeeping, Reporting, and Operator Certification Requirements

5.V.A. Notification Requirements

EPA acknowledges that all existing HWCs that have previously notified the regulators of their hazardous waste operations, and all new HWCs must notify using RCRA-required notification. EPA discusses the need for existing sources to renotify under 40 CFR 63.9(b) (61 FR 17448).

If EPA concludes that implementation of DOE's suggestion to address sources under the CAA using the "permit-by-rule" approach (see Specific Comment 5.VI.B. beginning on page 58) is warranted, EPA should clarify that separate notifications apply and that HWCs must use both the CAA-required and RCRA-required notification to alert regulatory officials. If, however, EPA selects another option to regulate HWCs, EPA should craft an approach that requires regulatory agencies to establish procedures for interacting and sharing information, including notification information. For new sources, EPA should consider promulgating a dual-purpose notification form.

Relative to notification under RCRA, DOE recognizes that EPA is authorized to require all persons handling hazardous waste to notify EPA of their activities pursuant to RCRA section 3010. DOE points out, however, that since the inception of the subtitle C program, EPA has consistently stated that persons who have provided proper notification of hazardous waste activity are not required to file a new notification (45 FR 12747). More recently, EPA waived notification for those facilities that already had notified (55 FR 39411). DOE requests EPA consider the historical application of notification when evaluating final notification alternatives.

5.V.C. Recordkeeping Requirements

The proposed rule requires that detailed records be retained in the operating record. Specifically, records must be kept for all operating data which substantiates compliance, records pertaining to the feedstream analysis plan, and all records pertaining to exceedances and emergencies (61 FR 17450).

DOE notes that the information that must be kept in the CAA operating record is listed on page 17450 of the preamble. Some of these items are required in the RCRA operating record (e.g., testing and monitoring data), while other items are part of the RCRA permit (e.g., feedstream/waste analysis plan). Under the RCRA regulations, all information in the operating record (except records and results of

inspections) must be kept at the facility until it closes (40 CFR 264.73).

DOE urges EPA to combine the RCRA and CAA recordkeeping/operating record requirements applicable to HWCs and to make these requirements consistent with one set of regulations applicable to RCRA/CAA permits. DOE also urges EPA to combine these requirements at the national level. While DOE appreciates the fact that State regulators want the flexibility to be able to combine CAA and RCRA as they see fit, DOE is concerned that many States do not have sufficient resources to pursue this type of effort.

5.V.D. Operator Certification

EPA is requesting comment on whether operator certification requirements are necessary for HWCs (61 FR 17451, col. 1 and 2).

DOE supports the approach to the development of a training and certification requirement discussed in the preamble to the proposed rule; that is, having the final rule refer to appropriate consensus standards or standards developed by affected industry associations (61 FR 17451). DOE urges EPA not to develop its own training and certification requirements. Training and certification requirements for HWC operators will have to be evaluated on a regular basis and updated as necessary. The organizations that write consensus standards (e.g., ASME and ASTM) and affected industry organizations have the necessary expertise and experience to perform these tasks. The ASME Standard or an equivalent State certification program would be appropriate methods for qualifying and certifying supervisors and facility operators. DOE notes that if EPA does decide to require ASME certification, the rule needs to incorporate into the requirement a definition of “on-duty.”

5.VI. Permit Requirements

5.VI.A. Coordination of RCRA and CAA Permitting Process

EPA’s proposed approach provides a variety of permit implementation options (one CAA/RCRA permit and separate CAA/RCRA permits) and thus attempts to offer the maximum amount of flexibility for States in determining their permitting approach (61 FR 17451-17452).

DOE appreciates the level of effort that EPA has devoted to resolving issues surrounding the regulation of units that are subject to joint RCRA/CAA authority. DOE agrees with EPA’s goal of attempting to promulgate an HWC MACT rule with the maximum amount of implementation flexibility for regulators. DOE, however, is not convinced that the implementing agencies will take (or be in a position to take) advantage of the flexibility that EPA proposes to afford them.

It has been DOE’s experience that each office implementing a program (i.e., RCRA, CAA, CWA, etc.) at both the State and regional level maintains tight control over its implementing authority. If this is the situation, individual programs may be unwilling to delegate their responsibility to another office. This may lead to organizational disagreements over responsibilities between the various programs. As an example, DOE points out its experiences relative to the implementation of CERCLA at Federal facilities. A number of the DOE sites entered into Federal Facility Agreements (FFA’s) in 1989 and 1990 to try to work out the interrelation of CERCLA and RCRA at these facilities, yet eight years later there are still major implementation issues. These issues have been documented in several Government Accounting Office (GAO) reports that can be provided upon request.

Beyond the interaction between State and Regional programs and organizations, some RCRA permit

writers may follow the regulations very strictly and may not be very flexible when it comes to deviating from those regulations. For example, 40 CFR Parts 264 and 270 contain RCRA-prescribed permitting and operating requirements for incinerators. However, EPA proposes to add only a single paragraph [paragraph (b)] to 40 CFR 264.340 which attempts to coordinate the CAA and RCRA permitting requirements. The Department is concerned that this will not provide sufficient direction to permit writers to increase their willingness to defer many of these new requirements to Part 63 Subpart EEE. Furthermore, DOE has specific concerns regarding RCRA-required documents including waste analysis plans, personnel training plans, closure plans, facility inspection schedules, contingency plans and numerous other parts of the RCRA permit application relative to implementation of this new rule. DOE believes that adding one paragraph to the unit-specific RCRA provisions, does not specifically tell the permit writers that they do not have to update all of these documents. In essence, DOE believes that EPA is attempting to supersede pages of existing RCRA regulations that State and local regulators have been enforcing for 15 years.

DOE concludes that the maximum flexibility sought by EPA poses serious disadvantages and that a clear distinction of authority (such as would be the case using a permit-by-rule approach) may be the best approach to avoiding duplicative regulation. These disadvantages include the potential that the regulated community and regulators will be confused from site-to-site regarding which of the two programs offer the most appropriate requirements. DOE believes that the resources of both the regulators and the regulated community would be far better spent in trying to define and meet appropriate technical standards that are clearly separate and distinct.

DOE also notes that EPA's Permits Improvement Team (PIT) has recognized some advantages of combined CAA/RCRA permitting, however, the Department finds the statement in the preamble that the proposed approach is "consistent with the current direction of the PIT" to be misleading. EPA's PIT recommended the incorporation of RCRA requirements into the Air permit program, such that "a facility's air permit would address both Air and RCRA combustion and emission requirements" (see page 36 of the PIT Final Draft Concept Paper on Environmental Permitting, April 1996). DOE believes this approach can, however, be realized using a permit-by-rule approach.

Accordingly, DOE offers for EPA's consideration two feasible options for promulgating standards under joint CAA/RCRA authority. As our first choice, the Department suggests EPA utilize the RCRA permit-by-rule approach and defer regulation of the air emissions to the CAA permit. If, however, EPA does not select to use the permit-by-rule approach, DOE suggests the use of permit completeness checklists, which are common throughout the regulatory arena and are often relied upon by persons preparing permit applications.

Although the Department recognizes EPA's concerns (61 FR 17451) that selecting a permit-by-rule approach will limit the permitting flexibility of the implementing agency, DOE does not believe that EPA's desire to provide maximum flexibility should override the Congressional direction in RCRA Section 1006(b)(1) to integrate RCRA with other acts while avoiding duplication to the maximum extent practicable. Accordingly, DOE suggests EPA modify the codified requirements pertaining specifically to incinerators and BIFs, as well as several more general sections including 40 CFR sections 264.1, 265.1(c), 270.1(c)(1) and 270.60 to reflect a permit-by-rule approach to regulating HWC operations.

Under a permit-by-rule approach, DOE suggests that deferral of RCRA authority should occur at the point the hazardous waste enters the HWC unit (or any ancillary equipment that is associated with the HWC). EPA has used this point-specific approach to deferring the regulation of hazardous waste on numerous occasions. The domestic sewage exclusion, for example, applies "when [the hazardous waste] first enters a sewer system that will mix it with sanitary wastes prior to storage or treatment by a

POTW.” (45 FR 33097). The industrial point discharge exemption offers another example. EPA has clarified that “...only the actual discharges into navigable waters, not industrial wastewaters upstream from the point of discharge” are eligible for the exemption (45 FR 33098). More recently, EPA’s clarification of the wastewater treatment unit/elementary neutralization unit exemptions [September 2, 1988 Federal Register (58 FR 34080)] offers clarity regarding the eligibility of the tank **system**, not just the tank, for the exemption from Subtitle C regulation.

DOE points out that all associated hazardous waste storage operations that occur at the facility prior to insertion into the HWC unit would continue to be fully subject to Subtitle C regulation. Part 63 subpart EEE regulations should reference HWC owners/operators back into 40 CFR parts 260-270, 279 for RCRA regulations that continue to apply (personnel training, waste analysis plans, contingency plans, list of acceptable wastes) relative to hazardous waste management activities other than the actual combustion process (e.g., storage that occurs prior to insertion into the HWC and subsequent to removal from HWC). DOE requests that EPA clearly delineate the point at which RCRA no longer applies and CAA authority kicks-in, as well as the point at which the CAA no longer applies and RCRA regulations resume control (i.e., the new point of generation for combustion residues). Continuing to apply RCRA authority relative to other hazardous waste management activities will ensure that EPA (or authorized states) retains its RCRA-specific authority (e.g., corrective action and omnibus provisions).

Regarding DRE authority (which apparently has posed an obstacle to many of the suggested alternatives for regulating HWCs), RCRA Section 3004(o)(1)(B) specifically states “...*the Administrator or a State shall require...for each incinerator **which receives a permit** (emphasis added) under Section 3005(c)...the attainment of the minimum destruction and removal efficiency required by regulations in effect on June 24, 1982.*” Note that the statutory language explicitly refers to incinerators which receive a permit only. The omnibus authority in RCRA Section 3005(c)(3), likewise, applies only to permitted facilities [i.e., “Each **permit** issued under this section shall contain such terms and conditions as the Administrator (or the State) determines necessary to protect human health and the environment.”) It is the Department’s opinion that the omnibus authority can be used to override and remove from the regulatory equation the DRE provision for permitted incinerators.³⁰ As evidenced by the legislative history at S. Rep No. 284, 98th Cong., 1st Sess. 31 (1983), which states: “[the omnibus authority] can also be used to incorporate new or better technologies or other new requirements in permits, where EPA intends to add such technologies or requirements to the regulations but has not yet issued a final regulatory amendment.” Accordingly, the Department suggests that EPA issue, concurrent with issuance of the HWC final rule that incorporates a permit-by-rule approach and defers the regulation of air emissions from HWCs to MACT standards (and CAA title V permits), a focused proposed rule that addresses exclusively the issue of replacing the DRE standard with new MACT standards that are “protective.”

Situations may exist where a hazardous waste management permit (or interim status) is not required to address hazardous waste management activities (e.g., storage) that are ancillary to the incinerator and incineration process [e.g., a hazardous waste generator operates an on-site incinerator, which is used to burn wastes that are generated on-site within 90/180 days; an incinerator receives and feeds hazardous

³⁰ Based on DOE’s reading of the RCRA statute, DRE need not be applied to incinerators operating under interim status other than to ensure that permitted facilities and interim status facilities operate under equitable circumstances. Furthermore, the DRE requirement is not statutorily mandated for cement kilns or light weight aggregate kilns, regardless of whether they are permitted or operating under interim status.

waste directly from a transport vehicle into the HWC unit (or its associated equipment) without prior storage].³¹ Because DOE recognizes EPA's concerns that CAA permits do not afford the implementing agency certain RCRA-specific statutory provisions (e.g., corrective action, omnibus provisions, DRE), DOE suggests that EPA craft (and perhaps propose with DOE's suggested DRE/MACT proposed rule) new regulations that continue to require a RCRA permit for generators operating an on-site incinerator and requires a permit for direct transfer operations.³²

Should a permit-by-rule approach be determined legally or fundamentally inappropriate, DOE suggests that EPA explain their reasoning in the final rule. Furthermore, at a minimum, DOE believes that EPA should draft a "model permit outline" and incorporate codified regulations under both CAA and RCRA programs. For the model permit outline, EPA might consider integrating the information required for submission of a Title V operating permit application (e.g., permit application form for incinerators/waste burners; Monitoring Equipment; Stack Parameters and Air Pollution Control Equipment; Emission Comparison Form; etc.) with the "Subject Requirements" listed in EPA's *Regulatory Completeness Checklist for Hazardous Waste Storage, Treatment and Disposal Facilities*. These models could be published concurrently with the final rule and represent minimum permitting criterion to be met by HWCs (both permitted and interim status). States (or localities) with more stringent requirements could be required to prepare a state-specific/local-specific compilation of their more stringent requirements (in permit completeness checklist format) and include it as an addendum to the EPA's minimum criteria completeness checklist.

In addition, if the permit-by-rule approach is not selected DOE believes EPA should develop, at the national level, a parallel set of codified regulations. These regulations should be equivalent and could reference any newly developed model guidance and should be codified within portions of Title 40 of the *Code of Federal Regulations* that are promulgated under CAA authority (e.g., 40 CFR Part 63 Subpart EEE), and RCRA authority including, but not limited to, 40 CFR Parts 264/265 Subpart O; Part 266 Subpart H; 40 CFR 270.19 (for incinerator-specific permitting information); 40 CFR 270.22 (for industrial furnace-specific permitting information); Appendix I to 40 CFR 270.42 (for incinerator/industrial furnace permit modifications); and 40 CFR Part 270 Subpart G, as appropriate. States wishing to combine CAA and RCRA requirements and permits for HWCs would thereby have the framework for doing so without having to expend scarce resources in determining how to achieve this objective. DOE believes that this would be more flexible than the proposed rule approach because States wanting to use a combined approach would have the ability to do so without having to develop regulations and procedures for themselves.

If parallel regulations are not developed, DOE believes that the proposed regulations could result in having different emissions limits and monitoring requirements in CAA and RCRA permits issued to the same site, causing considerable confusion among the regulated community, and Federal, State, and local regulators.

³¹ Although there is no regulatory definition for storage, DOE is familiar with EPA interpretive letters that explain that authorized states have defined "storage" [for the purposes of 40 CFR 261.6(c)] as holding times of 24 hours or less, or by nightfall of the calendar day the waste was received at the facility. See March 27, 1989 letter M. Straus to J. Johnson and August 31, 1988 letter, S. Lowrance to R. Svanda, respectively.

³² Direct transfer operations can, on their own merit, threaten human health and the environment. EPA has expressed concern about direct transfer operations (e.g., the potential for fires, explosions, and spills) on a number of occasions (56 FR 7195) and could justify the need for a permit based on these concerns.

In summary, the Department is concerned with how CAA and RCRA permits will be coordinated.

Our major concern is that nonsynchronous CAA and RCRA requirements and timetables will confound a source's ability to comply with MACT standards. We are also concerned with states' ability to coordinate HWC compliance with the provisions of both Acts. This latter concern is most keenly felt where states have not fully adopted programs to which EPA can delegate both CAA Title V operating permit and RCRA permit authority. We recommend that before EPA issues a final rule that the Agency propose additional steps that will ensure that states conduct the two programs, as they affect HWCs, in a coordinated fashion. Ultimately, we believe that a single permit is warranted, such as the one EPA suggests (61 FR 17451) that would place the revised air emission standards in the CAA regulations and include a RCRA permit-by-rule provision that would defer to the CAA permit. Furthermore, we do not believe that sources should be penalized for states' inability to coordinate provisions of the two Acts. Therefore, DOE recommends that sources be allowed to continue to burn hazardous waste for up to six months after the compliance deadline, if they have acted expeditiously and in good faith to obtain appropriate permits but have been unable to do so because of State delays. DOE points out that the above perspective influences our responses to EPA's requests for comment on options regarding permit modifications (61 FR 17455) and approaches to address potential implementation conflict (61 FR 17456).

5.VI.B. Permit Application Requirements

EPA compared permit application requirements under the CAA and RCRA and concluded that duplication was minimal, making it reasonable to keep RCRA and CAA permit application requirements the same (61 FR 17452).

While EPA is correct that the duplication between CAA and RCRA permit application requirements is minimal, EPA should also have addressed duplication between all RCRA and CAA requirements and the implications of this duplication for RCRA and CAA permits.

In performing this type of analysis, DOE finds considerable duplication between:

- what is required in a RCRA permit application (e.g., general inspection schedule, waste analysis plan, contingency plan), the RCRA permitting process (e.g., trial burn), and the RCRA operating record (contingency plan reporting); and
- what is required to comply with HWC standards and general requirements (e.g., AWFCO system testing, ESV operating plan), monitoring requirements (e.g., feedstream analysis plan), MACT performance testing, and the HWC operating record (ESV corrective measures and reporting) under the new MACT rules.

If a permit-by-rule approach is not selected, the regulations should allow each state to determine how they want to handle the permit application, either under the CAA, RCRA, or combined. DOE notes that there are advantages to submitting the application under CAA requirements because the emission standards will be CAA standards, because all states have CAA primacy, and because all CAA requirements roll into operating permits. The CAA operating permit program is ideal for industries with its consolidation and tracking of essential emission-related requirements into one package.

5.VI.D. Pollution Prevention/Waste Minimization Options

EPA proposes two options that are intended to provide facilities with flexibility in meeting MACT standards while promoting the use of pollution prevention/waste minimization measures. Specifically, EPA proposes that either (1) all facilities, or (2)

only those facilities selected by EPA Regions and States (after a case-by-case determination) provide adequate information on alternative PP/WM measures that are aimed at reducing hazardous constituents entering the feedstream. (61 FR 17453-17454).

DOE is skeptical of the usefulness of either PP/WM options as proposed. DOE agrees with EPA that flexibility in meeting MACT standards is desirable and using PP/WM measures to achieve MACT reinforces EPA's commitment to waste minimization as outlined in the Strategy and the National Plan. DOE fails to see, however, the benefit of requiring facilities that select to pursue (or have already installed) end-of-pipe pollution controls to meet MACT to develop pollution prevention plans that focus on alternative PP/WM measures that clearly will not be instituted at their facility. Furthermore, there may be instances where a HWC is employed at a site solely to address waste (e.g., contaminated soil) that is not a good candidate for PP/WM measures. Finally, DOE believes market forces will drive facility decision-makers to investigate PP/WM measures that may reduce or eliminate the volume or toxicity of hazardous wastes.

DOE routinely considers PP/WM measures in plans for modifying processes and installing new technologies that reduce or eliminate the volume and/or toxicity of hazardous waste. DOE Order 5400.1, "General Environmental Protection Program," requires Heads of Field Organizations to prepare plans for pollution prevention awareness programs. These plans are to be reviewed annually and updated every three years. The plans were last submitted in 1994 and should be updated in 1997. Also, DOE issues an annual report on pollution prevention and waste minimization activities. In addition, on May 3, 1996, the Secretary of Energy set a goal to reduce by 50% the generation of hazardous waste to be achieved by December 31, 1999.

In addition to the reasons outlined above, the Department opposes both of the options for the following reasons:

- Option 1 is redundant with existing waste minimization/pollution prevention reporting requirements applicable to hazardous waste generators under RCRA and SARA Title III.
- Option 2 is unnecessary because States already have the power to require RCRA facilities to prepare waste minimization/pollution prevention plans. Also, as EPA mentions in the preamble, 20 States already have pollution prevention facility planning requirements in place (61 FR 17453).

If EPA determines that one option must be selected, the Department supports the second option (i.e., allowing EPA Regions and States to make case-by-case determinations when requesting facilities provide information on alternative PP/WM measures), but suggests EPA consider crafting an exclusion from these provisions for facilities whose operations intrinsically offer limited PP/WM opportunity. For example, waste minimization/pollution prevention opportunities are generally not applicable to DOE facilities managing "legacy waste," nor are they appropriately applied to commercial HWCs, which treat waste from off-site generators.

5.VI.E. Permit Modifications Necessary to Come into Compliance with MACT Standards

- 1. Some facilities will be required to change operating parameters or add new or improved emission control technologies to comply with MACT standards. EPA identifies five permit modification options that could be used to accomplish changes to RCRA permits and proposes to allow HWCs use the procedures for Class 1 RCRA permit modifications with prior regulator approval. EPA requests comment on other options for accomplishing these changes under the current RCRA permit modification rules (61 FR 17454-17456).**

As discussed in Specific Comment 5.VI.B., DOE suggests EPA utilize the permit-by-rule provision.

DOE believes this provision can be used to appropriately separate CAA emission standards from a facility's additional RCRA responsibilities, and allow regulators to incorporate emission standards into a single, facility-wide CAA title V permit. If EPA determines that a permit-by-rule approach cannot be selected, DOE favors giving HWC owners/operators the ability to comply with MACT standards without having to first obtain a RCRA permit modification. This option is designated as option 1 at the top of col. 2 on page 17455 and allows any facility modifications to initially comply with MACT standards using a Class 1 permit modification without prior agency approval. Assuming that CAA and RCRA regulations and permits are not combined, DOE believes that the RCRA permit should automatically be modified (perhaps by reference) to incorporate MACT changes once a facility demonstrates compliance with subpart EEE, part 63.

The Department believes employing option 1 is consistent with the CAA statutory authority. As EPA clarifies, these standards apply to all covered sources under CAA authority, regardless of whether a State has been delegated the provisions of the final rule because they are self-implementing (61 FR 17457, col. 3). Furthermore, as EPA explains on page 17456, if option 1 is chosen, potential permit implementation conflicts are circumvented.

Although DOE recognizes that option 1 may alter the timing of public participation and regulator oversight, EPA offers no real argument against option 1 except to observe that steps intended to reduce emissions may not in all cases lead to enhanced environmental protection. While DOE recognizes the potential validity of this statement, the Department believes it is more important to focus on the majority of cases where the steps that are taken to reduce air emissions will lead to enhanced protection of human health and the environment. Moreover, provided EPA establishes emission limits that are protective of human health and the environment and a facility complies with the established limits and the applicable performance standards, enhanced environmental protection is inevitable (i.e., HWCs must meet the limits/standards at all times or cease burning hazardous waste).

Although DOE favors the first option because it offers the most streamlined approach, DOE believes that any of the first three options will avoid many of the delays associated with obtaining a permit modification. Accordingly, if option 1 is determined to be inappropriate, DOE requests EPA consider implementing either option 2 (Class 1 modifications requiring no prior approval) or option 3 (Class 1 modifications requiring prior approval).

DOE does not support the implementation of the fourth or fifth options, which indicate permit modifications requests would be handled as Class 2 or Class 3 modifications. DOE believes the use of Class 2 or Class 3 modifications will result in delays that interfere with efforts to meet the compliance deadlines. The Department shares EPA's concerns (as expressed on page 17454, col. 2) that HWC facilities could submit a high number of Class 2 or Class 3 permit modification requests within the CAA's statutory three-year window. This, when coupled with the fact that many state agencies (e.g., Texas) anticipate submittal of incinerator permit renewal applications in the near future, may lead to difficulties in timely processing of modification requests. Further, implementation of these options may also involve extensive public participation activities, increasing costs significantly and extending the period of time before a facility can begin to initiate efforts that must be completed prior to submitting the initial notification of compliance (i.e., fabricate, install, start up and shake down the modified facility; conduct preliminary emissions tests; conduct formal compliance testing; analyze samples and evaluate test results; prepare the notification of compliance; and obtain management certification of the results).

This is an extensive regulation and the availability of resources within EPA and state agencies is limited. State agencies will be working with EPA trying to obtain state authorization at the same time that HWC facilities are attempting to renew their existing permit and/or obtain regulator approval of their permit modifications. DOE foresees the competition for resources potentially delaying the permit modification approval process. This could jeopardize a HWC facility's ability to meet the statutory

compliance schedule. Should EPA choose to make an agency approval necessary, DOE requests EPA consider crafting a provision that will allow a HWC to continue operations under their current permit if a permit modification request was submitted to the regulating agency in a timely manner (relative to the compliance date of the regulation). This would ensure that a facility is not unduly penalized in the event EPA or an authorized state agency is unable to address its backlog of HWC permit applications/permit modifications.

2. EPA requests comment on whether it would be appropriate to move up the compliance date of the rulemaking from the proposed three-year time frame following promulgation to a time frame closer to many RCRA-based regulations, that of six months to a year (61 FR 17454, col. 2.).

DOE is strongly opposed to moving up the compliance date. In DOE's view, three years is only marginally enough time to secure funding, acquire and install needed equipment, and conduct initial performance testing. Any shorter period would be unreasonable and could result in the closure of some facilities. Agencies of the Federal Government will have particular difficulty meeting the three-year compliance date because of the long lead times of the Federal budget cycle. (See General Comment 3)

3. Under RCRA section 3006, EPA may authorize qualified States to administer and enforce the RCRA program within the State. Prior to HSWA, States that received authorization for the base program were obligated to adopt new, more stringent Federal requirements. In the interim, however, new Federal requirements did not take effect. In contrast, HSWA requirements and prohibitions take effect in authorized/unauthorized States on the Federally-mandated effective date. Following the effective date, EPA is directed to implement HSWA requirements until States are granted authorization. EPA is concerned that permit implementation conflicts may arise in States that do not receive authorization to implement the HWC program and requests comment on three approaches to deal with these potential conflicts. (61 FR 17456, col. 2).

The Department shares EPA's concerns regarding permit implementation conflicts that may arise in authorized States that fail to obtain RCRA authorization to implement the new HWC provisions in a timely manner (i.e., in time to handle the necessary RCRA permit modifications). As EPA explains (61 FR 17456, col. 2), if modification option 1 is chosen, the issues and conflicts associated with permit implementation will not arise.³³ As previously stated in DOE's comments to 5.VI.E, the Department favors modification option 1. DOE believes option 1 offers the most streamlined alternative and is consistent with the self-implementing authority of the CAA. Moreover, using option 1 circumvents altogether the conflicts associated with permit implementation.

If, however, EPA determines that one of the other modification options (options 2 through 5) is warranted, DOE believes the third approach to modifying permits in authorized States will result in the least conflict relative to expeditiously incorporating the permit modifications necessary to comply with the new MACT standards into existing permits, but could result in the greatest amount of conflict between EPA and State regulators. DOE finds it difficult to support either the first approach or second approach because electing to use either of these approaches may result in permit modification activities that follow two completely separate regulatory/administrative tracks and may be unnecessarily duplicative. As EPA notes on page 17456, col. 1, many States have not yet adopted the modification table in Appendix I of 40 CFR 270.42. Therefore, while EPA would utilize Class 1, 2, or 3 modification procedures to address modifications deemed as falling within the scope of HSWA,

³³ Modification option 1 gives HWC owners/operators the ability to expeditiously comply with MACT standards without having to first obtain a RCRA permit modification (61 FR 17455).

authorized States could employ major or minor permit modification procedures to address modifications that continue to fall within their authority.

In summary, EPA's three approaches to modifying permits in authorized States rely on a determination regarding which portions of the HWC rulemaking are subject to HSWA, and thus may be implemented by EPA in authorized/unauthorized States immediately. DOE urges EPA to adopt permit modification option 1 and avoid the implementation conflicts described in this portion of the preamble entirely.

- 4. Under the RCRA “permit as a shield” provision (40 CFR 270.4), compliance with a RCRA permit constitutes compliance, for the purpose of enforcement, with Subtitle C of RCRA. Regulations promulgated under CAA authority [40 CFR 70.6(f) and 71.6(f)] also contain similar permit shield provisions.**

The relationship of the RCRA “permit as a shield” provision is not discussed in the proposed rule. DOE assumes that EPA does not discuss this provision because the self-implementing nature (under CAA authority) of the proposed standards obligate facilities to make the necessary changes and, this in turn, provides the impetus for permitted facilities to submit RCRA permit modification requests. DOE suggests EPA clarify this point in the final rule.

5.VII. State Authorization

5.VII.A. Authority for Today's Rule

EPA has proposed several methods by which these regulations may be administered.

States may either: 1) promulgate these requirements under their CAA program and then incorporate them by reference into their RCRA regulations; 2) promulgate and incorporate these standards into both the CAA and RCRA portions of their State code; or 3) promulgate these standards under their RCRA program only (if the State lacks an approved CAA title V permit program). EPA, however, strongly encourages States to apply for authorization/delegation to adopt the MACT standards under both regulatory programs (61 FR 17456, col. 3).

MACT standards for HWCs are being proposed in this rulemaking under joint CAA/RCRA authority. Both the CAA and RCRA statutes contain provisions that allow States to administer the HWC regulations in lieu of EPA. These statutes also contain provisions that require Federal departments/agencies be subject to and comply with CAA/RCRA regulations in the same manner and to the same extent as nongovernmental entities. However, the enforcement of RCRA requirements against Federal facilities has not always been clear. To address this lack of clarity, on October 6, 1992, the FFCAct of 1992 (PL 102-386) was enacted. The FFCAct amends the waiver of sovereign immunity found in RCRA, thereby subjecting Federal facilities to the full spectrum of Federal, State and local enforcement mechanisms including civil and administrative penalties and fines. Under section 118(a) of the CAA, Federal facilities are subject to a broad range of Federal and State administrative and judicial actions for CAA-violations.

Although the statutory authority for implementing and enforcing the MACT standards is available, the proposed rule does not address key issues involved in determining how enforcement integration between CAA and RCRA will be achieved. The means of accomplishing this integration or additional direction needs to be proposed and made available for public comment. Without means for integrating enforcement, many issues may arise simply because regulated sources (and the regulators) are uncertain as to which program takes precedence when inconsistent requirements surface. For example, the feedstream analysis plan (FAP) requirements proposed by EPA in 40 CFR 63.1210(c)(1)-

(3) are, in some cases, identical to the waste analysis plan (WAP) requirements already applicable to certain HWCs under 40 CFR 264/265.13. EPA recognizes this relationship in the preamble discussion on page 17442 and, in fact, suggests that owners/operators use the RCRA waste analysis plan guidance to prepare feedstream analysis plans (see 61 FR 17443). One major difference relative to implementing the WAP/FAP requirements exists. Specifically, under RCRA regulations, WAPs must be submitted to the regulators as an element of hazardous waste management (Part B) permit application. Additionally, revised WAPs must be submitted to the regulators as part of a permit modification request when facility changes dictate modifications of the WAP. This same holds true for other RCRA-required documentation (e.g., contingency plan, personnel training plans, inspection schedules). In contrast, under the proposed CAA standards, FAPs and other CAA-required documentation [ESV Operating Plans which are analogous to the Preparedness and Prevention and Contingency Plan (61 FR 17441)] are only required to be submitted to the regulators if requested.

DOE is concerned that if the HWC regulations are promulgated as proposed, the regulated community will have to comply with duplicative technical requirements under RCRA and CAA, yet they will be subject to two different sets of administrative and enforcement procedures. As noted above, amending the WAP (or other RCRA-required document) requires submittal of a permit modification request. Under the CAA regulations, amending a FAP (or other CAA-required document) typically does not require a permit modification (or any other type of regulator approval). If a facility modifies its FAP without first obtaining a permit modification and the regulators viewed the modification as a modification of the facility WAP, RCRA regulators will view this as a RCRA violation and may issue a Notice of Violation (NOV).

Accordingly, DOE believes it is EPA's responsibility to resolve issues with States regarding permitting, programmatic documentation and enforcement roles and responsibilities to avoid overlap, duplication and unnecessary expenditure of resources. Therefore, DOE requests EPA draft new regulatory language applicable to HWCs that specifically articulates which requirements are subject to CAA administrative and enforcement processes, and which requirements are subject to RCRA administrative and enforcement processes. Furthermore, DOE requests EPA consider developing language that requires States that issue HWC emission standards to make clear whether the authority and procedures to be followed and any resulting enforcement actions will be based on the CAA, RCRA or both.

5.VII.C. 3. Streamlined Authorization Under RCRA

RCRA section 3006 authorizes qualified States to administer and enforce the RCRA program within the State. Prior to HSWA, States that received authorization for the base program were obligated to adopt new, more stringent Federal requirements, however, in the interim, new Federal requirements did not take effect. In contrast, HSWA requirements and prohibitions take effect in authorized/unauthorized States on the Federally-mandated effective date. EPA is directed to implement the HSWA requirements until States are granted authorization. As a result of the piece-meal approach to RCRA state authorization, the regulated community must currently comply with a patchwork quilt of regulatory compliance requirements and activities that vary, often substantially, from State-to-State. Recently, EPA initiated a series of rulemakings intended to streamline State authorization of RCRA rules. EPA proposes to utilize the streamlined procedures proposed in the August 22, 1995 Federal Register (60 FR 43686) to convey RCRA authorization to those States that are approved (under CAA authority) to implement the proposed MACT standards pursuant to 40 CFR part 63, Subpart E. (61 FR 17458, col. 1)

DOE applauds EPA's commitment to streamlining the RCRA State authorization process. The Department supports EPA's use of the streamlined State authorization procedures, which have come to be known as "Category 1" authorization procedures (61 FR 18819). In fact, DOE suggests that

EPA consider extending the streamlined authorization procedures to all States that have both received base program authorization to implement the existing incinerator regulations and States that have interim HSWA authorization to implement the existing BIF regulations. DOE believes that the proposed streamlined State authorization procedures [40 CFR 271.28; (60 FR 43698)] will indeed streamline the RCRA State authorization process, thereby allowing States to obtain interim authorization to implement the HWC rulemaking in a timely manner. Moreover, utilizing the streamlined authorization approach may resolve EPA's concerns regarding potential implementation conflicts (61 FR 17456). Finally, by allowing States the opportunity to implement all new regulations (both HSWA and non-HSWA) in a timely and more concurrent manner, DOE decision-makers will be afforded the opportunity to develop and implement complex-wide RCRA compliance strategies.

DOE cautions EPA in issuing a final HWC rule that incorporates a streamlined authorization approach until comments to the HWC proposal, as well as the Phase IV and the HWIR-media rulemakings can be considered. [See April 8, 1996 Phase III final rule (61 FR 15590)] (Also see a related comment in Part Eight of this comment package.)

5.VIII.A. Definitions in Proposed Section 63.1201

A list of terms to be defined in 40 CFR 63.1201 is provided. EPA states it believes all of the definitions are self-explanatory as proposed. EPA goes on to state that to avoid confusion and ambiguity, all of the terms including "operating record" are also proposed under 40 CFR 260.10 and 270.2. (61 FR 17458)

First, it appears that EPA inadvertently failed to codify any of these definitions under 40 CFR 270.2. Second, some of the terms EPA identifies as being proposed do not appear in either of codified definitions section (e.g., RCRA operating **permit** (emphasis added); DRE performance standard). Last, the proposed definition of "operating record" at 40 CFR 63.1201 and 260.10 includes the phrase "communications with regulatory officials." This phrase appears overly broad and very unclear. DOE suggests EPA consider narrowing the scope of this phrase by incorporating a phrase such as follows: "communications with regulatory officials *as necessary to demonstrate facility compliance with the governing regulations.*"

6. MISCELLANEOUS PROVISIONS AND ISSUES

6.II. Miscellaneous Revisions to the Existing Rules

6.II.F. Shakedown Concerns

EPA is concerned that some new units do not effectively use the allotted 720 hour pre-trial burn period to correct operational problems prior to the trial burn period. In an effort to enhance regulatory control over trial burn testing, EPA proposes three options that focus on the pre-trial burn period (61 FR 17473).

The Department supports EPA's desire to make the 720 hour shakedown period more effective in assuring that the trial burn will be successful. EPA should, however, articulate more specifically the activities which should or could be performed during the 720 hour pre-trial burn period. For example, EPA proposes that sources that have already been issued a RCRA operating permit may burn hazardous waste only for a total of 720 hours [40 CFR 63.1206(a)(2)(ii)(B)]. However, insufficient detail is provided on the types and quantities of hazardous waste which would be allowed, as well as the specific activities that EPA expects to be accomplished during the shakedown period.

To address this gap, DOE suggests EPA elect to utilize option 3, which would provide guidance to the regulated community and other stakeholders, while affording permit writers with the latitude to

establish site-specific readiness demonstration requirements. DOE notes that much of the guidance could be gathered from existing EPA publications (e.g., *Guidance on Setting Permit Conditions and Reporting Trial Burn Results; Volume II of the Hazardous Waste Incineration Guidance Series*, EPA/625/6-89/019; *Quality Assurance/Quality Control (QA/QC) Procedures for Hazardous Waste Incineration* EPA/625/6-89/023; *Operational Parameters for Hazardous Waste Combustion Devices*, EPA/625/R-93/008).

7. ANALYTICAL AND REGULATORY REQUIREMENTS

7.III. Assessment of Potential Costs and Benefits

EPA presents in this section the results of a Regulatory Impact Assessment for Proposed Hazardous Waste Combustion MACT Standards (prepared by Industrial Economics Incorporated for the Office of Solid Waste, November 13, 1995) (61 FR 17475-17480).

DOE believes that the assessment fails to accomplish the following:

- consider the impact of the rule on government-owned HWCs, and
- address the compliance issues raised by the fact that DOE-owned incinerators are used to combust mixed waste in accordance with legally-enforceable Site Treatment Plans prepared under the requirements of the FFCAct.

DOE suggests that EPA revise the analysis to address these items.

7.III.C. Total Incremental Cost per Incremental Reduction in HAP Emissions.

The CAA requires that MACT emission standards reflect the maximum degree of reduction of HAP emissions that is achievable taking into consideration the cost of achieving the reduction, any non-air quality impacts, and energy requirements [CAA section 112(d)(2)]. EPA estimates that the incremental cost of D/F emission reduction to achieve the BTF emission level from the 6 percent floor will be approximately \$560,000/gram (61 FR 17476, col. 2)

DOE believes the \$560,000/gram cost seems excessive given the uncertainties associated with the health effects associated with exposure to D/F discussed at page 17477 of the proposed rule. The cost/gram is likely to be even more excessive for the small, on-site incinerators which DOE operates. EPA should furnish additional justification for such a high expenditure, especially given the Congressional mandate, under section 112(d)(2) of the CAA, that the cost of achieving MACT standards be taken into account when establishing appropriate NESHAP standards.

8. ADDITIONAL COMMENTS ON PROPOSED CODIFIED LANGUAGE, TECHNICAL CORRECTIONS, AND RELATED COMMENTS

DOE has the following comments regarding the proposed new and amended codified language. Some of these comments duplicate comments made in previous sections of this consolidated Departmental response. For completeness, however, DOE is providing these comments specifically referencing the proposal.

- 1. Recently, EPA initiated a series of rulemakings intended to streamline State authorization of RCRA rules. EPA proposes to utilize the streamlined procedures that were initially proposed in the August 22, 1995 Federal Register (60 FR 43686) to convey RCRA authorization to those States that are approved (under CAA authority) to implement the proposed MACT standards pursuant to 40 CFR part 63, Subpart E. (61 FR 17458, col.1)**

EPA initially proposed streamlined authorization procedures (“Category 1”) under 40 CFR 271.28 [see the August 22, 1995 Federal Register (60 FR 43698)]. The codified language reappears in a supplemental notice issued January 25, 1996 Federal Register (61 FR 2374). In the subsequent HWIR-media proposed rule dated April 29, 1996 (61 FR 18780), EPA proposes additional streamlining authorization procedures (“Category 2”) under paragraph 271.21(I). Also in this notice, EPA proposes subparagraphs 271.21(b)(1) and (2), which reference paragraph 271.21(I) as containing procedures for authorization of Category 1 program revisions. Paragraph 271.21(I), however, contains procedures for authorization of Category 2 program revisions only.

DOE is concerned that EPA may inadvertently overlook coordinating codification of the streamlining provisions. Therefore, DOE suggests EPA either: (1) incorporate the Category 1 program revisions procedures into 40 CFR 271.21(I), which is consistent with the language that appears in the proposed paragraph 271.21(b)(2) of the April 29, 1996 Federal Register; or (2) place the Category 1 streamline procedures in reserved paragraph 271.21(h) and modify the language proposed under paragraph 271.21(b)(2) accordingly. DOE points out that the April 29, 1996 Federal Register proposes a new provision (“Specific authorization provisions for an HWIR-media program”) under 271.28 (61 FR 18864) but does not indicate this disposition of the previously proposed 40 CFR 271.28.

2. Editorial Comments

The following two subsections associated with the following dioxin and furan parameters were apparently inadvertently misnumbered:

- Catalytic oxidizer [40 CFR 63.1210(j)(7)]
- Inhibitor feedrate [40 CFR 63.1210(j)(8)]

These subparagraphs should be renumbered as 40 CFR 63.1210(j)(9) and 63.1210(j)(10), respectively.