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Expansion of RCRA Comparable Fuel Exclusion; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 261

[EPA–HQ–RCRA–2005–0017; FRL–8753–4]

RIN 2050–AG24

Expansion of RCRA Comparable Fuel Exclusion

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This final action adds a new exclusion to the rules implementing subtitle C of the Resource Conservation and Recovery Act (RCRA). The rule already provides exclusions for comparable fuels and synthesis gas. These fuels are energy-rich hazardous secondary materials which would otherwise be hazardous wastes, but which have the same hazardous constituent concentrations as fossil fuels that would be burned in their place. EPA is establishing a new category of excluded fuel that has its own set of conditions, some of which overlap with the comparable fuels exclusion. These newly excluded hazardous secondary materials are called ''emission-comparable fuel'' (ECF). ECF is a hazardous secondary material that, when generated, is handled in such a way that it is not discarded in any phase of management, but rather is handled as a valuable commodity. ECF meets all of the hazardous constituent specifications (over 160) for comparable fuel, with the exception of those for oxygenates and hydrocarbons (constituents which contribute energy value to the fuel). The rule specifies conditions on burning ECF which assure that emissions from industrial boilers burning ECF are comparable to emissions from industrial boilers burning fuel oil. The ECF exclusion also includes conditions for tanks and containers storing ECF to assure that discard does not occur.

DATES: This final rule is effective January 20, 2009.

ADDRESSES: The official public docket is identified by Docket ID No. EPA–HQ–RCRA–2005–0017. All documents in the docket are listed in the *http://www.regulations.gov* index. Although listed in the index, some information is not publicly available, *e.g.*, Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *http://www.regulations.gov* or in hard copy at the RCRA Docket, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the RCRA Docket is (202) 566–0270.

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SUPPLEMENTARY INFORMATION:

General Information

A. Does This Action Apply to Me?

Categories and entities potentially affected by this action include:

Category	NAICS code	SIC code	Examples of potentially regulated entities
Any industry that generates or combusts hazardous waste as defined in the final rule.	562	49	Waste Management and Remediation Services.
	327	32	Non-mettalic Mineral Products Manufacturing.
	325	28	Chemical Manufacturing.
	324	29	Petroleum and Coal Products Manufacturing.
	331	33	Primary Metals Manufacturing.
	333	38	Machinery Manufacturing.
	326	306	Plastic and Rubber Products Manufacturing.
	488, 561	49	Administration and Support Services.
	421	50	Scrap and waste materials.
	422	51	Wholesale Trade, Non-durable Goods, N.E.C.
	512, 541, 812	73	Business Services, N.E.C.
	512, 514, 541, 711	89	Services, N.E.C.
	924	95	Air, Water and Solid Waste Management.
	336	37	Transportation Equipment Manufacturing.
	928	97	National Security.
	334	35	Computer and Electronic Products Manufacturing.
	339	38	Miscellaneous Manufacturing.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be impacted by this action. This table lists examples of the types of entities EPA is aware could potentially be regulated by this action. Other types of entities not listed could also be affected. To determine whether your facility, company, business, organization, etc., is affected by this action, you should examine the applicability criteria in this rule. If you have any questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

B. Docket Copying Costs

You may copy a maximum of 100 pages from any regulatory docket at no charge. Additional copies are 15 cents/page.

C. How Do I Obtain a Copy of This Document and Other Related Information?

In addition to being available in the docket, an electronic copy of this rule will also be available on the Worldwide Web (WWW). Following the Administrator's signature, a copy of this document will be posted on the WWW at *http://www.epa.gov/hwcmact.* This Web site also provides other information related to the NESHAP (National Emission Standards for Hazardous Air Pollutants) for hazardous waste combustors.

D. Index of Contents

The information presented in this preamble is organized as follows:

Part One: Background

I. Statutory Authority

These regulations are promulgated under the authority of sections 1004 and 2002 of the Solid Waste Disposal Act of 1970, as amended by the Resource Conservation and Recovery Act of 1976 (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), 42 U.S.C. 6903 and 6912.

II. Background

A. What Is the Intent of the Rule?

Section 261.38 states that hazardous secondary materials (*i.e.*, spent materials, sludges and byproducts) which have fuel value and whose hazardous constituent levels are comparable to those found in fuel oil that could be burned in their place are not solid wastes, and hence not hazardous wastes. These materials are called comparable fuels. This rule adds an additional group of materials to the exclusions in section 261.38. These materials are hazardous secondary materials that, as generated, are not discarded, but are treated as valuable commodities through all phases of management through operation of conditions on their storage and burning, and based on their substantial physical identity with fuel oil. These hazardous secondary materials must meet all of the hazardous constituent specifications for comparable fuel except those for oxygenates and hydrocarbons, constituents with high energy content [1] that contribute to the energy value of these materials. These excluded fuels are termed ''emission-comparable fuel'' (''ECF'') because the emissions from an industrial boiler burning these hazardous secondary materials are comparable to the emissions from an industrial boiler burning fuel oil, the fossil fuel for which ECF would often substitute.[2] In other words, ECF and fuel oil are comparable from an emissions standpoint, although the concentrations of oxygenates and hydrocarbons may be higher in the ECF than in fuel oil.

EPA wishes to make clear the basic fact pattern regarding the generation and management of ECF in order to establish the fact situation to which the rule applies. The rule applies to hazardous secondary materials which are not discarded in the first instance. ECF must meet the specifications established for hazardous constituents in comparable fuels, except with respect to hydrocarbons and oxygenates—constituents which provide substantial fuel value. These emission-comparable fuels must meet the specifications for those hazardous constituents, as well as the specifications for minimum heating value and maximum viscosity, as generated. Hazardous secondary materials may not undergo processing to destroy or otherwise remove the hazardous constituents to meet the specifications, or to meet the heating value or viscosity specifications (*i.e.*, such materials, by definition, cannot be ECF). Based on limited current practice for those materials currently classified as comparable fuels under existing § 261.38, EPA expects most ECF to be used on-site.[3] ECF would be used and stored under largely the same conditions as would the virgin fuel—fuel oil—which would often be displaced by ECF.

Under these circumstances, the rule excludes ECF from being a solid waste, *i.e.*, determines that ECF is not discarded, from its point of generation. Throughout its management cycle, ECF is subject to conditions which provide objective assurance that discard has not occurred. These include conditions on tank and container storage, drawn largely from conditions applicable to containers and tanks storing fuel oil and organic product and by-products, which conditions assure containment, spill prevention, and minimization of fugitive air emissions. Transport conditions are the same as for all other hazardous materials, including product fuels. Conditions on burning (again drawn largely from standard practices for assuring that industrial boilers operate efficiently) assure that emissions of hazardous constituents which may be present in different concentrations than fuel oil would be no different than the emissions if the same boiler burned fuel oil. The combination of ECF's substantial physical identity with fuel oil, and identical emission profiles with fuel oil, assures that ECF is not discarded when burned. For all of these reasons, EPA is taking the position that ECF may reasonably be classified as a non-discarded fuel product.

Based on the quantity of hazardous secondary materials eligible for this exclusion, the total quantity of hazardous secondary materials excluded from the RCRA hazardous waste regulations is expected to increase substantially. Specifically, we estimate that approximately 13,000 tons per year of hazardous secondary materials are currently excluded under the existing comparable fuel exclusion, while we

[1] The hydrocarbons and oxygenates listed in Table 1 to § 261.38 have a heating value in the range generally of 10,000 Btu/lb to 18,000 Btu/lb. See USEPA, ''Final Technical Support Document for the Expansion of the Comparable Fuels Exclusion,'' November 2008, Table 2–1. Fuel oil typically has a heating value of approximately 19,300 Btu/lb.

[2] Fuel oil is a common, but not predominant, fuel for industrial boilers.

[3] All comparable fuel currently excluded under § 261.38 is burned on-site (*i.e.*, at the site of generation), according to a survey conducted by the American Chemistry Council. See EPA Docket No. EPA–HQ–RCRA–2005–0017–0003. In addition, we estimate that 19 of the 34 burners projected to use ECF will burn on-site ECF which they generate themselves. See discussion in Part Six of this preamble.

project that up to an additional 118,500 tons per year may be excluded under the ECF exclusion.

These additional hazardous secondary materials can now be used as fuel without imposing regulatory costs on generators, primarily the manufacturing sector. However, the expanded comparable fuel exclusion is not likely to increase the amount of hazardous secondary materials used as fuel because these high Btu materials, even though not currently excluded from RCRA, are currently used in industrial furnaces and incinerators for their fuel value. Put another way, it is likely that the same amount of energy will be recovered from these hazardous secondary materials whether they are classified as wastes or non-wastes, and the same amount of fossil fuel would be displaced. Nonetheless, continuing to regulate these hazardous secondary materials as hazardous wastes would: (1) Impose costs on a material which can legitimately be classified as a non-discarded product, rather than as a waste; and (2) preclude the opportunity to market the materials as boiler fuels, given that use is currently constrained to a relatively small universe of RCRA-permitted burners.

B. Who Will Be Affected by This Rule?

Entities that generate, burn, and store ECF are potentially affected by this rule. The basic structure of the exclusion is that ECF is not a solid (and hazardous) waste as generated, and hence is not subject to subtitle C regulation. Thus, entities managing hazardous secondary materials classified as hazardous waste fuels under current rules can manage these fuels without being subject to full subtitle C regulation so long as they satisfy the conditions on ECF set out in this rule. Burners, which are limited to certain industrial boilers (including utility boilers) can burn ECF provided the boilers meet prescribed design and operating conditions, as discussed below in Part II, Section III.B.[4] These entities will benefit from lower operating costs because of lower (or eliminated) waste management fees and because these hazardous secondary materials will substitute for fuels which would otherwise be purchased.

Commercial hazardous waste combustors that are currently managing hazardous waste fuels that qualify as ECF, on the other hand, might find themselves unable to continue to charge hazardous waste management fees for the excluded hazardous secondary materials. Consequently, commercial hazardous waste combustors might lose the waste management revenues for burning ECF, and, if they choose to no longer burn the material, may need to meet their heat input requirements by using other waste fuels or fossil fuels.

C. What Is the Relationship Between This Rule and the Existing Exclusion for Comparable Fuel?

On June 19, 1998 (63 FR 33782 and § 261.38), EPA promulgated standards to exclude from the definition of solid waste certain hazardous secondary material fuels that meet specification levels for hazardous constituents and physical properties that affect burning which are comparable to the same levels in fossil fuels (typically fuel oil). EPA's goal was to ensure that these excluded fuels, which are so similar in composition to commercial fuels, are properly classified as non-discarded products, not as wastes.

During the ten years that the comparable fuel exclusion has been part of the hazardous waste regulations, several stakeholders have pointed out that there are many hazardous secondary materials currently classified as hazardous wastes which have fuel value, and which have substantially the same composition as fossil fuels, but which do not satisfy the terms of the exclusion. Independently, in 2003, EPA began examining the effectiveness of the current comparable fuel program as part of an effort to promote the energy conservation component of the Resource Conservation Challenge [5] to determine whether other hazardous secondary materials currently classified as hazardous wastes could be appropriately excluded as comparable fuel.[6]

As part of this effort, EPA contacted the American Chemistry Council (ACC) in early 2003 to determine how much waste is currently excluded as comparable fuel and whether there were additional quantities of other high Btu hazardous secondary materials that could potentially be considered comparable fuel. As a result of ensuing discussions, we proposed in June 2007 to expand the exclusion for comparable fuel to establish a new category of excluded fuel—ECF. 72 FR 33284 (June 15, 2007). In this notice, we are responding to public comments on the proposed rule, summarizing changes to the proposed rule, and promulgating a final rule.

Part Two: Summary of the Final Rule

I. What Is ECF?

ECF is a hazardous secondary material which is excluded from the RCRA hazardous waste regulations if it meets prescribed specifications and conditions respecting its storage and burning. These conditions assure that ECF is not ''part of the waste disposal problem.'' *American Mining Congress* v. *EPA*, 907 F. 2d 1179, 1186 (DC Cir. 1990) citing *American Mining Congress* v. *EPA*, 824 F. 2d 1177, 1186 (DC Cir. 1987). The ECF fuel specifications (§ 261.38(a)(2)) are the same as those that are applicable to comparable fuel, except the specifications in Table 1 to § 261.38 for hydrocarbons and for oxygenates do not apply, and the minimum heating value specification is 8,000 Btu/lb. The exclusion applies from the point of generation of the ECF.

ECF must meet the specifications as generated. Hazardous secondary materials may not be treated by blending or other means to meet the specifications, including the minimum heating value and maximum viscosity specifications. ECF product may, however, be commingled with other fuels to facilitate handling and storage, provided that the ECF continues to meet the specifications.[7]

II. What Are the Storage Conditions for ECF?

ECF may be stored in tanks and containers under conditions that prevent releases of hazardous secondary materials to the environment. The storage conditions are adopted from a collection of requirements for storage of fuel oil and other materials: discharge prevention requirements adopted from the Spill Prevention, Control, and Countermeasure (SPCC) requirements for oil storage facilities; containment and emergency procedure requirements adopted from the hazardous waste storage requirements, and fugitive air emission controls adopted from several NESHAP (National Emission Standards for Hazardous Air Pollutants) for organic products, by-products, and feedstocks. See § 261.38(c)(1). The final rule also provides alternative storage

[4] Under the final rule, ECF can also be burned in hazardous waste combustors operating under a RCRA permit. See discussion in Part Two, Section III.A of the preamble.

[5] See *http://www.epa.gov/epaoswer/osw/conserve/strat-plan/strat-plan.htm#rccplan.*

[6] As noted above, the same amount of energy is recovered from excluded fuels whether they are burned in units subject to subtitle C rules, or in industrial boilers.

[7] Please note that the proposal included a conforming amendment adding a reference to ECF to § 261.38(a)(5), a provision addressing treatment of hazardous constituents to meet the hazardous constituent specifications. 72 FR at 33324. EPA has no information that this practice occurs, did not estimate any costs for the practice in assessing compliance costs for the proposed or final rule, and received no comment on the issue. EPA is consequently not finalizing the proposal to amend this provision.

conditions, however, that are adopted solely from the controls for hazardous waste storage facilities. See § 261.38(e). We provide these alternative storage conditions for the convenience of owners and operators because: (1) They provide equivalent protection of human health and the environment; (2) they are less complex than the suite of conditions that are adopted from requirements for fossil fuels and other products; and (3) facilities that are currently storing hazardous waste that becomes ECF under the exclusion are already complying with these conditions.

The storage conditions adopted from the collection of SPCC provisions, hazardous waste provisions, and NESHAP provisions are discussed below in Section II.A. The alternative storage conditions adopted solely from the hazardous waste storage requirements are discussed below in Section II.B.

A. What Are the Conditions for Storage?

1. Discharge Prevention Conditions That Are Adopted From SPCC Requirements

We are adopting particular SPCC provisions under 40 CFR Part 112 that pertain to discharge prevention for oils managed at onshore facilities: §§ 112.2, 112.3(d), 112.3(e), 112.5(a), 112.5(b), 112.7, and 112.8. See § 261.38(c)(1)(iii). These provisions require compliance with the SPCC Plan requirements for discharge prevention, other than those pertaining to containment. See § 261.38(c)(1)(iii).

2. Containment Conditions That Are Adopted From Hazardous Waste Storage Requirements

We are adopting the hazardous waste provisions for containment for storage units: (1) For tanks, § 264.193 (b) and (c), § 264.193(d)(1) through (d)(3), and § 264.193 (e) and (f); and (2) for containers, § 264.175(b).

For tanks, the adopted provisions are those for engineered secondary containment and for leak detection. Engineered secondary containment means the use of an external liner, vault, or double-walled tank. See § 261.38(c)(1)(iv)(A).

For containers, the adopted provisions are those for a containment system comprised of a base underlying the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed. The containment system must be designed to contain 10% of the volume of containers or the volume of the largest container, whichever is greater. See § 261.38(c)(1)(iv)(B).

3. Emergency Procedure Conditions That Are Adopted From Hazardous Waste Storage Requirements

We are adopting provisions from hazardous waste storage requirements for preparedness and prevention, emergency procedures, and response to leaks or spills. See § 261.38(c)(v).

The following conditions ensure preparedness and prevention: (1) You must provide the emergency equipment required by adopted § 264.32(a) though (d); (2) you must test and maintain equipment related to emergency procedures; (3) you must ensure access to communications or alarm systems by facility personnel; and (4) you must make arrangements with local authorities as required by adopted § 264.37(a).

The following conditions establish emergency procedures: (1) An emergency coordinator must be available at all times; and (2) the emergency coordinator must manage imminent or actual emergency situations according to the provisions of § 261.38(c)(1)(v)(B)(*2*).

To address a response to leaks or spills from tank systems, and the disposition of leaking or unfit-for-use tank systems, the provisions of § 264.196 are adopted, except for the closure provisions of § 264.196(e)(1) and (4).

4. Fugitive Air Emissions Conditions That Are Adopted From the NESHAP for Organic Liquid Distribution, the NESHAP for Tanks, the NESHAP for Containers, and the NESHAP for Equipment Leaks

All ECF tanks systems, containers with a capacity greater than 0.1 cubic meters (26 gallons), and equipment that contains or contacts ECF (*e.g.*, valves and pumps) are subject to conditions to control fugitive air emissions. The conditions are adopted from the organic liquid distribution (OLD) NESHAP, the NESHAP for containers (Level 1 or Level 2 controls), the NESHAP for tanks (Level 1 or Level 2 controls),[8] and the NESHAP for equipment leaks.

a. *Tanks.* Tanks containing ECF that are currently subject to the OLD requirements under § 63.2346 (Part 63, Subpart EEEE) are not subject to any additional conditions to control fugitive emissions (under § 261.38(c)(vi)(B) and (C), and (c)(vii)), with one exception. If your tank is subject to Items 1 through 5 in Table 2 to Subpart EEEE, rather than Item 6 because the annual average vapor pressure of regulated organic HAP[9] is less than 11.1 psia, you must consider the annual average vapor pressure of the RCRA oxygenates listed under § 261.38(c)(1)(vi)(B)(*3*) to determine if your tank must also satisfy the more stringent controls (drawn from the other OLD controls) we are adopting for ECF. See § 261.38(c)(vi)(A)(*2*).

Tanks that are not currently subject to the OLD requirements under § 63.2346, and that store ECF that meets the expanded definition of organic liquid which we are adopting for ECF under § 261.38(c)(vi)(B)(*4*),[10] are subject (as a condition) to emission limits adopted from the OLD NESHAP as a function of the tank design capacity and the annual average vapor pressure of the RCRA oxygenates and the organic HAP in the ECF. See § 261.38(c)(1)(vi)(C)(*5*).

Finally, ECF tanks that are not subject to the adopted OLD requirements (*i.e.*, tanks storing ECF that meets the adopted definition of organic liquid under § 261.38(c)(vi)(B)(*4*), but for which OLD controls are not adopted under § 63.2346, and tanks storing ECF that does not meet the adopted and expanded definition of organic liquid) are subject to the following conditions:

- For tanks that meet the tank capacity and vapor pressure criteria for hazardous waste tanks under § 264.1084(b)(1) for Level 1 control:
  - The NESHAP provisions for Level 1 control under Subpart OO, Part 63, §§ 63.901 through 63.907; or
  - The NESHAP provisions for organic liquid distribution under Subpart EEEE, Part 63 under Item 1.a.i or 1.a.ii in Table 2 to Subpart EEEE, which require 95% emissions reduction via venting to a control device under provisions of Subpart SS, Part 63, or Level 2 tank emissions control under Subpart WW, Part 63, or routing emissions to a fuel gas system or back to a process under § 63.984 of Subpart SS, Part 63, or vapor balancing emissions to the transport vehicle from which the storage tank is filled under § 63.2346(a)(4); or
  - Hazardous waste tank controls under Subpart CC, Part 264, under § 264.1084(d)(3), (d)(4), or (d)(5) for use of venting to a control device, or a pressure tank, or a tank located inside an enclosure that is vented through a

[8] As discussed below, we also provide as alternative tank controls three control alternatives for hazardous waste tanks under Subpart CC, Part 63, that are not included under the NESHAP.

[9] Organic HAP regulated by Subpart EEEE, Part 63 are listed in Table 1 to Subpart EEEE.

[10] An organic liquid for purposes of § 261.38(c)(vi) means emission comparable fuel that: (1) Contains 5 percent by weight or greater of the RCRA oxygenates as well as organic HAP listed in Table 1 to Part 63, Subpart EEEE; and (2) has an annual average true vapor pressure of 0.7 kilopascals (0.1 psia) or greater.

closed-vent system to an enclosed combustion control device, and the associated provisions under §§ 63.1081 (definitions), 264.1083(c) (determination of vapor pressure), 264.1084(j) (transfer to a tank), 264.1087 (closed-vent systems and control devices), and 264.89(b) (recordkeeping).

• For tanks that do not meet the tank capacity and vapor pressure criteria for hazardous waste tanks under § 264.1084(b)(1) and are, thus, subject to Level 2 control, the air emission controls are the same as for Level 1 control, except that the Level 1 controls under Subpart OO, Part 63, are not applicable.

The air emission conditions for ECF tanks are summarized in the table below:

Tank capacity (gallons)	Vapor pressure (psia)	Adopted old NESHAP conditions (subpart EEEE, part 63) for tanks storing ECF that meets the definition of organic liquid [1]		Adopted conditions for tanks not subject to adopted old controls
		Existing sources	Reconstructed or new sources	
<5,000	<11.1			A or C
	>=11.1			A or D
>=5,000 to <10,000	<4.0			A or C
	>=4.0 to <11.1	A	A	A or C
	>11.1	B	B	A or D
>=10,000 to <20,000	<=0.1			A or C
	>=0.1 to >4.0		A	A or C
	>=4.0 to >11.1	A	A	A or C
	>=11.1	B	B	A or D
>=20,000 to <40,000	<=0.1			A or C
	>=0.1 to >4.0		A	A or C
	>=4.0 to >11.1	A	A	A or D
	>=11.1	B	B	A or D
>=40,000 to <50,000	<=0.1			A or C
	>=0.1 to >0.75		A	A or C
	>=0.75 to >4.0		A	A or D
	>=4.0 to >11.1	A	A	A or D
	>=11.1	B	B	A or D
>=50,000	<=0.1			A or C
	>=0.1 to >0.75	A	A	A or C
	>=0.75 to >11.1	A	A	A or D
	>=11.1	B	B	A or D

[1] Organic liquid means emission comparable fuel that: (1) Contains 5 percent by weight or greater of the RCRA oxygenates as well as organic HAP listed in Table 1 to Part 63, Subpart EEEE; and (2) has an annual average true vapor pressure of 0.7 kilopascals (0.1 psia) or greater.

Notes:

A: 95% emissions reductions via venting to a control device under Subpart SS, Part 63; or Level 2 tank control under Subpart WW, Part 63; or route emissions to a fuel gas system or back to a process under 63.984 of Subpart SS, Part 63; or vapor balancing emissions to the transport vehicle from which the storage tank is filled under 63.2346(a)(4) of Subpart EEEE, Part 63.

B: 95% emissions reductions via venting to a control device under Subpart SS, Part 63; or route emissions to a fuel gas system or back to a process under 63.984 of Subpart SS, Part 63; or vapor balancing emissions to the transport vehicle from which the storage tank is filled under 63.2346(a)(4) of Subpart EEEE, Part 63.

C: Level 1 control under Subpart OO, Part 63, or venting to a control device under 264.1086(d)(3), or a pressure tank under 264.1084(d)(4) of; or tank located inside an enclosure that is vented to an enclosed combustion control device under 264.1084(d)(5).

D: Venting to a control device under 264.1086(d)(3); pressure tank under 264.1084(d)(4); or tank located inside an enclosure that is vented to an enclosed combustion control device under 264.1084(d)(5).

b. *Containers.* Containers that store ECF are subject to the adopted OLD provisions (see § 261.38(c)(1)(vi)(C)(*3*)) in order to be excluded. However, these provisions establish standards for containers only in a specific situation: Containers with a capacity greater than 55 gallons that are being loaded at a transfer rack at a new facility with ECF that meets the definition of organic liquid and where the annual volume of ECF is 800,000 gallons or more. See Items 9 and 10 in Table 2 to adopted Subpart EEEE.

To ensure that air emissions are controlled for other ECF containers as they are for containers storing liquids containing volatile organics (assuring that ECF is handled as are other commodities rather than being discarded), we adopt the national emission controls for containers under Subpart PP, Part 63. Subpart PP prescribes three levels of air emission controls: Level 1, Level 2, and Level 3. To determine which level of control would apply to ECF containers, we adopt the applicability criteria for hazardous waste containers under § 264.1086(b)(1). See § 261.38(c)(vii)(B)(1) and (c)(vii)(B)(2). Those applicability criteria specify whether Level 1 or Level 2 national emission controls for containers apply, considering the size of the container and whether it is ''in light material service.'' [11] Under these adopted controls as conditions for the exclusion, an ECF container having a design capacity greater than 0.1 cubic meters (26 gallons) satisfies the conditions if it: (1) Meets the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation; and (2) is kept closed unless ECF is being added or removed from the container.

c. *Equipment Leaks.* For tanks and containers that are conditioned on meeting the adopted OLD requirements, air emissions from leaks from equipment that contains or contacts ECF at a storage unit are controlled under the adopted OLD requirements

[11] An ECF container is in light material service if: (1) The vapor pressure of one or more of the organic components in the ECF is greater than 0.3 kilopascals (kPa) at 20 °C; and (2) the total concentration of the pure organic components having a vapor pressure greater than 0.3 kilopascals (kPa) at 20 °C is equal to or greater than 20 percent by weight. See § 264.1031.

(§ 63.2346(c)). For tanks and containers that are not conditioned on meeting the adopted OLD requirements, equipment leaks are subject to adopted NESHAP controls for equipment leaks, as discussed below. See § 261.38(c)(1)(vi)(C)(*3*), (c)(1)(vii)(A)(*3*), and (c)(1)(vii)(B)(*3*).

The OLD NESHAP subjects storage units to the following Part 63 NESHAP for equipment leaks if a facility has a tank or container subject to air emission control under Table 2 to Subpart EEEE: Subpart TT (Level 1 control), or Subpart UU (Level 2 control), or Subpart H.

For equipment leaks that are not conditioned on meeting OLD, we adopt as conditions the same suite of NESHAP controls that are required under OLD, and apply those controls to all equipment that stores or contacts ECF at a storage unit. The adopted NESHAP controls are: (1) Subpart TT, Part 63, (Level 1 control), except for § 63.1000; or (2) Subpart UU (Level 2 control), except for § 63.1019; or (3) Subpart H, except for §§ 63.160, 63.162(b) and (e), and 63.183.

B. What Are the Alternative Storage Conditions?

The rule establishes alternative storage conditions that we adopt from the hazardous waste storage standards under 40 CFR Part 264. See § 261.38(e). You may comply with these alternative conditions in lieu of the conditions just enumerated in Section II.A above. If you choose to meet these alternative conditions, you must substitute the term ''emission-comparable fuel'' for each occurrence of the term ''hazardous waste'' or ''waste.''

The alternative conditions for your ECF tank or container storage unit provide controls for: (1) Security; (2) inspections; (3) personnel training; (4) handling ignitable, reactive, or incompatible materials; (5) preparedness and prevention; (6) contingency plan and emergency procedures; and (7) air emission controls for equipment leaks.

Specifically, if you store ECF in a container, to maintain the exclusion, you must comply with conditions governing the use and management of those containers. Those conditions address: (1) The condition of the containers; (2) compatibility of the ECF with the containers; (3) management of the containers; (4) inspections; (5) containment; (6) special requirements for ignitable or reactive ECF; and (7) air emission controls.

On the other hand, if you store ECF in a tank, to maintain the ECF exclusion, you must comply with conditions that address: (1) Containment and detection of releases; (2) general operating requirements; (3) inspections; (4) response to leaks or spills and disposition of leaking or unfit-for-use tank systems; (5) ignitable or reactive materials; (6) incompatible materials; and (7) air emission controls.

C. What Are the Other Storage Conditions?

1. Underground Storage of ECF Is Prohibited

The final rule prohibits storage of ECF in underground tanks (*i.e.* a hazardous secondary material stored in an underground tank by definition cannot be ECF): A tank the volume of which (including the volume of underground pipes connecting thereto) is 10 percent or more beneath the surface of the ground.[12] In the preamble to the proposed rule, we requested comment on whether generators or burners would be likely to store ECF in underground tanks. We did not receive any information to indicate that ECF would be stored in underground tanks. Given the additional complexity to the rule that would result from the need to adopt air emission controls, as well as preparedness and prevention and emergency procedure provisions for underground storage tanks, we conclude that allowing the use of underground storage tanks for ECF would unnecessarily complicate the rule for very little benefit, or (more likely) no benefit at all.

2. What Are the Conditions for Closure of RCRA Storage Units That Become ECF Storage Units?

The rule waives the RCRA closure requirements in 40 CFR Parts 264 and 265 for those interim status and permitted storage units, and generator accumulation units exempt from the permitting requirements under § 262.34 of this chapter, that store ECF, provided that: (1) The storage unit has been used to store only the hazardous waste that is subsequently excluded as ECF under the conditions of § 261.38; and (2) the storage unit will be used to store only that ECF.

3. What Are the Conditions for Closure of Storage Units?

Like any other product storage unit which goes out of service, tank systems and container storage units would not be required to undergo closure under the RCRA hazardous waste regulations (unless liquids or accumulated solids were not cleaned from the tank system or container within 90 days of cessation of operation as an ECF storage unit), when the unit ceases operation as a product storage unit. See § 261.4(c). However, if an ECF storage unit ceases to be operated to store ECF product, but has not been cleaned by removing all liquids and accumulated solids within 90 days of cessation of ECF storage operations, the tank system or container would become subject to the RCRA Subtitle C regulations.[13] [14] See § 261.38(b)(13).

Discarded liquids and accumulated solids removed from a tank system or container that ceases to be operated for storage of ECF product are solid wastes. This material is hazardous waste if it exhibits a characteristic of hazardous waste or if the ECF no longer meets a condition of the exclusion and is otherwise listed as a hazardous waste. Similarly, liquids and accumulated solids removed from a tank system or container are solid wastes (and if identified or listed, hazardous wastes) if at any time they do not meet the ECF specifications and other conditions of the exclusion.[15]

4. What Are the Conditions for Management of Incompatible ECF and Other Materials?

ECF generators and burners must take precautions to prevent the mixing of ECF and other materials which could result in reactions which could: (1) Generate extreme heat or pressure, fire or explosions, or violent reactions; (2) produce uncontrolled hazardous mists, fumes, dusts, or gases; (3) produce uncontrolled flammable fumes or gases; or (4) damage the structural integrity of the storage unit or facility. See § 261.38(c)(1)(viii). ECF generators must document how they will take precautions to avoid these situations. This documentation must be kept on-site for three years.

III. What Are the Conditions for ECF Burners?

ECF must be burned in particular combustors under prescribed conditions to be eligible for the exclusion.

[12] See § 280.12.

[13] This provision also applies to currently excluded comparable fuel.

[14] If the tank is used to actively accumulate hazardous waste after being taken out of service as an ECF (or comparable fuel) product tank, the tank may be eligible for the provisions under § 262.34 that waive the permit requirements for generator tanks that accumulate hazardous waste for not more than 90 days.

[15] This assumes that all hazardous secondary materials claimed to be ECF and stored in a tank or container properly met the conditions for the exclusion. If not, however, any liquid or accumulated solids removed from the tank or container, at any time, would be hazardous waste, and therefore subject to regulation as hazardous waste from the point of generation.

A. What Types of Combustors May Burn ECF?

To be excluded, ECF may be burned in an industrial or utility boiler that is a watertube type of steam boiler that does not feed fuel using a stoker or stoker-type mechanism. To be considered a boiler, a combustor must meet the definition of boiler under § 260.10. To be considered an industrial boiler, the boiler must be located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes. To be considered a utility boiler, the boiler must be used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale. See § 261.38(b)(3)(i)(B).

ECF may also continue to be burned in any hazardous waste combustor operating under a RCRA permit issued under Part 270, provided the ECF is burned under the same operating requirements that apply to hazardous waste burned by the combustor (i.e., ECF must be burned as though it were hazardous waste). Those hazardous waste operating requirements apply in lieu of the conditions for burning ECF under § 261.38(c)(2), except that the ECF constituent feedrate limits under § 261.38(c)(2)(ii)(C) continue to apply.[16] [17] The hazardous waste operating requirements serve as conditions for exclusion of the ECF. Consequently, if the burner fails to comply with the hazardous waste operating requirements when burning ECF, the ECF loses the exclusion and must be managed as hazardous waste from the point of generation.[18]

B. What Are the Operating Conditions for Burners?

ECF must be burned under the following operating conditions to be excluded, as provided by § 261.38(c)(2)(ii):[19] [20]

- The feedrate of ECF constituents (i.e., oxygenates and hydrocarbons) must not exceed the limits provided by Table 2 to § 261.38; [21]
- Carbon monoxide (CO) concentrations in the stack gas must be monitored continuously, must be linked to an automatic ECF feed cutoff system, and must not exceed 100 ppmv on an hourly rolling average (corrected to 7% oxygen);
- The boiler must fire at least 50% primary fuel on a heating value and mass basis, and the primary fuel must be fossil fuel, fuels derived from fossil fuel, tall oil, or comparable fuel with a heating value of 8,000 Btu/lb or greater;
- The boiler load must be 40% or greater;
- Key operating parameters (i.e., CO; gas temperature at the inlet to the electrostatic precipitator (ESP) or fabric filter (FF) unless coal is the primary fuel; indicator of boiler load; ECF feedrate; primary fuel feedrate) must be linked to a system that automatically cuts off the ECF feed if the limits on the parameters are exceeded;
- ECF must be fired into the primary fuel flame zone;
- The ECF firing system must provide proper atomization; and
- If the boiler is equipped with an ESP or FF and does not fire coal as the primary fuel, the combustion gas temperature at the inlet to the ESP or FF must be continuously monitored, must be linked to the automatic ECF feed cutoff system, and must not exceed 400 °F on an hourly rolling average.

IV. What Are the Recordkeeping, Notification, and Certification Conditions?

A. Fuel Analysis Plans

ECF generators must develop a fuel analysis plan prior to sampling and analysis of their ECF to determine if the ECF meets the exclusion specifications. See § 261.38(b)(4).

ECF burners may also be required to develop a fuel analysis plan as a condition of the exclusion. Specifically, when burning ECF, burners must know the as-fired heating value and the as-fired concentration of the ECF constituents for each fuel fed to the boiler. If a burner does not receive from the generator documentation of the heating value and concentration of the ECF constituents for each shipment or use the default values for primary fuels provided by § 261.38(c)(2)(ii)C), the burner must develop a fuel analysis plan.[22]

All sampling and analysis plans must document: (1) Sampling, analysis, and statistical analysis protocols that were employed; (2) sensitivity and bias of the measurement process; (3) precision of the analytical results for each batch of fuel tested; and (4) the results of the statistical analysis.

B. Sampling and Analysis

ECF must meet all of the specifications for comparable fuel, except the specifications for hydrocarbons and oxygenates. Sampling and analysis is required for all constituents (unless the generator uses process knowledge as discussed below) because, even though the specifications for hydrocarbons and oxygenates are not applicable, the concentrations of those constituents must be known to demonstrate compliance with the feed rate limits for each constituent under § 261.38(c)(2)(ii)(C) (i.e., to satisfy this condition of the exclusion). The generator must document the claim that specific hazardous constituents meet the exclusion specifications based on process knowledge. Just as for comparable fuel, the following cannot be determined to ''not be present'' in the fuel based on process knowledge: (1) A hazardous constituent that causes the ECF to exhibit the toxicity characteristic or hazardous constituents that were the basis for the waste code in 40 CFR 268.40; (2) a hazardous constituent detected in previous analysis of the ECF; (3) a hazardous constituent introduced into the process that generates the ECF; or (4) a hazardous constituent that is a byproduct or side reaction to the process that generates the ECF.

Regardless of which method a generator uses, testing or process knowledge, the generator is responsible for ensuring that the ECF meets all constituent specifications at all times. If at any time the ECF fails to meet any of the specifications, or other conditions of the exclusion, the ECF loses the exclusion and is subject to regulation as hazardous waste from the point of generation.

[16] Although the hazardous waste combustor operating requirements ensure that 99.99% DRE and good combustion is achieved, the ECF constituent feedrate limits are needed to ensure that emissions from the hazardous waste combustor are comparable to fuel oil emissions.

[17] In addition, to implement the ECF feedrate limits, the ECF automatic feed cutoff system requirements under § 261.38(c)(2)(ii)(G) that apply to monitoring the constituent feedrate limits as specified under § 261.38(c)(2)(ii)(G)(1)(ii) also apply to HWCs.

[18] See discussion in Part Four, Section V.A, below for the rationale for this provision.

[19] Note, however, that if ECF is burned in a hazardous waste combustor operating under a RCRA permit, these operating conditions do not apply, except for the ECF constituent feedrate limits. In this situation, all operating requirements that apply to hazardous waste burning apply as conditions for burning ECF.

[20] Please note also that boiler operators must be trained to operate and maintain the boiler and monitoring systems to ensure compliance with the burner conditions. See § 261.38(c)(2)(iii).

[21] See discussion in Part Three, Section III.B.3 below for the rationale for this provision and how it will be implemented. See also § 261.38(c)(2)(ii)(C).

[22] As noted earlier, EPA expects that in the majority of situations, the generator and burner of the ECF will be the same. In this case, the fuel analysis plan required for burners may be incorporated in the generator's fuel analysis plan.

C. Speculative Accumulation and Legitimacy

This rule adopts the same speculative accumulation provisions for ECF under § 261.38(b)(7) as those applying to existing comparable fuel and to any recycled hazardous waste under § 261.2(c)(4). Generators and burners must ''turn over'' annually at least 75 percent of the ECF on hand at the beginning of each calendar year. See the definition of ''accumulated speculatively'' in § 261.1(c)(8). An ECF generator must burn or ship off site for burning during the calendar year at least 75% of the ECF on hand on January 1. An ECF burner must burn during the calendar year at least 75% of the ECF on hand on January 1. Although there is no formal recordkeeping requirement associated with the speculative accumulation provision, the burden of proof is on the generator and burner to demonstrate that the ECF has not been speculatively accumulated.

In addition, as like all other hazardous secondary materials being recycled, ECF must satisfy legitimacy criteria assuring that recycling is not a sham for waste management. See, *e.g.* 72 FR 14197–198. Here, the ECF constituent specifications (identical concentrations of most hazardous constituents in ECF and fuel oil), substantial heating value in the oxygenates and hydrocarbons present in higher concentrations than in fuel oil, and conditions on burning assuring the same emissions from a boiler burning ECF as from burning fuel oil, all assure that ECF will be recycled legitimately.

D. Notifications

In order to be excluded, ECF generators and burners must comply with the same notification requirements that apply to comparable fuel burners and generators, along with a few additional notification conditions.

1. ECF Generator Notification

The ECF generator is the person who initially generates the hazardous secondary material (otherwise classified as a hazardous waste) and who documents and certifies that the material meets the ECF exclusion criteria. The generator must submit a one-time initial notification [23] to the RCRA and CAA regulatory authorities under § 261.38(b)(2)(i)(A) which contains general facility identification information, a certification stating that the generator is meeting the conditions under § 261.38, and ECF-specific information including:

- An estimate of the average and maximum monthly and annual quantity of hazardous secondary material for which the ECF exclusion is claimed;
- An estimate of the annual quantity of each hazardous secondary material stream for which the ECF exclusion is claimed; and
- An estimate of the maximum concentration of each ECF constituent (*i.e.*, hydrocarbons and oxygenates) in each ECF stream for which the ECF exceeds the comparable fuel specification levels in Table 1 to § 261.38.

2. ECF Burner Notifications

All ECF burners must publish a public notice in a major newspaper of general circulation local to the facility that provides information including (see § 261.38(b)(2)(ii)):

- General facility identification information; and
- An estimate of the average and maximum monthly and annual quantity of ECF to be burned.

In addition, ECF burners must submit a one-time initial notification to the RCRA and CAA regulatory authorities providing general facility identification information and ECF-specific information including (see § 261.38(c)(5)):

- An estimate of the maximum annual quantity of ECF that will be burned; and
- An estimate of the maximum as-fired concentrations of each hydrocarbon and oxygenate for which the ECF exceeds the comparable fuel specification levels in Table 1 to § 261.38.[24]

Finally, ECF burners must submit a notification to the RCRA and CAA regulatory authorities within 5 days of exceeding an operating limit that is linked to the ECF automatic feed cutoff system. The notification must document: (1) The exceedance; (2) the measures the burner has taken to manage the material as a hazardous waste; and (3) the measures the burner has taken to notify the generator that the burner has failed to comply with a condition of the exclusion.

3. Notification of Closure of a Tank or a Container Storage Unit

ECF generators and burners that store ECF in a tank or container must submit a notification to the RCRA regulatory authority when a tank or a container storage area goes out of ECF service.[25] The notification must state the date when the tank or container storage unit is no longer used to store ECF. A tank or container storage unit is out of ECF service if it no longer is used to store ECF that is destined to be burned under the conditions of the exclusion.

E. Burner Certification

ECF burners intending to accept ECF from off-site generators must provide the ECF generator with a one-time written, signed statement that includes the following: (1) A certification that the burner will meet the conditions under § 261.38 and that the State in which the burner is located is authorized to exclude ECF under § 261.38; and (2) general facility identification information.

F. Recordkeeping

ECF generators are subject to the same recordkeeping requirements that currently apply to comparable fuel generators. ECF burners are also subject to recordkeeping requirements as a condition of exclusion. Records must be maintained for three years.

1. ECF Generator Recordkeeping Requirements

As a condition of exclusion, ECF generators must maintain records containing information including: (1) Documentation of compliance with the applicable conditions of the exclusion; (2) the monthly and annual quantities of each hazardous secondary material that is excluded; and (3) for each off-site shipment, name and address of the burner, quantity of ECF shipped and delivered, date of shipment and delivery, and a cross-reference to the record of information used to document that the fuel meets the ECF specification. See § 261.38(b)(8).

2. ECF Burner Recordkeeping Requirements

ECF burners must keep a record of information required to comply with the operating requirements under § 261.38(c)(2) in order to be excluded.

[23] Please note that, if the generator currently claims an exclusion for comparable fuel and has previously submitted a notification for the comparable fuel, the generator must submit an additional notification to claim an exclusion for ECF.

[24] EPA proposed that burners notify as to the estimated amount of ECF burned monthly and annually (see 72 FR at 3310), but did not propose that the notification include concentration of ECF constituents. However, the proposed rule did not include conditions on the feedrate of ECF constituents, although EPA solicited comment on that possibility, and is adopting that approach in this final rule. EPA views notification of ECF constituent levels as a logical corollary to the rule's feedrate provisions.

[25] This provision is useful in assessing inspection priorities, and in assuring that tanks and containers are closed pursuant to the subtitle C standards if accumulated solids and liquids are not removed within 90 days of cessation of operation as an ECF storage unit. However, EPA considers the provision to be legally severable from the other conditions attached to the management of ECF.

Off-site burners must also keep records of each shipment of ECF received, including: (1) The name, address, and EPA ID number of the generator;[26] (2) the quantity of ECF delivered; and (3) the date of delivery.

G. Transportation

DOT requirements applicable to hazardous materials under 49 CFR Parts 171–180 apply to ECF. Those standards include a requirement for a shipping paper.

H. Ineligible RCRA Hazardous Waste Codes

Consistent with the current comparable fuel exclusion, hazardous wastes listed for the presence of dioxins or furans are not eligible for the ECF exclusion. See § 261.38(b)(11).

V. What Are the Consequences of Failure To Comply With a Condition?

It is the responsibility of the generator claiming the exclusion to demonstrate eligibility.[27] More specifically, to be eligible for this exclusion, the person claiming the exclusion must document that ECF meets the ECF specifications under § 261.38(a)(2), as well as the other conditions of the exclusion, including: the conditions prohibiting blending and diluting to achieve the specifications under § 261.38(a)(4) and (a)(7); the implementation conditions under § 261.38(b); and the special conditions for managing ECF under § 261.38(c).

After the exclusion for a hazardous secondary material has been claimed, the conditions of the exclusion must continue to be met to maintain the exclusion.[28] If any person managing ECF fails to meet a condition of the exclusion, the exclusion is lost and the fuel must be managed as a hazardous waste from the point of generation. Therefore, except as discussed below, EPA (or an authorized state) could choose to bring an enforcement action under RCRA section 3008(a) for all violations of the RCRA subtitle C requirements occurring from the time the hazardous secondary material is generated through the time that it is ultimately burned. See § 261.38(d).

If, however, the generator that claims the exclusion for ECF that is burned in an off-site, unaffiliated burner[29] documents in the operating record that it has made reasonable efforts to ensure that the burner complies with the conditions of the exclusion, the hazardous secondary material will not be considered a hazardous waste when managed by the generator upon a finding that the burner has not complied with a condition of the exclusion. The reasonable efforts must be based on an objective evaluation, both prior to the first shipment and periodically thereafter, that the burner would manage the ECF under the applicable conditions of § 261.38. See discussion in Part Four, Section VI.A below.

VI. What Conditions Apply to Spills and Leaks?

ECF that is spilled or leaked, not cleaned up immediately and which no longer meets the conditions of the exclusion, is ''discarded.'' Thus, it is a solid waste. Such spilled or leaked ECF is a hazardous waste if it exhibits a characteristic of hazardous waste or if the ECF were otherwise a listed hazardous waste.

Furthermore, the exclusion would not affect the obligation to promptly respond to and remediate any releases of ECF that may occur. Management of the released material not in compliance with applicable Federal and State hazardous waste requirements could result in an enforcement action. For example, a person who spilled or released ECF and failed to immediately clean it up could potentially be subject to enforcement for illegal disposal of ECF. See, for example, § 264.1(g)(8). In addition, the release could potentially be addressed through enforcement orders, such as orders under RCRA sections 3013 and 7003.

In addition, ECF that is spilled or leaked and can no longer be burned under the conditions of the exclusion is a waste (it is a hazardous waste if it exhibits a characteristic of hazardous waste or if the ECF were otherwise a listed hazardous waste) and must be managed in accordance with existing federal and state regulations. Furthermore, if an ECF tank system or container ceases to be operated to store ECF product, but has not been cleaned by removing all liquids and accumulated solids within 90 days of cessation of the ECF storage operations, the tank system or container would become subject to the RCRA subtitle C hazardous waste regulations.[30] (This is the same principle that applies to any product storage unit when it goes out of service. See § 261.4(c).) Liquids and accumulated solids removed from a tank system or container that ceases to be operated for storage of ECF product are waste (they are hazardous wastes if they exhibit a characteristic of hazardous waste or if the ECF were otherwise a listed hazardous waste).

VII. What Are the Clarifications and Revisions to the Existing Conditions for Comparable Fuel?

We are amending several provisions that apply to the comparable fuel conditions for the same reasons that we are applying the amended provisions to ECF. Specifically, those amendments are:

- We are clarifying the consequences of failure to satisfy the conditions of the existing comparable fuel exclusion. That is, we are clarifying that excluded fuel that is spilled or leaked and that no longer meets the conditions of the exclusion must be managed as a hazardous waste if it exhibits a characteristic of hazardous waste or if it is otherwise a listed hazardous waste. See § 261.38(b)(15).
- We are clarifying the status of tank systems and container storage units that cease to be operated as comparable fuel storage units. That is, the tank system and container storage unit become subject to the RCRA hazardous waste facility standards if not cleaned of liquids and accumulated solids within 90 days of ceasing operations as a comparable fuel storage unit. We are also clarifying that discarded liquids and accumulated solids removed from the tank and container after the tank or container ceases to be operated for storage of comparable fuel must be managed as hazardous waste if they exhibit a characteristic of hazardous waste or if they are otherwise listed hazardous wastes. See § 261.38(b)(13).
- We are waiving the RCRA closure requirements for tank systems and container storage units that are used only to store hazardous wastes that are subsequently excluded as comparable fuel. See § 261.38(b)(14), and discussion above in Part Two, Section II.C.2.

[26] ECF generators (and off-site burners) must obtain an EPA ID number. See §§ 261.38(b)(2)(i)(A)(1) and (c)(4).

[27] The burden for demonstrating with appropriate documentation compliance with the conditions of an exclusion in an enforcement action is on the person claiming the exclusion. 40 CFR 261.2(f).

[28] Separate and distinct from any requirement or condition established under this rule, all generators of a secondary material—including ECF generators under this exclusion—have a continuing obligation to conduct proper hazardous waste determinations, including notifying the appropriate government official if they are generating a hazardous waste. 40 CFR 262.11.

[29] An unaffiliated burner is a boiler or hazardous waste combustor located at a facility that is not owned by the same parent company that generated the ECF.

[30] If the storage unit is used to actively accumulate hazardous waste after being taken out of service as an ECF product storage unit, the storage unit may be eligible for the provisions under § 262.34 that waive the permit requirements for generator storage units that accumulate hazardous waste for not more than 90 days.

• We are clarifying the regulatory status of boiler residues, including bottom ash and emission control residue. That is, these wastes would be hazardous if they exhibit a hazardous waste characteristic. See § 261.38(b)(12).

• We are requiring that the one-time notice by the generator to regulatory officials include an estimate of the average and maximum monthly and annual quantity of comparable fuel for which an exclusion is claimed.[31] See § 261.38(b)(2)(i)(A). This condition applies prospectively to generators that newly claim the exclusion and to generators that must submit a revised notification because of a substantive change in the information required by the notice.

In addition, please note that, as proposed, the final rule restructures the current conditions for comparable fuel (and syngas fuel) to make the regulatory language more readable given that the regulation must accommodate the exclusion for ECF. See 72 FR at 33289. Consequently, we have redrafted the entire section for clarity. In addition, we proposed certain technical corrections to several provisions of the rule.[32] Those language changes are purely technical and are promulgated in this final rule. As explained at proposal, we did not reexamine, reconsider, or otherwise reopen these provisions for comment.

Part Three: What Are the Major Changes Since Proposal?

I. What Are the Major Changes to the Emission-Comparable Fuel Specification?

Under the final rule, the specifications in Table 1 to § 261.38 do not apply to hydrocarbons and oxygenates in ECF. See § 261.38(a)(2)(ii)(B).

The proposed rule would have continued to apply the specifications to naphthalene and the 10 PAHs listed in Table 1 to § 261.38. We were concerned that, when ECF with high concentrations of the hydrocarbons or oxygenates for which the specifications would not apply is burned, emissions of those compounds may be somewhat higher than from burning fuel oil, even though the boiler is operating under good combustion conditions and achieving 99.99 percent destruction and removal efficiency for organic compounds in the feed. If, notwithstanding the conditions proposed for burning, emissions of naphthalene or the PAHs from burning ECF under a particular situation were higher than emissions from burning fuel oil, we were concerned that ECF emissions may not remain protective.

Given that the final rule (unlike the proposed rule) establishes feedrate limits for each ECF constituent,[33] we now have objective assurance that a boiler burning ECF will have emissions comparable to a boiler burning fuel oil. Consequently, it is no longer necessary to continue to apply the specifications to naphthalene and the 10 PAHs. See discussion of the need for feedrate limits, and an explanation of how they are derived, in Part Three, Section III.B.3 below.[34]

In addition, the specification for minimum heating value under the final rule is 8,000 Btu/lb, and the ECF must meet this specification as generated. The proposed rule would have established a minimum heating value specification of 5,000 Btu/lb, but would have required an as-fired minimum heating value of 8,000 Btu/lb. 72 FR at 33296. The final rule establishes a minimum 8,000 Btu/lb specification as generated consistent with the principle that the conditions which assure that ECF is not discarded all apply to ECF as generated. A heating value for ECF, as-fired, of 8,000 Btu/lb is one of those conditions—it is necessary to assure that emissions from a boiler burning ECF are comparable to a boiler burning fuel oil. This assures that ECF is comparable to fuel oil when burned from the standpoint of physical composition and emissions, and confirms that ECF is reasonably classified as a fuel product and not as a discarded waste. Accordingly, the final rule requires as a condition of the exclusion that the minimum heating value specification applies to ECF as it is generated. See also discussion in Part Two, Section I above.

II. What Are the Major Changes to the Storage Conditions?

A. Storage in Containers Is Allowed

The final rule allows storage of ECF in containers. The proposed rule would have allowed storage only in tanks, but requested comment on whether generators would be likely to store ECF in containers. Several commenters stated that limiting ECF storage to tanks would render small volume facilities ineligible without a rational basis. We believe this is a valid critique and have, therefore, established in the final rule conditions for storage of ECF in containers based on the same principles that we used to establish conditions for storage of ECF in tanks. See § 261.38(c)(1).

B. Alternative Storage Conditions Are Provided

The final rule establishes alternative storage conditions that are adopted solely from the hazardous waste storage requirements under Part 264. See § 261.38(e). These controls are of comparable stringency to those drawn from the storage requirements for fuel products and organic liquid products and by-products. You may comply with these conditions in lieu of the collection of storage conditions adopted from the storage requirements for other materials: Discharge prevention requirements adopted from the SPCC requirements for oil storage facilities; containment and emergency procedure requirements adopted from the hazardous waste storage requirements; and fugitive air emission controls adopted from several NESHAP (National Emission Standards for Hazardous Air Pollutants). See discussion in Part Four, Section III.B for the rationale for these alternative conditions.

C. Conditions To Control Fugitive Air Emissions From Tank Systems Are Revised

In response to comments on the proposed rule, we reevaluated the controls for air emissions from tanks and determined that: (1) We proposed conditions to expand the applicability of the OLD controls to tank capacity/ECF vapor pressure scenarios that would result in controls more stringent than those that apply to hazardous waste tanks; (2) there are several other tank capacity/ECF vapor pressure scenarios for which OLD is not applicable and for which we inadvertently did not propose conditions to expand OLD control; and (3) we inadvertently did not propose conditions to control air emissions for tanks that store ECF that does not meet

[31] Providing an estimate of excluded quantities would help regulatory officials establish inspection and monitoring priorities. Omission of this condition was an oversight when the exclusion was initially promulgated. We conditioned the exclusion on the burner issuing a public notice that included this information (see existing § 261.38(c)(1)(ii)(D)), but we inadvertently did not specify that the generator who claims the exclusion was to provide this same information to regulatory officials.

[32] See memorandum from Bob Holloway, USEPA, to Docket ID No. EPA–HQ–RCRA–2005–20017, dated January 10, 2007.

[33] ECF constituent means the hydrocarbons and oxygenates in Table 1 to § 261.38, for which the specifications do not apply for ECF.

[34] In addition to these changes to the ECF specification, the final rule also requires that ECF must meet the viscosity specification as generated. Viscosity is a specification that must be met (for both ECF and comparable fuel) before a hazardous secondary material is excluded as a fuel product. Given that ECF may not be treated to meet the specifications, ECF must meet the viscosity (and other) specifications as generated.

the adopted definition of organic liquid, and thus would not be subject to OLD control. We have addressed these issues and revised the fugitive air emission conditions for tanks, as discussed in Part Four, Section III.C below.

D. Storage in Underground Storage Tanks Is Prohibited

Storage of ECF in underground storage tanks is prohibited, as discussed in Part II, Section II.C.1, above. Although the proposed rule would have allowed storage in underground tanks, the final rule prohibits such storage to avoid adding further complexity to the rule for a practice that commenters did not indicate would be widely used, if used at all.

III. What Are the Major Changes to the Burner Conditions?

A. What Types of Devices May Burn Emission-Comparable Fuel?

Under the proposed rule, ECF could be burned only in an industrial or utility boiler that is a watertube type of steam boiler that does not feed fuel using a stoker or stoker-type mechanism. The final rule also allows ECF to be burned in hazardous waste combustors operating under a RCRA permit and in compliance with the applicable requirements under Subpart O, Part 264, Subpart H, Part 266, and Subpart EEE, Part 63, under the condition that the ECF is burned under the same operating requirements that apply to hazardous waste burned by the combustor. The ECF burner operating conditions do not apply to hazardous waste combustors, except for the ECF constituent feedrate limits. See discussion in Part Four, Section V.A below, and § 261.38(c)(2)(i)(B).

B. What Are the Changes to the Burner Conditions?

1. Comparable Fuel May Be Primary Fuel

To meet the condition that ECF must be fired with at least 50 percent primary fuel on a heat or mass input basis, the final rule adds comparable fuel with an as-fired heating value of 8,000 Btu/lb or higher to the list of fuels that may be used as a primary fuel. Consequently, you may use the following fuels as primary fuel, provided that they have an as-fired heating value of 8,000 Btu/lb or higher: Fossil fuel; fuels derived from fossil fuel; tall oil; or comparable fuel. See discussion in Part Four, Section V.D below, and § 261.38(c)(2)(ii)(A) and (B).

2. The 50 Percent Primary Fuel Firing Rate Is Based on Heat and Mass Input

A minimum of 50 percent of the fuel fired to the boiler must be primary fuel, determined on a total heat and mass input basis.[35] The proposed rule inadvertently stated that the minimum 50 percent firing rate condition must be determined on a total heat input or *volume* input basis, whichever results in a greater *volume* feedrate of primary fuel. A mass basis for the calculation of the primary fuel firing rate is more appropriate than a volume basis because it is consistent with the mass feedrate limits for the ECF constituents, as discussed below. We also note that the parallel provision for hazardous waste boilers for which the DRE standard is waived (see § 266.110) bases the 50 percent minimum primary fuel requirement on a heat or mass input, whichever results in the greater mass input of primary fuel.[36]

3. A Feedrate Limit for Each ECF Constituent Is Established

The final rule establishes in Table 2 to § 261.38 as a condition of the exclusion a maximum allowable feedrate limit normalized by gas flowrate for each ECF constituent [37] for which the specification does not apply under paragraph (a)(2)(ii)(B). The gas flowrate-normalized feedrate limits have the units, ug/dscm, and are converted to feedrate limits, kg/hr of ECF constituents, by multiplying by the stack gas flowrate, dscm/hr. Although we did not propose regulatory language for feedrate limits for ECF constituents, we discussed at proposal the approach we would use to establish the limits, and presented example limits. 72 FR at 33315–16.[38] We have considered comments on the proposed approach and have refined the approach for the final rule, as discussed below.

The ECF constituent feedrate limits provide objective assurance that the emissions from ECF burning are comparable to the emissions from burning fuel oil: Emissions of ECF constituents from an industrial boiler burning ECF will be comparable to emissions of those compounds from an industrial boiler burning fuel oil. The proposed rule would have addressed this issue by continuing to apply the comparable fuel specifications to PAHs and naphthalene because: (1) When ECF with high concentrations of the hydrocarbons or oxygenates for which the specifications would not apply is burned, emissions of those compounds may be somewhat higher than from burning fuel oil, even though the boiler is operating under good combustion conditions; and (2) higher emissions of PAHs and naphthalene would raise protectiveness concerns because these compounds pose a relatively high hazard compared to other hydrocarbons and the oxygenates listed in Table 1 to § 261.38. 72 FR at 33299. Given that the final rule provides objective assurance through conditions on the feedrate for each ECF constituent that the emissions from ECF burning are comparable to the emissions from burning fuel oil that would often otherwise be the fuel of choice, the rationale for continuing to apply the specifications for these compounds is no longer valid.

Similarly, the proposed 25 percent maximum ECF firing rate limit when benzene or acrolein concentrations exceed two percent is no longer needed. See 72 FR at 33299. The limitation (through conditions) of feedrate of each ECF constituent is a more direct way than the proposed firing rate limit on ECF as a whole to assure that emissions from burning ECF would be comparable to emissions from burning fuel oil.

We discuss below how we derived the feedrate limits and how they are implemented.

[35] We note that this condition was worded at proposal as ''The 50 percent primary fuel firing rate shall be determined on a total heat or volume input basis, whichever results in the greater volume feedrate of primary fuel fired.'' As a practical matter, this means that the primary fuel must provide at least 50% of the heat input to the boiler *and* at least 50% of the volume input of fuels to the boiler. To ensure that the meaning is clear, the final rule expresses the condition as follows: The primary fuel shall comprise at least 50% of the total fuel heat input to the boiler and at least 50% of the total fuel mass input to the boiler. (Note further that we explain in the preamble that we meant to specify the mass input at proposal rather than the volume input.) As an example of how the condition works, if the primary fuel were to provide 60% of the heat input to the boiler but only 40% of the fuel mass input, the mass input must be increased to at least 50%.

[36] We note further that, when EPA initially promulgated the § 266.110 provisions, the rule established the 50 percent primary fuel firing rate on a heat input or volume input, whichever resulted in the greater volume input of primary fuel. EPA subsequently amended the provision, however, to change the volume basis to a mass basis. See 56 FR at 42510 (Aug. 27, 1991).

[37] ECF constituent means the hydrocarbons and oxygenates listed in Table 1 to § 261.38 and for which the specifications do not apply for ECF.

[38] As discussed at proposal (72 FR at 33314), we requested comment on establishing feedrate limits for each ECF constituent in response to a peer review comment stating that it may be problematic to conclude that ECF emissions would invariably be comparable to emissions from burning fuel oil. This is because ECF could have unlimited concentrations of hydrocarbons and oxygenates and that combustion is generally considered to be a constant percent reduction process. Thus, as the concentration of an organic constituent in the feed increases, the concentration of the compound in the emissions may also increase.

a. *Overview of Approach to Establishing Feedrate Limits.* To calculate the ECF constituent feedrate limits, we first identified the industrial boiler fuel oil emission level for each constituent (*i.e.*, measured levels of that constituent in emissions from industrial boilers burning fuel oil) or, where fuel oil emissions data were not available for a specific ECF constituent, a surrogate emission level. We then projected a DRE for each constituent, considering available DRE data, the thermal stability of the compound, and whether the compound is commonly formed as a product of incomplete combustion (PIC). We then back-calculated a maximum feedrate limit that is normalized by stack gas flowrate, and that has the units, ug/dscm. The gas flowrate-normalized feedrate is converted to an ECF constituent feedrate limit (*i.e.*, kg/hr) by multiplying by the boiler gas flowrate (*i.e.*, dscm/hr).

b. *Fuel Oil Emission Levels.* We have industrial boiler fuel oil emissions data for 12 of the 37 ECF constituents.[39] We used the highest test condition average emissions to establish the maximum allowable emission levels for these 12 constituents. It is reasonable to use the highest test condition average as the maximum allowable emission level rather than the average or 95th percentile because the data base is not robust—the full range of boiler emissions may not be represented by the limited data base. Using the highest test condition average is a reasonable means of accounting for emissions variability.

For the other 25 ECF constituents-the two PAHs and the oxygenates other than acrolein—we identified surrogates for industrial boiler oil emission levels.[40] For the two PAHs, we identify a surrogate oil emission level of 0.02 ug/dscm using emission data from other PAHs for which we do have emission data from oil-burning boilers. This approach is reasonable because: (1) 0.02 ug/dscm is at the low end of the range of emission levels for PAHs from oil-burning boilers[41]; and it is appropriate to select from the low end of this range because PAHs are more toxic than the other hydrocarbons and the oxygenates[42]; and (2) available emissions data indicate that PAHs are emitted at substantially lower levels—less than 0.6 ug/dscm—than either the oxygenates or the other hydrocarbons and the emission level we selected are consistent with these data.

For the oxygenates, we identified a surrogate oil emission level of 18 ug/dscm because: (1) It is the only available emission level in our data base for an oxygenate (*i.e.*, acrolein) from a boiler burning fuel oil; (2) it is in the range of emission levels for oxygenates from other combustion sources[43]; and (3) although it is not at the low end of the range of oxygenate emissions from combustion sources, it is an appropriate surrogate emission level because it would result in *de minimis* health risk.[44]

c. *Projected Destruction and Removal Efficiencies (DREs).* We projected DREs for each of the 37 ECF constituents considering the available DRE data, the thermal stability of the compound, and whether, even under good combustion conditions, the compound is commonly formed as a PIC.[45]

As discussed at proposal, we investigated the DRE data available for hazardous waste-fired liquid fuel boilers to project a DRE for the ECF constituents.[46] We have both DRE and feedrate data for approximately 200 runs from 27 boilers for 10 compounds. Two of those compounds are ECF constituents: Benzene and toluene. Based on analysis of those data (*i.e.*, the DRE data for the ECF constituents and other compounds), it was reasonable to project a DRE for ECF constituents in the feed of 99.99 percent for thermal stability class 1 and 2 compounds (which are more difficult to destroy), and a DRE for ECF constituents in the feed of 99.995 percent for class 3–7 compounds.[47]

During development of the final rule and in response to public comment,[48] however, we concluded that, for ECF constituents that are commonly formed as PICs (*i.e.*, benzene, naphthalene, phenol, and toluene),[49] the effective, measured DRE may be lower (*i.e.*, appearing to be less efficient destruction evidenced by emissions of the compound), particularly at low constituent feedrates, even under good combustion conditions, considering the total emissions of the compound: Emissions from unburned compounds in the feed, and emissions attributable to PIC formation during the incomplete destruction of other compounds in the ECF and other boiler fuels. Although the DRE for the quantity of the compound in the feed to the boiler would be at least 99.99% under good combustion conditions, the effective, measured DRE of compounds that are common PICs may be lower than 99.99% when they are fed at low feedrates. This is because at low feedrates, the portion of the compound in the emissions that is attributable to PICs, rather than unburned compound in the feed, can be substantial. As the compound feedrate increases, emissions of the compound attributable to unburned compound in the feed mask the quantity of the compound present as a PIC, and the effective, measured DRE becomes more representative of the feed-related DRE. Because ECF constituents can be fed at low feedrates, however, the DRE used to calculate the ECF constituent feedrate limits for the constituents that are common PICs—benzene, naphthalene, phenol, and toluene—must account for the proportion of the emissions of the constituent that is emitted as unburned compound in the feed relative to the portion of emissions attributable to PICs

[39] We have oil emissions data for benzene, naphthalene, toluene, acrolein and eight of 10 PAHs.

[40] For more information than provided in the preamble, see USEPA, ''Final Technical Support Document for the Expansion of the Comparable Fuels Exclusion,'' November 2008, Section 6.3.

[41] The oil emissions data for the eight PAHs are: 0.005 ug/dscm; 0.02 ug/dscm; 0.04 ug/dscm; 0.1 ug/dscm; 0.1 ug/dscm, 0.16 ug/dscm; 0.18 ug/dscm; and 0.61 ug/dscm.

[42] See the relative hazard ranking for the ECF constituents in USEPA, ''Final Technical Support Document for the Expansion of the Comparable Fuels Exclusion,'' November 2008, Section 2.4.

[43] Hazardous waste boilers operating under good combustion conditions can emit oxygenates in the range of 0.6 ug/dscm to 130 ug/dscm, and coal boilers can emit oxygenates in the range of 1.6 ug/dscm to 38 ug/dscm. See USEPA, ''Final Technical Support Document for the Expansion of the Comparable Fuels Exclusion,'' November 2008, Section 6.3.

[44] Maximum annual ground level concentrations of the oxygenates will be orders of magnitude lower than the reference air concentrations (RfCs) for the oxygenates other than acrolein. (The RfC is an estimate of a continuous inhalation exposure concentration to people (including sensitive subgroups) that is likely to be without risk of deleterious effects during a lifetime.) See USEPA, ''Final Technical Support Document for the Expansion of the Comparable Fuels Exclusion,'' November 2008, Section 6.3. Although the RfC for acrolein is much lower than the RfCs for the other oxygenates such that maximum annual ground level concentrations of acrolein from burning ECF could approach this RfC, we have emissions data for acrolein from an oil-burning boiler and therefore do not need to identify (and justify) a surrogate emission level to back-calculate a feedrate limit.

[45] For purposes of this discussion, PICs are compounds in emissions that are formed from the incomplete destruction of organic compounds in the ECF and other boiler fuels.

[46] See 72 FR at 33315–16, and Document No. EPA–HQ–RCRA–2005–0017–0067 and Document No. EPA–HQ–RCRA–2005–0017–0068.

[47] The Thermal Stability ranking classifies (generally) hazardous compounds according to their gas phase thermal stability under oxygen-starved conditions. Compounds are ranked according to the temperature required to destroy 99% of the compound in 2 seconds under oxygen-starved conditions. See USEPA, ''Guidance on Setting Permit Conditions and Reporting Trial Burn Results, Volume II of the Hazardous Waste Incineration Guidance Series,'' January 1989, Table D–1.

[48] See USEPA, ''Comment Response Document for the Exclusion of Emission-Comparable Fuel,'' October 2008, Section 4.7, Comment No. 126A.9.

[49] USEPA, ''Final Technical Support Document for the Expansion of the Comparable Fuels Exclusion,'' November 2008, Section 6.3.

at low feedrates. Thus, the DREs used to calculate the feedrate limits for the common PICs may be lower than the DREs associated with higher feedrates where the PIC contribution is masked by unburned compound in the feed.[50] [51]

Although 14 ECF constituents are thermal stability class 1 or 2 compounds for which we project a feed-related (not effective) DRE of 99.99%, three of those compounds are common PICs: Benzene, naphthalene, and toluene. For these three compounds, we believe it is reasonable to consider reducing the feed-related DRE by an order of magnitude to project a default, effective DRE of 99.9% to account for PIC emissions at low feedrates of these compounds. We note, however, that we have substantial DRE data for benzene (from two boilers at one source) documenting (effective) DREs below 99.9 percent at low feedrates in the range allowed for ECF. Consequently, we project a DRE for benzene of 99.7% because it is at the low end of the range of DREs achieved at the low feedrates at which benzene in ECF may be fed.[52] In addition, we note that, for toluene, we have approximately 20 DRE runs at low feedrates (i.e., the same low feedrates for which benzene DREs were well below 99.99%), all of which are *above* 99.99%.[53] We also have more than 20 DRE runs for toluene at moderate feedrates, and all but one of those runs achieved greater than 99.99% DRE. The lowest run achieved 99.987% DRE. Consequently, we believe that a projected DRE of 99.99% is appropriate and is more in line with the measured DREs for toluene than the nominal order of magnitude reduction in feed-related DRE for common PICs that we would otherwise apply. We did not have DRE data for naphthalene at proposal, and therefore use the default order of magnitude reduction in DRE to account for PICs (*i.e.*, 99.9%).

For similar reasons, for the thermal stability class 3 compound that is a common PIC—phenol—we project an effective DRE of 99.95 percent, an order of magnitude lower than the 99.995 percent feed-related projected DRE. We did not have DRE data for phenol at proposal, and therefore use the default order of magnitude reduction in DRE to account for PICs.

We also considered whether PICs from the combustion of ECF compounds that are not themselves common PICs could cause an exceedance of the fuel oil (or surrogate) emission levels for the ECF constituents.[54] We note that several ECF constituents are aromatics (*e.g.*, the cresols, the phthalates, and acetophenone) that could form PICs that are ECF constituents. It is reasonable to conclude, however, that PICs from these compounds will not cause an exceedance of the fuel oil (or surrogate) emission levels for other ECF constituents because: (1) Only four ECF constituents are common PICs; and (2) the projected, effective DREs for these PICs, and thus their feedrate limits, account for PIC emissions.

EPA may consider expanding the comparable emissions approach, and revisiting the DRE analysis, in light of new data we may gather. As part of various rulemakings and other activities, EPA may receive data from hazardous waste combustors on emissions and feed used, which might be used to refine the comparable emissions approach.

d. *Implementation of Feedrate Limits.* As discussed above, the feedrate limits are expressed as a gas flowrate-normalized feedrate (ug/dscm), which is the feedrate in mass/unit time normalized by stack gas flowrate. The total feedrate limit (kg/hr) for each ECF constituent, for total boiler fuels, is determined by the boiler gas flowrate and the maximum ECF constituent feedrate (ug/dscm) provided by Table 2 to § 261.38. The maximum feedrate (kg/hr) of a constituent attributable to ECF is the total boiler constituent feedrate (kg/hr) minus the constituent feedrate (kg/hr) for all other boiler feedstreams.

To account for ECF constituents in fuel oil used as the primary fuel, burners may use actual concentrations of ECF constituents in their fuel oil, or the default concentrations based on fuel oil analysis EPA used to support the comparable fuel specification.[55] See Table 3 to § 261.38. Burners may also use other fuels as primary fuel, including coal and natural gas. See § 261.38(c)(2)(ii)(A). If coal is the primary fuel, burners may use actual concentrations of ECF constituents in their coal, or default concentrations based on AP–42 emission factors. See Table 4 to § 261.38. If natural gas is the primary fuel, burners may assume the gas does not contribute ECF constituents.

Example calculations for maximum feedrates of ECF constituents and concentrations of constituents in ECF, and example ECF firing rate restrictions resulting from the ECF constituent feedrate limits are presented in USEPA, ''Final Technical Support Document for the Expansion of the Comparable Fuels Exclusion,'' November 2008, Section 6.3.

4. Additional Operating Parameters Must Be Linked to the ECF Automatic Feed Cutoff System

The final rule requires that additional operating parameters be linked to the ECF automatic feed cutoff system (AFCOS) to ensure compliance with the conditions of the exclusion. In addition to requiring that the ECF AFCOS engage when carbon monoxide levels exceed 100 ppmv on an hourly rolling average and when the combustion gas temperature at the inlet to the initial dry particulate matter control device exceeds 400 °F on an hourly rolling average, as proposed (72 FR at 333296 and 333298), the final rule also requires that the ECF AFCOS engage when: (1) The emission-comparable fuel feedrate limit for a constituent exceeds the limit provided in Table 2 to § 261.38; (2) the primary fuel firing rate is below 50 percent on either a heat input or mass input basis; and (3) the steam production rate (or other appropriate indicator) indicates that the boiler load

[50] If the DRE associated with high ECF constituent feedrates were used to calculate the ECF constituent feedrate limits, emissions from burning ECF at low feedrates would be higher than from burning fuel oil. This is because the allowable emissions of the compound would be calculated assuming incorrectly that the PIC contribution would not be significant at low feedrates. When the PIC contribution is considered, emissions of the compound would be higher than from fuel oil emissions.

[51] Please note that, because we cannot quantify the increase in DRE as feedrate increases, we projected a constant DRE across all feedrates. Nonetheless, we conducted an analysis of DREs at higher feedrates by drawing curves that bound the worst DREs at higher feedrates. That analysis corroborated the ECF constituent feedrate limits calculated by assuming a constant DRE across feedrates. Although the analysis indicates that higher DREs are achieved at higher feedrates, those higher DREs are not high enough to provide comparable emissions, i.e., applying those DREs to the associated feedrates would result in emissions exceeding fuel oil emission levels. See USEPA, ''Final Technical Support Document for the Expansion of the Comparable Fuels Exclusion,'' November 2008, Section 6.3, and the memorandum from Bob Holloway, USEPA, to Docket ID Number EPA–HQ–RCRA–2005–0017, entitled ''Projecting DREs to Calculate ECF Constituent Feedrate Limits: Bounding Analysis to Investigate the Relationship Between DRE and Feedrate,'' dated November 24, 2008.

[52] USEPA, ''Final Technical Support Document for the Expansion of the Comparable Fuels Exclusion,'' November 2008, Section 6.3.

[53] USEPA, ''Final Technical Support Document for the Expansion of the Comparable Fuels Exclusion,'' November 2008, Figure 6–2.

[54] We note that PICs from the combustion of ECF constituents would not result in emissions of compounds other than ECF constituents at levels greater than from oil emissions. This is because the feedrate limits ensure that ECF constituents will not result in emissions of ECF constituents, and by extension PICs from those constituents, at levels higher than fuel oil.

[55] USEPA, ''Final Technical Support Document for HWC MACT Standards, Development of Comparable Fuel Specifications,'' May 1998, Appendix B.

is below 40 percent (i.e., the automatic feed cutoff system activates when one of the conditions on burning is about to be exceeded). See § 261.38(c)(2)(ii)(F)(1).

In addition, the final rule corrects the proposed excessive exceedance reporting requirement to require an exceedance report within five days of exceeding an operating limit linked to the AFCOS when ECF is in the combustion chamber. At proposal, we inadvertently directly adopted for ECF the excessive exceedance reporting requirements applicable to hazardous waste combustors (HWCs). For HWCs, operating parameters that are linked to the automatic waste feed cutoff system are indicators that a source may have failed to maintain compliance with an emission standard. Thus, exceeding one or more operating limits more than 10 times in a 60 day block is considered to be excessive (and indicating an increased possibility that an emission standard may be exceeded), and an excessive exceedance report is required. Upon receipt of an excessive exceedance report, the regulatory authority may review the HWC's operations and provide additional requirements to minimize exceedances.

For ECF burners, however, any exceedance of an operating limit linked to the AFCOS when ECF is in the combustion chamber is a failure to comply with a condition of the exclusion. In that event, the material must be managed as hazardous waste from the point of generation. Accordingly, this final rule requires that the burner notify the regulatory authority within five days of exceeding an operating limit linked to the AFCOS when ECF is in the combustion chamber. Those operating parameters that are linked to the AFCOS and for which limits are established are: (1) CO level in the stack gas; (2) temperature at the inlet to the FF or ESP for sources not burning coal as the primary fuel; (3) an indicator of boiler load; (4) primary fuel firing rate; and (5) feedrate of ECF constituents. The notification must document: (1) The exceedance; (2) the measures the burner has taken to manage the material as a hazardous waste; and (3) the measures the burner has taken to notify the generator that the burner has failed to comply with a condition of the exclusion.

5. Burners Must Provide Operator Training

The final rule includes a condition requiring boiler operator training. See § 261.38(c)(2)(iii). Boiler operator training is needed to ensure compliance with the boiler operating conditions under § 261.38(c)(2)(ii). Although we included a condition in the proposed rule that would require operator training for storage units,[56] and so implied that operator training would generally be an applicable condition, we inadvertently did not propose a parallel condition for boiler operator training.

We are correcting this omission in the final rule. The condition is needed to assure that combustion occurs under the specified conditions, which in turn assures emission comparability, an element of our determination that ECF is not discarded (through destruction of the ECF constituents) when it is burned, but rather is managed (including burned) as a fuel commodity. The boiler operating conditions are sufficiently complex that training is needed to ensure that boiler operation and maintenance personnel can understand and effectively implement the operating requirements of the conditions for exclusion, including the continuous monitoring system requirements and the ECF AFCOS. In fact, without such training, we do not believe that a burner could comply with the conditions on burning, and thus, should not be eligible for the exclusion. (Note: The boiler operator training provision is not redundant to emergency response training requirements under the Occupational Safety and Health Administration (OSHA) regulations at 29 CFR 1910.120(q).)

For purposes of this provision, boiler operators are personnel that operate or maintain the boiler when ECF is burned, including continuous monitoring systems and the ECF AFCOS. The condition requires that boiler operators must successfully complete a program that teaches them to perform their duties in a way that ensures the boiler's compliance with the operating conditions under § 261.38(c)(2)(ii).

The training program must be directed by a person trained in boiler operation procedures, and must include instruction which teaches boiler operators procedures relevant to the positions in which they are employed. At a minimum, the training program must be designed to ensure that boiler operators understand the operating conditions under paragraph (c)(2)(ii) and are able to respond effectively when the ECF AFCOS engages an automatic cutoff of the feed of ECF. Boiler operators must take part in an annual review of the initial training.

The boiler owner or operator must maintain the following documents and records at the facility: (1) The job title and written description of the position for each boiler operator position, and the name of the employee filling each job; (2) a written description of the type and amount of both introductory and continuing training that will be given to each person; and (3) records that document that the required training or job experience has been given to, and completed by, boiler operators.

Training records on current personnel must be kept until ECF is no longer burned in the boiler. Training records on former boiler operators must be kept for at least three years from the date the employee last worked as a boiler operator at the facility.

IV. What Are the Major Changes to the Implementation Conditions?

A. What Are the Changes to the Analysis Plan Provisions for Burners?

To comply with the feedrate conditions for ECF constituents provided by § 261.38(c)(2)(ii)(C) and in Table 2 to § 261.38, the final rule requires that ECF burners must know the as-fired heating value of each fuel and the as-fired concentration of ECF constituents in each fuel fed to the boiler (*e.g.*, fossil fuels and ECF itself). The proposed rule would have established feedrate conditions only on ECF that contained more than two percent benzene or acrolein. These proposed conditions have been superseded by the feedrate conditions for all ECF constituents. See discussion in Section III.B.3 above. Accordingly, the final rule expands the analysis plan requirements for burners to implement the feedrate conditions on ECF constituents. See § 261.38(b)(2)(5).

ECF burners are subject to the fuel analysis plan conditions under § 261.38(b)(4) to determine the as-fired heating value and concentration of ECF constituents in each fuel fed to the boiler, except: (1) The burner may use documentation provided by the generator for each shipment of ECF of the heating value and concentration of ECF constituents [57]; and (2) the burner may use the default primary fuel heating values and ECF constituent concentrations provided in § 261.38(c)(2)(ii)(C)(*4*).

B. What Are the Changes to the Notification Provisions?

1. Initial Notification

For generators of ECF, the final rule expands the information required in the

[56] See proposed § 261.38(c)(1)(iii)(D) that adopts the SPCC training provisions under § 112.7(f).

[57] If the burner commingles the ECF with other fuels, the burner may use documentation provided by the generator to calculate the as-fired heating value of the ECF and the concentration of ECF constituents.

one-time notification [58] to the RCRA and CAA regulatory authority in whose jurisdiction the exclusion is being claimed. In particular, in addition to the general facility information and an estimate of the average and maximum monthly and annual quantity of hazardous secondary materials for which an exclusion would be claimed under the proposed rule, the final rule is conditioned on the generator also providing an estimate of the annual quantity of each ECF stream, and, for each ECF stream, the maximum concentration of each ECF constituent that exceeds the comparable fuel specification in Table 1 to § 261.38. See § 261.38(b)(2)(i)(B). This additional information characterizing the ECF will assist the regulatory authorities establish monitoring and enforcement priorities.

For burners of ECF that receive the fuel from an offsite generator, the final rule also expands the information required in the one-time notification from the burner to the RCRA and CAA regulatory authority in whose jurisdiction the exclusion is being claimed. In particular, in addition to the general facility information and certification of compliance with the storage and burner conditions of the exclusion required under the proposed rule, the final rule also requires the burner to: (1) Provide an estimate of the maximum annual quantity of ECF that will be burned, and an estimate of the maximum as-fired concentrations of each ECF constituent for which the ECF exceeds the specifications for comparable fuel in Table 1 to § 261.38; and (2) provide documentation that ECF will be fired into the flame zone of the primary fuel.[59] See § 261.38(c)(5). This additional information characterizing the ECF and boiler operating conditions will assist regulatory authorities to establish monitoring and enforcement priorities.

2. Notification of Closure of a Tank or a Container Storage Unit

ECF generators and burners that store ECF in a tank or container must submit a notification to the RCRA regulatory authority when a tank or a container storage area goes out of ECF service. The notification must state the date when the tank or container storage unit is no longer used to store ECF. A tank or container storage unit is out of ECF service if it no longer is used to store ECF that is destined to be burned under the conditions of the exclusion.

C. What Are the Changes to the Consequences of Failure To Comply With a Condition of the Exclusion?

As proposed, an excluded fuel (*i.e.*, existing comparable fuel, synthesis gas fuel, and ECF) loses its exclusion if any person managing the fuel fails to comply with the conditions of the exclusion under § 261.38, and the hazardous secondary material must be managed as a hazardous waste from the point of generation. In such situations, EPA or an authorized state agency may take enforcement action under RCRA section 3008(a).

The final rule provides a ''reasonable efforts'' provision, however, to address generator liability when an offsite, unaffiliated burner fails to comply with a condition of the exclusion for ECF.[60] If the generator who claims the exclusion for ECF that is burned in an off-site, unaffiliated boiler [61] documents in the operating record that reasonable efforts have been made to ensure that the burner complies with the conditions of exclusion, the burner rather than the generator will be liable for discarding a hazardous waste upon a finding that the burner has not complied with a condition of exclusion. See § 261.38(d)(2).

The reasonable efforts must be based on an objective evaluation by the generator, both prior to the first shipment and periodically thereafter, that the burner would manage the ECF under the applicable conditions of § 261.38. Reasonable efforts by the generator must include, at a minimum, affirmative answers to the following questions prior to shipping the ECF to the burner, and must be repeated every three years thereafter: (1) Has a burner submitted the notification to the RCRA and CAA Directors required under § 261.38(c)(5)(i), and has the burner published the public notification of burning activity as required under § 261.38(b)(2)(ii); (2) are there any unresolved significant violations of environmental regulations at the burner facility, or any formal enforcement actions taken against the facility in the previous three years for violations of environmental regulations, and if yes, does the generator have credible evidence that the burner will nonetheless manage the ECF under the conditions of § 261.38; and (3) does the burner have the equipment and trained personnel to manage the ECF under the conditions of § 261.38.

In making these reasonable efforts, the generator may use any credible evidence available, including information obtained from the burner and information obtained from a third party. The generator must maintain for a minimum of three years documentation and certification that reasonable efforts were made for each burner facility to which ECF is shipped.

Part Four: What Are the Responses to Major Comments?

I. Scope of the ECF Exclusion

Comment: Several commenters state that EPA's decision not to address their analytical concerns about demonstrating compliance with the existing exclusion is a significant ''missed opportunity'' to increase the usefulness of the existing exclusion. They claim that matrix interferences and detection limit problems make it difficult or impossible to demonstrate comparability for many waste fuels. These same commenters also urge EPA to allow for blending to meet the specification limits for hydrocarbons and oxygenates.

Response: Regarding the commenters' analytic concerns, we explained at proposal that the specifications in Table 1 to § 261.38 for volatile organic compounds that were not detected in fuel oil or gasoline were based on the low levels of detection achievable for fuel oil rather than the much higher levels of detection achievable for gasoline.[62] 72 FR at 33287–88. Given that only benzene, toluene, and naphthalene were detected in our benchmark fuels—fuel oils and gasoline—we used this approach for most of the volatile organic compounds. We acknowledged this deviation from establishing the specification for undetected compounds as the highest level of detection in a benchmark fuel and explained that the levels of detection for volatile compounds in gasoline were inflated because of matrix effects. Commenters believe that we should consider the fact that many hazardous secondary materials used as a fuel may pose the same matrix effects

[58] If there are subsequent, substantive changes in the information provided in the notification, the generator must submit a revised notification to the regulatory authorities.

[59] See discussion in Part Four, Section IV.C regarding the rationale for documenting that ECF will be fired into the flame zone of the primary fuel, and guidance on acceptable documentation.

[60] A reasonable efforts provision is not provided for comparable fuel and synthesis gas fuel generators because there are minimal conditions on burners for those excluded fuels, and the generator can readily determine if the burner has complied with those conditions. Comparable fuel and syngas fuel burners must: (1) Publish a public notice of their intent to burn excluded fuel, as required by § 261.38(b)(2(ii); and (2) submit a certification to the generator, as required by § 261.38(b)(10)(i).

[61] The rule defines an unaffiliated burner as a boiler or hazardous waste combustor located at a facility that is not owned by the same parent company that generated the ECF.

[62] EPA promulgated these specifications in 1998, 63 FR 33782 (June 19, 1998).

as gasoline, such that the fuel oil-based specifications would not be reasonably achievable.

We continue to believe that it would not be appropriate to consider increasing the specifications for all volatile organic compounds and base them on the higher levels of detection in gasoline rather than fuel oil levels of detection because most of the compounds (*e.g.*, halogenated compounds) would simply not be expected to be found in fuel oil or gasoline. As a result, use of the higher detection limits would result in specification levels that could exclude hazardous secondary materials that are not comparable to fuel oil or gasoline. Rather, only certain hydrocarbons would be expected to be in these fuels. We explained at proposal that we could potentially also consider oxygenates, however, because they are within a class of compounds that are added to fuels to enhance combustion.

It appeared, however, that this potential revision would not likely result in additional hazardous secondary materials being conditionally excluded. In discussions with the chemical industry during the development of the proposed rule, they did not identify any hazardous secondary materials that cannot meet the current specifications using analytical methodologies recommended for the matrix in question, but that could qualify for exclusion if the specifications for volatile hydrocarbons and oxygenates were increased to the levels of detection for gasoline that we experienced when sampling the benchmark fuels. Although the commenters reiterate their concerns about analytic issues, they again have not identified any hazardous secondary materials that would be conditionally excluded from regulation if the specifications for volatile hydrocarbons and oxygenates were increased to the levels of detection for gasoline. We continue to be unable to identify the problem. Consequently, the final rule does not revise the specifications for volatile hydrocarbons and oxygenates.

With respect to commenters' concern regarding allowing blending to meet the specification limits for hydrocarbons and oxygenates, in discussions with the chemical industry during the development of the proposed rule, they again did not identify any hazardous secondary materials that would be conditionally excluded from regulation if blending were allowed. Consequently, we did not pursue this approach further. Even though the commenters reiterate their concerns about blending in response to the proposed rule, commenters again have not identified any hazardous secondary materials that would be excluded if blending to meet the specifications for hydrocarbons and oxygenates were allowed. Consequently, EPA is finalizing this aspect of the rule, as proposed.

II. Legal Rationale for the ECF Exclusion

A. EPA's Interpretation of the Solid Waste Disposal Act (SWDA)

1. Hazardous Waste Burned for Energy Recovery

Comment: A commenter states that EPA's claim that hazardous secondary material that is otherwise a hazardous waste can be classified as a fuel if it is burned for energy recovery under certain combustion conditions contravenes the Solid Waste Disposal Act (SWDA). The commenter believes that the text of the Act makes clear that burning a material that would otherwise qualify as a hazardous waste does not transform that material into something other than a waste, regardless of whether energy is recovered from the combustion process and regardless of the conditions under which it is burned. The text of the SWDA demonstrates that Congress was well aware that waste is burned for energy recovery, but did not intend that combusting a hazardous secondary material for energy recovery would transform that material from a regulated waste to an unregulated fuel, according to the commenter. The commenter states that § 3004(q) requires EPA to issue standards applicable to facilities that produce fuel from hazardous waste, facilities that ''burn, for purposes of energy recovery, any fuel produced'' from hazardous waste, and persons who distribute or market fuel produced from hazardous waste. 42 U.S.C. 6924(q)(1)(A)–(C).

Response: The final rule does not exclude from the definition of solid waste fuels produced from hazardous waste. The rule states that ECF is not a solid waste due to the combination of management practices (determined via conditions on the exclusion) and the physical identity of ECF to the fossil fuels for which it can substitute which demonstrate objectively that the hazardous secondary material can permissibly be classified as non-discarded. ECF will be stored subject to conditions similar to or identical to those which apply to commercial fuels, products, or by-products. It will be burned under conditions such that emissions will not be different from the fuel oil that could be burned in its place. It is largely physically identical to fuel oil with respect to hazardous constituent concentrations. To be ECF, the secondary material as initially generated must meet the hazardous constituent specification, as well as the other specifications, and then be subject to all other conditions. Such materials can permissibly be considered not to be discarded and hence not solid wastes.

EPA sees nothing in § 3004(q) which supports the commenter's contention that such materials must be classified as discarded. The provision only applies to hazardous wastes, so the first inquiry must necessarily be whether the material at issue—ECF—is discarded. Section 3004(q) does not itself address that question. The commenter's statement that § 3004(q) requires EPA to develop rules that regulate emissions from burning hazardous waste for energy recovery is correct, but does not address whether ECF is discarded—i.e., is solid waste in the first instance. Under section 3004 (q), a hazardous secondary material must first be a hazardous (and solid) waste before restrictions can apply to burning it for energy recovery.

2. SWDA § 3004(q)

Comment: The commenter notes that § 3004(q) further expressly provides ''[f]or purposes of this subsection, the term 'hazardous waste listed under section 6921 of this title' *includes* any commercial chemical product which is listed under section 6921 of this title and which, in lieu of its original intended use, is (i) produced for use as (or as a component of) a fuel, (ii) distributed as a fuel, or (iii) burned as a fuel.'' 42 U.S.C. 6924(q)(1) (emphasis added). Thus, the commenter states that § 3004(q) makes clear that Congress intended any material that qualifies as hazardous waste to be regulated as hazardous waste regardless of whether it is turned into a fuel, marketed or distributed as a fuel, or burned as a fuel for energy recovery. The commenter notes that Congress emphasized this point by making clear that such materials are ''waste'' even if they are ''commercial chemical product[s]'' rather than materials that were not deliberately produced for sale or some other purpose.

Response: The reference to ''commercial chemical products'' refers to those hazardous secondary materials listed in § 261.33 and does not classify as wastes materials listed in that section which are themselves ordinary fuels. At the time of the 1984 amendments, EPA had in place a rule (former §§ 261.2 and 261.33) which did not classify those listed commercial chemicals burned as fuels as discarded. Congress in promulgating § 3004(q) made clear that

commercial chemical products listed in § 261.33 not produced as fuels were to be classified as hazardous wastes when burned for energy recovery. Congress made equally clear that listed commercial chemical products which were themselves ordinary fuels (for example, benzene, toluene, and xylene) were not to be classified as wastes (see § 3004(q)(1)) (reference to listed commercial chemical products includes only those products listed in § 261.33 which are not used for their original intended purpose but instead are burned as a fuel; see also H.R. Rep. 98–198, 98th Cong. 1st session 40 (same)). This has been EPA's consistent interpretation of this provision. See 61 FR at 17459 (April 19, 1996) (commercial chemical benzene, toluene, and xylene are not discarded when used as fuels since they are themselves fuels); 50 FR at 49168 n. 8 (Nov. 29, 1985) (pipeline interface from transport of toluene not a waste when burned for energy recovery, under the same principle).

This provision has been construed narrowly as applying solely to commercial chemical products used as fuels in lieu of their normal use. *AMC I,* 824 F. 2d at 1189. ECF is not such a material. See also related responses below.

Comment: The same commenter states that the legislative history of § 3004(q) confirms that fuel produced from hazardous waste must be regulated as hazardous waste. The commenter notes that, before § 3004(q) was amended, EPA had created a regulatory provision that ''provided that unused commercial chemical products were solid wastes only when 'discarded' '' and defined that term as ''abandoned (and not recycled) by being disposed, burned, or incinerated (*but not burned for energy recovery*).'' *American Mining Congress* v. *EPA,* 824 F.2d 1177, 1188–1189 (DC Cir. 1987) (''*AMC I*'') (*quoting* 1983 regulatory provisions) (emphasis added). To ''override'' that regulatory provision, Congress added the following language to § 3004(q), according to the commenter: ''for purposes of this subsection, the term 'hazardous waste listed under section 6921 of this title' *includes* any commercial chemical product which is listed under section 6921 of this title and which, in lieu of its original intended use, is (i) produced for use as (or as a component of) a fuel, (ii) distributed as a fuel, or (iii) burned as a fuel.''' 824 F.2d at 1188–1189 (*quoting* 42 U.S.C. 6924(q)(1)) (emphasis added). The commenter notes that the House Report on this amendment expressly states:

> Hazardous waste, as used in this provision, includes not only wastes identified or listed as hazardous under EPA's regulations, but also includes any commercial chemical product (and related materials) listed pursuant to 40 CFR 261.33, which is not used for its original intended purpose but instead is burned or processed as fuel. (Under current EPA regulations, burning is not deemed to be a form of discard; hence listed commercial chemical products, unlike spent materials, by products or sludges, are not deemed to be a ''waste'' when burned as fuel. They are only ''waste'' when actually discarded or intended for discard.)

824 F.2d at 1189 (*quoting* H.R. Rep. No. 198, 98th Cong., 1st Session 40).

According to the commenter, the House Report affirms that ''EPA already has the authority to regulate the blending and burning of hazardous wastes for purposes of energy recovery'' and explains that their objective is ''to accelerate the agency's rulemaking and close a major gap in the present regulations and to set an outside deadline for the *regulation of all burning of hazardous wastes.*'' H.R. Rep. No. 198, 98th Cong., 1st Session 42 (emphasis added). The House Report reiterates that the legislation ''corrects a major deficiency in the present RCRA regulations by requiring EPA to exercise its existing authority over hazardous waste-derived fuels by regulating their production, distribution and use.'' *Id.* at 39. In summary, the House Report states:

> EPA has asserted its jurisdiction over burning and blending of hazardous waste for energy recovery * * * However, the committee still believes, as it did last year, that legislation is necessary to assure that the committee's objective in compelling EPA to develop and implement a comprehensive regulatory program over burning and blending for energy recovery are [sic] achieved, within the timetable set by the committee. The provisions of Section 6 do not grant EPA any new statutory authority; RCRA now provides EPA full authority to regulate hazardous wastes that are blended or burned for energy recovery and to regulate the owners and operators of the blending and burning facilities. *The committee wants to assure that EPA will exercise its authority over all facilities that blend or burn hazardous waste for energy recovery.*

Id. at 39 (emphasis added). The commenter states that, as the DC Circuit concluded from the amendment to § 3004 and the House Report, Congress deliberately addressed the burning of commercial chemical fuels by ''deeming the offending materials to be 'discarded' '' and therefore within the statutory definition of 'solid waste.' '' 824 F.2d at 1189.

Response: The DC Circuit's analysis directly contradicts this comment. In *American Mining Congress* v. *EPA* (''AMC I''), 824 F.2d 1177, 1188–89, the DC Circuit, citing the same legislative history as the comment, stated that the provision making non-fuel commercial chemicals hazardous wastes was limited in scope and did not change the need to first define any other hazardous secondary materials as solid wastes. The court noted that EPA regulation in 1983 had provided that unused commercial chemical products were solid wastes only when discarded, which the Agency had defined as not including burning for energy recovery. As a result, in the 1985 RCRA amendments, ''Congress addressed this problem by *deeming* the offending materials to be 'discarded' and therefore within the statutory definition of 'solid waste.' This specific measure did not, however, revamp the basic definitional section of the statute.'' *AMC I* at 1189.

The Court rejected, as circular, the implication in this argument, and others, that a statutory statement that certain materials are, or are not, solid or hazardous wastes, somehow, changes the definitional provisions of RCRA. See *AMC I* at 1187, 1188, 1191. With respect to 3004(q), in particular, the court stated:

> EPA argues that [section 3004(q)(1)] evinces Congressional intent to include recycled in-process materials within the definition of ''solid waste.'' We note at the outset that this provision is likewise a subsection of [section 3004] and is therefore directed towards hazardous waste treatment facilities. The ever-present circularity problem thus looms here as well.

AMC I at 1188.

Therefore, a hazardous secondary material can be excluded from the definition of solid waste even if it is burned for energy recovery.

Comment: The same commenter states that the structure of § 3004(q) reinforces Congress' clear intent. Sections 3004(q)(2)(A) and (B) contain two exemptions from the requirements of § 3004(q)(1) pertaining to facilities that burn, produce, distribute and market hazardous waste fuel. The presence of these very narrow exemptions from the regulations clearly indicates that Congress considered exactly which fuels should be exempted from these requirements, according to the commenter. The commenter states that the Act allows only a narrow exemption for petroleum refinery wastes containing oil that are converted into petroleum coke at the same facility at which such wastes were generated, unless the resulting coke product would exceed one or more characteristics by which a substance would be identified as a hazardous waste under section 6921 of the Act. 42 U.S.C. 6924(q)(2)(A). The

commenter states that the second exemption pertains to facilities that burn *de minimis* quantities of fuel under certain specified circumstances. According to the commenter, the exclusion is also narrowly defined and requires that the Administrator determine that (1) such wastes are burned at the same facility at which such wastes are generated; (2) the waste is burned to recover useful energy as determined by the Administrator on the basis of the design and operating characteristics of the facility and the heating value and other characteristics of the waste; and (3) the waste is burned in a type of device determined by the Administrator to be designed and operated at a destruction and removal efficiency sufficient such that protection of human health and environment is assured. 42 U.S.C. 6924(q)(2)(B).

Response: The commenter again supposes that the hazardous secondary materials at issue are wastes, the issue to be determined. This type of circularity in reasoning was rejected, with respect to these very provisions, by the DC Circuit in *AMC I.* See 824 F.2d at 1187–88 and previous response. In addition, as also just explained, statutory exemptions for hazardous secondary materials that have already become wastes do not affect the basic definitional provision as to what constitutes a waste in the first place. *AMC I,* 824 F.2d at 1187–88 and n.16.

Comment: The same commenter states that the exclusion would deprive § 3004(q) of meaning and, indeed, is a transparent attempt by the Agency to circumvent § 3004 and elevate the current administration's policy goal of excusing hazardous waste combustion from pollution control requirements over Congress' decision that the burning of hazardous waste and fuel produced from hazardous waste must be regulated under the SWDA.

Response: This exclusion does not deprive § 3004(q) of practical meaning. Of the current universe of 1,943,000 tons per year [63] of hazardous waste burned for energy recovery, EPA estimates that this rule will reclassify only 118,500 tons per year (or approximately six percent) under the conditional exclusion. In any case, the issue is whether ECF must be considered discarded even though it is physically identical to, or has emissions comparable to, fossil fuels and is otherwise managed so that discard does not occur when it is burned, transported, or stored.

Comment: The same commenter states that SWDA § 3004(r) further confirms that Congress did not intend EPA to exempt hazardous waste from SWDA regulation just because it is burned for energy recovery. The commenter notes that § 3004(r) expressly prohibits ''any person'' from distributing or marketing ''any fuel which is produced from hazardous waste identified or listed under section 6921 of this title or any fuel which otherwise contains any hazardous waste'' without a label warning that such fuel ''CONTAINS HAZARDOUS WASTES'' and lists the hazardous wastes contained therein. 42 U.S.C. 6924(r)(1). The commenter also notes that Section 3004(r)(2) then provides a limited exception from that labeling requirement covering only ''fuels produced from petroleum refining waste containing oil if—(A) such materials are generated and reinserted onsite into the refining process; (B) contaminants are removed; and (C) such refining waste containing oil is converted into petroleum-derived fuel products at a facility at which crude oil is refined into petroleum products * * *'' 42 U.S.C. § 6924(r)(2). Section 3004(r)(3) then provides EPA with authority to create one further narrow exception from the labeling requirements for ''fuels produced from oily materials, resulting from normal petroleum refining, production, and transportation processes, if (A) contaminants are removed and (B) such oily materials are converted along with normal process streams into petroleum-derived fuel products at a facility at which crude oil is refined into petroleum products'' 42 U.S.C. 6924(r)(3). Both of the limited exceptions described in § 3004(r)(2) and (3) are applicable ''unless the Administrator determines otherwise as may be necessary to protect human health and the environment.'' 42 U.S.C. § 6924(r)(2) and (3). The commenter believes that, by requiring the labeling of all fuel produced from hazardous waste as hazardous waste and providing only limited exceptions, which are conditioned on protection of human health and the environment, § 3004(r) further confirms that Congress intended that hazardous wastes and fuels produced from hazardous wastes do not cease to be hazardous wastes just because they are burned for energy recovery. EPA's proposed exclusion deprives § 3004(r) of meaning, and is a transparent attempt to circumvent the limitations that section imposes on the agency's discretion, according to the commenter.

Response: EPA disagrees with this comment. Although hazardous wastes used as fuels are subject to the hazardous waste regulations, the exclusion promulgated here is limited to that ECF that meets the hazardous constituent specifications, as well as the other specifications, as generated; that is, before it is a solid waste. Thus, because section 3004(r), like § 3004(q), is written in terms of wastes, requiring in the first instance that a determination be made as to whether a hazardous secondary material is a waste before the provision can apply, we disagree with the commenter. For the reasons already given, EPA has reasonably determined that ECF, in the first instance, is not discarded.

3. Impact of the Exclusion on SWDA § 3001(f)

Comment: The same commenter states that EPA's proposal also circumvents § 3001(f) and deprives it of meaning. The Agency asserts authority to declare that listed wastes are not wastes if they are burned for energy recovery under certain combustion conditions. But, § 3001(f) provides procedures for excluding listed waste from listing and thus from regulation as hazardous waste. 42 U.S.C. 6921(f). EPA thus deprives § 3001(f) of meaning with regard to wastes that are burned for energy recovery by interpreting the SWDA as allowing it to exclude such wastes from the SWDA requirements—i.e., effectively to delist them—without following the SWDA's delisting requirements.

Response: Section 3001(f) is not relevant here. It establishes a mechanism for delisting listed hazardous wastes—i.e., evaluating whether they are still hazardous. The issue here is whether the hazardous secondary materials are wastes in the first instance, which does not turn on an evaluation of hazard, but rather on whether they are discarded.

4. Factors for Use in Determining an Exclusion

Comment: The same commenter states that the statute does not provide authority for EPA to broadly exclude hazardous waste fuels from the definition of solid waste based on factors that are absent in the statute and that are contrary to its clear provisions and the intent of Congress. The commenter states that EPA does not contend that the material it purports to exclude is anything other than hazardous waste, *except to the extent* that it is burned for energy recovery. According to the commenter, the Agency's reliance on combustion with energy recovery to transform a material that is otherwise undisputedly a hazardous waste into a non-waste fuel

[63] See 70 FR at 59530.

contravenes Congress' plainly expressed intent that hazardous waste burned as fuel is still hazardous waste.

Response: As noted above, this is not EPA's position. EPA's determination that ECF is not discarded is based on factors reasonably relevant to that inquiry, namely the combination of management conditions and physical identity which provide objective assurance that ECF will not be discarded when stored, transported, or burned. With respect to burning, EPA is stating that hazardous secondary materials which are physically identical to normal fuels, except with respect to particular hydrocarbon and oxygenate constituents which actually impart fuel value to the material, need not be classified as ''discarded'' when they are burned under conditions where they are managed like fuel oil and the emissions from a boiler burning ECF will be no different than from a boiler burning the fuel oil that would often be used in ECF's place. With respect to storage and transport, EPA is stating that ECF will again be managed like a product (fuel oil or some other type of organic liquid) or otherwise stored to assure that discard has not occurred.

B. EPA's Use of Safe Foods and Fertilizers (SFAF) to Justify the Exclusion

1. The Term ''Discarded'' With Regard to Hazardous Waste Burned for Energy Recovery

Comment: A commenter states EPA's attempted reliance on *Safe Foods and Fertilizers (SFAF),* 72 FR at 33290, is misplaced. *SFAF* addresses EPA's exemption of certain ''recycled materials'' from SWDA requirements. 350 F.3d at 1268. The *SFAF* Court found that the term ''discarded'' is ambiguous with respect to these materials. The commenter states that it did not find that the term is ambiguous with respect to material that otherwise qualifies as hazardous waste, but is burned for energy recovery. Indeed, any such finding would have been directly at odds with the text and legislative history of the SWDA, as well as with binding prior precedent, according to the commenter.

Response: The comment misreads *Safe Food.* The *Safe Food* court held that materials were reasonably classified as non-wastes—not discarded—based on a set of conditions under which EPA had determined that ''market participants treat the exempted materials more like valuable products than like negatively-valued wastes, managing them in ways inconsistent with discard, and that the fertilizers derived from these recycled feedstocks are chemically indistinguishable from analogous commercial products made from virgin materials.'' 350 F. 3d at 1269. The same principles are applicable to ECF. ECF will be managed as a valuable product due to the conditions on management which objectively assure lack of discard, and ECF is indistinguishable from fuel oil with respect to physical composition and emissions—emissions of hazardous constituents from boilers burning ECF will be the same as those from a boiler burning fuel oil.

2. Application of the Identity Principle to ECF

Comment: The same commenter states that EPA does not argue that emission-comparable fuels are ''chemically indistinguishable'' from analogous commercial products (ordinary fuel). EPA apparently believes that it need not show chemical identity. Instead, EPA rests its case on an assertion that it need only show that the ''secondary materials are physically comparable to virgin products which would be used in their place, or which pose similar or otherwise low risks when used in the same manner as the virgin product.'' 72 FR 33290.

The commenter states that EPA's version of ''comparable'' identity in lieu of ''chemically indistinguishable'' identity is unreasonable and contrary to the ruling in *SFAF.* The SFAF Court required that the secondary materials be ''indistinguishable in the relevant respects.'' *SFAF* at 1269. The Court explains that it does not believe that affirmance of the EPA's principle requires literal identity, so long as the differences are so slight as to be substantively meaningless when viewed from the ''perspective based on health and environmental risks.'' *Id.* at 1270. The commenter states further that, in the case of the zinc fertilizers at issue in *SFAF,* EPA pointed to two risk assessments that purported to show that the secondary materials presented risks ''considerably below levels that we estimate (albeit roughly) to be safe for humans and ecosystems.'' *Id.* citing 67 FR at 48,403/3.

Response: The ''identity'' principle, as described by the *Safe Food* court, refers to ''contaminant limits assuring substantial chemical identity'' with products made from virgin materials. 350 F.3d at 1269. Where contaminant levels in the excluded fertilizer differed substantially from those in the virgin fertilizer for which it substituted, the Court further decided it could affirm EPA's identity principle as a basis for exclusion if, based on the Agency's analysis of health and environmental risks, the differences are so slight as to be substantively meaningless. See 350 F. 3d at 1270 (''the apparent differences in the EPA's exclusion ceilings and the contaminant levels in the virgin fertilizer samples lose their significance when put in proper perspective—namely, a perspective based on health and environmental risks.'').

Here, there are no ''apparent differences'' in environmental effect from burning ECF in place of fuel oil. We have explained at proposal, in this preamble, and in supporting documents that the conditions on burning—including in particular that the ECF constituent feedrate limits coupled with the requirement of identical concentrations of most hazardous constituents for ECF and for fuel oil—will ensure that there will be no difference in environmental effect between burning ECF or fuel oil in a boiler. Because there is no end environmental difference between burning the hazardous secondary material and the virgin fossil fuel for which it could substitute, ECF meets the ''identity'' test under *Safe Food.* See 350 F. 3d at 1270–71 (physical difference not considered determinative of discard where that difference does not result in adverse environmental effect).[64]

3. Need for a Risk Assessment

Comment: The same commenter states that EPA has not presented a risk assessment in the record to show that storage, transport, burning and disposal of ECF presents no risk of harm to health and the environment. EPA performed a ''risk screening'' pertaining only to the *burning* of ECF, but a screening is not an adequate substitute for an assessment, and the screening did not address the potential threats posed by storage, transportation and management of waste residuals.

Response: Again, the comment misreads *Safe Food.* The Court evaluated several identity scenarios which required different levels of analysis depending on the contaminant levels in the final product. See 350 F.3d at 1269–72. The type of analysis varied from chemical to chemical and the various chemicals required different

[64] Please note, however, that we have shown that the emissions from the ECF oxygenates other than acrolein would result in maximum annual average ground level concentrations that would be orders of magnitude lower than their reference air concentrations (RfCs). See discussion in Part Three, Section III.B.3 of the preamble. Although acrolein emissions may result in maximum annual average ground level concentrations that approach the RfC, acrolein emissions from burning ECF will be no greater than measured acrolein emissions from an oil-fired industrial boiler.

levels of analysis depending on how they related to the virgin materials and what kinds of assessment of risk were needed by EPA. It is instructive to review the Court's analysis to evaluate how it relates to the Agency's analysis of ECF.

As in the comment to this rule, the petitioners in *Safe Food* objected to the ''factual predicate'' of EPA's identity principle because the petitioners argued that the levels EPA picked were not ''identical'' to what was found in products made from virgin materials. 350 F.3d at 1269. Of particular difficulty was the situation in which, for some cases, contaminant levels in the recycled products would appear to be ''sometimes considerably higher'' than in products made from virgin materials. *Id.* In general, the court determined that it could affirm EPA's determination if, based on the Agency's analysis of health and environmental risks, the differences are so slight as to be substantively meaningless and found that ''the apparent differences in the EPA's exclusion ceilings and the contaminant levels in the virgin fertilizer samples lose their significance when put in proper perspective—namely, a perspective based on health and environmental risks.'' 350 F.3d at 1270.

For four contaminants—lead, arsenic, mercury and cadmium—EPA picked levels in the recycled fertilizer product that were related to the ''concentration levels found in virgin materials.'' 350 F.3d at 1271; see 350 F.3d at 1270 (Table titled ''Comparison of EPA Limit and Virgin Commercial Samples * * *''). In addition, the court relied on risk assessments performed by industry to determine that the levels ''do not endanger human health or the environment until they are present in concentrations between 20 and 372 times'' the levels EPA allowed in its regulations. 350 F.3d at 1270. In response to the petitioners' argument that the industry studies should be given no weight, the court deferred to EPA's technical judgment that, even though the studies could be more rigorous, they were ''a good enough benchmark for * * * levels that were tiny fractions of the risk thresholds.'' *Id.* Accordingly, the court found that the levels of these contaminants ''did not undermine the EPA's application of its identity principle.'' *Id.*

For dioxin, EPA needed a more rigorous analysis. In that case, EPA did not set the limit on concentration levels found in virgin materials, but instead set a limit of 8 parts per trillion (ppt), ''similar to the average background dioxin concentration in soil.'' Even though commercial fertilizers had levels much lower at 1 ppt, basic risk findings from prior risk assessments showed that dioxin did not pose a risk at background levels and no comments on the rule challenged the basic risk determinations. The court, therefore, found that EPA was reasonable that the 8 ppt standard was '''identical' enough'' to support a finding that the excluded fertilizers were products rather than wastes. 350 F.3d at 1271.

The court made a different decision for chromium and remanded the decision to the Agency to ''clarify'' the chromium level. 350 F.3d at 1271–72. The industry study did not show the high risk thresholds for chromium as it did for the other contaminants. Also, EPA did not report such a risk threshold in the final rule and the court found that the results of an EPA risk study on chromium ''are not easily translatable by lay judges into a form comparable with the proposed exclusion ceiling.'' 350 F.3d at 1271. Moreover, the court found ''particularly striking'' the difference between the chromium level for fertilizers made from recycled hazardous secondary materials and for chromium in fertilizer made from virgin materials. EPA set a level at 21.3 parts per million (ppm) for recycled fertilizer. However, of twenty virgin fertilizer samples reported, six reported chromium—one of 8 ppm and five less than 1 ppm. Thus, EPA's level was double the highest sample, ten times the sample mean, and twenty times the sample median, with nothing the court could understand which indicated that these differences were trivial from a health and environment perspective.

In summary, for none of the contaminants at issue was EPA required to perform a full ''risk assessment'' to determine that there is ''no risk of harm to human health or the environment,'' as the commenter would have it. Instead, the Court found it reasonable for EPA to rely on information commensurate with the relationship of products made with virgin materials to products made with non-discarded hazardous secondary materials. In some cases (dioxin and chromium), EPA needed a more rigorous analysis. 350 F.3d at 1271. For other materials (heavy metals), EPA's analysis was less rigorous and nonetheless appropriate.

EPA's analysis for ECF falls well within the parameters evaluated by the court in *Safe Food.* As noted in the response to the previous comment, there is no end environmental difference between the activities of burning for energy recovery of fuel oil and ECF. This rule thus does not pose the issues the Safe Food court faced regarding dioxin or chromium levels, although it should be noted that EPA's approach here resulting in no increase of emissions of ECF constituents from a boiler burning ECF compared to that boiler burning fuel oil has similarities with the approach to dioxin upheld in *Safe Food* where the specification was established to assure no increases in ambient levels of that contaminant from use of the excluded fertilizer. There thus is no need to justify differing environmental outcomes from burning by showing *de minimis* risk.

We have also explained that the conditions on storage of ECF, although based substantially on controls applicable to analogous products, are enhanced to assure that discard is not occurring through conditions relating to primary and secondary containment (*e.g.*, secondary containment and leak detection conditions for tanks; containment system conditions for containers). Thus, the storage conditions under the exclusion are equivalent to the storage requirements currently applicable to ECF currently classified as hazardous waste or to analogous fossil fuels or product or by-product organic liquids. Finally, with respect to the hazards associated with the transportation of ECF, we note that ECF is subject to DOT's requirements for hazardous materials. Thus, ECF is subject to the same packaging, labeling, marking, and placarding requirements as hazardous waste, and each ECF shipment must be accompanied by a DOT hazardous material shipping paper. These controls assure that ECF's market participation when stored and transported will be as a valued commodity, without discard.

4. Applicability of the Market—Participation Theory to ECF

Comment: The same commenter states that, although the *SFAF* test clearly comprises two parts, EPA fails to address the second part of the test, which is that ''market participants must treat the materials more like valuable products then like negatively-valued waste.'' Presently, the record shows that hazardous wastes that can be burned as fuel, which are not eligible for the existing comparable fuels exclusion, are largely shipped to hazardous waste incinerators and cement kilns for incineration. Generators of such hazardous waste are required to store and transport such waste under stringent subtitle C regulation. The wastes are presently not treated like valuable products, *i.e.*, as feedstock for commercial products or valuable fuel for energy production. In the case at issue in *SFAF*, the materials were ''feedstocks in a non-discarded final

product'' (the zinc fertilizer). Here, the hazardous waste is not a feedstock in a non-discarded final product. EPA must demonstrate why it believes that ECF meets the market participation test set forth in *SFAF*.

Response: The commenter misreads EPA's determination with respect to the exclusion in this rule. EPA is finding that when ECF is stored, transported and burned under the conditions set forth in the rule—*i.e.*, when ECF participates in the market—market participants will manage ECF as a valuable commodity, not as a waste. They will do so because: (1) Pursuant to the conditions set out for the exclusion, storage of the material will include storage safeguards to which fuel oil and product organic liquids are subject, plus additional conditions to assure containment; (2) the conditions on burning assure that burning will occur under the same optimized combustion conditions as product fuel oil when carefully combusted in industrial boilers; (3) the feedrate conditions assure that emissions of ECF constituents from a boiler burning ECF will be comparable to (*i.e.*, the same as) emissions from a boiler burning fuel oil; and (4) the physical composition conditions assure that the remaining hazardous constituents are present in no greater concentrations than in fuel oil. Thus, it is reasonable for EPA to determine that the conditions of the rule provide an objective assurance of ECF not being discarded in the first instance and, ultimately, used as a valuable fuel commodity by market participants under the same conditions and with the same emissions as valuable fuel commodities, *e.g.*, fuel oil.

''Market participation'' and ''identity'' are also more closely related than the commenter would have it. Physical identity of a hazardous secondary material with a commercial product for which it substitutes is itself an aspect of market participation, assuring that the hazardous secondary material will be managed as a valuable commodity—the commodity to which it is identical, and not be discarded. Cf. *Safe Foods,* 350 F.3d at 1269 (''[n]obody questions that virgin fertilizers and feedstocks are products rather than wastes. Once one accepts that premise, it seems eminently reasonable to treat materials that are indistinguishable in the relevant respects as products as well''). Thus, the exclusion for the zinc fertilizers at issue in *Safe Foods* contains no conditions on market participation beyond meeting the hazardous constituent concentration specifications, plus sampling of the fertilizers to document that the fertilizers meet those specification levels, whereas more market participation conditions attached to the hazardous secondary materials used to produce the excluded fertilizers. See 40 CFR section 261.4(a)(21) and (20). In any event, evaluated separately, EPA believes that the rule is entirely consistent with the market participation and identity principles set out in *Safe Foods.*

Finally, in response to the commenter's statement that hazardous waste fuels that are currently sent to hazardous waste incinerators and cement kilns are burned for incineration, we note that these materials are burned for energy recovery in lieu of fossil fuels. Cement kilns burn hazardous waste fuels in lieu of coal to provide the heat to calcine limestone to produce clinker product, and hazardous waste incinerators burn hazardous waste fuels in lieu of fuel oil or natural gas to provide heat to combust wastes with little or no heating value.

III. Conditions for Storage of ECF

A. Storage in Containers

Comment: In response to a request for comment at proposal as to whether generators would be likely to store ECF in containers, several commenters state that storage in containers should be allowed to enable smaller volume ECF generators to use the exclusion. Other commenters oppose allowing storage in containers. One commenter states that storage of ECF in drums may easily allow indiscriminate mixing of other wastes due to the lack of adequate controls. Another commenter states that storage of ECF in containers should not be allowed because, absent hazardous waste standards and permit requirements, container storage would pose a hazard to the public.

Response: We agree with the commenters that support allowing storage of ECF in containers. Therefore, the final rule allows storage of ECF in containers under conditions that are similar to the conditions for storage in tanks. As discussed below, the conditions for ECF container storage are adopted from the provisions applicable to commercial products analogous to ECF or are equivalent to the hazardous waste container requirements under Subparts CC and BB of Part 264 (which controls are based on those for containers storing organic liquid products or byproducts).

Regarding the commenter's concern for the potential for indiscriminate mixing of waste with ECF, if ECF does not meet the specifications under § 261.38(a)(2), the material loses the exclusion and must be managed as a hazardous waste from the point of generation. In addition, ECF must meet the specifications for exclusion as-generated; blending, dilution, or other treatment is not allowed to meet the specifications.

The discharge prevention conditions for container storage are adopted from the SPCC requirements and the emergency procedure provisions are adopted from the hazardous waste storage requirements for containers and are identical to those adopted for ECF tanks. This is appropriate because container storage can pose the same types of hazards as tank storage.

The conditions to provide containment for container storage are adopted from the requirements for used oil stored at burner facilities,[65] coupled with the controls adopted from the hazardous waste container requirements to address the additional hazards that ECF container storage can pose. We note that we mentioned at proposal that if the final rule allowed container storage, we would subject containers to conditions similar to those that apply to hazardous waste containers. See 72 FR at 33301. We adopt the containment conditions for containers from the containment requirements for hazardous waste container storage units under § 264.173. This is appropriate because: (1) These requirements include the requirements for used oil container storage, as well as provisions that address the hazards that ECF containers can pose; and (2) ECF container storage units are currently subject to those containment requirements, which address hazards that remain after the ECF exclusion is claimed.

To establish conditions to control fugitive air emissions from containers and leaks from equipment that contains or contacts ECF at the container storage unit, our principles are as follows. First, we adopt the OLD NESHAP controls that apply to containers. This is appropriate for the reasons discussed at proposal in the context of adopting the OLD NESHAP controls for tanks. See 72 FR 33305. Second, for containers that are not subject to the OLD NESHAP, we adopt the NESHAP emission standards for containers under Subpart PP, Part 63. This is appropriate because the Agency developed these standards for storage of organic liquid feedstock, products, and by-products by manufacturing facilities, and ECF is an organic liquid product. Third, to determine the applicability of the Level

[65] See § 279.64(b) and (c) requiring that containers be in good condition and stored in an area with a containment system comprised of dikes, berms, or walls surrounding a floor, which are impervious to used oil.

1 or Level 2 controls under Subpart PP, we adopt the container size and other criteria (*i.e.*, whether the ECF meets the definition of a ''light liquid'') that the Agency established for hazardous waste containers under § 264.1086(b)(1). These hazardous waste container applicability criteria establish the applicability of Level 1 or Level 2 controls under § 264.1086(c) and (d) which are equivalent to the Level 1 or Level 2 controls under Subpart PP. It is reasonable to adopt the hazardous waste container applicability criteria because ECF containers pose air emission hazards that remain after the ECF exclusion is claimed. Finally, we do not adopt provisions under Subpart PP that are not relevant, such as the applicability of the subpart to other Part 63 subparts, enforcement of the subpart under the CAA, and provisions for site-specific waivers or approval of alternative provisions.

By applying these principles, we establish the following air emission conditions for containers.

Containers Subject to the OLD NESHAP. We adopt the fugitive air emission conditions for container storage units from the OLD NESHAP. See § 261.38(c)(1)(vi). Although the OLD NESHAP controls air emissions during distribution operations, it does not address air emissions from other aspects of container management, such as storage and unloading liquids from containers. In fact, the OLD NESHAP is applicable to ECF containers only when ECF that meets the adopted definition of organic liquid [66] is being loaded into a container with a capacity greater than 55 gallons at a transfer rack at a new facility where the annual volume of ECF is 800,000 gallons or more. See Items 9 and 10 in Table 2 to adopted Subpart EEEE which subject such containers generally to Level 3 control under Subpart PP, Part 63. Consequently, we adopt other controls as conditions for containers that are not subject to the OLD NESHAP, as discussed below.

We also adopt the OLD NESHAP provisions that control leaks from equipment (*e.g.*, pumps, valves) that contain or contact ECF in a storage unit that has a container subject to control under Items 9 or 10 in Table 2 to adopted Subpart EEEE. These provisions under adopted § 63.2346(c) require compliance with the applicable requirements of the following NESHAP subparts: Subpart TT (Level 1 control), or Subpart UU (Level 2 control), or Subpart H.

Containers That Are Not Subject to the OLD NESHAP. To ensure that air emissions from other ECF containers are controlled, we adopt in this final rule the applicability criteria for hazardous waste containers under § 264.1086(b)(1) to determine the applicability of the Level 1 or Level 2 national emission controls under Subpart PP, Part 63. Using the hazardous waste container applicability criteria for ECF containers is consistent with our principle of ensuring that controls through conditions are provided for the storage hazards that remain after the ECF exclusion is claimed, thus assuring safe handling commensurate with ECF's classification as a product and ensuring that it does not become part of the waste disposal problem. See *AMC II,* 907 F.2d at 1186. The national emission standards for Level 1 and Level 2 controls under Subpart PP are appropriate because they apply to containers storing raw materials, products, and by-products at manufacturing facilities and are equivalent to the Level 1 and Level 2 controls required for hazardous waste containers under § 264.1086(c) and (d).

Under these adopted provisions, a container having a design capacity greater than 0.1 cubic meters (26 gallons) can comply with the conditions if it: (1) Meets the applicable DOT regulations on packaging hazardous materials for transportation; and (2) is kept closed unless ECF is being added or removed from the container.

To control leaks from equipment that contains or contacts ECF at container storage units, we adopt the equipment leak provisions from the OLD NESHAP. The OLD NESHAP subjects containers to the Part 63 NESHAP for equipment leaks if the facility has a tank or container subject to air emission controls under Table 2 to Subpart EEEE: Subpart TT (Level 1 control), or Subpart UU (Level 2 control), or Subpart H. These are alternative controls. Owners and operators can elect to comply with a level of control among these alternatives. For ECF equipment leaks for equipment not subject to OLD, we adopt the same NESHAP controls required under OLD, and use the hazardous waste equipment leak applicability criterion under § 264.1050(b) to determine when those controls, as conditions, apply.[67] As a practical matter, the controls will apply to all equipment that contains or contacts ECF in a container storage unit. This is because § 264.1050(b) subjects equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight to the equipment leak requirements. Given that ECF will invariably have an organic concentration of at least 10 percent, the adopted equipment leak controls apply to all equipment that contains or contacts ECF in a container storage unit.

In adopting the NESHAP equipment leak controls for equipment that contains or contacts ECF, we are omitting those provisions that are not relevant (*e.g.*, applicability provisions referencing other Part 63 subparts; CAA enforcement). Consequently, we are adopting the following alternative conditions: (1) Subpart TT, Part 63, (Level 1 control), except for § 63.1000; (2) Subpart UU (Level 2 control), except for § 63.1019; and (3) Subpart H, except for §§ 63.160, 63.162(b) and (e), and 63.183.

B. Alternative Hazardous Waste Storage Conditions

We requested comment at proposal on whether the conditions to control air emissions from tank systems would be easier to understand and implement if we simply adopted the hazardous waste provisions under Part 264, Subparts AA, BB, and CC rather than adopting controls under the OLD NESHAP.

Comment: Several commenters suggest that the Agency adopt the hazardous waste storage requirements for ECF storage units in lieu of the collection of SPCC, OLD NESHAP, and hazardous waste storage controls that we proposed to avoid the complications created by adapting and then adopting those controls for ECF.[68]

Response: While we acknowledge that the adapted and adopted controls on ECF storage are complicated, and that hazardous waste generators and burners may not be familiar with them, we believe it is appropriate to retain those conditions. Those conditions are our best effort to ensure that ECF is subject (via conditions) to controls for analogous products and that address hazards that remain after the ECF exclusion is claimed, assuring that in its management, ECF will not become ''part of the waste disposal problem'' (*AMC I,*

[66] The ''adopted definition of organic liquid'' means ECF that contains 5 percent or greater by weight of the RCRA oxygenates, as well as organic HAP listed in Table 1 to Subpart EEEE, and that has an annual average true vapor pressure of 0.1 psia or greater. See § 261.38(c)(1)(vi)(B)(*4*).

[67] As discussed elsewhere in the preamble, it is reasonable to use the hazardous waste applicability criteria to establish applicability of the equipment leak controls for ECF equipment given our principle of controlling hazards that remain after the ECF exclusion is claimed.

[68] We note that the collection of adopted controls is even more complicated in the final rule given the need to adopt controls for containers, and the need to adopt air emission controls for tanks and containers that would not be subject to the adopted provisions of the OLD NESHAP. See discussion below in the preamble in Part Four, Section III.C.

824 F. 2d at 1186), and so is not discarded.

Nonetheless, we understand commenters' concerns and have, therefore, provided alternative storage conditions that are adopted solely from the hazardous waste storage requirements under Part 264, Subparts I (containers), J (tanks), AA (closed vent systems and control devices), BB (equipment leaks), and CC (air emissions from tanks and containers).[69] These conditions are coupled with the other general requirements that apply to hazardous waste storage units to ensure containment and protection of human health and the environment, and which address security; inspections; personnel training; ignitable, reactive, and incompatible material; preparedness and prevention; and a contingency plan and emergency procedures. See § 261.38(e). ECF storage units are currently subject to these conditions and the conditions parallel the suite of conditions adopted from the SPCC provisions, the OLD NESHAP, and the hazardous waste provisions that are the base storage conditions provided under § 261.38(c)(1)(ii–viii).

C. Air Emission Controls for Tanks

Comment: One commenter states that the air emission controls for tanks adopted from the OLD NESHAP under Subpart EEEE, Part 63, are not equivalent to the hazardous waste tank controls that currently apply to ECF and could allow an increase in hazardous air emissions. The commenter notes that tanks not meeting the adopted OLD criteria for design capacity and ECF vapor pressure would not be subject to the OLD controls, while those tanks are currently subject to the hazardous waste tank air emission controls. In addition, the commenter notes that the OLD vapor pressure criterion for organic HAP and RCRA oxygenates in ECF for determining applicability of air emission controls is based on the ''annual average true vapor pressure,'' while the vapor pressure criterion for applicability of the hazardous waste tank air emission controls is based on the ''maximum organic vapor pressure.'' The commenter believes that the OLD controls may not be adequately protective and, therefore, the hazardous waste tank controls should be adopted for ECF tanks.

Response: We continue to believe that, because ECF is a product, it should be subject to the same controls that apply to analogous products. This provides an objective indication that the materials are not discarded. Consequently, it is reasonable to adopt conditions for storage of ECF from the OLD NESHAP, as discussed at proposal. See 72 FR at 33305.

Nonetheless, as discussed previously in this preamble and at proposal, the OLD NESHAP does not address hazards from the storage of ECF that remain after the exclusion is claimed because certain types of ECF storage activities would not be subject to that rule. Consequently, we proposed to adopt provisions of the OLD controls so that those controls address all ECF tanks. See 72 FR at 33306.

In light of the commenter's concerns, we have reviewed the proposed tank air emission controls and conclude that: (1) We inadvertently proposed to expand the applicability of the adopted OLD controls to two tank capacity and ECF vapor pressure scenarios that would have established controls that are more stringent than the hazardous waste tank controls for those scenarios; (2) there are additional tank capacity and ECF vapor pressure scenarios where ECF that meets the adopted definition of an organic liquid would not be subject to the adopted OLD controls, but should be to assure that all ECF is subject to the controls for product organic liquids, or controls comparable thereto; (3) we inadvertently did not propose to adopt air emission controls for tanks that store ECF that does not meet the adopted definition of organic liquid and these tanks need to be subject (via condition) to product organic liquid controls, or controls comparable thereto, when all other tanks storing ECF are; and (4) it is reasonable to adopt the OLD definition of annual average vapor pressure rather than the hazardous waste definition of maximum organic vapor pressure. We discuss these issues below.

Proposal To Expand OLD Controls to Additional Tank Capacity and ECF Vapor Pressure Situations. We explained at proposal that the OLD NESHAP would not require controls for two tank size/vapor pressure scenarios: (1) Existing, reconstructed, or new ECF tanks with a capacity less than 5,000 gallons handling ECF with a RCRA oxygenate and organic HAP vapor pressure equal to or greater than 76.6 kPa; and (2) existing ECF tanks with a capacity in the range of 5,000 gallons to 50,000 gallons handling ECF with a RCRA oxygenate and organic HAP vapor pressure in the range of 5.2 kPa (0.75 psia) to 76.6 kPa. (11.1 psia).[70] See 72 FR at 33306–07. Consequently, we proposed to adopt the OLD NESHAP controls for those two tank size/vapor pressure scenarios. In retrospect, however, we do not believe it is appropriate to expand OLD control to those tank capacity/vapor pressure scenarios because the adopted OLD controls would be more stringent than the hazardous waste controls that currently apply to the ECF tank. See discussion below where we explain how the final rule provides appropriate controls via conditions for those two scenarios.

Air Emission Conditions for Tanks and Containers that Are Not Subject to Conditions Adopted from Part 63, Subpart EEEE. We have determined since proposal that, in addition to the two scenarios discussed above, there are other ECF tanks that would not be subject to the adopted OLD controls even though they are currently subject to hazardous waste tank controls: (1) Tanks with a design capacity in the range of 5,000 to 50,000 gallons when the ECF meets the adopted definition of organic liquid and has a vapor pressure in the range of 0.1 psia to 0.75 psia; and (2) all tanks storing ECF that does not meet the adopted definition of organic liquid (*i.e.*, ECF that contains less than five percent by weight of the RCRA oxygenates, as well as organic HAP, or has an annual average vapor pressure less than 0.1 psia).

The final rule establishes conditions to control air emissions for these ECF tank scenarios—ECF tanks that are not subject to the adopted OLD controls, but that are currently subject to the hazardous waste tank air emission controls. See § 261.38(c)(1)(vii). Using the hazardous waste tank applicability criteria for tank capacity and ECF vapor pressure under § 264.1084(b)(1) is consistent with our primary principle stated at proposal for establishing tank air emission controls: Emissions should be controlled to a level comparable to levels currently required given that air emissions from storage and handling of ECF can pose the same hazards as storage and handling of the hazardous waste. See 72 FR at 33306.

We therefore use the hazardous waste tank capacity/vapor pressure applicability criteria that designate whether Level 1 or Level 2 emissions control apply to establish conditions for ECF tanks that provide at least equivalent control. Rather than adopting the hazardous waste tank controls

[69] As noted, the Subpart AA, BB, and CC controls are themselves adapted from controls for product and byproduct organic liquids, and so are analogous to controls used for product container storage.

[70] Please note that, as discussed in this section, we have since determined that there are other tank capacity/vapor pressure scenarios for which OLD would not apply, and OLD would not apply to tanks storing ECF where ECF does not meet the adopted definition of organic liquid.

verbatim, however, we adopt a suite of alternative NESHAP controls that are equivalent to the hazardous waste tank controls. This is appropriate because ECF is a product and these controls apply to tanks storing organic liquid feedstocks, products, and by-products at manufacturing facilities.

To establish a suite of alternative controls for ECF tanks that are equivalent to the hazardous waste tank Level 1 controls, we adopt: (1) The Level 1 national emission standards for tank air emissions provided by Subpart OO, Part 63; (2) the OLD controls designated under Item 1 in Table 2 to Subpart EEEE,[71] Part 63; and (3) three additional alternative control measures provided for (Level 2) control for hazardous waste tanks-venting to a control device, a pressure tank, and a tank located in an enclosure that is vented to a combustion control device.[72]

To establish a suite of alternative controls for ECF tanks that are equivalent to the hazardous waste tank Level 2 controls, we adopt: (1) The OLD controls designated under Item 1 in Table 2 to Subpart EEEE, Part 63; and (2) the three additional alternative control measures provided for (Level 2) control for hazardous waste tanks-venting to a control device, a pressure tank, and a tank located in an enclosure that is vented to a combustion control device.

Finally, the tank air emission controls include conditions to control air emissions from leaks from equipment that contains or contacts ECF. We adopt the same equipment leak conditions for tank storage units that we adopted for container storage units, and for the same reasons: (1) Subpart TT, Part 63, (Level 1 control), except for § 63.1000; or (2)Subpart UU (Level 2 control), except for § 63.1019; or (3) Subpart H, except for §§ 63.160, 63.162(b) and (e), and 63.183. See discussion in Part Four, Section III.A above.

Vapor Pressure Criterion. It is reasonable to adopt the OLD definition of annual average vapor rather than the hazardous waste definition of maximum organic vapor pressure to establish the applicability of the adopted OLD controls. The OLD controls are equally or more stringent than the hazardous waste controls for all tank capacity/vapor pressure scenarios that are applicable to ECF tanks. For ECF tanks that are not subject to the adopted OLD controls, the hazardous waste tank vapor pressure definition under § 264.1083(c) applies when determining the applicability of the adopted controls as discussed above, and those adopted controls are at least equivalent to the hazardous waste tank controls. Consequently, adopting the OLD definition of vapor pressure will still ensure that tank air emission controls are equivalent to hazardous waste tank air emission controls.

D. Definitions of Tank Cars and Tank Trucks

Comment: A commenter states that the definition of tank cars and tank trucks in the proposed rule is unclear.

Response: The final rule does not use the terms tank car or tank truck. These terms are used, however, in the adopted SPCC requirements. Although the SPCC requirements do not explicitly define these terms, a tank car is a container used to transport ECF by rail, and a tank truck is a container used to transport ECF by roadway.

E. Adequacy of the ECF Storage Conditions

Comment: Several commenters believe that ECF storage poses a greater hazard than fuel oil, the product that EPA states is most analogous to ECF. The commenters believe that the hazardous waste storage controls are needed to address the hazards posed by storage of ECF.

Response: We stated at proposal that fuel oil is the most analogous product to ECF and, thus, the ECF exclusion would typically be conditioned on meeting storage controls that are applicable to fuel oil as a means of assuring lack of discard. We also stated, however, that additional controls are necessary to minimize the potential for releases to the environment (*i.e.*, discard). See 72 FR at 33301. The SPCC controls, coupled with the other controls (*e.g.*, secondary containment, preparedness and prevention, emergency procedures, air emissions) are equivalent to the controls that apply to hazardous waste storage units. Consequently, the storage of ECF will pose no greater hazard than storage of hazardous waste based upon the conditions drawn from the requirements for storage of organic liquids and hazardous wastes.

F. Management of Residues in Tanks

Comment: A commenter states that the management of residues in tanks and containers during operation is not addressed. The commenter believes that the final rule should be clear that solids and other wastes generated as a result of managing ECF are hazardous waste irrespective of when they are generated.

Response: As proposed, the final rule states that liquid and accumulated solid residues that remain in a container or tank system for more than 90 days after the container or tank system ceases to be operated for storage or transport of the excluded fuel product (*i.e.*, ECF or comparable fuel) are subject to regulation as hazardous waste if identified or listed as a hazardous waste. In addition, liquid and accumulated solid residues that are removed from a container or tank system after the container or tank system ceases to be operated for storage or transport of the excluded fuel product are solid wastes subject to regulation as hazardous waste if the waste exhibits a characteristic of hazardous waste under §§ 261.21 through 261.24 or if the fuel were otherwise listed under §§ 261.31 through 261.33 when the exclusion was claimed. See § 261.38(b)(13)(i) and (ii).

We inadvertently did not address the situation raised by the commenter, however; that is, where residues may be removed from an ECF container or tank that remains in ECF service, and where the ECF no longer meets the specification for the exclusion. We agree with the commenter that such hazardous secondary materials should be managed as a hazardous waste if it exhibits a characteristic of hazardous waste under §§ 261.21 through 261.24 or if the hazardous secondary material would otherwise have been listed as a hazardous waste when the exclusion was claimed. See § 261.38(b)(13)(iii).

G. Closure Conditions for ECF Tanks

Comment: Commenters state that EPA should apply the closure requirements to ECF storage units. They argue that EPA appears to disregard the fact that facilities may store substantial amounts of ECF in these tank systems for significant periods of time. Acknowledging that spilling, seepage and releases routinely occur during waste storage, the closure requirements provide assurance that the party responsible for the management of the ECF performs a comprehensive cleanup in a timely manner when the waste storage unit is no longer used to store such material. EPA's failure to impose closure requirements violates SWDA section 3004(a) that requires EPA to impose such performance standards on facilities that store, treat or dispose of hazardous waste ''as may be necessary to protect human health or the environment.'' 42 U.S.C. 6924(a). In addition, the failure of EPA to impose

[71] These OLD controls are equivalent to Level 2 hazardous waste tank controls (*e.g.*, alternative controls include an internal or external floating roof).

[72] Although our preference is to adopt NESHAP controls for ECF tanks, it is reasonable to adopt hazardous waste tank controls as alternatives to the adopted NESHAP controls.

such requirements contravenes the statutory mandates of SWDA section 1003. 42 U.S.C. 6902. Further, commenters state that there is no reason to leave the decontamination and decommissioning of a unit that stored hazardous waste to the discretion of the owner/operator when RCRA regulations provide explicit direction on how to close such units safely. EPA provides nothing in the record that indicates that a ''regulatory authority,'' presumably the state solid waste agency where the owner/operator is located, will have any expertise ''to ensure that the unit is cleaned properly.'' *Id.*

The commenters also state that facilities may avoid liability for environmental damage discovered after the facilities have closed. Without CERCLA liability, state and federal taxpayers will pay the financial costs to clean up these facilities, while people in communities across the nation pay the human health and environmental cost associated with the contamination. Because the proposal could significantly reduce or even altogether eliminate facility and particularly generator liability at some Superfund sites, taxpayers will be required, through EPA-funded actions, to pay for cleanups. The commenters suggest that preparation of a closure procedure should be required and submitted to the local agency at least 90 days in advance of initiating closure activities. This plan would also include provisions to sample and potentially remediate soils in the area of the storage tanks and loading and/or unloading areas. The Agency can then have an opportunity to review and modify the provisions as necessary, similar to the authority for the Director to require modifications to the SPCC Plan if it is found to be deficient.

Response: We explained at proposal that closure of an ECF tank would be addressed the same as closure of any other product tank that goes out of service.[73] The tank system would not be required to undergo closure according to the RCRA hazardous waste regulations unless liquids or accumulated solids were not cleaned from the tank system within 90 days of cessation of operation as an ECF storage unit. See 72 FR at 33308. Liquids and accumulated solids removed from a tank system that ceases to be operated for storage/transport of ECF product are solid wastes. They are hazardous waste if they exhibit a characteristic of hazardous waste or if the ECF were otherwise listed. See § 261.38(b)(13).

[73] We note also that analogous products are not subject to closure requirements.

In retrospect, however, and considering the comments on this issue, we believe it is reasonable to require generators and burners to notify the RCRA regulatory authority when an ECF tank or an ECF container storage unit goes out of service. Therefore, the final rule includes this provision as a condition of the exclusion. See § 261.38(f). The notification must state the date when the tank system or container storage unit is no longer used to store ECF. This information will enable the regulatory authority to know which units are operating under the conditional exclusion and to enforce the hazardous waste closure provisions if liquids or accumulated solids are not removed from the ECF tank system or ECF container storage unit within 90 days of cessation of operation as an ECF storage unit.

H. Financial Assurance for ECF Tanks

Comment: Several commenters note that EPA fails to impose financial assurance requirements on facilities that store and burn ECF. Commenters argue that given the increased threat to health and the environment posed by the relaxed restrictions on the storage and burning of ECF, EPA's failure to require that such facilities maintain financial assurance to address potential remediation, without any justification in the record, is arbitrary, capricious and in violation of law. Although ECF that is not managed in compliance with the conditions would lose the exclusion and must be managed as hazardous waste, commenters state that there is no provision for ensuring that generators or burners are financially prepared to dispose of accumulated ECF in this event. Commenters believe that generators and burners should be required to provide adequate financial assurance, similar to the existing RCRA mechanisms, to manage ECF. Waiting until the ECF is mismanaged and only then imposing the applicable RCRA hazardous waste regulations, including the financial assurance regulations, may not result in adequate funds being available in the event that mismanagement and abandonment occurs, according to the commenters. Considering EPA's current focus on ensuring adequate financial assurance for hazardous waste facilities, commenters believe that the lack of coverage proposed for ECF units seems arbitrary and contrary to common sense. In fact, commenters note that financial assurance has been, and continues to be, an important part of EPA's verification that finances are available to close hazardous waste storage tanks, and not leaving the problem for local and state governments.

Under the proposed ECF exclusion, industrial boiler facilities could manage potentially large volumes of ECF with no financial assurance for proper closure of the storage units and no insurance for third-party harm. Commenters note that EPA also proposed to revise the definition of solid waste (DSW) for recyclable materials, and there EPA recognized the necessity of requiring financial assurance for reclamation facilities. Commenters believe that, if facilities that conduct solvent distillation, metals recovery, and similar recycling are required to have financial assurance, then boiler facilities that recycle hazardous waste by burning ECF fuels must meet the same condition. Commenters also note that EPA's Damage Case Study in the DSW rulemaking includes numerous sites where organic hazardous wastes similar to ECF were mismanaged causing environmental harm and cleanup costs. EPA's rationale for financial assurance in the DSW rulemaking applies equally and with full force to the ECF proposal, according to commenters. Commenters state that there is no rational basis for including financial assurance in one rule on recycling and not in this rule.

Response: In response to the commenter's view that financial assurance provisions should be required for ECF storage units given that the Agency proposed financial assurance provisions for reclamation facilities under the proposed Definition of Solid Waste (72 FR 14172), we note that the proposed financial responsibility conditions in that proposed rule only apply to hazardous secondary materials that are being reclaimed. Such materials are not usable in their current form and must be reclaimed before they can be a useful product. The financial assurance condition in the Definition of Solid Waste proposal would safeguard against the abandonment or out-of-control accumulation of spent materials awaiting reclamation that led to certain of the damage incidents involving waste reclamation. Those situations are not present for ECF. That is, the hazardous secondary materials must meet objective product specifications as-generated, and will be stored and otherwise managed as is fossil fuel or other organic liquids. EPA thus does not believe that the financial assurance provisions are appropriate to assure legitimate recycling and management of ECF, as is the case for other products.

I. Waiver of RCRA Closure Requirements for Tanks Storing Hazardous Wastes That Are Subsequently Excluded ECF

Comment: A commenter recommends that waiver of the RCRA closure requirements for tanks used only to store hazardous wastes that are subsequently excluded as comparable fuel under § 261.38(b)(14) should include consideration of whether there is evidence of a release from the tank system to surrounding soils and/or groundwater and whether the tank system is subject to corrective action due to prior releases before waiving the closure requirements.

Response: The obligation under § 264.101 to address facility-wide corrective action at permitted facilities, which attaches at permit issuance, is not affected by this final rule, and remains in effect until corrective action at the facility is completed.[74] Owners and operators of permitted and interim status facilities with corrective action obligations should refer to the Agency's February 25, 2003, guidance entitled, ''Final Guidance on Completion of Corrective Action Activities at RCRA Facilities'' (see 68 FR 8757) for a detailed discussion of corrective action completion. Therefore, an owner or operator of a facility that manages only hazardous secondary materials that are excluded under this final rule, and who seeks to terminate the facility's permit by modifying the permit term, must still demonstrate as part of the permit modification request that the corrective action obligations at the facility have been addressed. The Agency's corrective action authority at such facilities is not affected by this rulemaking and the Agency thus retains its authority to address corrective action at such facilities using all authorities applicable prior to this rulemaking.

At some facilities, corrective action obligations will likely continue to be addressed through the corrective action provisions of the permit. In these cases, maintenance of the permit would ensure that facility-wide corrective action will be addressed. Thus, in these cases, the permit would not be terminated by modifying the permit term, but would be modified to remove the provisions that applied to the now-excluded hazardous secondary material. The facility's permit would, thereafter, only address corrective action.

In other cases, however, EPA or an authorized state may have available an alternative federal or state enforcement mechanism, or other federal or state cleanup authority, through which it could choose to address the facility's cleanup obligations, rather than continue to pursue corrective action under a permit. In these cases, where the alternate authority would ensure that facility-wide corrective action will be addressed, maintenance of the permit would not be necessary.

EPA has long taken the position that RCRA treatment, storage, and disposal facilities are still subject to unfulfilled corrective action obligations, after they cease hazardous waste treatment, storage, or disposal activities. The Agency discussed the issue of its corrective action authority to address non-SWMU-related releases at RCRA treatment, storage, or disposal facilities in the May 1, 1996, Advance Notice of Proposed rulemaking (see 61 FR 19442–3). There, the Agency stated, ''[g]iven the legislative history of RCRA section 3004(u), which emphasizes that RCRA facilities should be adequately cleaned up, in part, to prevent the creation of new Superfund sites, EPA believes that corrective action authorities can be used to address all unacceptable risks to human health and the environment from RCRA facilities. In the permitting context, remediation of non-SWMU related releases may be required under the ''omnibus'' authority. In other contexts, orders under RCRA sections 3008(h) or 7003 may require remedial action to address releases regardless of whether a SWMU is present.

IV. Rationale for Comparable Emissions

A. Appropriate Benchmark Fuel for ECF Emissions

Comment: A commenter states that ECF emissions should be comparable to emissions from an industrial boiler burning natural gas rather than fuel oil. The commenter notes that an EPA document[75] states that approximately 80% of industrial boilers burn natural gas as the primary fuel, and approximately 51% of U.S. industrial boiler capacity (measured as MMBtu/hr) uses natural gas as the primary fuel. Only 11% of industrial boilers with 8% of boiler capacity are fired with oil.

Response: Identifying the most analogous fossil fuel to ECF is a major consideration for establishing conditions of the exclusion for storage and burning. Those conditions must ensure that ECF is stored and burned under conditions similar to those applicable to the most analogous product (and that also address hazards that remain after the exclusion is claimed).

The fact that most industrial boilers burn natural gas as the primary fuel is not a principle factor in determining the most analogous fossil fuel to ECF. ECF is a liquid fuel, as is fuel oil, that is subject to the constituent specifications and maximum viscosity specification for comparable fuel excluded under § 261.38(a), except for the specifications for the 37 hydrocarbons and oxygenates. (In addition, ECF must also meet a minimum heating value specification.) Those specifications ensure that comparable fuel has constituent concentrations and properties relevant to burning that are comparable to fuel oil, a fossil fuel that also is burned in industrial boilers.[76] Thus, fuel oil is the most analogous fossil fuel to ECF, is burned in boilers, and consequently remains a reasonable benchmark for comparison in determining comparability of emissions.

B. Impact of ECF Exclusion on Emissions of Air Pollutants

Comment: A commenter states that the ECF exclusion will result in an increase in air pollutants because: (1) The vast majority of industrial boilers burn natural gas which is a cleaner fuel than ECF; and (2) ECF will be diverted from cement kilns and must be replaced with coal. The commenter states that a high-end estimate of the quantity of hazardous waste fuels that could be displaced from cement kilns could be 146,000 tpy rather than EPA's estimate of 48,400 tpy. In addition, the commenter estimates that the 146,000 tpy of hazardous waste fuels that could potentially be diverted from cement kilns would increase emissions of air pollutants when fired in natural gas boilers of: 16.1 tpy of toxic metals and 4,012 lb/yr of organic hazardous air pollutants (HAP). In addition, cement kilns would replace the diverted hazardous waste fuels with coal, which could increase emissions of SOx by as much as 6,502 tpy and NOx by as much as 4,256 tpy, according to the commenter. Finally, the commenter estimates that emissions of the greenhouse gas, CO_2, could increase as much as 381,000 tpy because the ECF that is diverted from use as a fuel in cement kilns could be incinerated.

The commenter also estimates that the ECF exclusion could result in as much as 292,000 tpy of hazardous waste being diverted from cement kilns because the typical fuel blend for cement kilns

[74] Please note that this response is also applicable to ECF container storage units, and to comparable fuel storage units.

[75] Energy and Environmental Analysis, Inc., ''Characterization of the U.S. Industrial Commercial Boiler Population, May 2005, p. 2–5.

[76] The specifications for only three compounds, benzene, naphthalene, and toluene, are based on concentrations in gasoline.

prepared by commercial fuel blenders contains approximately 15 to 25% of hazardous secondary materials that would qualify as ECF.[77] For fuel blenders to meet the specification for cement kilns, the commenter states that the loss of ECF will mean the possible elimination of certain other waste streams that require blending with higher-quality material, such as the hazardous secondary materials that will qualify as ECF. Fuel blenders estimate that they could lose other nonblendable hazardous wastes of a quantity that would be in a range from one-half up to an equal volume of lost ECF. That is, for every ton of ECF that is lost, the commenter believes that between one-half and one ton of other hazardous wastes would not be able to be blended to produce fuel usable at cement kilns. The commenter believes that most of the hazardous waste that is lost because blendable ECF fuel is no longer available probably would require incineration in the future. This other hazardous waste is lower in Btu value[78] and may require thermal treatment; thus, incineration is the most likely alternative outlet for these hazardous wastes.

Response: We would first note that the final rule allows ECF to be burned in cement kilns that burn hazardous waste fuels. Thus, cement kilns may compete with industrial boilers for ECF and can largely determine through their fuel pricing procedures how much ECF may be diverted. However, the fact that ECF may be diverted from cement kilns to other types of burning units is not relevant to an analysis of whether ECF is reasonably classifiable as a nondiscarded material. Nevertheless, EPA has evaluated this comment as part of its obligations under Executive Order 12866 to evaluate costs and benefits of major rules.

The commenter's argument that burning ECF as a replacement for natural gas in boilers will result in an increase in emissions of toxic metals is derived from assuming that ECF contains the maximum levels of metals allowed by the comparable fuel specifications provided in Table 1 to § 261.38 and that the emissions will be uncontrolled. While this may be theoretically possible (it is in fact enormously unlikely that every constituent would be present at the maximum level), it simply reflects that facilities can choose which fuel to burn in their boilers: Natural gas, fuel oil, coal, or other fuels, including comparable fuel or ECF. The comparable fuel specifications for metals apply to ECF and ensure that comparable fuel and ECF contain toxic metals at no higher concentrations than found in fuel oil. Thus, burning ECF in lieu of natural gas will result in emissions of toxic metals no greater than if a boiler decides to burn fuel oil in lieu of natural gas.

Also, the commenter's argument that burning ECF as a replacement for natural gas in boilers will result in an increase in emissions of organic HAP is derived from comparing AP–42 emission factors[79] for fuel oil and natural gas. As discussed above, facilities can choose which fuels to burn in their boilers. The fact that burning fuel oil, or ECF with emissions comparable to fuel oil, in lieu of natural gas or coal may result in higher or lower emissions of air pollutants has no bearing on whether hazardous secondary materials should be excluded from the definition of solid waste if they are managed similar to fossil fuels, their emissions are comparable to those from burning fuel oil, and they are physically identical with respect to most hazardous constituents (and there is no aspect of discard in other management phases, *e.g.*, storage and transport).

Potential Increase in NO_X and SO_X Emissions. The commenter's argument that there will be an increase in SO_X and NO_X emissions is premised on the need for cement kilns to replace the hazardous secondary materials that will be excluded as ECF with coal.[80] SO_X emissions will increase if coal contains higher concentrations of sulfur than ECF. The commenter believes that NO_X emissions will increase because burning hazardous secondary materials in cement kilns reduces the formation of thermal NO_X (*i.e.*, the hazardous secondary material changes the shape of the flame and reduces flame temperatures, thus reducing NO_X formed at high temperatures from the nitrogen in air). In response, we note that the state regulatory authority will determine under the State Implementation Plan (SIP) if any increase in emissions of either SO_2 or NO_2 must be further controlled pursuant to the area's attainment or maintenance of the relevant National Ambient Air Quality Standard (NAAQS).

Nonetheless, we have estimated the increase in NO_X and SO_X emissions at cement kilns that may be caused by the diversion of ECF from cement kilns to boilers, and the cost of controlling those emissions so that there is no net increase in emissions.[81] [82] Although we estimated at proposal that 48,400 tpy of ECF could be diverted from cement kilns, the commenter has estimated that as much as 292,000 tpy[83] of hazardous secondary materials may be diverted. Consequently, we estimated the impacts of the exclusion considering that range of diverted materials.[84]

Regarding NO_X emissions, we have determined in the study that the commenter used as an example of the potential increase in NO_X emissions may not accurately represent the impact of reducing the ECF firing rate on NO_X emissions. The study involved NO_X emissions testing at a cement facility under two test conditions where coal was fired with and without hazardous waste fuel. The tests showed a substantial decrease in NO_X (and SO_X) emissions when hazardous waste fuel was fired at a 50 percent mass input rate. Other key parameters that can affect NO_X emissions also varied during those tests, however: The type of coal and the raw material composition. Those parameters may affect the excess air requirements, flame temperature, and flame profile, which can affect NO_X emissions. Consequently, we conducted an independent analysis of the impact on NO_X emissions of reducing the hazardous waste fuel firing rate using NO_X equilibrium calculations to assess flame temperatures and the resultant impact on NO_X formation. We determined that NO_X emissions may increase by a total of 130 to 530 tpy nationwide for the 20 cement kilns burning hazardous waste fuels. Given the small average increase in NO_X

[77] Docket No. EPA–HQ–RCRA–2005–0017–0126.3, pp. 34–35.

[78] The commenter provides the example of a waste stream that may contain flammable solvents with 80% water but that, EPA presumes, has a heating value greater than 5,000 Btu/lb as-generated and is thus considered to be burned for its heating value rather than for destruction.

[79] See *http://www.epa.gov/ttn/chief/ap42/*.

[80] We note that SO_2 and NO_2 are criteria air pollutants for which EPA has established NAAQS. In addition, NO_X emissions are precursors for ground-level ozone (also a criteria pollutant controlled with a NAAQS), and both NO_X and SO_X contribute to fine particulates (*i.e.*, PM2.5), a criteria pollutant that is also controlled with a NAAQS.

[81] See USEPA, ''Comment Response Document for the Expansion of the Comparable Fuels Exclusion,'' October 2008, Section 4.1.

[82] We note that these costs may not be incurred if the state regulatory authority under the SIP determines that the increase in SO_X emissions will not result in an exceedance of the NAAQS.

[83] The commenter states that as much as 146,000 tpy of hazardous secondary materials may be diverted from cement kilns as ECF, and that another 146,000 tpy of hazardous waste may be diverted to incinerators because the wastes can no longer be blended with the higher quality hazardous secondary materials (*i.e.*, ECF) to meet the fuel specifications for cement kilns.

[84] We reiterate that we conducted this analysis to meet our obligations under Executive Order 12866 to evaluate costs and benefits of major rules. These impacts have no bearing on whether ECF is a ''solid waste.''

emissions at each kiln (*i.e.*, from 7–27 tpy), we believe the emission reductions could be achieved without significant cost by minor adjustments to boiler operating parameters, such as operating at a fractionally lower oxygen concentration.

Regarding SO_X emissions, we note that the higher sulfur content of the coal that may replace ECF is not likely to increase SO_X emissions at eight of the 20 kilns that burn hazardous waste. That is, eight of the kilns are preheater/precalciner kilns where SO_X emissions attributable to fuels are scrubbed from the combustion gas by the limestone as the combustion gas passes through the preheater/precalciner cyclones. The remaining 12 long wet or long dry kilns do not provide this scrubbing effect, however, and fuel-related sulfur will result in an increase in SO_X emissions. We estimate that SO_X emissions will increase by 570 tpy nationwide under our estimate that 48,400 tpy of ECF may be diverted, and by 2,300 tpy under the commenter's estimate that 292,000 tpy of ECF may be diverted. To control these SO_X emissions, we have estimated that the annualized cost of dry scrubbing would range from $1.1 million to $1.7 million. We have revised our economic impact analysis of the ECF exclusion to account for these costs.

Potential Increase in CO_2 Emissions. Finally, we do not accept the commenter's argument that emissions of the greenhouse gas CO_2 (an air pollutant under the Clean Air Act) could increase because ECF is diverted from use as a fuel in cement kilns. Although the commenter explains that hazardous waste fuels that have high water or ash content must be blended with higher quality waste fuels, such as ECF, to meet the commercial specifications for cement kiln fuels, the heating value of those lower quality fuels nonetheless provides useful heat input to the cement kiln.[85] If those low quality fuels can no longer be blended to produce cement kiln fuel because there is less high quality fuel available because of the ECF exclusion, those low quality fuels may be diverted to hazardous waste incinerators. Those fuels will not be simply treated for destruction by incineration, however. Those fuels will provide useable heat energy to treat other hazardous wastes with little or negative heating value, thus reducing the incinerator's need to provide supplemental heat input from fossil fuel (e.g., natural gas). This is the same role that (we presume) those lower quality fuels played in cement kilns—providing useable heat to displace fossil fuel. Thus, there should not be an increase in CO_2 emissions.

C. Assurance of 99.99% DRE of ECF Constituents

Comment: Several commenters state that the conditions for burning ECF are not adequate to ensure 99.99% DRE. Specifically, commenters question why hazardous waste combustors are subject under MACT and RCRA to a DRE emissions demonstration and limits on multiple operating parameters (*e.g.*, minimum combustion chamber temperature; indicator of maximum gas flowrate; waste feedrate limits) if 99.99% DRE can be assured simply by complying with the conditions for burning ECF.

A commenter notes further that EPA states that the two primary operating conditions to ensure 99.99% DRE and good combustion are that CO levels remain below 100 ppmv and that ECF is fired into the flame of the primary fuel. EPA states that ECF must be fired into the flame of the primary fuel to avoid total ignition failure whereby low CO levels may not ensure good combustion.[86] Yet, the commenter notes that the exclusion does not require the burner to document that, in fact, ECF is fired into the flame zone so that CO will be a valid indicator of good combustion. Another commenter that is generally in favor of the exclusion questions why the other burner operating conditions are needed if the two primary operating conditions are to maintain CO emissions below 100 ppmv and to fire ECF into the flame zone of the primary fuel.

Response: ECF Conditions Ensure 99.99% DRE. The boiler operating conditions for burning ECF are provided under § 261.38(c)(2)(ii)(C). The principal operating conditions that ensure good combustion are: (1) Continuous monitoring of CO emissions to ensure that levels remain below 100 ppmv; and (2) firing the ECF into the flame of the primary fossil fuel, which must comprise at least 50% of the boiler's fuel requirements. The ECF boiler operating conditions are less rigorous (at least facially) than requirements to ensure 99.99% DRE for hazardous waste combustors under the MACT standards of 40 CFR Part 63, Subpart EEE and the RCRA standards of 40 CFR Part 264, Subpart O, and Part 266, Subpart H. Those hazardous waste combustor requirements include a requirement to conduct a DRE emission test and to establish operating limits on several parameters based on the levels achieved during the DRE test.

A demonstration test that an ECF boiler is achieving 99.99% DRE is not needed, however, because the ECF boiler design and operating conditions ensure that 99.99% DRE will be achieved.[87] Because 99.99% DRE is assured, the operating limits that must be established for hazardous waste combustors under a DRE demonstration test to ensure that DRE is maintained are not needed for ECF boilers. As explained at proposal (72 FR at 33294), EPA concluded from substantial boiler testing in the mid-1980's that boilers cofiring hazardous waste fuels with fossil fuels where the hazardous waste provides less than 50 percent of the boiler's fuel requirements and CO levels remain below 100 ppmv can achieve 99.99% DRE under a wide range of operating conditions (*e.g.*, load changes, waste feed rate changes, excess air rate changes). Based on that testing (which is fully documented in the record to the 1991 boiler and industrial furnace rulemaking (56 FR 7134, Feb. 21, 1991), and has been added to the docket for this rule), EPA promulgated a provision in the Boiler and Industrial Furnace final rule whereby the DRE demonstration (and associated operating limits) are waived for boilers burning hazardous waste. See § 266.110. The ECF boiler conditions in this rule are equivalent to the hazardous waste boiler provisions for waiving the DRE demonstration.[88] Thus, the ECF boiler

[85] *Note:* If these lower quality fuels are not themselves fuels prior to blending such that burning in a cement kiln would be destruction, as opposed to providing heat input, then blending these lower quality fuels with high quality fuels at a cement kiln would constitute ''sham'' recycling. This would raise the question of whether the clinker product is derived-from hazardous waste.

[86] Under total ignition failure, CO may be low because the fuel is not combusted. Rather, the fuel is simply volatilized, resulting in high hydrocarbon emissions.

[87] Please note that we are referring to DRE of an organic compound in a feedstream, not the effective, measured DRE of compounds that are common PICs, even under good combustion conditions. If DRE is measured for compounds that are common PICs (*e.g.*, benzene, toluene, naphthalene, and phenol), and those compounds are fed at low rates, the amount of the compound present as a PIC may be large enough relative to the amount of the unburned compound contributed by the feed such that less than 99.99% effective DRE may be measured.

[88] The ECF boiler conditions are actually more stringent than the requirements for waiving the DRE demonstration for hazardous waste boilers. ECF may not be burned in process heaters because of concern that combustion gas may be quenched to cool the gas to provide temperatures needed to heat process fluids appropriately, such that the temperature quench may preclude complete combustion of organic compounds and emissions would no longer be comparable. In addition, the ECF cannot exceed a particle size of 200 mesh (74 microns) to ensure good combustion, while the DRE waiver for hazardous waste boilers requires that only 70% of particles pass a 200 mesh screen.

conditions will also ensure that (at least) 99.99% DRE is achieved.

A Demonstration That ECF Is Fired into the Flame Zone Is Needed. We agree with the commenter, however, that an ECF boiler should be required to document that ECF is, in fact, fired into the flame zone of the primary fuel, thus ensuring that CO is a valid indicator of good combustion (*i.e.*, that CO is not low simply because ECF is not being combusted). If ECF were inadvertently not fired into the flame zone of the primary fuel, CO levels could be low even though hydrocarbon (HC) emissions could be high. Organic compounds in the feed could be simply volatilized rather than combusted, vitiating emission comparability. Although it is unlikely that ECF would not be fired into the primary fuel flame zone (which is necessary for the boiler to derive the full heating value from the fuel), this situation could potentially occur due to poor design or installation of the ECF firing system. Accordingly, the final rule requires the burner to document by information or testing that ECF will be fired directly into the primary fuel flame zone. The documentation must be included in the initial notification to the RCRA and CAA regulatory authorities. See § 261.38(c)(5)(i)(H).

A one-time HC test when burning ECF under reasonable worst-case conditions demonstrating that HC levels are below 10 ppmv, while CO is below 100 ppmv, would be one way to make the demonstration. A HC level of 10 ppmv or below is indicative of good combustion conditions and is the MACT emission standard for hazardous waste boilers. 70 FR at 59462–63. Operating conditions during the HC test should include: (1) The highest ECF firing rate anticipated; (2) the lowest ECF heating value anticipated; (3) the lowest primary fuel firing rate and heating value anticipated; and (4) the lowest boiler load anticipated. Although we have revised our economic impacts analysis for the exclusion to account for the cost of a one-time HC test for all boilers burning ECF, information other than HC testing could be used to document that ECF is fired into the primary fuel flame zone. That is, HC testing is not required if other documentation can be provided to show that the ECF is fired into the primary fuel flame zone. For example, documentation could be provided that the ECF is fired in the same firing system (*e.g.*, via concentric firing nozzles) as primary fuel.

D. Use of Available Emissions Data To Document ECF Emissions Will Be Comparable to Fuel Oil Emissions

Comment: A commenter states that EPA's analysis purporting to document that emissions from burning ECF will be comparable to emissions from burning fuel oil in an industrial boiler is riddled with flaws.

Response: Although we address each of the commenter's major concerns below,[89] we acknowledge that, absent a robust data base, stakeholders could reasonably have opposing views on the issues. Nonetheless, we believe that our technical evaluation at proposal was reliable. However, we note that the issue of whether available data support a finding that ECF emissions will be comparable to fuel oil emissions has been superseded by including conditions in the final rule that establish a feedrate limit for each ECF constituent. The feedrate limits provide objective assurance that emissions from a boiler burning ECF will be comparable to emissions from a boiler burning fuel oil. See discussion in Part Three, Section III.B.3 above.

1. Use of Hazardous Waste Boiler Emissions Data

Comment: The commenter states that, absent emissions data from burning ECF in industrial boilers, EPA uses hazardous waste boiler emissions data as a surrogate. This is an indirect comparison, however, filled with huge data gaps.

Response: Hazardous waste boiler emissions data are a reasonable surrogate for ECF boiler emissions data because the combustion of organic compounds in ECF will be controlled by conditions on ECF burners that are at least as stringent as the controls on hazardous waste boilers. 72 FR at 33291. Although hazardous waste boiler emissions data are an indirect comparison, we believe they are still a valid comparison. We respond to the commenter's concerns about data gaps below.

2. Concern That EPA's Oil Emissions Data Base Has Emissions Data for Only 12 of 37 ECF Constituents

Comment: The commenter states that EPA's oil emissions data base contains data on only 12 of the 37 hydrocarbons and oxygenates listed in Table 1 to § 261.38 for which the specifications would no longer apply. Absent a fuel oil emissions benchmark, EPA cannot conclude that ECF emissions are comparable, according to the commenter.

Response: As discussed above in Part Three, Section III.B.3, the final rule establishes feedrate conditions for each ECF constituent that will ensure that ECF emissions are comparable to fuel oil emissions. The feedrate conditions are established by back-calculating from industrial boiler fuel oil emission levels (or surrogate emission levels) using projected destruction and removal efficiencies. We have oil emission levels for 12 ECF constituents and establish surrogate oil emission levels for the remaining ECF constituents. Those surrogate emission levels are representative of oil emission levels (for the PAHs) and, for the oxygenates, are reasonable surrogates that result in *de minimis* health risk.[90]

3. Concern That EPA's Oil Emissions Data Base Is Too Sparse To Establish Benchmarks

Comment: The commenter states that, of the 12 ECF constituents for which EPA has oil emissions data, data for seven of the constituents are too sparse to establish a benchmark. That is, for seven of the ECF constituents, oil emissions data are available for only one or two boilers, and are insufficient to establish a benchmark. The commenter believes that EPA then compounds the problem of too few data by using a 95th percentile as the benchmark for comparison to the hazardous waste boiler emissions data.

Response: We believe it is reasonable to use the available oil emissions data for these 12 ECF constituents. We also note, however, that because the limited oil emissions data are not likely to represent the total range of oil emissions data, we use the highest test condition average for these 12 ECF constituents to establish the ECF constituent feedrate limits discussed above in Part Three, Section III.B.3.

4. Concern That EPA Did Not Evaluate the Oil Emissions Data Base for Probable Outliers

Comment: The commenter states that the oil emissions data used as benchmarks may overstate emission levels given that the Agency did not evaluate the data for outliers.

[89] We provide responses to all of the commenter's concerns in USEPA, ''Comment Response Document for Expansion of the Comparable Fuel Exclusion,'' October 2008, Section 4.

[90] We note that the fuel oil emission level for acrolein (*i.e.*, 18 ug/dscm) may result in maximum annual average ground level concentrations that approach the reference air concentration (RfC) (as may occur when boilers burn fuel oil). Although we use the acrolein oil emission level as a surrogate emission level for the other ECF oxygenates, maximum annual average ground level concentrations for those other oxygenates will be orders of magnitude below their RfCs.

Response: We concur that an outlier analysis should be performed on the oil emissions data for the ECF constituents where sufficient data are available to identify high outliers. We performed that analysis for the final rule and determined that the highest test condition for toluene has a run variance that is a high outlier, even though the test condition average is not a high outlier relative to the other test condition averages.[91] Consequently, the highest test condition average for toluene is 120 ug/dscm, rather than 350 ug/dscm.

5. Concern That the Level of Detection Is Needed for Nondetect Data Points in the Hazardous Waste Boiler Data Base

Comment: The commenter states that EPA should present the level of detection for hazardous waste boiler emissions data that are reported as nondetect. If the level of detection for the hazardous waste boiler emissions for an ECF constituent is higher than the oil emissions benchmark, the Agency cannot conclude that emissions are comparable, according to the commenter.

Response: The level of detection for the nondetect data in the hazardous waste boiler emissions data base is not readily available. While we agree that this is a limitation of the data base, the level of detection for the hazardous waste boiler emissions data would be helpful only if it were below the highest oil emission data level for an ECF constituent. As the commenter notes, if the level of detection were higher than the oil emissions data, we would not know whether the hazardous waste boiler emissions level were higher or lower than the oil emissions level. Moreover, as noted previously, our analysis comparing hazardous waste boiler emissions data (as a surrogate for ECF emissions data) to fuel oil emissions data has been superseded in the final rule by establishing feedrate limits for each ECF constituent. The feedrate limits provide objective assurance that the ECF emissions will be comparable to the fuel oil emissions.

6. Concern Regarding the Concentration of ECF Constituents in Hazardous Waste Boiler Fuels

Comment: The commenter states that the concentration of ECF constituents in the hazardous waste boiler fuels must be provided to determine whether hazardous waste boiler emissions are comparable to the fuel oil emissions. The commenter believes that, given that emissions will increase as feeds increase, it is important to know whether the hazardous waste feeds had the same concentrations of ECF constituents as allowed for ECF (*i.e.*, 100%). EPA must establish concentration limits for each ECF constituent consistent with the hazardous waste fuel concentrations that document comparable emissions, according to the commenter.

Response: We agree that emissions of ECF constituents can be expected to increase with increased feedrate. To address this concern, the final rule establishes a feedrate limit for each ECF constituent that will ensure that emissions of those constituents from a boiler burning ECF are comparable to emissions of those constituents from a boiler burning fuel oil. As mentioned above, these feedrate limits provide objective assurance of comparable emissions and effectively supersede our analysis comparing hazardous waste boiler emissions with oil emissions.

7. Concern Whether EPA Has Adequately Considered PIC Emissions

Comment: The commenter states that the hazardous waste boiler emissions (as a surrogate for ECF emissions) document that emissions of PICs that are not ECF constituents are higher than the emissions from oil-fired boilers.

Response: At proposal, we examined each compound that our data base indicated may be emitted by hazardous waste boilers at levels higher than fuel oil boilers and explained why the seeming exceedance should not be considered as documentation that ECF emissions are not comparable to oil emissions.[92] The reasons for explaining the exceedances include: (1) Dichloromethane is a common lab contaminant; (2) ethyl benzene and phenathrene were emitted at *de minimis* levels (*i.e.*, neither were emitted at concentrations above 8 ug/dscm); and (3) the hazardous waste boilers were often not operated under the stringent conditions that will be required for ECF boilers, such that combustion conditions may have been less than optimum resulting in higher emissions than will result from ECF burning.

Nonetheless, we agree with the commenter that PIC emissions must be considered in making a finding that ECF emissions will be comparable to oil emissions. For the final rule, we have objectively accounted for PIC emissions in establishing a feedrate limit for each ECF constituent. See discussion above in Part Three, Section III.B.3.

V. Conditions for Burning ECF

A. Applicability of ECF Exclusion to Other Combustors

Comment: Several commenters state that combustors other than watertube boilers that are not stoker-fired should be allowed to burn ECF, such as: hazardous waste combustors (HWCs) operating under a RCRA permit, process heaters, thermal oxidizers, fire tube boilers, and stoker-fired boilers. Several commenters also state that EPA should allow ECF to be burned in the same types of combustion units allowed to burn existing comparable fuel.[93]

Response: We agree with the commenters that state that the exclusion should allow ECF to be burned in HWCs. Therefore, the final rule allows ECF to be burned in HWCs (*i.e.*, incinerators, cement kilns, lightweight aggregate kilns, boilers (including stoker-fired boilers, firetube boilers, and process heaters), and halogen acid production furnaces) operating under a RCRA permit,[94] provided the ECF is burned under the operating requirements that would be applicable if the ECF were a hazardous waste. See § 261.38(c)(2)(i). Thus, the operating requirements applicable to the hazardous waste will apply to burning of ECF as a fuel (as a condition of the exclusion) in lieu of the ECF burner operating conditions under § 261.38(c)(2)(ii), with one exception. The ECF feedrate limits under § 261.38(c)(2)(ii)(C) continue to apply to HWCs. Although the RCRA and CAA operating requirements applicable to hazardous waste ensure 99.99 percent DRE and good combustion conditions, the ECF constituent feedrate limits are also needed to ensure that ECF emissions from HWCs will be comparable to fuel oil emissions (for the same reasons the feedrate limits are needed for ECF boilers).[95] [96] In addition,

[91] See USEPA, ''Final Technical Support Document for the Expansion of the Comparable Fuels Exclusion,'' November 2008, Section 6.3.

[92] See USEPA, ''Draft Technical Support Document for the Expansion of the Comparable Fuels Exclusion,'' May 2007, Section 5.5.1.

[93] Under § 261.38(b)(3)(i) of the final rule, comparable fuel must be burned in a hazardous waste incinerator operating under a RCRA permit, an industrial furnace, or an industrial or utility boiler.

[94] Although all hazardous waste combustors must obtain a RCRA operating permit, the principal substantive operating requirements derive from the NESHAP under Subpart EEE, Part 63. As a condition of the exclusion, ECF must be burned under all of the operating requirements applicable to hazardous waste, whether they derive from the NESHAP or RCRA (*e.g.*, RCRA requirements for startup, shutdown, and malfunctions).

[95] Even though the ECF burner operating conditions under § 261.38(c)(2)(ii) ensure 99.99% DRE and good combustion, the feedrate limits under paragraph (c)(2)(ii)(C) are needed to ensure that ECF emissions are comparable to fuel oil emissions because combustion is generally a

to implement the ECF constituent feedrate limits, the ECF automatic feed cutoff system requirements under § 261.38(c)(2)(ii)(G) that apply to monitoring the constituent feedrate limits as specified under § 261.38(c)(2)(ii)(G)(1)(ii) also apply to HWCs.

Several other commenters suggest that the rule allow ECF to be burned in a RCRA-permitted hazardous waste combustor under the CO monitoring condition only. These commenters believe that the other hazardous waste operating requirements should not apply. These commenters state that ECF should be allowed to be burned, for example, during startup or shutdown, provided that the CO limit of 100 ppmv is met. We disagree. Complying with the CO condition alone may not ensure 99.99 percent DRE and good combustion. We note that hazardous waste may be burned in a hazardous waste combustor during startup and shutdown provided that the combustor is operating under the operating limits in the permit. Those operating limits include operating parameters (*e.g.*, minimum combustion chamber temperature) in addition to a CO limit of 100 ppmv to ensure 99.99 percent DRE and overall good combustion. (Those other operating limits for hazardous waste combustors (*i.e.*, other than the CO limit of 100 ppmv) help ensure good combustion of hazardous waste just as the other ECF burner conditions help ensure good combustion of ECF.) Therefore, the hazardous waste combustor operating requirements for hazardous waste must apply at all times that ECF is burned.

Commenters stating that other combustors, including those that are eligible to burn comparable fuel (*i.e.*, other than hazardous waste combustors operating under requirements applicable to hazardous waste), should be allowed to burn ECF did not provide adequate supporting information that such combustors would achieve 99.99% DRE and good combustion conditions. We acknowledge that many types of combustors can achieve 99.99% DRE and good combustion conditions when burning hazardous waste fuels or ECF under various conditions, under the regulatory oversight provided by an operating permit program (which among other things, establishes site-specific parametric monitoring requirements to assure that the source continues operating under the conditions of the successful trial burn). We are concerned, however, that these combustors may not always be able to achieve 99.99% DRE and good combustion conditions under all situations when complying with the ECF operating conditions under the exclusion. We explained at proposal that there is a greater potential for poor distribution of combustion gases and localized cold spots in firetube and stoker boilers that can result in poor combustion conditions. 72 FR at 33294. Although a commenter states that modern firetube boilers equipped with modern controls do not have the potential for cold spots and poor combustion, the commenter did not suggest how we could distinguish such modern firetube boilers from others, and did not indicate whether those boilers could operate efficiently under a wide range of conditions (*e.g.*, boiler load). Similarly, another commenter states that their process heaters do not quench the combustion gas to reduce gas temperatures to avoid overheating a process fluid, a concern we expressed at proposal that could adversely affect combustion efficiency by interrupting the complete combustion of organic compounds. 72 FR at 33294. The commenter did not suggest, however, how we could distinguish between process heaters that may quench the combustion gas and those that do not.

B. EPA's Approach To Identify Feedrate Limits for ECF Constituents

Comment: A commenter argues that the approach EPA discussed at proposal to establish feedrate limits—back-calculating from oil emission levels using projected DREs—is flawed. The commenter believes that EPA has no basis to assume the projected DREs will be achieved by boilers burning ECF, given that the only operating control is for carbon monoxide. The commenter notes that DRE performance also depends on other key operating conditions, such as the maximum demonstrated waste feed rate, minimum combustion temperature, maximum combustion gas velocity, minimum atomization pressure, and other operating parameters that are defined based on performance tests.

In addition, the commenter notes that EPA has oil emissions data for only 12 ECF constituents and states that the *de minimis* emission level established for the remaining constituents is nothing more than an arbitrary guess. The commenter also states that the maximum allowable emission levels should be based on the average oil emissions, not the highest test condition average.

Finally, another commenter states that it is surprising that EPA establishes a *de minimis* emission level as high as 20 ug/dscm given that several emissions standards for hazardous waste combustors (HWCs) established under CAA section 112(d)(3) (MACT standards) are lower than this level. 40 CFR Part 63, Subpart EEE. For example, the commenter notes that the HWC MACT standard for new boilers for mercury is 6.8 ug/dscm, and the standards for new incinerators are 8.1 ug/dscm for mercury and 10 ug/dscm for semivolatile metals.

Response: We use the same general approach for the final rule that we proposed. We establish a feedrate limit for each ECF constituent, expressed as a gas flowrate-normalized feedrate limit, that is back-calculated from the fuel oil emission level (or surrogate emission levels) for each constituent using a projected DRE. The fuel oil emission level is the highest test condition average for that constituent in the oil emissions database, or a surrogate emission level where oil emissions data are not available. The DRE for each constituent is projected considering the thermal stability of the constituent and whether the constituent is a common PIC. See discussion in Part Three, Section II.B.3 above.

We disagree with the commenter's views that 99.99 percent DRE cannot be projected for ECF constituents. We have explained that the extensive ECF boiler design and operating conditions will ensure good combustion and a minimum of 99.99 percent DRE for the ECF constituents in the feed.[97] See

constant percent reduction process. The greater the constituent feedrate, the greater the (residual) emission rate of the constituent.

[96] HWCs must comply with the ECF constituent feedrate limit conditions because the generator has claimed the exclusion for ECF and realized some benefits of the exclusion (*e.g.*, waived closure requirements; no hazardous waste manifest). The other substantive benefits of the ECF exclusion that accrue to off-site ECF burners (*e.g.*, no RCRA permit requirement for the storage unit or combustor; no closure or financial assurance requirements) may not be realized by HWCs, however, because the HWC is already subject to those controls. Of course, if the generator did not claim the exclusion, the ECF constituent feedrate conditions would not apply to the HWC.

[97] Please note that, although we project DREs of less than 99.99% for ECF constituents that are commonly formed as PICs, the feed-related DREs for these ECF constituents are 99.99% or higher. That is, the DRE of the compound in the feed is at least 99.99%. (The conditions on burning are at least equivalent to the controls on hazardous waste boilers that ensure 99.99% DRE under § 266.110.) The measured or apparent DRE, however, can be lower than 99.99% for these compounds because, at low feedrates of the compound, the PIC contribution of the compound from the destruction of other compounds can provide a significant contribution to emissions relative to the residual from 99.99% destruction of the compound in the feed.

discussion in Part Three, Section III.B.3 above.

In response to the commenter's views on the *de minimis* emission levels we discussed at proposal, we have revised our approach to identify surrogate emission levels for ECF constituents for which we do not have oil emissions data. See discussion above in Part Three, Section III.B.3. For the final rule, we identify a surrogate emission level of 0.02 ug/dscm for the two PAHs for which we do not have oil emissions data, and a surrogate emission level of 18 ug/dscm for the oxygenates for which we do not have oil emissions data. Consequently, we are not identifying *de minimis* emission levels.

Finally, we also disagree with the commenter's view that the maximum allowable emission level for the 12 ECF constituents for which we have oil emissions data should be based on the average oil emissions rather than the highest test condition average. We have explained previously why it is reasonable to establish the allowable emission levels for these constituents as the highest test condition average rather than another metric, such as the average test condition average or the 95th percentile test condition average. See Part Three, Section II.B.3 above.

C. Use of WMPT To Rank ECF Constituents According to Hazard Potential

Comment: Several commenters argue that EPA's use of the WMPT methodology to rank ECF constituents by their hazard potential is flawed because it does not assess exposure.

Response: As stated at proposal, our hazard ranking effort was not a full quantitative risk assessment, but rather a screening-level ranking of hazardous compounds based on potential chronic (*i.e.*, long-term) risks to human health and the environment. 72 FR at 33318. As such, we consider it appropriate to apply the WMPT's use of a small number of relatively simple measures (*i.e.*, combination of bioaccumulation and persistence factors) to represent the exposure potential of each chemical.

Moreover, we note that the final rule does not rely on the WMPT-based hazard ranking procedure to support maintaining the comparable fuel specifications for the PAHs and naphthalene and for establishing special firing rate limits for benzene and acrolein, as proposed. 72 FR at 33299–301. Because the final rule establishes a feedrate limit for each ECF constituent which provides objective assurance that emissions of ECF constituents from ECF burners will be comparable to emissions from fuel oil boilers, the proposed restrictions on PAHs, naphthalene, benzene, and acrolein are not included in the final rule.

D. Request To Expand Primary Fuel Condition

Comment: Several commenters state that fuels other than fossil fuel, fuel derived from fossil fuel, or tall oil having a minimum heating value of 8,000 Btu/lb should be allowed as primary fuel to meet the condition that ECF must be cofired with at least 50 percent primary fuel. Commenters state that the following fuels should also be considered primary fuel: Comparable fuel excluded under § 261.38(a)(1); hydrogen gas, and alcohol fuels.

Response: To consider other fuels as a primary fuel, we would need information describing their fuel-related properties given that we rely on the primary fuel to provide the hot, stable flame needed to ensure a 99.99% DRE and good combustion. For example, we would need to know the range of most of the parameters defined by the proximate and ultimate analyses of the fuels, as well as their viscosity. Commenters did not provide any description of ''hydrogen gas'' or ''alcohol fuels.'' Consequently, we cannot assess whether these fuels should be considered primary fuel.

We agree with commenters, however, that comparable fuel excluded under § 261.38(a)(1) should be allowed as a primary fuel, provided that the as-fired heating value is at least 8,000 Btu/lb, consistent with the minimum heating value requirement for the other primary fuels. Given that existing comparable fuel has a composition and physical properties related to combustion that are the same as fuel oil, it is reasonable to consider it a primary fuel, provided the as-fired heating value is at least 8,000 Btu/lb.

E. Minimum Primary Fuel Firing Rate

Comment: Several commenters state that the proposed minimum 50 percent firing rate for primary fuel should be reduced. One commenter suggested that the minimum primary fuel firing rate requirement should be reduced to 20 percent, while other commenters argued that there should be no minimum primary fuel firing rate requirement.

In addition, a commenter states that EPA failed to support the primary fuel firing rate requirement with data or a sound basis. The commenter believes that, because ECF must have a heating value of at least 8,000 Btu/lb and can exceed the comparable fuel specifications solely for hydrocarbons and oxygenates, there is no reason that the ECF firing rate should be limited at all.

Another commenter notes that most boilers use a primary fuel, such as natural gas, for startup, but then switch to other, nonfossil fuels after steady-state conditions are attained. These boilers easily maintain compliance with the RCRA standards for hazardous waste boilers, including very low CO levels (*e.g.*, below 3 ppmv), according to the commenter.

Response: As discussed at proposal, EPA conducted a program of parametric testing in the mid-1980s of boilers burning waste fuels to identify design and operating conditions that would ensure 99.99 percent DRE and good combustion conditions. 72 FR at 33293. We proposed operating conditions for ECF boilers based on the conclusions of that extensive testing, including the requirement to burn at least 50 percent primary fuel. Commenters that suggest that a lower (or no) primary fuel firing rate would still ensure 99.99 percent DRE and good combustion conditions simply note that low CO levels can be maintained, which is evidence of good combustion conditions. These commenters did not provide information, however, documenting the properties of any of the fuels being fired to the boiler, or whether good combustion conditions were maintained over a range of boiler loads. While we believe that maintaining CO levels at or below 100 ppmv (measured continuously) is a principal factor for ensuring good combustion conditions, other conditions are also necessary to help ensure good combustion under a regulatory exclusion without the oversight of an operating permit program. Moreover, we note that hazardous waste boilers must comply with a 50 percent minimum primary fuel requirement to obtain a waiver of the DRE standard. See § 266.110.

F. Request To Increase the Minimum 8,000 Btu/lb Requirement for ECF

Comment: Several commenters argue that the proposed 8,000 Btu/lb minimum as-fired heating value for ECF is much too low because it is not comparable to the 18,000 Btu/lb heating value of fuel oil.

Response: A principle of the ECF exclusion is that the emissions from burning ECF are comparable to the emissions from burning fuel oil when ECF is burned under the conditions set out in the exclusion. Although the concentrations of hydrocarbons and oxygenates in ECF may be higher than in fuel oil, these constituents themselves exhibit fuel value; in addition, the emissions of those

compounds from a boiler burning ECF are comparable to the emissions of these compounds from a boiler burning fuel oil given the level of destruction achieved by ECF boilers operating under good combustion conditions. Similarly, the heating value of ECF need not be comparable to the heating value of fuel oil to assure emission comparability, although we would note, as we did at proposal, that the minimum heating value of fossil fuels normally burned in industrial boilers are in the range of 8,000 Btu/lb. 72 FR at 33296. We establish a minimum 8,000 Btu/lb heating value for ECF to help ensure that ECF combusts well so that ECF emissions will be comparable to emissions from burning fuel oil in the same units.

G. Request for Periodic CO Monitoring

Comment: Several commenters argue that periodic rather than continuous CO monitoring should be allowed.[98] One commenter states that, because EPA is already requiring that CO emissions be controlled for ECF at a level four times more stringent than that required of industrial boilers, plus imposing many other conditions, requiring continuous CO emission monitoring for all combustion units is a costly requirement that would not result in any additional margin of safety for ECF combustion units. The commenter notes that the cost for installing a CO CEMS (continuous emission monitoring system) with an automatic ECF feed cutoff system would be approximately $800,000, and operating and maintenance cost would be approximately $50,000.

Response: As we stated in the proposal, the Agency needed information from commenters that would explain and provide support on why periodic monitoring was sufficient. No such information was provided that explained how the owner or operator would ensure that the boiler is operating under good combustion conditions during those times that the boiler is not being monitored for CO. Consequently, the final rule requires continuous CO monitoring.

We also disagree with the commenter that provided cost information. Specifically, we estimated the costs of a CO CEMS and automatic ECF feed cutoff system to be relatively modest.[99] That is, we estimated the annualized cost of a CO CEMS is approximately $5,800 for a boiler that is not already equipped with the system, while the annualized cost of an automatic ECF feed cutoff system is approximately $3,800. The commenter did not provide comments on our cost estimates.

H. Request That Additional Operating Parameters Should Be Linked to the ECF Automatic Feed Cutoff System

Comment: A commenter states that additional operating parameters must be linked to the ECF AFCOS to ensure that the boiler continuously complies with the operating conditions and that emissions will remain comparable to fuel oil emissions. The commenter notes that boiler operators may not be in attendance at all times, and therefore parameters in addition to CO and gas temperature at the inlet to a fabric filter or electrostatic precipitator (if primary fuel other than coal is burned) must be linked to the ECF AFCOS. Specifically:

- To ensure compliance with the minimum boiler load limit of 40 percent, an indicator of boiler load (*e.g.*, steam production rate) must be linked to the ECF AFCOS;
- To ensure compliance with the minimum primary fuel firing rate, an indicator of the primary fuel firing rate must be linked to the ECF AFCOS;
- To ensure compliance with the ECF constituent feedrate limits, an indicator of the ECF feedrate must be linked to the ECF AFCOS.

Response: We agree with the commenter for the reasons the commenter provides. The final rule, therefore, requires that five parameters must be linked to the ECF AFCOS: (1) CO CEMS; (2) gas temperature at the inlet to the fabric filter or electrostatic precipitator (if primary fuel other than coal is burned); (3) indicator of boiler load; (4) indicator of primary fuel feedrate; and (5) indicator for ECF feedrate. See § 261.38(c)(2)(ii)(G).

I. Request That Burner Conditions Should Not Apply to MEK and Isobutanol

Comment: EPA received comments that it should consider eliminating constituent limits and other burner controls for methyl ethyl ketone and isobutanol because neither contaminate is considered a HAP under the CAA.

Response: EPA's framework for this rule, as proposed, is based on the comparability of emissions of RCRA hazardous constituents from hazardous secondary materials to such emissions from fuel oil, as opposed to risk, and we did not take comment on an exclusion approach based on zero or *de minimis* risk. Therefore, we do not believe it is appropriate to make this change for purposes of this final rule without seeking additional comment from other interested parties. Therefore, we are not including any change to the rule based on this comment. However, EPA may consider expanding its emission-comparable fuel approach to include this concept in future rulemaking for these chemicals and others that are not listed as hazardous air pollutants.

VI. Implementation of the ECF Exclusion

A. Reasonable Efforts To Ensure Compliance With the Conditions of Exclusion by Off-Site, Unaffiliated Burners

At proposal, we requested comment on whether the final rule should include a ''reasonable efforts'' provision that would provide that the failure of an off-site, unaffiliated burner to meet the proposed conditions or restrictions of the exclusion would not mean that ECF was considered a hazardous waste when handled by the generator, as long as the generator can adequately demonstrate that he has made reasonable efforts to ensure that the hazardous secondary material will be managed by the burner under the conditions of the exclusion. Although the ECF exclusion requires the generator to obtain a certification from the burner that the ECF will be stored and burned under the conditions of the exclusion, a ''reasonable efforts'' provision would require the generator to take reasonable independent and proactive measures to ensure that the burner will manage ECF under the conditions of the exclusion. 72 FR at 33312.

We explained that, to achieve this benefit, the generator would have to exercise a type of ''environmental due diligence'' in reviewing the operations of the burner in advance of transferring the hazardous secondary materials. We stated that we believe that a reasonable efforts provision might involve methods, such as audits (including site visits), that a number of generators of hazardous secondary materials now use to maintain their commitment to sound environmental stewardship, and to minimize their potential regulatory and liability exposures. These audits are frequently performed by third parties.

We also requested comment on whether a reasonable efforts provision should include criteria that define

[98] Please note that we requested comment at proposal on whether periodic CO monitoring should be allowed rather than continuous monitoring. 72 FR at 33295–96. We stated that commenters must explain and provide supporting information why periodic monitoring is sufficient, including how the owner or operator would ensure that the boiler is operating under good combustion conditions during those times that the boiler is not being monitored for CO.

[99] See USEPA, ''Draft Technical Support Document for the Expansion of the Comparable Fuels Exclusion,'' May 2007, Section 7.5.

reasonable efforts, and what those criteria should be.

1. Reasonable Efforts Provision in the Final Rule

The final rule states that an excluded fuel—ECF, comparable fuel, and synthesis gas fuel—loses its exclusion if any person managing the fuel fails to comply with the conditions of the exclusion, in which case the hazardous secondary material must be managed as a hazardous waste from the point of generation. In such situations, EPA or an authorized state agency may take enforcement action under RCRA section 3008(a). See § 261.38(d)(2).

The rule states further, however, that the burner rather than the generator will be liable for discarding a hazardous waste if an off-site, unaffiliated burner [100] fails to comply with a condition of the exclusion, provided that the generator has made reasonable efforts to ensure that the burner complies with the conditions of the exclusion. The reasonable efforts must be based on an objective evaluation by the generator, both prior to the first shipment of ECF and every three years thereafter, that the burner will manage the ECF under the conditions of the exclusion.

Specifically, reasonable efforts by the generator must include, at a minimum, affirmative answers to the following questions prior to shipping ECF to a burner, and must be repeated at a minimum of every three years thereafter: (1) Has the burner submitted the notification to the RCRA and CAA Directors required under § 261.38(c)(5)(i), and has the burner published the public notification of burning activity as required under § 261.38(b)(2)(i); (2) does publicly available information indicate that the burner facility has had any formal enforcement actions taken against the facility in the previous three years for violations of the RCRA hazardous waste regulations and has been classified a significant noncomplier with RCRA Subtitle C, and if yes, does the generator have credible evidence that the burner will nonetheless manage the ECF under the conditions of § 261.38; and (3) does the burner have the equipment and trained personnel to manage the ECF under the conditions of § 261.38? [101]

In making these reasonable efforts, the generator may use any credible evidence available, including information obtained from the burner and information obtained from a third party. The generator must maintain for a minimum of three years documentation and certification that reasonable efforts were made for each burner facility to which ECF is shipped. The documentation and certification must be made available upon request by a regulatory authority within 72 hours, or within a longer period of time as specified by the regulatory authority. The certification statement must be signed and dated by an authorized representative of the generator company; and incorporate the following language: ''I hereby certify in good faith and to the best of my knowledge that, prior to arranging for transport of emission-comparable fuel to [insert name(s) of burner facility], reasonable efforts were made to ensure that the emission-comparable fuel would be burned under the conditions prescribed by § 261.38, and that such efforts were based on current and accurate information.''

The reasonable efforts provisions for ECF parallels the reasonable efforts provisions in the recently promulgated Revisions to the Definition of Solid Waste,[102] as they would reasonably apply to ECF.

Rationale for the Questions. The first question addresses whether the burner has submitted the initial notification to the RCRA and CAA regulatory authorities required under § 261.38(c)(5)(i), and whether the burner has published the public notification of burning activity as required under § 261.38(b)(2)(ii). The notification to the regulatory authorities documents the burner's intention to burn ECF, describes the ECF burning activities, and certifies that the burner will store and burn ECF under the conditions of the exclusion. This notification is a one-time notification unless there is a substantive change in the information provided in the notice. It is important that the generator confirm that the burner has complied with this condition of the exclusion because the notification identifies the burner to the regulatory authorities and confirms that the burner is aware of their responsibilities to comply with the conditions of the exclusion.

The public notification of burning activity required under § 261.38(b)(2)(ii) must be submitted for publication in a major newspaper of general circulation local to the site where the ECF will be burned and must contain general facility information and: (1) An estimate of the average and maximum monthly and annual quantity of the ECF to be burned; and (2) the name and mailing address of the regulatory authorities to whom the generator submitted a claim for the exclusion. This notice is important because it gives the public the opportunity to bring to the regulatory authority's attention any circumstance that might aid the authority in its monitoring and enforcement efforts.[103]

The second question focuses on the compliance history of the burner. Although consideration of compliance data is an imperfect tool for determining whether a burner would comply fully with the conditions of the exclusion, we believe that publicly available compliance data are a reasonable starting point for evaluating a facility's performance. Facility-specific enforcement data on compliance status, ongoing enforcement actions by both EPA and the states, and specific case information for formal enforcement actions are readily available on EPA's public Web site at *http://www.epa.gov/echo/*. ''Formal enforcement'' is a written document that mandates compliance and/or initiates a civil or administrative process, with or without appeal rights before a trier of fact that results in an enforceable agreement or order and an appropriate sanction. For EPA, formal enforcement action is a referral to the U.S. Department of Justice for the commencement of a civil action in the appropriate U.S. District Court, or the filing of an administrative complaint, or the issuance of an order, requiring compliance and a sanction. For states, formal enforcement action is a referral to the state's Attorney General for the commencement of a civil or administrative action in the appropriate forum, or the filing of an administrative

[100] An unaffiliated burner is a boiler or hazardous waste combustor located at a facility that is not owned by the same parent company that generated the ECF.

[101] In the final definition of solid waste rulemaking, the reasonable efforts provision also asked several additional questions, including: (1) Does the reclamation facility intend to reclaim the hazardous secondary materials legitimately pursuant to § 261.2(g); (2) has the reclamation facility notified the appropriate authorities that the financial assurance condition is satisfied per § 261.4(a)(24)(v)(F); and (3) if residuals are generated by the reclamation facility, is the facility prepared to manage them properly as hazardous waste. These questions are not appropriate in this instance because: (1) The specifications and conditions in the ECF exclusion define the legitimacy of the operation and thus, an independent determination does not need to be made; (2) there is no financial assurance requirement in this final rule; and (3) any residuals that are generated by the combustion of ECF are not expected to contain levels of containments above those found in residuals from the burning of fuel oil, including hydrocarbons and oxygenates as they themselves have fuel value and will be combusted.

[102] See § 261.4(a)(24(v)(B) and the discussion in the preamble to the final rule for the Revisions to the Definition of Solid Waste in Section VIII.C.2 (see 73 FR 64668, October 30, 2008).

[103] The public, furthermore, would have the ability to bring a citizen suit for failure to comply with a condition of the exclusion.

complaint, or the issuance of an order, requiring compliance and a sanction. ''Significant non-complier'' is a defined term in EPA's *Hazardous Waste Civil Enforcement Response Policy* and means the violators have caused actual exposure or a substantial likelihood of exposure to hazardous waste or hazardous waste constituents; are chronic or recalcitrant violators; or deviate substantially from the terms of a permit, order, agreement, or from the RCRA statutory or regulatory requirements. In evaluating whether there has been actual or likely exposure to hazardous waste or hazardous waste constituents, EPA and the states consider both the environmental and human health concerns, including the potential exposure of workers to hazardous waste or hazardous waste constituents. For both terms, see EPA's *Hazardous Waste Civil Enforcement Response Policy (Dec. 2003)* at *http://www.epa.gov/compliance/resources/policies/civil/rcra/finalerp1203.pdf.*

We do not believe that evaluating this publicly available information, which a generator would likely already be familiar with based on its own regulated activities, is difficult for a generator, nor is interpreting the data and deriving conclusions about facilities, since the data base specifically notes whether a facility is alleged to be a ''significant non-complier'' (*i.e.*, identified as a ''SNC'' or in ''significant noncompliance''). We also note that since many states already provide compliance information to EPA and the public through the EPA Web site, we do not believe that a generator's review of such information would pose a significant new burden for state agencies.

While a facility designated as a significant non-complier and the subject of a formal enforcement action does not mean that the facility would not comply with the conditions of the exclusion, it does raise questions that we believe the emission-comparable fuel generator should investigate. That is, if any formal enforcement actions were taken against the facility in the previous three years for such noncompliance and the facility was alleged to be a significant noncomplier, we would expect that the burner would adequately explain to the emission-comparable fuel generator how it has resolved any issues or how the issues are unrelated to managing emission-comparable fuel under the conditions of the exclusion. Additionally, if the generator obtains reasonable information that the enforcement matters have been corrected and the facility is back in compliance, then that would satisfy this aspect of the reasonable efforts determination. The generator also may wish to make a similar investigation of facilities designated as significant noncompliers by EPA or a state even if no formal enforcement action has been taken.

The third question focuses on the technical capability of the burner to comply with the conditions of the exclusion. If a burner was found not to have the storage and burner equipment necessary to comply with the conditions of the exclusion, or not to be in conformance with the storage and burner personnel training conditions of the exclusion or otherwise not to have adequately trained personnel to operate and maintain the equipment, the generator should not ship ECF to the facility. A generator may answer this question using audit reports, information provided by industry or waste management associations, documents provided by the burner, and other relevant information, which could include an evaluation by a qualified engineer. A generator may also make a common sense inquiry of a burner that includes requesting an explanation of the kind of equipment used for ECF storage and burning; review of equipment specifications; and demonstrations of the facility training program, and training records. Specific questions and/or a site visit also may be appropriate.

Credible Evidence. We believe that a generator should be allowed to use any credible evidence available in making reasonable efforts, including information provided by the burner and/or by a third party, in lieu of personally performing an assessment. For example, the generator might hire an independent auditor to review the burner's operations, produce audit reports as a consortium of generators using the same burners, or rely on an assessment by a trade association. We encourage this type of pooling of information to reduce the burden on generators and to take advantage of specialized technical expertise.

2. Consequence of Failure to Comply With a Condition of Exclusion

Comment: A commenter argued that the provision that ''noncompliance with the operating conditions by a burner renders the ECF a hazardous waste from the point of generation'' is a poison pill, draconian enough that it may prevent facilities from using the exclusion. The commenter believes that noncompliance by the burner of an operating condition should be handled simply as a violation by the burner without consequences to the generator.

Response: Noncompliance with a condition for exclusion of a hazardous waste simply means that the material remains a hazardous waste. EPA uses RCRA Section 3007 authority to inspect facilities that manage excluded materials. If a condition of the exclusion is not being satisfied, the material is no longer excluded. Any related enforcement action would involve noncompliance with the handling and management requirements for hazardous waste.[104]

3. Reasonable Efforts

Comment: Several commenters support a reasonable efforts provision, but state that EPA should not prescribe the criteria that qualify as reasonable efforts. These commenters believe that differences in operations (*e.g.*, ECF quantity; ECF composition and firing rate; boiler size) at ECF burner facilities should dictate the level of effort that is needed to meet the ''reasonable efforts'' provision.

Other commenters do not support a reasonable efforts provision. They believe that the best way to ensure adherence with the burner operating conditions under the potentially limited oversight of an exclusion is to provide an incentive for the generator to ensure that the burner complies with the conditions. They believe the provision that noncompliance by a burner renders the ECF a hazardous waste from the point of generation provides that incentive. Several of these commenters also believe that the examples of reasonable efforts EPA provided at proposal (e.g., frequency of audits) should be added as conditions of the exclusion to help ensure compliance by burners.

Response: We agree with those commenters that state that a reasonable efforts provision is warranted because the generator should not be liable for actions by a burner that are truly beyond the control of the generator. Although we understand the argument made by those commenters that believe holding the generator liable (*i.e.*, via the provision that failure to comply with the conditions of the exclusion renders the ECF a hazardous waste from the point of generation) provides a good incentive to ensure that only burners that are willing and capable of managing ECF under the conditions of the exclusion will manage ECF, we believe that the measures required by this rule to document and certify that reasonable

[104] Please note, however, that a generator who complies with the reasonable efforts provisions of § 261.38(d) would not be liable for management of a hazardous waste if an off-site unaffiliated burner fails to comply with a condition of the exclusion.

efforts have been made to ensure that an off-site, unaffiliated burner complies with the conditions of the exclusion will also ensure that responsible and capable burners manage ECF. (Of course, in most instances, we project that the generator and burner are the same entity, in which case failure to satisfy a condition results in that entity being held accountable for managing ECF as a waste, without exception.)

We do not agree with those commenters that believe the rule should require prescriptive measures (rather than the generic questions required by this rule) to implement a reasonable efforts provision, or that such prescriptive measures should be included as a condition of the exclusion. The measures necessary for generators to make reasonable efforts that an ECF burner is willing and capable of complying with the conditions of the exclusion, and, in fact, is complying with the conditions over time, will be specific to each situation (*e.g.*, relationship of the burner to the generator; experience of the burner with managing hazardous waste; ECF quantity; ECF composition and firing rate; boiler size). Specifying prescriptive measures, such as requiring that the generator conduct an audit of the burner's operations and that the audits must be conducted annually, may not provide adequate measures in some situations, and may be unnecessary in others.

B. Fuel Analysis Plans

1. Use of Process Knowledge

Comment: A commenter states that fuel analysis plans for ECF should require testing for all ECF constituents and there must be no allowance for the use of process knowledge in lieu of analysis.

Response: Sampling and analysis provisions for ECF are the same as for existing comparable fuels, which allow the generator to use process knowledge to determine whether the fuel meets the ECF specifications, except for constituents listed under § 261.38(b)(6)(i). Allowing process knowledge to determine whether ECF meets the specifications is reasonable given that generators of solid waste may use process knowledge to determine if the waste exhibits a characteristic of hazardous waste, including the toxicity characteristic. See § 262.11(c)(2). If a generator uses process knowledge to make the determination that ECF meets the specifications, any information used to make that determination must be included in the ECF fuel analysis plan. See § 261.38(b)(4)(i)(E).

2. Quarterly Waste Analysis Testing

Comment: A commenter states that the frequency of analysis of ECF needs to be on a quarterly basis rather than an annual basis given the higher loading of hazardous constituents allowed under this exclusion.

Response: The rule requires retesting annually, at a minimum, or after a process change that could change the chemical or physical properties of the ECF. See § 261.38(b)(6)(ix). We do not believe that a generic requirement to retest quarterly is warranted. The consequences of improperly claiming the ECF exclusion are severe-if the ECF fails to meet the specification under § 261.38(a)(2), it loses the exclusion and must be managed as hazardous waste from the point of generation. In addition, the owner or operator of the facility may also be subject to an enforcement action if management of the hazardous secondary material was not in compliance with the regulations.

C. Intermediate Handlers

Comment: The rule requires ECF to be handled only by a generator, transporter, or a burner; ECF must not be handled by a broker or an intermediate handler. A commenter notes that small volume generators would be able to participate in the ECF program if an intermediary handler would be allowed to accumulate ECF from several small generators, perform allowable blending, complete the analysis, and market the ECF to the burner.

Response: Because blending of the hazardous secondary materials to meet the ECF specifications is specifically prohibited under § 261.38(a)(4) and (b)(7), the Agency continues to exclude brokers or intermediate handlers from handling ECF and being eligible for the conditional exclusion. See 63 FR at 33801 for a discussion of the rationale for prohibiting dilution to meet the specifications.[105]

VII. Costs and Benefits of the ECF Exclusion

During the public comment period for the proposed rule, we received several comments related to the economic analysis. These comments were submitted primarily from four organizations and raised concerns about ten specific aspects of our economic assessment. Presented below are brief individual summaries of the ten key issues raised by the commenters, followed by our responses. For a more complete discussion of these comments, see USEPA, ''Assessment of the Potential Costs, Benefits, and other Impacts of the Expansion of the RCRA Comparable Fuel Exclusion,'' April 2008, a copy of which is in the Docket to this final rule.

A. Concern That the Economic Analysis Did Not Account for the Increased Risk Likely To Result From the Exclusion

Comment: The economic analysis did not account for the increased risk likely to result from the exclusion. Several commenters allege that emissions of criteria pollutants, greenhouse gases, and hazardous air pollutants will increase as a result of the rule and that occupational risk will also increase under the proposed exclusion. Therefore, commenters submit that the Agency does not fully capture the social costs associated with the rule.

Response: The commenters argue that the economic analysis did not fully address the social costs associated with the rule, because of the increased risk likely to result from the exclusion. While we will address each of the emission categories that the commenters identify, it should also be noted that the final rule allows hazardous waste combustors to continue to burn ECF. Thus, the amount of ECF that may eventually be diverted from hazardous waste combustors is a function of the combustors' fuel pricing procedures, and is probably less than what we estimated at proposal.

With respect to SO_X and NO_X emissions, the increase is based on the potential for cement kilns to substitute coal for the hazardous secondary materials that may be diverted to other facilities as a result of the exclusion. As outlined above in Section IV.B of this Part, we recognize that cement kilns' SO_X emissions could increase if the exclusion causes them to increase their consumption of coal. The magnitude of such an increase will depend on the quantity of ECF diverted from cement kilns. We estimate that SO_X emissions will increase by 570 tpy nationwide under our estimate of the ECF quantity that could potentially be diverted from cement kilns, and by 2,300 tpy under the commenter's estimate of the quantity of ECF and hazardous waste fuels that may be diverted. The Economic Assessment for the final rule addresses the cost of controlling these emissions.

Regarding NO_X, although we agree that cement kilns' NO_X emissions could increase as a result of the exclusion, we believe that such an increase is unlikely.

[105] Note that, as with hazardous waste and consistent with the recently promulgated Revisions to the Definition of Solid Waste in the context of hazardous secondary materials, ECF can be held up to 10 days at a transfer facility and still be considered as being in transport.

As described in Section IV.B of this Part, we believe that cement kilns could operate at a fractionally lower oxygen concentration without significant cost to prevent their NO_X emissions from increasing. Similarly, EPA does not believe that the commenters' concerns with respect to CO_2 emissions are valid. See Section IV.B of this Part for a detailed discussion of this issue as well.

With respect to hazardous air pollutants, the commenters' argument that burning ECF as a replacement for natural gas in boilers will result in an increase in emissions of toxic metals assumes that ECF contains the maximum metals concentrations allowed by the comparable fuel specifications provided in Table 1 to § 261.38 and that boilers' emissions will be uncontrolled. In many cases, however, the metals concentrations of ECF are likely to be below the § 261.38 fuel specifications. Moreover, even in a worst case, metals emissions from burning ECF will be no higher than if the boiler chose to burn fuel oil.

The commenters' argument that burning ECF as a replacement for natural gas in boilers will result in an increase in emissions of organic HAP is based on the differences between the AP–42 emission factors for fuel oil and natural gas. As discussed in Section IV.B of this Part, however, facilities can choose which fuels to burn in their boilers. The fact that burning fuel oil, or ECF with emissions comparable to fuel oil, in lieu of natural gas or coal may result in higher or lower emissions of air pollutants has no bearing on whether hazardous secondary materials should be excluded from the definition of solid waste if they are managed similar to fossil fuels, their emissions are comparable to those from burning fuel oil, and they are physically identical with respect to most hazardous constituents (and there is no aspect of discard in other management phases, *e.g.*, storage and transport).

Finally, any potential occupational impacts associated with this action would be addressed under the jurisdiction of OSHA and DOT authorities.

B. Impacts Associated With Hazardous Waste Currently Blended With ECF

Comment: A commenter asserts that to produce waste fuel that meets the specifications required by cement kilns, fuel blenders (and, to a lesser extent, kilns themselves) currently blend ECF with lower-Btu, more highly contaminated waste. The resulting fuel mixture takes the place of coal in the cement production process. If ECF is diverted away from fuel blenders as a result of the rule, the commenter claims that the low-Btu waste that blenders currently mix with ECF will be diverted away from blenders and cement kilns to commercial incinerators. The economic analysis does not account for this effect and therefore, according to commenters, underestimates economic impacts likely to be realized by blenders and cement kilns as a result of the rule.

Response: EPA acknowledges that, if cement kilns' fuel pricing procedures result in ECF being diverted from cement kilns, the diversion of ECF could preclude them from accepting wastes that are currently blended with ECF. These wastes, which must be blended with higher quality fuels (*e.g.*, ECF) to meet the fuel requirements for cement kilns, could be diverted from cement kilns to commercial hazardous waste incinerators, according to the commenter. The Economic Assessment for the final rule evaluates the potential economic impacts associated with such transfers. These impacts include reduced revenues for cement kilns, increased fuel costs for cement kilns, and increased revenues for commercial incinerators.

C. Concern That the Economic Analysis Underestimates the Quantity of Hazardous Secondary Materials Qualifying for the Exclusion

Comment: Based on the results of a survey of Cement Kiln Recycling Coalition (CKRC) members, CKRC and Environomics estimate that as much as 146,000 tpy of hazardous secondary materials managed by cement kilns may be excluded as ECF, as opposed to the 48,400 tpy presented in EPA's economic analysis for the proposed rule.

Response: We recognize that the quantity of ECF burned by cement kilns may be different than suggested by the National Biennial Report data available for the proposed rule. However, because this database represents the only comprehensive source of data for ECF generators, the Agency relies on the Biennial Report data to assess the impacts of the exclusion. We will use the most recently available quality-controlled nationwide data to prepare the assessment for the final rule.

D. Concern That the Economic Analysis Underestimates the Percentage of Qualifying Hazardous Secondary Materials That Would Be Excluded From RCRA Subtitle C Regulation Under the Exclusion

Comment: EPA's analysis of the proposed rule suggests that 39.9 percent of the qualifying waste managed by cement kilns would be excluded under the rule. To develop this estimate, EPA simulated the decision-making process of ECF generators based, in part, on the fuel savings that generators would realize if they use the exclusion. For each generator with an eligible boiler onsite, EPA estimated these fuel savings based on the weighted average price of the fuels used by the generator. The commenter suggests that this approach leads to an underestimation of the fuel savings realized by generators because generators would likely use ECF to displace their most expensive fuel. Therefore, EPA is also likely to underestimate the percentage of eligible waste excluded under the proposed rule and the corresponding economic losses experienced by cement kilns. Thus, the commenter asserts that as much as 100 percent of the waste qualifying for the exclusion will be excluded.

Response: To the extent that the quantity of hazardous secondary materials diverted from kilns may be different than that estimated in the economic assessment for the proposed rule, we agree that the corresponding impacts may also be different than estimated. However, it remains unclear how low and moderate-Btu waste currently mixed with ECF will necessarily be diverted to incinerators.[106] It is our understanding that such wastes could be blended with other fuels such as diesel, kerosene, used motor oil, or used lubricants to create fuel blends suitable for cement kilns. In addition, as discussed previously, the final rule allows ECF to continue to be burned in cement kilns. The amount of ECF that may be diverted from cement kilns will be a function of their fuel pricing procedures.

E. Concern That the Economic Analysis Does Not Consider Joint Impacts With the Proposed Definition of Solid Waste Rule

Comment: A commenter expressed concern that the Agency's economic assessment of the proposed ECF exclusion does not consider potential joint impacts with the proposed revisions to the Definition of Solid Waste Rule. Because several facilities may be affected by both rules, the commenter alleges that the combined impacts of the rules may be greater than the summed impacts of each rule alone.

Response: We disagree with this comment. The revisions to the Definition of Solid Waste Rule, in both the proposal and supplemental proposal, have reiterated that ''no

[106] Moreover, any such waste fuels that may be diverted from cement kilns to incinerators would be used for their fuel value (as is the case for cement kilns) in the incinerator to combust wastes with little or no heating value.

changes are proposed for recycling materials that are: * * * (3) burned for energy recovery.'' Neither the burning of hazardous secondary materials for energy recovery nor the blending of hazardous secondary materials for use as fuel are eligible for exclusion from RCRA regulations under the Definition of Solid Waste proposals. Thus, no meaningful joint impacts are expected. It is important to note, however, that some waste streams could potentially be excluded from the full RCRA Subtitle C regulations under either the Definition of Solid Waste rule or the emission comparable fuels exclusion. Therefore, the joint impact of the two rules could be less than (rather than greater than, as suggested by the comment) the sum of the impacts of each rule when estimated individually.

F. Concern That the Economic Analysis Underestimates the Value of Coal

Comment: EPA's economic analysis of the proposed rule underestimates the cost of coal. While EPA assumes the cost of coal to be $1.80 per MMBtu, a commenter estimates that cement kilns pay approximately $2.56 to $3.00 per MMBtu of coal, based on a survey of those cement kilns that burn hazardous waste as a fuel. Therefore, EPA's analysis underestimates the coal replacement costs incurred by cement kilns as a result of the rule.

Response: We agree that the cost of coal used for the proposed rule may be lower than the current cost. When we conducted the economic analysis at proposal, we used coal pricing information from the Energy Information Administration's (EIA's) *Annual Coal Report 2004.* This was the most recent publicly available source of annual coal prices at the time. Because coal prices have been trending upward, the coal pricing data in this publication are lower than current prices. For the economic assessment of the final rule, we use coal pricing data from EIA's *Annual Coal Report 2006.* Adjusting the data in this document for inflation, we assume a coal price of approximately $2.23 per MMBtu for the economic analysis of the final rule.

G. Concern That the Economic Analysis Overestimates the Per Unit Cost of Incineration

Comment: A commenter alleges that EPA's incineration cost estimate of $0.96 per gallon is an overestimate. The commenter argues that these data are outdated and do not reflect current market conditions and that incinerators currently charge $0.10 to $0.15 per gallon to manage waste with properties consistent with ECF. Because this cost is significantly lower than the unit cost used in the analysis, the commenter claims that the Agency overestimates the management cost savings associated with the rule.

Response: We note that the price of incinerating ECF is subject to uncertainty. At the time of our analysis for the proposed rule, ETC's 2004 price information from the hazardous waste incineration industry represented the most recent publicly available data on the cost of incineration, and it is still the most recent publicly available data on the cost of incineration. The Agency prefers, when possible, to use the most recent publicly available data when conducting our economic assessments. However, to address the commenter's concerns regarding our potential overestimation of the cost of incinerating ECF, we use the low end of the reported range of costs in the Environmental Technology Council's 2004 data release ($0.41 per gallon) for our economic assessment of the final rule.

H. Concern That EPA Overestimates the Price That ECF Would Command on the Open Market

Comment: In its economic assessment of the proposed rule, EPA estimates that the market price of ECF ($5.58 per MMBtu) will be approximately 26 percent less than that of conventional fuel (*i.e.*, a composite of natural gas, fuel oil, and coal). A commenter asserts that the market price of ECF is likely to be considerably lower than this value and that EPA has overestimated the fuel savings of the rule. To support this point, the commenter cites the market price of $0.50–$3.00 per MMBtu for used oil. Because used oil is a cleaner fuel than ECF, the market price for ECF is likely to be no higher than the price of used oil.

Response: We understand that the market price of ECF would be uncertain because of the regulatory requirements associated with storing and burning this hazardous secondary material. The Agency disagrees, however, with the commenter's assessment of the price that ECF would command on the open market. Although the commenter claims that the price of used fuel oil is between $0.50 and $3.00 per MMBtu, the 2005 Department of Energy Study entitled, ''Used Oil Study and Recommendations to Address Energy Policy Act of 2005 Section 1838'' indicates that the price of used oil is discounted 25 to 35 percent from the price of residual oil. Based on the 2006 residual oil price of $1.22 per gallon reported in DOE's *Petroleum Marketing Annual 2006* and an assumed thermal value of 6.287 MMBtu per barrel, this translates to a used oil price of $5.28 to $6.10 per MMBtu. EPA's estimated value of $5.58 per MMBtu for ECF, therefore, falls within this range.

I. Concern That Revenue Losses for Commercial Incinerators and Cement Kilns Are Not Reflected in EPA's Estimates of the Social Costs (Savings) of the Rule

Comment: EPA estimates that commercial incinerators and cement kilns, combined, will experience annual revenue losses of approximately $5 million as a result of the rule. Because these losses are not incorporated into the estimated costs of the rule, a commenter states that EPA overestimates the cost savings likely to result from the exclusion.

Response: EPA disagrees with the commenter's suggestion that the Agency should deduct the reduction in commercial incinerator and cement kiln revenues from the estimated net cost value presented in the economic assessment document. As described in the methodology section of the economic assessment document, these reductions in revenues do not represent an expenditure of resources and, therefore, are not a social cost.

J. Concern That EPA Has Not Evaluated the Adverse Consequences to National Waste Management Networks That Might Result if Some States Adopt the Rule and Others Do Not

Comment: To the extent that some states do not adopt the regulation, the ECF rule will lead to inconsistent requirements across state lines, according to a commenter. The commenter asserts that EPA's analysis fails to account for the adverse consequences associated with the patchwork of state regulations that will likely emerge as a result of the exclusion.

Response: We agree with the commenter that inconsistencies in waste management regulations across state lines may create inefficiencies within the national hazardous waste management system. For this reason, we encourage all states to adopt the ECF rule. Because adoption of the rule must occur at the state level, however, determinations with respect to adoption are outside of EPA's authority.[107]

We disagree, however, with the commenter's characterization of the Agency's analysis of the partial implementation scenario in the

[107] We note also that the current exclusion for comparable fuel, as well as other exclusions or exemptions, must also be adopted at the state level to become effective. Thus, the fact that some states may not adopt the ECF exclusion is not unexpected.

Economic Assessment document. Although the analysis estimates impacts when only a limited number of states adopt the proposed rule, the commenter's characterization of this assessment as a scaling analysis is incorrect. Rather than scaling the national results, we focused this partial implementation analysis on 16 states with laws that either: (a) Prohibit them from promulgating standards that are more stringent than the federal regulations; or (b) require them to undertake additional legislative action to enact standards more stringent than federal regulations.

Part Five: State Authority

I. Applicability of the Rule in Authorized States

Under section 3006 of RCRA, EPA may authorize qualified states to administer their own hazardous waste programs in lieu of the federal program within the state. When EPA authorizes a state to implement the RCRA hazardous waste program, EPA determines whether the state program is consistent with the federal program, and whether it is no less stringent. This process, codified in 40 CFR 271, ensures national consistency and minimum standards, while providing flexibility to the states in implementing rules. Following authorization, EPA retains enforcement authority under sections 3008, 3013, and 7003 of RCRA, although authorized states have primary enforcement responsibility. In making this determination, EPA evaluates the state requirements to ensure they are no less stringent than the federal requirements.

Prior to enactment of the Hazardous and Solid Waste Amendments of 1984 (HSWA), a State with final RCRA authorization administered its hazardous waste program entirely in lieu of EPA administering the federal program in that state. The federal requirements no longer applied in the authorized state, and EPA could not issue permits for any facilities in that state, since only the state was authorized to issue RCRA permits. When new, more stringent federal requirements were promulgated, the state was obligated to enact equivalent authorities within specified time frames. However, the new federal requirements did not take effect in an authorized state until the state adopted the federal requirements as state law.

In contrast, under RCRA section 3006(g) (42 U.S.C. 6926(g)), which was added by HSWA, new requirements and prohibitions imposed under HSWA authority take effect in authorized states at the same time that they take effect in unauthorized states. EPA is directed by the statute to implement these requirements and prohibitions in authorized states, including the issuance of permits, until the state is granted authorization to do so. While states must still adopt HSWA related provisions as state law to retain final authorization, EPA implements the HSWA provisions in authorized states until the states do so.

RCRA section 3009 allows the states to impose standards more stringent than those in the federal program (see also 40 CFR 271.1). Therefore, authorized states are required to modify their programs only when EPA enacts federal requirements that are more stringent or broader in scope than the existing federal requirements. Authorized states may, but are not required to, adopt federal regulations that are considered less stringent than previous federal regulations. Because this rule would eliminate specific requirements for hazardous secondary materials that are currently managed as hazardous waste, state programs would no longer need to include those specific requirements in order to be consistent with EPA's regulations.

II. Effect on State Authorization

These regulations are not promulgated under the authority of HSWA. Thus, this exclusion is applicable on the effective date only in those states that do not have final RCRA authorization. Moreover, authorized states are required to modify their program only when EPA promulgates Federal regulations that are more stringent or broader in scope than the authorized state regulations. For those changes that are less stringent or reduce the scope of the Federal program, states are not required to modify their program. This is a result of section 3009 of RCRA, which allows states to impose more stringent regulations than the Federal program. This final rule is considered to be less stringent than the current standards. Therefore, authorized states are not required to modify their programs to adopt regulations consistent with and equivalent to today's standards, although EPA strongly encourages states to do so.

Some states incorporate the federal regulations by reference or have specific state statutory requirements that their state program can be no more stringent than the federal regulations. In those cases, EPA anticipates that the exclusions in this notice would be adopted by these states, consistent with state laws and state administrative procedures, unless they take explicit action as specified by their respective state laws to decline the proposed revisions.

Part Six: Costs and Benefits of the Final Rule

I. Introduction

The value of any regulatory action is traditionally measured by the net change in social welfare that it generates. The Agency's economic assessment conducted as part of EPA's obligations under Executive Order 12866 evaluates costs, cost savings (benefits), waste quantities affected, and other impacts, such as environmental justice, children's health, unfunded mandates, regulatory takings, and small entity impacts. To conduct this analysis, we prepared a baseline characterization for ECF, developed and implemented a methodology for examining impacts, and followed appropriate guidelines and procedures for examining equity considerations, children's health, and other impacts. Because EPA's data were limited, the estimated findings from these analyses should be viewed as national, not site-specific impacts.

II. Baseline Specification

Proper baseline specifications are vital to the accurate assessment of incremental costs, benefits, and other economic impacts associated with a rule that would expand the exclusion for hazardous secondary materials used as a fuel. The baseline essentially describes the world absent any expanded exclusion. The incremental impacts of this action are evaluated by assessing post-rule responses with respect to baseline conditions and actions. The baseline, as applied in this analysis, is assumed to be the point at which the final rule is published. A full discussion of the baseline specification is presented in the *Assessment*[108] document completed for this action.

III. Analytical Methodology, Primary Data Sources, and Key Assumptions

We developed a simplified four-step approach for assessing the cost and economic impacts associated with this action. First, we identified all potentially eligible hazardous secondary materials currently generated in the U.S. We next determined the tonnage of such material that is likely to qualify for the exclusion. An economic threshold analysis was next applied to the likely eligible hazardous secondary material (*i.e.* currently-classified waste) to

[108] USEPA, ''Assessment of the Potential Costs, Benefits, and Other Impacts of the Expansion of the RCRA Comparable Fuel Exclusion—Final Rule,'' April 2008.

determine which facilities could be expected to benefit from the exclusion. For example, for a generator with a fossil fuel boiler on-site, the model assumes that the facility will use the exclusion if the total benefits (cost savings) realized by the generator are projected to exceed the total costs incurred to take advantage of the exclusion. Finally, we aggregated all facilities that are likely to use the exclusion to derive estimates for total costs, cost savings, and economic impacts (ECF quantities affected).

The analytical model for this analysis derives both cost savings and costs associated with the exclusion. Cost savings include: fuel cost savings (net of baseline fuel recovery), avoided hazardous waste management costs, transportation cost savings, tracking cost savings, and storage cost savings. These factors may be considered economic benefits of the action. The model also assesses relevant costs of the exclusion. These include: burner storage costs, boiler retrofit costs, hazardous secondary material analytical costs, raw materials replacement cost (related to the hazardous secondary material that is recycled in the baseline), recordkeeping costs, and transport costs.

The net social benefits are calculated as the difference between the social benefits (cost savings) and social costs. The *total* net social benefits of the rule are then calculated by aggregating the net social impacts associated with each facility expected to use the exclusion. Because this rule establishes ''emissions'' comparable fuels, impacts to human health and the environment are assumed to be comparable, or generally unchanged as compared to virgin fuels, and are therefore not included in our monetized assessment.

The primary data sources used in this analysis are the 2005 Biennial Report (2005 BR),[109] the 1996 National Hazardous Waste Constituent Survey (NHWCS),[110] the 2002 National Emissions Inventory (NEI),[111] the ACC Survey data,[112] and information provided in the engineering analysis developed by EERGC. The 2005 BR data were used to derive the potentially eligible hazardous secondary materials currently generated in the U.S. This is the only national database available that has been reviewed by the Agency to ensure data quality. The 1996 NHWCS reflects dated information, but was the only quality controlled data source available that provided the necessary constituent information on a nationwide basis, across all industries. The NEI data were used to make a determination of whether an eligible boiler is located at each facility. The EERGC engineering analysis provided all necessary engineering cost information.[113]

Data limitations have required us to apply several assumptions in our analysis. The most critical assumptions are:

- The ECF is assumed to be burned in nonhazardous waste boilers that meet the conditions of the exclusion;
- The ECF is assumed to have an average heating value of 12,200 Btu/lb. (This is based on our assessment of the National Hazardous Waste Constituent Survey);
- A facility that can use the exclusion, and has a nonhazardous waste boiler on-site that could burn ECF, would burn this material on-site rather than sending it off-site;
- The number of facilities purchasing ECF is assumed to equal the number of generating facilities expected to send their ECF off-site; and,
- All excluded ECF generated in a particular state that is sent offsite by the generating facility is assumed to be shipped the same distance. (Average shipment distances for each state are derived from hazardous waste shipped off-site, as reported in the Biennial Report database.)

IV. Key Analytical Limitations

The primary analytical limitations are associated with our estimate of the availability of on-site boilers, and our estimate of ECF qualifying for the exclusion. Nationwide data are not available to indicate whether each affected generating facility has a boiler on-site that can burn ECF. Using the NEI data, we made a determination of whether an eligible boiler is located at each facility. This determination may misrepresent which boilers could burn ECF and which boilers could not. To estimate how much hazardous secondary material qualifies as ECF, we used the ACC survey data, and data derived from the NHWCS. The data presented in the NHWCS are the most comprehensive nationwide data available. However, these data are from 1993, and may not fully reflect the characteristics of today's hazardous secondary materials.

V. Findings

This rule is projected to result in a benefit to society in the form of net cost savings to the private sector, on a nationwide basis, thereby allowing for the more efficient use of limited resources elsewhere in the economy. This is accomplished without compromising protection of human health and the environment by ensuring comparable emissions from the burning of high Btu value hazardous secondary materials.

The total net social benefits projected as a result of this rule are estimated at $13.4 million per year. Avoided waste management and fuel costs represent the vast majority of all benefits (cost savings). Transportation, boiler retrofits, and burner storage costs represent the majority of the costs. This estimate assumes all 50 states adopt the rule, which is unlikely to occur. As a sensitivity analysis, we estimated impacts to only those 16 states that have statutes prohibiting them from promulgating standards that are more stringent than the Federal regulations or with statutes that require additional legislative action to enact standards more stringent than the Federal regulations. The total net social benefits under this scenario are estimated at $10.1 million per year.

Approximately 222,500 tons (U.S. short tons) of currently-classified hazardous secondary materials are expected to qualify for the exclusion with approximately 118,500 tons/year actually excluded. Of the excluded total, our data indicate that approximately 48,900 tons are not burned for energy recovery in the baseline. Of this total, the vast majority is reported under BR management code H040—Incineration for thermal destruction other than use as a fuel.[114]

We also analyzed the two primary regulatory options considered by the Agency.[115] Annual net social benefits

[109] U.S. EPA, 2005 National Biennial Report, database and supporting documentation available for download at *http://www.epa.gov/epaoswer/hazwaste/data/biennialreport/*

[110] U.S. EPA, National Hazardous Waste Constituent Survey, database and supporting documentation available for download at *http://www.epa.gov/epaoswer/hazwaste/id/hwirwste/economic.html*

[111] U.S. EPA, 2002 National Emissions Inventory, databases and supporting documentation available for download at *http://www.epa.gov/ttn/chief/net/2002inventory.html*

[112] American Chemistry Council (ACC) voluntary membership survey of waste generation and management.

[113] USEPA, ''Draft Technical Support Document for Expansion of the Comparable Fuel Exclusion,'' May 2007, Section 7.

[114] We note that the BR does not identify a management method code for wastes that are combusted in an incinerator and where the heating value of the wastes is used beneficially in lieu of fossil or other fuels to combust other waste with little or no heating value. Thus, it is probable that the vast majority of the waste that we identify as likely to be excluded as ECF, and which is currently combusted in incinerators, is currently being burned for energy recovery.

[115] Alternative Option A would impose conditions that are less stringent than those under the final rule (e.g., boiler operator training would

under the first option (less stringent requirements) were found to be $14.1 million. The additional cost savings primarily reflect reduced burner and generator storage requirements. Under the second option (more stringent requirements), net social benefits are estimated at $10.9 million per year. The reduced net benefits are largely reflected in increased burner storage requirements and greater tracking costs. Reduced fuel and management costs account for the vast majority of all cost savings under both options, as with the final rule. Under these two options, generators are projected to exclude an estimated 100,200 to 118,800 tons of ECF per year, out of the 222,500 tons/year qualifying.

We believe that it is important to not only understand the change in economic efficiency, as presented above, but to also understand the primary distributional effects associated with this change. Hazardous waste commercial incinerators and cement kilns are projected to experience impacts associated with this action. These effects include revenue losses and fuel replacement costs for cement kilns, plus revenue increases for commercial incinerators. Commercial kilns and blenders are projected to experience estimated revenue losses ranging from $3.2 to $6.5 million per year, while commercial incinerators may experience revenue changes from a decrease of $0.4 million to an increase of approximately $2.8 million per year. The losses for cement kilns represent less than 1 percent of the current annual waste management revenues earned by these facilities. In addition, the shift of ECF and hazardous wastes with which ECF is currently blended away from commercial kilns represents a fuel loss to these facilities. We estimate that the annual cost of replacing this hazardous waste fuel is approximately $1.7 to 2.9 million per year.

Although impacts to these groups may be considered a cost in accounting terms, they do not represent a real resource cost of the rule. The actual net benefits of this action reflect the impacts to these groups to the extent that there are real resource impacts, but do not include transfers from one facility to another.

not be required; dikes and berms would be allowed for secondary containment for tanks rather than a liner, double-wall, or vault). Alternative Option B would impose conditions that are more stringent than those under the final rule (e.g., closure and financial requirements for storage units; manifests for shipments). See USEPA, ''Assessment of the Potential Costs, Benefits, and other Impacts of the Expansion of the RCRA Comparable Fuel Exclusion,'' April 2008, Exhibit ES–1.

The findings presented here reflect numerous analytical assumptions and limitations. Furthermore, we have analyzed additional scenarios and sensitivity analyses that are not presented in this Preamble. Readers wishing to gain a full understanding of our analytical methodology, data, findings, assumptions, and limitations are encouraged to read the *Assessment* document prepared in support of this final rule, and available in the Docket to this rule.

Part Seven: Statutory and Executive Order Reviews

I. Executive Order 12866: Regulatory Planning and Review

Under Executive Order (EO) 12866 (58 FR 51735, October 4, 1993), this action is a ''significant regulatory action,'' since this action may raise novel legal or policy issues [3(f)(4)]. Accordingly, EPA submitted this action to the Office of Management and Budget (OMB) for review under EO 12866. Any changes made in response to OMB recommendations have been documented in the docket for this action.

This rule is projected to result in benefits to society in the form of cost savings. The total net cost savings are estimated at $13.4 million per year. This figure is significantly below the $100 million threshold [116] established under part 3(f)(1) of the Order. Thus, this rule is not considered to be an economically significant action. However, in an effort to comply with the spirit of the Executive Order, we have prepared an economic assessment in support of this action. This document is entitled: *Assessment of the Potential Costs, Benefits, and Other Impacts of the Expansion of the RCRA Comparable Fuel Exclusion-Final Rule.* The RCRA docket established for this rulemaking maintains a copy of this *Assessment* for public review. Interested persons are encouraged to read this document.

II. Paperwork Reduction Act

The information collection requirements in this rule have been submitted for approval to OMB under the *Paperwork Reduction Act*, 44 U.S.C. 3501 *et seq.* The information collection requirements are not enforceable until OMB approves them.

The information under this rule is planned to be collected in order to ensure that the conditions of the exclusion from RCRA under 40 CFR 261.38 are being met. The responses to the collection of information are mandatory under 40 CFR 261.38, and are necessary for EPA to fulfill its congressional mandate to protect public health and the environment. The information will, however, be collected only to the extent necessary for the implementation of this rule, and will not collect any information related to the trade secrets of the stakeholders. EPA will protect from public disclosure all confidential business information obtained under this rule.

This promulgated rule is deregulatory. The 64 respondents generating and burning excluded ECF would be subject to an annual public reporting and recordkeeping burden for the collection of information required under this rule of 37,373 hours, and a capital, and operation and maintenance cost of $1.4 million. However, because the excluded fuel would no longer be considered hazardous waste, the generator would not be required to comply with the paperwork, reporting, and recordkeeping requirements under the Subtitle C hazardous wastes regulations. Therefore, the reporting and recordkeeping burden associated with ECF would result in a net annual reduction of 32,899 hours and savings of $1.3 million in capital, and operation and maintenance costs. The frequency of responses varies with the type of response. Burden is defined at 5 CFR 1320.3(b).

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in 40 CFR are listed in 40 CFR part 9. When this ICR is approved by OMB, the Agency will publish a technical amendment to 40 CFR part 9 in the **Federal Register** to display the OMB control number for the approved information collection requirements contained in this final rule.

III. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act, or any other statute, unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

The RFA provides default definitions for each type of small entity. Small entities are defined as: (1) A small business as defined by the Small

[116] This $100 million threshold applies to both costs, and cost savings.

Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this final rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. In determining whether a rule has a significant economic impact on a substantial number of small entities, the impact of concern is any significant *adverse* economic impact on small entities, since the primary purpose of the regulatory flexibility analyses is to identify and address regulatory alternatives ''which minimize any significant economic impact of the rule on small entities,'' 5 U.S.C. 603 and 604. Thus, an agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, or otherwise has a positive economic effect on all of the small entities subject to the rule. We have determined that the affected ECF generators are not owned by small governmental jurisdictions or nonprofit organizations. Therefore, only small businesses were analyzed for small entity impacts. For the purposes of the impact analyses, small entity is defined either by the number of employees or by the dollar amount of sales. The level at which a business is considered small is determined for each North American Industrial Classification System (NAICS) code by the Small Business Administration.

This rule is projected to result in benefits in the form of cost savings to companies that use the exclusion. As a result, the rule would not result in adverse impacts for any small businesses that generate ECF. Our analysis indicates that one or two cement kilns may be owned by small businesses, as defined by the SBA for the relevant NAICS code. Lost revenue plus fuel replacement costs to these facilities have been found to represent less than 3% of the average annual waste receipt revenues to these facilities, and considerably less impacts when clinker/cement revenues are included. As a result, these impacts are not significant. Furthermore, these impacts are not a direct economic impact of the rule.

The reader is encouraged to review our regulatory flexibility screening analysis prepared in support of this determination. This analysis is incorporated into the *Assessment* document, which is available in the Docket to this final rule.

IV. Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104–4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with ''Federal mandates'' that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of $100 million or more in any one year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

This final rule contains no Federal mandates (under the regulatory provisions of Title II of the UMRA) for State, local, or tribal governments or the private sector. The UMRA generally excludes from the definition of ''Federal intergovernmental mandate'' duties that arise from participation in a voluntary federal program. This rule is a voluntary program because the States are not required to adopt these requirements as a condition of authorization (or otherwise). In any event, EPA has determined that this rule does not contain a Federal mandate that may result in expenditures of $100 million or more for State, local, and tribal governments, in the aggregate, or the private sector in any one year. The total net benefits (cost savings) of this action are estimated to be $13.4 million per year.

Finally, EPA has determined that this rule contains no regulatory requirements that might significantly or uniquely affect small governments. Small governments are not affected by this action.

V. Executive Order 13132: Federalism

Executive Order 13132, entitled ''Federalism'' (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure ''meaningful and timely input by state and local officials in the development of regulatory policies that have federalism implications.'' ''Policies that have federalism implications'' is defined in the Executive Order to include regulations that have ''substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.''

This final rule does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. The rule focuses on modified requirements for facilities generating ECF, without affecting the relationships between Federal and state governments. Thus, Executive Order 13132 does not apply to this rule.

Although section 6 of Executive Order 13132 does not apply, EPA did consult with representatives of state governments in developing this rule. Representatives from the states of North Carolina, Georgia, Missouri, Louisiana, and Oregon provided valuable input and review.

VI. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

Executive Order 13175, entitled ''Consultation and Coordination with Indian Tribal Governments'' (65 FR 67249, November 9, 2000), requires EPA to develop an accountable process to ensure ''meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.'' This final rule does not have tribal implications, as specified in

Executive Order 13175. No Tribal governments are known to own or operate facilities generating or burning hazardous secondary materials subject to this rule. Thus, Executive Order 13175 does not apply to this rule.

VII. EO 13045 ''Protection of Children From Environmental Health Risks and Safety Risks''

This action is not subject to Executive Order 13045 (62 F.R. 19885, April 23, 1997) because it is not economically significant as defined in Executive Order 12866, and because the Agency does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. A health and risk assessment in support of this action is unnecessary due to the comparable emission nature of this action.

VIII. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This rule is not subject to Executive Order 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use'' (66 FR 28355 (May 22, 2001)) because it is not a significant regulatory action under Executive Order 12866.

This rule will not seriously disrupt energy supply, distribution patterns, prices, imports or exports. Furthermore, this rule is designed to improve economic efficiency by expanding the use of fuels that are hazardous secondary materials.

IX. National Technology Transfer Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (''NTTAA''), Public Law 104–113, 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.*, materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This rulemaking involves environmental monitoring or measurement. Consistent with the Agency's Performance Based Measurement System (''PBMS''), EPA has decided not to require the use of specific, prescribed analytic methods. Rather, the rule will allow the use of any method that meets the prescribed performance criteria. The PBMS approach is intended to be more flexible and cost-effective for the regulated community; it is also intended to encourage innovation in analytical technology and improved data quality. EPA is not precluding the use of any method, whether it constitutes a voluntary consensus standard or not, as long as it meets the performance criteria specified.

X. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.

Executive Order (EO) 12898 (59 FR 7629 (Feb. 16, 1994)) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has determined that this final rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it does not affect the level of protection provided to human health or the environment. This rule is designed to allow for the use of hazardous secondary materials as fuel under a comparable emission standard, resulting in no incremental increase in risk to human health and the environment, when compared to the burning of virgin fuels.

XI. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 *et seq.,* as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A Major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2). This rule will be effective January 20, 2009.

List of Subjects in 40 CFR Part 261

Hazardous waste, Recycling, Reporting and recordkeeping requirements.

Dated: December 12, 2008.

Stephen L. Johnson,

Administrator.

■ For the reasons set out in the preamble, title 40, chapter I, of the Code of Federal Regulations is amended as follows:

PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

■ 1. The authority citation for part 261 continues to read as follows:

Authority: 42 U.S.C. 6903, 6912(b), 6925.

■ 2. Section 261.4 is amended by revising paragraph (a)(16) to read as follows:

§ 261.4 Exclusions.

(a) * * *

(16) Comparable fuels, emission-comparable fuels, or comparable syngas fuels that meet the requirements of § 261.38.

* * * * *

■ 3. Section 261.38 is revised to read as follows:

§ 261.38 Exclusion of comparable fuel, emission-comparable fuel, and syngas fuel.

(a) *Specifications for excluded fuels.* Materials that meet the specifications for comparable fuel, emission-comparable fuel, or syngas fuel under paragraphs (a)(1), (a)(2), or (a)(3) of this section, respectively, and the other requirements of this section, are not solid wastes.

(1) *Comparable fuel specifications.*—(i) *Physical specifications.*—(A) *Heating value.* The heating value must exceed 5,000 BTU/lbs. (11,500 J/g).

(B) *Viscosity.* The viscosity must not exceed: 50 cs, as-fired.

(ii) *Constituent specifications.* For compounds listed in Table 1 to this section, the specification levels and, where non-detect is the specification, minimum required detection limits are: (*see* Table 1 of this section).

(2) *Emission-comparable fuel specifications*—The specifications shall be met as-generated. (i) *Physical specifications.*—(A) *Heating value.* The heating value must be 8,000 BTU/lbs (18,400 J/g) or greater.

(B) *Viscosity.* The viscosity must not exceed 50 cs.

(ii) *Constituent specifications*—(A) Except as provided by paragraph (a)(2)(ii)(B) of this section, for

compounds listed in Table 1 of this section the specification levels and, where nondetect is the specification, minimum required detection limits, are: (*see* Table 1 of this section).

(B) *Specifications not applicable.* The specification levels in Table 1 to this section do not apply for the following hydrocarbons and oxygenates under the special conditions provided under this section for emission-comparable fuel:

(*1*) Benzo(a)anthracene (CAS No. 56–55–3).

(*2*) Benzene (CAS No. 71–43–2).

(*3*) Benzo(b)fluoranthene (CAS No. 205–99–2)

(*4*) Benzo(k)fluoranthene (CAS No. 207–08–9)

(*5*) Benzo(a)pyrene (CAS No. 50–32–8)

(*6*) Chrysene (CAS No. 218–01–9)

(*7*) Dibenzo(a,h)anthracene (CAS No. 52–70–3)

(*8*) 7,12–Dimethylbenz(a)anthracene (CAS No. 57–97–6)

(*9*) Flouranthene (CAS No. 206–44–0)

(*10*) Indeno(1,2,3-cd)pyrene (CAS No. 193–39–5)

(*11*) 3-Methlycholanthrene (CAS No. 56–49–5)

(*12*) Naphthalene (CAS No. 91–20–3)

(*13*) Toluene (CAS No. 108–88–3).

(*14*) Acetophenone (CAS No. 98–86–2).

(*15*) Acrolein (CAS No. 107–02–8).

(*16*) Allyl alcohol (CAS No. 107–18–6).

(*17*) Bis(2-ethylhexyl)phthalate [Di-2-ethylhexyl phthalate] (CAS No.117–81–7).

(*18*) Butyl benzyl phthalate (CAS No. 85–68–7).

(*19*) o-Cresol [2-Methyl phenol] (CAS No. 95–48–7).

(*20*) m-Cresol [3-Methyl phenol] (CAS No. 108–39–4).

(*21*) p-Cresol [4-Methyl phenol] (CAS No.106–44–5).

(*22*) Di-n-butyl phthalate (CAS No. 84–74–2).

(*23*) Diethyl phthalate (CAS No. 84–66–2).

(*24*) 2,4-Dimethylphenol (CAS No. 105–67–9).

(*25*) Dimethyl phthalate (CAS No. 131–11–3).

(*26*) Di-n-octyl phthalate (CAS No. 117–84–0).

(*27*) Endothall (CAS No. 145–73–3).

(*28*) Ethyl methacrylate (CAS No. 97–63–2).

(*29*) 2-Ethoxyethanol [Ethylene glycol monoethyl ether] (CAS No. 110–80–5).

(*30*) Isobutyl alcohol (CAS No. 78–83–1).

(*31*) Isosafrole (CAS No. 120–58–1).

(*32*) Methyl ethyl ketone [2-Butanone] (CAS No. 78–93–3).

(*33*) Methyl methacrylate (CAS No. 80–62–6).

(*34*) 1,4-Naphthoquinone (CAS No. 130–15–4).

(*35*) Phenol (CAS No. 108–95–2).

(*36*) Propargyl alcohol [2-Propyn-1-ol] (CAS No. 107–19–7).

(*37*) Safrole (CAS No. 94–59–7).

(3) *Synthesis gas fuel specifications.*—Synthesis gas fuel (*i.e.*, syngas fuel) that is generated from hazardous waste must:

(i) Have a minimum Btu value of 100 Btu/Scf;

(ii) Contain less than 1 ppmv of total halogen;

(iii) Contain less than 300 ppmv of total nitrogen other than diatomic nitrogen (N_2);

(iv) Contain less than 200 ppmv of hydrogen sulfide; and

(v) Contain less than 1 ppmv of each hazardous constituent in the target list of appendix VIII constituents of this part.

(4) *Blending to meet the specifications. (i) Comparable fuel.* (A) Hazardous waste shall not be blended to meet the comparable fuel specification under paragraph (a)(1) of this section, except as provided by paragraph (a)(4)(i)(B) of this section:

(B) *Blending to meet the viscosity specification.* A hazardous waste blended to meet the viscosity specification for comparable fuel shall:

(*1*) As generated and prior to any blending, manipulation, or processing, meet the constituent and heating value specifications of paragraphs (a)(1)(i)(A) and (a)(1)(ii) of this section;

(*2*) Be blended at a facility that is subject to the applicable requirements of parts 264 and 265, or § 262.34 of this chapter; and

(*3*) Not violate the dilution prohibition of paragraph (a)(7) of this section.

(ii) *Emission-comparable fuel.* Hazardous waste shall not be treated by blending or other means to meet the emission-comparable fuel specifications under paragraph (a)(2) of this section. Emission-comparable fuel must meet those specifications as-generated by the original generator of the material. Emission-comparable fuel that has met the specifications under paragraph (a)(2) of this section as-generated, and that is subsequently commingled with other materials, must continue to meet the specifications.

(5) *Treatment to meet the comparable fuel specifications.* (i) A hazardous waste may be treated to meet the specifications for comparable fuel under paragraph (a)(1) of this section provided the treatment:

(A) Destroys or removes the constituent listed in the specification or raises the heating value by removing or destroying hazardous constituents or materials;

(B) Is performed at a facility that is subject to the applicable requirements of parts 264 and 265, or § 262.34 of this chapter; and

(C) Does not violate the dilution prohibition of paragraph (a)(7) of this section.

(ii) Residuals resulting from the treatment of a hazardous waste listed in subpart D of this part to generate a comparable fuel remain a hazardous waste.

(6) *Generation of a syngas fuel.* (i) A syngas fuel can be generated from the processing of hazardous wastes to meet the exclusion specifications of paragraph (a)(3) of this section provided the processing:

(A) Destroys or removes the constituent listed in the specification or raises the heating value by removing or destroying constituents or materials;

(B) Is performed at a facility that is subject to the applicable requirements of parts 264 and 265, or § 262.34 of this chapter or is an exempt recycling unit pursuant to § 261.6(c); and

(C) Does not violate the dilution prohibition of paragraph (a)(7) of this section.

(ii) Residuals resulting from the treatment of a hazardous waste listed in subpart D of this part to generate a syngas fuel remain a hazardous waste.

(7) *Dilution prohibition for comparable fuel, emission-comparable fuel, and syngas fuel.* (i) *Comparable fuel and syngas fuel.* No generator, transporter, handler, or owner or operator of a treatment, storage, or disposal facility shall in any way dilute a hazardous waste to meet the specifications of paragraphs (a)(1)(i)(A) or (a)(1)(ii) of this section for comparable fuel or paragraph (a)(3) of this section for syngas.

(ii) *Emission-comparable fuel.* Emission-comparable fuel shall not be generated by means of dilution.

(b) *Implementation.*—(1) *General.*—(i) Materials that meet the specifications provided by paragraph (a) of this section for comparable fuel, emission-comparable fuel, or syngas fuel are excluded from the definition of solid waste provided that the conditions under this section are met. For purposes of this section, such materials are called excluded fuel, and the person claiming and qualifying for the exclusion is called the excluded fuel generator and the person burning the excluded fuel is called the excluded fuel burner.

(ii) The person who generates the excluded fuel must claim the exclusion by compliance with the conditions of this section and keep records necessary to document compliance with those conditions.

(2) *Notices.* (i) *Notices to State RCRA and CAA Directors in authorized States or regional RCRA and CAA Directors in unauthorized States.* (A) The generator must submit a one-time notice, except as provided by paragraph (b)(2)(i)(C) of this section, to the Regional or State RCRA and CAA Directors, in whose jurisdiction the exclusion is being claimed and where the excluded fuel will be burned, certifying compliance with the conditions of the exclusion and providing the following documentation:

(1) The name, address, and RCRA ID number of the person/facility claiming the exclusion;

(2) The applicable EPA Hazardous Waste Codes that would otherwise apply to the excluded fuel;

(3) The name and address of the units meeting the requirements of paragraphs (b)(3) and (c) of this section, that will burn the excluded fuel;

(4) An estimate of the average and maximum monthly and annual quantity of material for which an exclusion would be claimed, except as provided by paragraph (b)(2)(i)(D) of this section; and

(5) The following statement, which shall be signed and submitted by the person claiming the exclusion or his authorized representative:

Under penalty of criminal and civil prosecution for making or submitting false statements, representations, or omissions, I certify that the requirements of 40 CFR 261.38 have been met for all emission-comparable fuel/comparable fuel (specify which) identified in this notification. Copies of the records and information required at 40 CFR 261.38(b)(8) are available at the generator's facility. Based on my inquiry of the individuals immediately responsible for obtaining the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(B) Generators of emission-comparable fuel must also include in the notices:

(1) An estimate of the annual quantity of each material for which an emission-comparable fuel exclusion would be claimed; and

(2) An estimate of the maximum concentration of each compound in Table 2 to this section in each emission-comparable fuel stream for which the fuel exceeds the comparable fuel specifications for those compounds in Table 1 to this section.

(C) If there is a substantive change in the information provided in the notice required under this paragraph (b)(2)(i), the generator must submit a revised notification.

(D) Comparable fuel and syngas fuel generators must include an estimate of the average and maximum monthly and annual quantity of material for which an exclusion would be claimed only in notices submitted after December 19, 2008 for newly excluded comparable fuel or syngas fuel or for revised notices as required by paragraph (b)(2)(i)(C) of this section.

(ii) *Public notice.* Prior to burning an excluded fuel, the burner must publish in a major newspaper of general circulation local to the site where the fuel will be burned, a notice entitled ''Notification of Burning a Fuel Excluded Under the Resource Conservation and Recovery Act'' and containing the following information:

(A) Name, address, and RCRA ID number of the generating facility(ies);

(B) Name and address of the burner and identification of the unit(s) that will burn the excluded fuel;

(C) A brief, general description of the manufacturing, treatment, or other process generating the excluded fuel;

(D) An estimate of the average and maximum monthly and annual quantity of the excluded fuel to be burned; and

(E) Name and mailing address of the Regional or State Directors to whom the generator submitted a claim for the exclusion.

(3) *Burning.* (i) *Comparable fuel and syngas fuel.* The exclusion for fuels meeting the specifications under paragraphs (a)(1) or (a)(3) of this section applies only if the fuel is burned in the following units that also shall be subject to Federal/State/local air emission requirements, including all applicable requirements implementing Section 112 of the Clean Air Act:

(A) Industrial furnaces as defined in § 260.10 of this chapter;

(B) Boilers, as defined in § 260.10 of this chapter, that are further defined as follows:

(*1*) Industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes; or

(*2*) Utility boilers used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale;

(C) Hazardous waste incinerators subject to regulation under subpart O of parts 264 or 265 of this chapter or applicable CAA MACT standards.

(D) Gas turbines used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale.

(ii) *Emission-comparable fuel.* The exclusion for fuel meeting the specifications under paragraph (a)(2) of this section applies only if the fuel is burned under the conditions provided by paragraph (c) of this section.

(4) *Fuel analysis plan for generators.* The generator of an excluded fuel shall develop and follow a written fuel analysis plan which describes the procedures for sampling and analysis of the material to be excluded. The plan shall be followed and retained at the site of the generator claiming the exclusion.

(i) At a minimum, the plan must specify:

(A) The parameters for which each excluded fuel will be analyzed and the rationale for the selection of those parameters;

(B) The test methods which will be used to test for these parameters;

(C) The sampling method which will be used to obtain a representative sample of the excluded fuel to be analyzed;

(D) The frequency with which the initial analysis of the excluded fuel will be reviewed or repeated to ensure that the analysis is accurate and up to date; and

(E) If process knowledge is used in the determination, any information prepared by the generator in making such determination.

(ii) For each analysis, the generator shall document the following:

(A) The dates and times that samples were obtained, and the dates the samples were analyzed;

(B) The names and qualifications of the person(s) who obtained the samples;

(C) A description of the temporal and spatial locations of the samples;

(D) The name and address of the laboratory facility at which analyses of the samples were performed;

(E) A description of the analytical methods used, including any clean-up and sample preparation methods;

(F) All quantitation limits achieved and all other quality control results for the analysis (including method blanks, duplicate analyses, matrix spikes, etc.), laboratory quality assurance data, and the description of any deviations from analytical methods written in the plan or from any other activity written in the plan which occurred;

(G) All laboratory results demonstrating whether the exclusion specifications have been met; and

(H) All laboratory documentation that support the analytical results, unless a contract between the claimant and the laboratory provides for the documentation to be maintained by the laboratory for the period specified in paragraph (b)(9) of this section and also provides for the availability of the documentation to the claimant upon request.

(iii) Syngas fuel generators shall submit for approval, prior to performing sampling, analysis, or any management of an excluded syngas fuel, a fuel analysis plan containing the elements of paragraph (b)(4)(i) of this section to the appropriate regulatory authority. The approval of fuel analysis plans must be stated in writing and received by the facility prior to sampling and analysis to demonstrate the exclusion of a syngas. The approval of the fuel analysis plan may contain such provisions and conditions as the regulatory authority deems appropriate.

(5) *Analysis plans for burners of emission-comparable fuel.* An emission-comparable fuel burner is subject to the fuel analysis plan requirements under paragraph (b)(4) of this section to determine, for each fuel fed to the boiler when burning emission-comparable fuel, the as-fired heating value and the as-fired concentration of each compound listed in paragraph (a)(2)(ii)(B) of this section, except for fuels under the situations described below:

(i) Coal or fuel oil used as primary fuels, when the burner uses the heating values and compound concentrations for these fuels provided in paragraph (c)(2)(ii)(C) of this section and Tables 3 and 4 to § 261.38;

(ii) Emission-comparable fuel, when the burner receives documentation of this information from the generator for each shipment of emission-comparable fuel, provided that the emission-comparable fuel is not blended with other fuels before firing to the burner.

(iii) Emission-comparable fuel, when the burner receives documentation of this information from the generator for each shipment of emission-comparable fuel, and the emission-comparable fuel is blended with other fuels before firing to the burner, provided that:

(A) The burner has determined the heating value of the other fuels and the concentration of each compound listed in paragraph (a)(2)(ii)(B) of this section for the other fuels; and;

(B) The burner determines by calculation the as-fired heating value of the blended emission-comparable fuel and the as-fired concentration of each compound listed in paragraph (a)(2)(ii)(B) of this section of the blended emission-comparable fuel.

(6) *Excluded fuel sampling and analysis.* (i) *General.* For comparable fuel, emission-comparable fuel, and syngas for which an exclusion is claimed under the specifications provided by paragraphs (a)(1), (a)(2), or (a)(3) of this section, the generator of the material must test for all the constituents in appendix VIII to this part, except those that the generator determines, based on testing or knowledge, should not be present in the fuel. The generator is required to document the basis of each determination that a constituent with an applicable specification should not be present. The generator may not determine that any of the following categories of constituents with a specification in Table 1 to this section should not be present:

(A) A constituent that triggered the toxicity characteristic for the constituents that were the basis for listing the hazardous secondary material as a hazardous waste, or constituents for which there is a treatment standard for the waste code in 40 CFR 268.40;

(B) A constituent detected in previous analysis of the material;

(C) Constituents introduced into the process that generates the material; or

(D) Constituents that are byproducts or side reactions to the process that generates the material.

Note to paragraph (b)(6)(i): Any claim under this section must be valid and accurate for all hazardous constituents; a determination not to test for a hazardous constituent will not shield a generator from liability should that constituent later be found in the fuel/syngas above the exclusion specifications.

(ii) *Use of process knowledge.* (A) *Comparable fuel and syngas.* For each material for which the comparable fuel or syngas exclusion is claimed where the generator of the excluded fuel is not the original generator of the hazardous waste, the generator of the excluded fuel may not use process knowledge pursuant to paragraph (b)(6)(i) of this section and must test to determine that all of the constituent specifications of paragraphs (a)(1) and (a)(3) of this section, as applicable, have been met.

(B) *Emission-comparable fuel.* Emission-comparable fuel must meet the specifications for exclusion as-generated. Thus, the generator may use process knowledge to determine that compounds listed in Appendix VIII to this part are not present in the emission-comparable fuel.

(iii) The excluded fuel generator may use any reliable analytical method to demonstrate that no constituent of concern is present at concentrations above the specification levels. It is the responsibility of the generator to ensure that the sampling and analysis are unbiased, precise, and representative of the excluded fuel. For the fuel to be eligible for exclusion, a generator must demonstrate that:

(A) The 95% upper confidence limit of the mean concentration for each constituent of concern is not above the specification level; and

(B) The analyses could have detected the presence of the constituent at or below the specification level.

(iv) Nothing in this paragraph (b)(6) preempts, overrides or otherwise negates the provision in § 262.11 of this chapter, which requires any person who generates a solid waste to determine if that waste is a hazardous waste.

(v) In an enforcement action, the burden of proof to establish conformance with the exclusion specification shall be on the generator claiming the exclusion.

(vi) The generator must conduct sampling and analysis in accordance with the fuel analysis plan developed under paragraph (b)(4) of this section.

(vii) *Viscosity condition for comparable fuel.* (A) Excluded comparable fuel that has not been blended to meet the kinematic viscosity specification shall be analyzed as-generated.

(B) If hazardous waste is blended to meet the kinematic viscosity specification for comparable fuel, the generator shall:

(1) Analyze the hazardous waste as-generated to ensure that it meets the constituent and heating value specifications of paragraph (a)(1) of this section; and

(2) After blending, analyze the fuel again to ensure that the blended fuel meets all comparable fuel specifications.

(viii) Excluded fuel must be re-tested, at a minimum, annually and must be retested after a process change that could change its chemical or physical properties in a manner that may affect conformance with the specifications.

(ix) An emission-comparable fuel burner must determine, for each fuel fired to the burner, the as-fired heating value of the emission-comparable fuel and the as-fired concentration of each compound listed in paragraph (a)(2)(ii)(B) of this section using information provided by the generator, information provided by paragraph (c)(2)(ii)(C) of this section and Tables 3 and 4 to this section, by sampling and analysis, or by calculation when emission-comparable fuel is commingled with other fuels and the heating value of the emission comparable fuel and the concentration of each compound listed in paragraph (a)(2)(ii)(B) of this section is known for the fuels prior to commingling.

(7) *Speculative accumulation.* Excluded fuel must not be accumulated speculatively, as defined in § 261.1(c)(8).

(8) *Operating record.* The generator must maintain an operating record on

site containing the following information:

(i) All information required to be submitted to the implementing authority as part of the notification of the claim:

(A) The owner/operator name, address, and RCRA ID number of the person claiming the exclusion;

(B) For each excluded fuel, the EPA Hazardous Waste Codes that would be applicable if the material were discarded; and

(C) The certification signed by the person claiming the exclusion or his authorized representative.

(ii) A brief description of the process that generated the excluded fuel. If the comparable fuel generator is not the generator of the original hazardous waste, provide a brief description of the process that generated the hazardous waste;

(iii) The monthly and annual quantities of each fuel claimed to be excluded;

(iv) Documentation for any claim that a constituent is not present in the excluded fuel as required under paragraph (b)(6) of this section;

(v) The results of all analyses and all detection limits achieved as required under paragraph (b)(4) of this section;

(vi) If the comparable fuel was generated through treatment or blending, documentation of compliance with the applicable provisions of paragraphs (a)(4) and (a)(5) of this section;

(vii) If the excluded fuel is to be shipped off-site, a certification from the burner as required under paragraph (b)(10) of this section;

(viii) The fuel analysis plan and documentation of all sampling and analysis results as required by paragraph (b)(4) of this section; and

(ix) If the generator ships excluded fuel off-site for burning, the generator must retain for each shipment the following information on-site:

(A) The name and address of the facility receiving the excluded fuel for burning;

(B) The quantity of excluded fuel shipped and delivered;

(C) The date of shipment or delivery;

(D) A cross-reference to the record of excluded fuel analysis or other information used to make the determination that the excluded fuel meets the specifications as required under paragraph (b)(4) of this section; and

(E) A one-time certification by the burner as required under paragraph (b)(10) of this section.

(9) *Records retention.* Records must be maintained for a period of three years.

(10) *Burner certification to the generator.*—(i) *Comparable fuel and syngas fuel.* Prior to submitting a notification to the State and Regional Directors, a generator of comparable fuel or syngas fuel excluded under paragraphs (a)(1) or (a)(3) of this section who intends to ship the excluded fuel off-site for burning must obtain a one-time written, signed statement from the burner:

(A) Certifying that the excluded fuel will only be burned in an industrial furnace, industrial boiler, utility boiler, or hazardous waste incinerator, as required under paragraph (b)(3) of this section;

(B) Identifying the name and address of the facility that will burn the excluded fuel; and

(C) Certifying that the state in which the burner is located is authorized to exclude wastes as excluded fuel under the provisions of this section.

(ii) *Emission-comparable fuel.* Prior to submitting a notification to the State and Regional Directors, a generator of emission-comparable fuel who intends to ship the excluded fuel off-site for burning must obtain a one-time written, signed statement from the burner:

(A) Certifying that the excluded fuel will be stored under the conditions of paragraphs (c)(1) or (e) of this section and burned under the conditions of paragraph (c)(2) of this section, and that the burner will comply with the notification, reporting, and recordkeeping conditions of paragraph (c)(5) of this section;

(B) Identifying the name and address of the facility that will burn the excluded fuel; and

(C) Certifying that the state in which the burner is located is authorized to exclude wastes as excluded fuel under the provisions of this section.

(11) *Ineligible waste codes.* Wastes that are listed as hazardous waste because of the presence of dioxins or furans, as set out in appendix VII of this part, are not eligible for these exclusions, and any fuel produced from or otherwise containing these wastes remains a hazardous waste subject to full RCRA hazardous waste management requirements.

(12) *Regulatory status of boiler residues.* Burning excluded fuel that was otherwise a hazardous waste listed under §§ 261.31 through 261.33 does not subject boiler residues, including bottom ash and emission control residues, to regulation as derived-from hazardous wastes.

(13) *Residues in containers and tank systems upon cessation of operations.* (i) Liquid and accumulated solid residues that remain in a container or tank system for more than 90 days after the container or tank system ceases to be operated for storage or transport of excluded fuel product are subject to regulation under parts 262 through 265, 268, 270, 271, and 124 of this chapter.

(ii) Liquid and accumulated solid residues that are removed from a container or tank system after the container or tank system ceases to be operated for storage or transport of excluded fuel product are solid wastes subject to regulation as hazardous waste if the waste exhibits a characteristic of hazardous waste under §§ 261.21 through 261.24 or if the fuel were otherwise a hazardous waste listed under §§ 261.31 through 261.33 when the exclusion was claimed.

(iii) Liquid and accumulated solid residues that are removed from a container or tank system and which do not meet the specifications for exclusion under paragraphs (a)(1) or (a)(2) of this section are solid wastes subject to regulation as hazardous waste if:

(A) The waste exhibits a characteristic of hazardous waste under §§ 261.21 through 261.24; or

(B) If the fuel were otherwise a hazardous waste listed under §§ 261.31 through 261.33. The hazardous waste code for the listed waste applies to these liquid and accumulated solid resides.

(14) *Waiver of RCRA Closure Requirements.* Interim status and permitted storage and combustion units, and generator storage units exempt from the permit requirements under § 262.34 of this chapter, are not subject to the closure requirements of 40 CFR Parts 264, 265, and 267 provided that the storage and combustion unit has been used to manage only hazardous waste that is subsequently excluded under the conditions of this section, and that afterward will be used only to manage fuel excluded under this section.

(15) *Spills and leaks.* (i) Excluded fuel that is spilled or leaked and that therefore no longer meets the conditions of the exclusion is discarded and must be managed as a hazardous waste if it exhibits a characteristic of hazardous waste under §§ 261.21 through 261.24 or if the fuel were otherwise a hazardous waste listed in §§ 261.31 through 261.33.

(ii) For excluded fuel that would have otherwise been a hazardous waste listed in §§ 261.31 through 261.33 and which is spilled or leaked, the hazardous waste code for the listed waste applies to the spilled or leaked material.

(16) Nothing in this section preempts, overrides, or otherwise negates the provisions in CERCLA Section 103, which establish reporting obligations for releases of hazardous substances, or the

Department of Transportation requirements for hazardous materials in 49 CFR parts 171 through 180.

(c) *Special conditions for emission-comparable fuel.* The following additional conditions apply to emission-comparable fuel—fuel that meets the specifications under paragraph (a)(2) of this section.

(1) *Storage.* (i) *General.* Emission-comparable fuel may be stored in a container or tank under the conditions of paragraphs (c)(1)(iii) through (c)(1)(viii) of this section, or alternative conditions under paragraph (e) of this section.

(ii) *Prohibition on underground storage.* Emission-comparable fuel shall not be stored in an underground tank. An underground tank is a tank the volume of which (including the volume of underground pipes connecting thereto) is 10 percent or more beneath the surface of the ground.

(iii) *Spill prevention, control, and countermeasures (SPCC) requirements.* Emission-comparable fuel storage tanks and containers with a capacity equal to or greater than 0.1 m^3 (26 gallons) are subject to the following Spill Prevention, Control, and Countermeasures (SPCC) requirements adopted from 40 CFR Part 112. To satisfy the adopted conditions, you must substitute the term ''emission-comparable fuel'' for the term ''oil,'' and by substituting the term ''release of emission-comparable fuel to the environment'' for the term ''discharge as described in § 112.1(b).''

(A) Section 112.2, Definitions. These definitions apply to the adopted SPCC requirements under paragraphs (c)(1)(iii)(B) through (c)(1)(iii)(D) of this section.

(B) Sections 112.3(d) and 112.3(e) of this chapter, Requirement to Prepare and Implement a Spill Prevention, Control, and Countermeasure Plan. (*1*) You must prepare a SPCC Plan in writing, and in accordance with the adopted provisions of §§ 112.7 and 112.8 of this chapter;

(*2*) The SPCC Plan must be reviewed and certified according to the provisions of § 112.3(d) of this chapter and must be made available to the Regional Administrator according to the provisions of § 112.3(e) of this chapter;

(*3*) You must amend your SPCC Plan as directed by the Regional Administrator upon a finding that amendment is necessary to prevent and contain releases of emission-comparable fuel from your facility. You must implement the amended SPCC Plan as soon as possible, but not later than six months after you amend your SPCC Plan, unless the Regional Administrator specifies another date;

(C) Sections 112.5(a) and 112.5(b) of this chapter, Amendment of Spill Prevention, Control, and Countermeasures Plan by Owners or Operators. (*1*) You must comply with the provisions of § 112.5(a) and (b) of this chapter by substituting the term ''release of emission-comparable fuel to the environment'' for the term ''discharge as described in § 112.1(b);''

(*2*) You must have a Professional Engineer certify any technical amendment to your Plan in accordance with § 112.3(d) of this chapter.

(D) Section 112.7 of this chapter, General Requirements for Spill Prevention, Control, and Countermeasure Plans. (*1*) You must comply with the requirements of § 112.7, except for paragraphs (a)(2), (c), (d), and (k) of that section.

(*2*) Your Plan may deviate from the requirements § 112.7(g), (h)(2), (h)(3) and (i), and the adopted provisions of § 112.8, where applicable to a specific facility, if you provide equivalent protection by some other means of spill prevention, control, or countermeasure. Where your Plan does not conform to the applicable requirements in § 112.7(g), (h)(2), (h)(3) and (i) and the adopted provisions of § 112.8 of this chapter, you must state the reasons for nonconformance in your Plan and describe in detail alternate methods and how you will achieve equivalent environmental protection. If the Regional Administrator determines that the measures described in your Plan do not provide equivalent environmental protection, he may require that you amend your Plan.

(E) Section 112.8 of this chapter, Spill Prevention, Control, and Countermeasure Plan Requirements for Onshore Facilities, except for paragraph (b) of this section (facility drainage), paragraph (c)(2) of this section (secondary containment for bulk storage containers), paragraph (c)(4) of this section (protection of completely buried storage tanks), and paragraph (c)(11) of this section (secondary containment for mobile containers), with the following revisions:

(*1*) You must inspect at least weekly areas where portable containers are stored to look for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors.

(*2*) Section 112.8(d)(1) of this chapter applies to all buried piping irrespective of the installation or replacement date.

(iv) *Containment and detection of releases*—(A) *Tanks.* To prevent the release of emission comparable fuel or hazardous constituents to the environment, you must provide secondary containment for emission-comparable fuel tank systems as prescribed by the following requirements adopted from § 264.193 of this chapter. To satisfy the adopted conditions, you must substitute the term ''emission-comparable fuel'' for the term ''waste,'' and substitute the term ''document in the record'' for the term ''demonstrate to the Regional Administrator.''

(*1*) Section 264.193(b) of this chapter, which prescribes general performance standards for secondary containment systems;

(*2*) Section 264.193(c) of this chapter, which prescribes minimum requirements for secondary containment systems;

(*3*) Section 264.193(d)(1) through (3), which prescribes permissible secondary containment devices;

(*4*) Section 264.193(e) of this chapter, which prescribes design and operating requirements for the permissible secondary containment devices; and

(*5*) Section 264.193(f) of this chapter, which prescribes secondary containment requirements for ancillary equipment.

(B) *Portable containers.* To prevent the release of emission comparable fuel or hazardous constituents to the environment, you must provide containment for emission-comparable fuel container storage units as prescribed by the provisions of § 264.175(b) of this chapter, which are hereby adopted for emission-comparable fuel container storage units. To satisfy the adopted condition, you must substitute the term ''emission-comparable fuel'' for each occurrence of the term ''waste.''

(v) *Preparedness and prevention, emergency procedures and response to releases.*—(A) *Preparedness and prevention.*—(*1*) *Required equipment.* Your facility must be equipped with the equipment required under § 264.32(a) through (d) of this chapter in a manner that it can be used in emergencies associated with storing and handling emission-comparable fuel.

(*2*) *Testing and maintenance of equipment.* You must test and maintain as necessary to assure proper operation in times of emergency all communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment required for your emission-comparable fuel tank system or container storage unit.

(*3*) *Access to communications or alarm system.* Whenever emission comparable fuel is distributed into or

out of the tank system or container storage unit, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee.

(*4*) *Arrangements with local authorities.* You must comply with § 264.37(a) of this chapter. If state or local authorities decline to enter into the arrangements prescribed by § 264.37(a) of this chapter, you must keep a record documenting the refusal.

(B) *Emergency procedures.*—(*1*) *Emergency coordinator.* At all times, there must be at least one employee either on the facility premises or on call (*i.e.*, available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's Spill Prevention, Control, and Countermeasures (SPCC) Plan required under paragraph (c)(1)(iii) of this section, all emission-comparable fuel operations and activities at the facility, the location and characteristics of emission-comparable fuel handled, the location of all records within the facility pertaining to emission-comparable fuel, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the SPCC Plan.

(*2*) *Emergency procedures.*—(*i*) Whenever there is an imminent or actual emergency situation relating to the emission-comparable fuel tank system or container storage unit, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately activate internal facility alarms or communication systems, where applicable, to notify all facility personnel and notify appropriate state or local agencies with designated response roles if their help is needed.

(*ii*) Whenever there is a release, fire, or explosion relating to the emission-comparable fuel tank system or container storage unit, the emergency coordinator must immediately identify the character, exact source, amount, and aerial extent of any released materials. He may do this by observation or review of facility records, and, if necessary, by chemical analysis.

(*iii*) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (*e.g.*, the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions).

(*iv*) If the emergency coordinator determines that the facility has had a release, fire, or explosion associated with the emission-comparable fuel tank system or container storage unit which could threaten human health or the environment outside the facility, he must report his findings as provided by paragraph (c)(1)(v)(B)(*2*)(*v*) of this section.

(*v*) If the emergency coordinator's assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated, and he must immediately notify either the government official designated as the on-scene coordinator for that geographical area, (in the applicable regional contingency plan under part 300 of this title) or the National Response Center (using their 24-hour toll free number 800/424–8802). The report must include: the name and telephone number of the reporter; the name and address of the facility; the time and type of incident (*e.g.*, release, fire); the name and quantity of material(s) involved, to the extent known; the extent of injuries, if any; and the possible hazards to human health, or the environment, outside the facility.

(*vi*) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other materials at the facility. These measures must include, where applicable, stopping processes and operations and collecting and containing released emission-comparable fuel.

(*vii*) If the emission-comparable fuel tank system or container storage unit stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(*viii*) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered emission-comparable fuel, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

(*ix*) The emergency coordinator must ensure that, in the affected area(s) of the facility: materials that may be incompatible with the released emission-comparable fuel is treated, stored, or disposed of until cleanup procedures are completed; and all emergency equipment listed in the SPCC Plan is cleaned and fit for its intended use before operations are resumed.

(*x*) You must note in the record the time, date, and details of any incident that requires implementing the SPCC Plan for the emission-comparable fuel tank system or container storage unit. Within 15 days after the incident, you must submit a written report on the incident to the Regional Administrator. The report must include: the name, address, and telephone number of the owner or operator; the name, address, and telephone number of the facility; the date, time, and type of incident (*e.g.*, fire, explosion); the name and quantity of material(s) involved; the extent of injuries, if any; an assessment of actual or potential hazards to human health or the environment, where this is applicable; and the estimated quantity and disposition of recovered material that resulted from the incident.

(C) *Response to leaks or spills and disposition of leaking or unfit-for-use tank systems.* (*1*) You must comply with the provisions of § 264.196 of this chapter, except for § 264.196(e)(1) and (e)(4) of this chapter.

(*2*) To satisfy the adopted provisions of § 264.196, you must substitute the term ''emission-comparable fuel'' for the terms ''hazardous waste'' and ''waste.''

(*3*) Unless you satisfy the requirements of § 264.196(e)(2) and (3) of this chapter, you must immediately cease using the tank system to store emission-comparable fuel and remove any liquid and solid residues under the conditions of paragraph (b)(13) of this section.

(vi) *Air emissions conditions adopted from part 63, subpart EEEE.*—(A) *Applicability—(1)* If your emission-comparable fuel storage, transfer, and transport equipment is not subject to the controls provided by § 63.2346 of this chapter, you must determine whether you are subject to the provisions of paragraphs (c)(1)(vi)(B) and (C) of this section:

(*2*) If your emission-comparable fuel storage tank is subject to the controls provided by § 63.2346 of this chapter other than those prescribed by item 6 in Table 2 to subpart EEEE, part 63 of this chapter (*i.e.*, requirements for organic liquids with an annual average true vapor pressure of the total listed organic HAP >=76.6 kilopascals (11.1 psia)), you must determine whether the tank would be subject to the controls prescribed by item 6 after considering the vapor pressure of the RCRA oxygenates listed

in paragraph (c)(1)(vi)(B)(*3*) of this section as well as the organic HAP listed in Table 1 to subpart EEEE, part 63 of this chapter. If the annual average true vapor pressure of the total RCRA oxygenates and Table 1 organic HAP in the emission-comparable fuel is >=76.6 kilopascals (11.1 psia), you are subject to the requirements of paragraphs (c)(1)(vi)(B) through (C) of this section.

(B) *Conditions of applicability*. To satisfy the conditions under paragraph (c)(1)(vi)(C) of this section that are adopted from part 63, subpart EEEE of this chapter, you must:

(*1*) Satisfy the conditions irrespective of whether your facility is an area source as defined by § 63.2 of this chapter.

(*2*) Substitute the term ''RCRA oxygenates as well as organic HAP'' for each occurrence of the term ''organic HAP''; the term ''RCRA oxygenates as well as organic HAP listed in Table 1'' for each occurrence of the term ''organic HAP listed in Table 1''; and the term ''RCRA oxygenates as well as Table 1 organic HAP'' for each occurrence of the term ''Table 1 organic HAP''.

(*3*) Use the following definition of RCRA oxygenates: The term ''RCRA oxygenates'' means the following organic compounds:

(*i*) Allyl alcohol (CAS No. 107–18–6);

(*ii*) Bis(2-ethylhexyl)phthalate [Di–2–ethylhexyl phthalate] (CAS No.117–81–7);

(*iii*) 2,4-Dimethylphenol (CAS No. 105–67–9);

(*iv*) Ethyl methacrylate (CAS No. 97–63–2);

(*v*) 2-Ethoxyethanol [Ethylene glycol monoethyl ether] (CAS No. 110–80–5);

(*vi*) Isobutyl alcohol (CAS No. 78–83–1);

(*vii*) Isosafrole (CAS No. 120–58–1);

(*viii*) Methyl ethyl ketone [2-Butanone] (CAS No. 78–93–3);

(*ix*) 1,4-Naphthoquinone (CAS No. 130–15–4);

(x) Propargyl alcohol [2-Propyn-1-ol] (CAS No. 107–19–7); and

(*xi*) Safrole (CAS No. 94–59–7).

(*4*) Use the following definition of organic liquid. Organic liquid means emission comparable fuel that:

(*i*) Contains 5 percent by weight or greater of the RCRA oxygenates as well as organic HAP listed in Table 1 to this subpart, as determined using the procedures specified in § 63.2354(c) of this chapter; and

(*ii*) Has an annual average true vapor pressure of 0.7 kilopascals (0.1 psia) or greater.

(*5*) Use the following definition of affected source. Affected source means the collection of activities and equipment used to distribute organic liquids into, out of, or within a facility.

(*6*) Substitute the term ''subject to § 261.38(c)(1)(vi)(C)of this chapter'' for each occurrence of the term ''subject to this subpart''.

(*7*) Satisfy the conditions if:

(*i*) Your organic liquids transfer equipment is exempt from subpart EEEE, part 63 of this chapter, under the provisions of § 63.228(c)(1) of this chapter, which exempts organic liquids transfer equipment at facilities subject to a NESHAP other than subpart EEEE, part 63; and

(*ii*) The requirements applicable to the organic liquids transfer equipment under the other NESHAP are not equivalent to, at a minimum, the conditions under paragraphs (c)(1)(vi)(C), (c)(1)(vii), or (e) of this section. You must document and record your determination whether the requirements under the other NESHAP are less stringent than the conditions under paragraph (c)(1)(vi)(C) of this section. You may contact the RCRA regulatory authority to assist with this determination.

(*8*) Submit all notifications, reports, and other communications to the RCRA regulatory authority rather than the CAA regulatory authority.

(C) *Conditions to control air emissions under provisions adopted from part 63, subpart EEEE of this chapter.* (*1*) The affected source is the equipment identified under § 63.2338(b)(1) through (5) of this chapter, except for equipment identified in § 63.2338(c)(2) through (3) of this chapter.

(*2*) Definitions of new, reconstructed, and existing affected sources are provided under § 63.2338(d) through (f) of this chapter.

(*3*) You must comply with the emission limitations, operating limits, and work practice standards under § 63.2346 of this chapter.

(*4*) You must comply with the general requirements under § 63.2350 of this chapter. The startup, shutdown, and malfunction plan required by § 63.2350(c) of this chapter need not address equipment not subject to paragraph (c)(1)(vi)(C) of this section.

(*5*) You must comply with the performance tests, design evaluation, and performance evaluation requirements under § 63.2354 of this chapter. When complying with § 63.2354(c) of this chapter, however, you must determine the content of RCRA oxygenates as well as organic HAP in the emission-comparable fuel.

(*6*) You must conduct performance tests and other initial compliance demonstrations prior to managing emission-comparable fuel in the storage unit.

(*7*) You must conduct subsequent performance tests by the dates specified in § 63.2362 of this chapter.

(*8*) You must comply with the monitoring, installation, operation, and maintenance requirements under § 63.2366 of this chapter.

(*9*) You must demonstrate initial compliance with the emission limitations, operating limits, and work practice standards as required under § 63.2370 of this chapter.

(*10*) You must monitor and collect data to demonstrate continuous compliance and use the collected data as required by § 63.2374 of this chapter.

(*11*) You must demonstrate continuous compliance with the emission limitations, operating limits, and work practice standards as required by § 63.2378 of this chapter.

(*12*) You must submit the notifications and on the schedule required by § 63.2382 of this chapter, except that initial notifications must be submitted prior to managing emission-comparable fuel in the storage unit. Notifications must be submitted to the RCRA regulatory authority.

(*13*) You must submit the reports and on the schedule required by § 63.2386 of this chapter. Reports must be submitted to the RCRA regulatory authority.

(*14*) You must keep the applicable records required by § 63.2390 of this chapter.

(*15*) You must keep records in the form, and for the duration, required by § 63.2394 of this chapter.

(*16*) The parts of the General Provisions that apply to you are provided by § 63.2398 of this chapter.

(*17*) The definitions that apply to the conditions under paragraph (c)(1)(vi)(C) of this section are provided by § 63.2406 of this chapter, and paragraphs (c)(1)(vi)(B)(3) through (5) of this section.

(*18*) You are subject to the requirements in Tables 1–12 to subpart EEEE, part 63 of this chapter.

(vii) *Air emissions conditions for tanks and containers that are not subject to conditions adopted from part 63, subpart EEEE.* Tank and container storage units that are not subject to the conditions adopted from subpart EEEE, part 63 under paragraph (c)(1)(vi) of this section are subject to the conditions of this paragraph.

(A) *Tanks.* (*1*) *Level 1 control.* (*i*) *Applicability criteria.* Tanks that meet the following vapor pressure limitations for emission-comparable fuel for the tank size designations are subject to the air emission controls under paragraph (c)(1)(vii)(A)(*1*)(*ii*) of this section:

(*A*) For a tank design capacity equal to or greater than 151 m^3 (40,000

gallons), the annual average organic vapor pressure limit for the tank is 5.2 kPa (0.75 psia);

(*B*) For a tank design capacity equal to or greater than 75 m^3 (20,000 gallons) but less than 151 m^3 (40,000 gallons), the annual average organic vapor pressure limit for the tank is 27.6 kPa (4.0 psia); and

(*C*) For a tank design capacity less than 75 m^3 (20,000 gallons), the annual average vapor pressure limit for the tank is 76.6 kPa (11.1 psia);

(*ii*) *Conditions to control emissions.* You must comply with the following requirements:

(*A*) *NESHAP provisions for level 1 control under subpart OO, part 63.* Sections 63.901 through 63.907 of this chapter; or

(*B*) *NESHAP provisions for organic liquid distribution under subpart EEEE, part 63.* The provisions under Item 1.a.i or 1.a.ii which require venting to a control device under provisions of subpart SS, part 63 of this chapter, or Level 2 tank emissions control under subpart WW, part 63 of this chapter, or routing emissions to a fuel gas system or back to a process under § 63.984 of subpart SS, part 63 of this chapter, or vapor balancing emissions to the transport vehicle from which the storage tank is filled under § 63.2346(a)(4); or

(*C*) *Hazardous waste tank controls under subpart CC, part 264.* The provisions for additional options provided for hazardous waste tanks under § 264.1084(d)(3), (d)(4), or (d)(5) of this chapter for use of venting to a control device, a pressure tank, or a tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device, and the associated provisions under §§ 63.1081 (definitions), 264.1083(c) (determination of vapor pressure), 264.1084(j) (transfer to a tank), 264.1087 (closed-vent systems and control devices), and 264.89(b) (recordkeeping) of this chapter. To satisfy these adopted provisions, you must substitute the term ''emission-comparable fuel'' for the terms ''hazardous waste'' and ''waste.''

(*2*) *Level 2 control.* (*i*) *Applicability criteria.* Tanks that do not meet the vapor pressure limitations for emission-comparable fuel for the tank size designations under paragraph (c)(1)(vii)(A)(*1*)(*i*) of this section are subject to the air emission controls under paragraph (c)(1)(vii)(A)(*2*)(*ii*) of this section.

(*ii*) *Conditions to control emissions.* To satisfy the conditions to control emissions, you must comply with the requirements under paragraphs (c)(1)(vii)(A)(*1*)(*ii*)(*B*) or (*C*) of this section.

(*3*) *Equipment leaks.* For each valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, or flange or other connector, and any control devices or systems used to manage emission-comparable fuel in a tank system subject to paragraph (c)(1)(vii)(A) of this section, you must comply with the applicable requirements under 40 CFR part 63, subpart TT (control level 1), except for § 63.1000; or subpart UU (control level 2), except for § 63.1019; or subpart H, except for §§ 63.160, 63.162(b) and (e), and 63.183.

(B) *Containers.* (*1*) *Level 1 control.* (*i*) *Applicability criteria.* Containers that meet the following criteria are subject to the air emission controls under paragraph (c)(1)(vii)(B)(*1*)(*ii*) of this section:

(*A*) Containers having a design capacity greater than 0.1 m^3 and less than or equal to 0.46 m^3;

(*B*) Containers having a design capacity greater than 0.46 m^3 that are not in light liquid service, as defined in § 264.1031 of this chapter.

(*C*) Containers having a design capacity greater than 0.46 m^3 that are in light liquid service, as defined in § 264.1031 of this chapter.

(*ii*) *Conditions to control emissions.* To satisfy the conditions on Level I control of emissions, you must comply with the following requirements:

(*A*) The NESHAP provisions for containers under subpart PP, part 63 at §§ 63.922 (level 1 control) or 63.923 (level 2 control) of this chapter; and

(*B*) The ancillary provisions under subpart PP, part 63 at §§ 63.921 (definitions), 63.925 (test methods and procedures), 63.926 (inspection and monitoring requirements), 63.927 (recordkeeping requirements), and 63.928 (reporting requirements) of this chapter.

(*2*) *Level 2 control.* (i) *Applicability criteria.* Containers that do not meet the criteria under paragraph (c)(1)(vii)(B)(*1*)(*i*) of this section are subject to the air emission controls under paragraph (c)(1)(vii)(B)(*2*)(*ii*) of this section.

(*ii*) *Conditions to control emissions.* To satisfy the conditions on Level II control of emissions, you must comply with the following requirements:

(*A*) The NESHAP provisions for containers under subpart PP, part 63 at § 63.923 (level 2 control) of this chapter; and

(*B*) The ancillary provisions under subpart PP, part 63 at §§ 63.921 (definitions), 63.925 (test methods and procedures), 63.926 (inspection and monitoring requirements, 63.927 (recordkeeping requirements), and 63.928 (reporting requirements) of this chapter.

(*3*) *Equipment leaks.* For each valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, or flange or other connector, and any control devices or systems used to manage emission-comparable fuel in a container subject to paragraph (c)(1)(vii)(B) of this section, you must comply with the applicable requirements under 40 CFR part 63, subpart TT (control level 1), except for § 63.1000; or subpart UU (control level 2), except for § 63.1019; or subpart H, except for §§ 63.160, 63.162(b) and (e), and 63.183.

(viii) *Management of incompatible fuels and other materials*—(A) Generators and burners of emission-comparable fuel must document in the fuel analysis plan under paragraph (b)(4) of this section how (*e.g.*, using trial tests, analytical results, scientific literature, or process knowledge) precautions will be taken to prevent mixing of excluded fuels and other materials which could result in reactions which:

(*1*) Generate extreme heat or pressure, fire or explosions, or violent reactions;

(*2*) Produce uncontrolled toxic mists, fumes, dusts, or gases;

(*3*) Produce uncontrolled flammable fumes or gases; or

(*4*) Damage the structural integrity of the storage unit or facility.

(B) Burners that blend emission-comparable fuel with other fuels but that are exempt from fuel analysis requirements under paragraphs (b)(4) and (b)(5)(iii) of this section must document in the operating record how precautions will be taken to prevent mixing of emission-comparable fuel with other fuels which could result in the reactions listed in paragraph (c)(viii)(A) of this section.

(C) Incompatible fuels must not be placed in the same tank or container.

(2) *Burning.* (i) *Types of combustors that may burn emission-comparable fuel.* Emission-comparable fuel must be burned in a boiler meeting the conditions of paragraph (c)(2)(i)(A) of this section or a hazardous waste combustor under the conditions of paragraph (c)(2)(i)(B) of this section.

(A) *Boilers.* Emission-comparable fuel may be burned in an industrial or utility boiler as defined in paragraph (b)(3) of this section but that is further restricted by being a watertube type of steam boiler that does not feed fuel using a stoker or stoker-type mechanism.

(B) *Hazardous waste combustors.* (*1*) Emission-comparable fuel may be burned in an incinerator, cement kiln,

lightweight aggregate kiln, boiler, or halogen acid production furnace operating under a RCRA permit issued under part 270 of this chapter and in compliance with the applicable provisions of subpart O of part 264, subpart H of part 266, or subpart EEE of part 63 of this chapter, provided that the emission-comparable fuel is burned under the same operating requirements that apply to hazardous waste burned by the combustor.

(*2*) When emission-comparable fuel is burned in a hazardous waste combustor under the provisions of paragraph (c)(2)(i)(B) of this section, the operating conditions under paragraph (c)(2)(ii) of this section do not apply, except for:

(*i*) The emission-comparable fuel constituent feedrate conditions under paragraph (c)(2)(ii)(C) of this section continue to apply; and

(*ii*) The emission-comparable fuel automatic feed cutoff system requirements under paragraph (c)(2)(ii)(G) of this section that apply to monitoring the constituent feedrate limits as specified under paragraph (c)(2)(ii)(G)(*1*)(*ii*) of this section continue to apply.

(ii) *Operating conditions*—(A) *Primary fuels.* (*1*) A minimum of 50 percent of fuel fired to the boiler shall be fossil fuel, fuels derived from fossil fuel, tall oil, or comparable fuel meeting the specifications provided by paragraph (a)(1) of this section. Such fuels are termed ''primary fuel'' for purposes of this section. (Tall oil is a fuel derived from vegetable and rosin fatty acids.) The primary fuel shall comprise at least 50% of the total fuel heat input to the boiler and at least 50% of the total fuel mass input to the boiler.

(*2*) The primary fuel firing rate shall be continuously monitored and the minimum primary fuel firing rate limit shall be achieved on an hourly rolling average basis;

(B) *Fuel heating value.* Primary fuels shall have a minimum as-fired heating value of 8,000 Btu/lb, and each material fired in a firing nozzle where emission-comparable fuel is fired must have a heating value of at least 8,000 Btu/lb, as-fired;

(C) *Feedrate limits for emission-comparable fuel constituents.* The total feedrate, considering all combustor feedstreams, of each emission-comparable fuel constituent listed under paragraph (a)(2)(ii)(B) of this section shall not exceed the limit provided by Table 2 to this section.

(*1*) The feedrate limits are expressed as gas flowrate-normalized feedrates in the units ''ug/dscm''.

(*2*) The feedrate limit for total combustor feedstreams expressed as mass/unit time (kg/hr) for each emission-comparable fuel constituent is determined by multiplying the gas flowrate-normalized feedrate limit provided by Table 2 to this section times the combustor gas flowrate.

(*3*) The maximum constituent feedrate (kg/hr) attributable to emission-comparable fuel is the total combustor constituent feedrate (kg/hr) minus the constituent feedrate (kg/hr) for all other combustor feedstreams.

(*4*) To account for emission-comparable fuel constituents in primary fuels, burners may use measured concentrations of the constituents, or:

(*i*) If natural gas is used as a primary fuel, burners may assume that natural gas does not contain emission-comparable fuel constituents and that natural gas has a heating value of 22,000 Btu/lb;

(*ii*) If fuel oil is used as a primary fuel, burners may use the default concentrations for emission-comparable fuel constituents provided in Table 3 to this section, and assume that fuel oil has a heating value of 19,200 Btu/lb; and

(*iii*) If coal is used as a primary fuel, burners may use the default concentrations for emission-comparable fuel constituents provided in Table 4 to this section, and assume that coal has a heating value of 11,100 Btu/lb.

(*5*) The feedrate of each emission-comparable fuel constituent shall be continuously monitored (by knowing the concentration of the constituent in each feedstream and by monitoring the feedrate of each feedstream), and the maximum feedrate limit for each constituent shall not be exceeded on an hourly rolling average basis.

(D) *CO CEMS.* When burning emission-comparable fuel, carbon monoxide emissions must not exceed 100 parts per million by volume, over an hourly rolling average (monitored with a continuous emissions monitoring system (CEMS)), dry basis and corrected to 7 percent oxygen. You must use an oxygen CEMS to continuously correct the carbon monoxide level to 7 percent oxygen. You must install, calibrate, maintain, and continuously operate the CEMS in compliance with the quality assurance procedures provided in the appendix to subpart EEE of part 63 of this chapter (Quality Assurance Procedures for Continuous Emissions Monitors Used for Hazardous Waste Combustors) and Performance Specification 4B (carbon monoxide and oxygen) in appendix B, part 60 of this chapter.

(E) *Dioxin/furan control*—(*1*) If the boiler is equipped with a dry particulate matter control device and the primary fuel is not coal, you must continuously monitor the combustion gas temperature at the inlet to the dry particulate matter control device, and the gas temperature must not exceed 400 °F on an hourly rolling average basis.

(*2*) *Calibration of thermocouples.* The calibration of thermocouples must be verified at a frequency and in a manner consistent with manufacturer specifications, but no less frequently than once per year.

(F) *Calculation of rolling averages*—(*1*) *Calculation of rolling averages upon intermittent operations.* You must ignore periods of time when one-minute values are not available for calculating the hourly rolling average. When one-minute values become available again, the first one-minute value is added to the previous 59 values to calculate the hourly rolling average.

(*2*) *Calculation of rolling averages when the emission-comparable fuel feed is cutoff.* You must continue monitoring carbon monoxide and combustion gas temperature at the inlet to the dry particulate matter emission control device when the emission-comparable fuel feed is cutoff, but the source continues operating on other fuels. You must not resume feeding emission-comparable fuel if the emission levels exceed the limits provided in paragraphs (c)(2)(ii)(D) and (E) of this section.

(G) *Automatic fuel feed cutoff system*—(*1*) *General.* You must operate the boiler with a functioning system that immediately and automatically cuts off the emission-comparable fuel feed, except as provided by paragraph (c)(2)(ii)(G)(*6*) of this section:

(*i*) When the hourly rolling average carbon monoxide level exceeds 100 ppmv or the combustion gas temperature at the inlet to the initial dry particulate matter control device (and the primary fuel is not coal) exceeds 400 °F on an hourly rolling average.

(*ii*) When the emission-comparable fuel feedrate limit for a constituent exceeds the limit provided by Table 2 to this section.

(*iii*) When the primary fuel firing rate is below 50 percent on a heat input and mass input basis;

(*iv*) When the steam production rate (or other indicator of boiler load) indicates that the boiler load is below 40 percent;

(*v*) When the span value of the combustion gas temperature detector is exceeded;

(*vi*) Upon malfunction of the carbon monoxide CEMS, the gas temperature detector, the feedrate monitor(s) for the primary fuel, the feedrate monitor(s) used to comply with the maximum feedrate limits for emission-comparable

fuel constituents, or the monitor for boiler load; or

(*iv*) When any component of the automatic fuel feed cutoff system fails.

(*2*) *Failure of the automatic fuel feed cutoff system.* If the automatic emission-comparable fuel feed cutoff system fails to automatically and immediately cut off the flow of emission-comparable fuel (except as provided by paragraph (c)(2)(ii)(G)(*6*) of this section) upon an occurrence of an event linked to the cutoff system as required under paragraph (c)(2)(ii)(G)(*1*) of this section, you have failed to comply with the emission-comparable fuel cutoff conditions of this section. If an equipment failure prevents immediate and automatic cutoff of the emission-comparable fuel feed, however, you must cease feeding emission-comparable fuel as quickly as possible.

(*3*) *Exceedance of a limit.* If, notwithstanding an automatic emission-comparable fuel feed cutoff, a limit linked to the cutoff system under paragraphs (c)(2)(ii)(G)(*1*)(*i*) through (*iv*) of this section is exceeded while emission-comparable fuel remains in the combustion chamber, you have failed to comply with a condition of the exclusion.

(*4*) *Exceedance reporting.* For each exceedance of a limit linked to the cutoff system under paragraphs (c)(2)(ii)(G)(*1*)(*i*) through (*iv*) of this section while emission-comparable fuel remains in the combustion chamber (*i.e.*, when the emission-comparable fuel residence time has not transpired since the emission-comparable fuel feed was cutoff), you must submit to the RCRA regulatory authority a written report within 5 calendar days of the exceedance documenting:

(i) The exceedance;

(ii) The measures you have taken to manage the material as a hazardous waste; and

(iii) The measures you have taken to notify the generator that you have failed to comply with a condition of the exclusion.

(*5*) *Testing.* The automatic emission-comparable fuel feed cutoff system and associated alarms must be tested at least weekly to verify operability, unless you document in the operating record that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. At a minimum, you must conduct operability testing at least monthly. You must document and record in the operating record automatic emission-comparable fuel feed cutoff system operability test procedures and results.

(*6*) *Ramping down emission-comparable fuel feed.* You may ramp down the emission-comparable fuel feedrate over a period not to exceed one minute. If you elect to ramp down the emission-comparable fuel feed, you must document ramp down procedures in the operating record. The procedures must specify that the ramp down begins immediately upon initiation of automatic emission-comparable fuel feed cutoff and the procedures must prescribe a bona fide ramping down. If a limit linked to the cutoff system under paragraphs (c)(2)(ii)(G)(*1*)(*i*) through (*iv*) of this section is exceeded during the ramp down, you have failed to comply with that limit.

(H) *Boiler load.* (*1*) Boiler load shall not be less than 40 percent. Boiler load is the ratio at any time of the total heat input to the maximum design heat input.

(*2*) Steam production rate or other measure of boiler load shall be monitored continuously and the minimum 40 percent load shall be maintained on an hourly rolling average basis.

(I) *Fuel atomization.* The emission-comparable fuel shall be fired directly into the primary fuel flame zone of the combustion chamber with an air or steam atomization firing system, mechanical atomization system, or a rotary cup atomization system under the following conditions:

(*1*) *Particle size.* The emission-comparable fuel must pass through a 200 mesh (74 micron) screen, or equivalent;

(*2*) *Mechanical atomization systems.* Fuel pressure within a mechanical atomization system and fuel flow rate shall be maintained within the design range taking into account the viscosity and volatility of the fuel;

(*3*) *Rotary cup atomization systems.* Fuel flow rate through a rotary cup atomization system must be maintained within the design range taking into account the viscosity and volatility of the fuel.

(J) *Definition of continuous monitoring systems.* (*1*) Continuous monitoring systems (CMS) must sample the controlled parameter without interruption, and evaluate the detector response at least once each 15 seconds, and compute and record the average values at least every 60 seconds.

(2) For CMS other than the CO CEMS, you must install, operate, and calibrate the other CMS according to the manufacturer's written specifications or recommendations, at a minimum.

(iii) *Boiler operator training.* (A) Boiler operators are personnel that operate or maintain the boiler when emission-comparable fuel is burned, including continuous monitoring systems and the emission-comparable fuel automatic feed cutoff system.

(B) Boiler operators must successfully complete a program that teaches them to perform their duties in a way that ensures the boiler's compliance with the operating conditions under paragraph (c)(2)(ii) of this section. The boiler owner or operator must ensure that this program includes all the elements described in the document required under paragraph (c)(2)(iii)(F) of this section.

(C) This program must be directed by a person trained in boiler operation procedures, and must include instruction which teaches boiler operators procedures relevant to the positions in which they are employed.

(D) At a minimum, the training program must be designed to ensure that boiler operators understand the operating conditions under paragraph (c)(2)(ii) of this section and are able to respond effectively when the emission-comparable fuel automatic feed cutoff system engages an automatic cutoff of the feed of emission-comparable fuel.

(E) Boiler operators must take part in an annual review of the initial training required in paragraph (c)(2)(iii)(B) of this section.

(F) The boiler owner or operator must maintain the following documents and records at the facility:

(*1*) The job title for each boiler operator position, and the name of the employee filling each job;

(*2*) A written job description for each position listed under paragraph (c)(2)(iii)(F)(*1*) of this section. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education, or other qualifications, and duties of employees assigned to each position;

(*3*) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under paragraph (c)(2)(iii)(F)(*1*) of this section; and

(*4*) Records that document that the training or job experience required under paragraphs (c)(2)(iii)(B), (C), (D), and (E) of this section has been given to, and completed by, boiler operators.

(*5*) Training records on current personnel must be kept until emission-comparable fuel is no longer burned in the boiler. Training records on former boiler operators must be kept for at least three years from the date the employee last worked as a boiler operator at the facility. Personnel training records may

accompany personnel transferred within the same company.

(3) *Off-site shipments.* (i) Emission-comparable fuel may not be managed by any entity other than its generator, transporter, and designated burner.

(ii) Emission-comparable fuel may not be exported to a foreign country.

(4) *EPA Identification Number.* A burner that receives emission-comparable fuel from an offsite generator must have or obtain an EPA identification number from the Administrator. A burner who has not received an EPA identification number may obtain one by applying to the Administrator using EPA form 8700–12. Upon receiving the request, the Administrator will assign an EPA identification number to the burner.

(5) *Notification, reporting, and recordkeeping.* Except as provided by paragraph (c)(5)(iv) of this section, burners of emission-comparable fuel are subject to the following conditions:

(i) *Initial Notification.* (A) *Off-site burners.* A burner that receives emission-comparable fuel from an offsite generator must submit an initial notification to the Regional or State RCRA and CAA Directors prior to receiving the first shipment:

(*1*) Providing the name, address, and EPA identification number of the burner;

(*2*) Certifying that the excluded fuel will be stored under the conditions of paragraphs (c)(1) or (e) of this section and burned in a boiler or hazardous waste combustor under the conditions of paragraph (c)(2) of this section, and that the burner will comply with the notification, reporting, and recordkeeping conditions of paragraph (c)(5) of this section;

(*3*) Identifying the specific units that will burn the excluded fuel;

(*4*) Providing an estimate of the maximum annual quantity of emission-comparable fuel that will be burned, and an estimate of the maximum as-fired concentrations of each constituent in Table 2 to this section for which the emission-comparable fuel exceeds the specifications for comparable fuel in Table 1 to this section;

(*5*) Providing documentation that ECF will be fired into the flame zone of the primary fuel; and

(*6*) Certifying that the state in which the burner is located is authorized to exclude wastes as excluded fuel under the provisions of this section.

(B) *On-site burners.* An on-site burner must include in the one-time generator notification required under paragraphs (b)(2)(i)(A) and (B) of this section the information identified under paragraphs (c)(5)(i)(A)(*3*) through (*5*) of this section.

(C) If there is a substantive change in the information provided in the initial notification, the burner must submit a revised notification.

(ii) *Reporting.* The burner must submit to the RCRA regulatory authority reports of exceedances of operating parameter limits that are linked to the emission-comparable fuel automatic feed cutoff system, as required under paragraph (c)(2)(ii)(G)(*4*) of this section.

(iii) *Recordkeeping.* (A) *Records of shipments.* If the burner receives a shipment of emission-comparable fuel from an offsite generator, the burner must retain for each shipment the following information on-site in the operating record:

(*1*) The name, address, and RCRA ID number of the generator shipping the excluded fuel;

(*2*) The quantity of excluded fuel delivered;

(*3*) For ECF that would have otherwise been a hazardous waste listed in §§ 261.31 through 261.33, the hazardous waste code for the listed waste; and

(*4*) The date of delivery;

(B) *Boiler operating data.* The burner must retain records of information required to comply with the operating conditions of paragraph (c)(2) of this section in an operating record.

(C) *Records retention.* The burner must retain records at the facility for three years.

(iv) *Burners that are hazardous waste combustors.* Hazardous waste combustors that burn emission-comparable fuel under the provisions of paragraph (c)(2)(i)(B) of this section are not subject to the provisions of paragraphs (c)(5)(i) through (iii) of this section, except:

(A) The provisions of paragraphs (c)(5)(i)(A)(*1*) and (*3*), and paragraphs (c)(5)(iii)(A) and (C) apply; and

(B) The initial notification required under paragraphs (c)(5)(i)(A)(*1*) and (*3*) must include a certification that the excluded fuel will be stored under the conditions of paragraphs (c)(1) or (e) of this section.

(d) *Failure to comply with the conditions of the exclusion.* (1) *General.* An excluded fuel loses its exclusion if any person managing the fuel fails to comply with the conditions of the exclusion under this section, and the material must be managed as hazardous waste from the point of generation. In such situations, EPA or an authorized state agency may take enforcement action under RCRA section 3008(a), except as provided in paragraph (d)(2) of this section.

(2) *Emission-comparable fuel burned in an off-site, unaffiliated burner.* If the generator that claims the exclusion for emission-comparable fuel that is burned in an off-site, unaffiliated burner documents in the operating record that reasonable efforts have been made under this paragraph to ensure that such burner complies with the conditions of exclusion, the burner rather than the generator will be liable for discarding a hazardous waste upon a finding that such burner has not complied with a condition of exclusion.

(i) In making these reasonable efforts, the generator must, at a minimum, affirmatively answer the following questions prior to shipping emission-comparable fuel to the burner:

(A) Has the burner submitted the notification to the RCRA and CAA Directors required under paragraph (c)(5)(i) of this section, and has the burner published the public notice of burning activities required under paragraph (b)(2)(ii) of this section?

(B) Does publicly available information indicate that the burner facility has not had any formal enforcement actions taken against the facility in the previous three years for violations of the RCRA hazardous waste regulations and has not been classified as a significant non-complier with RCRA Subtitle C? In answering this question, the emission-comparable fuel generator can rely on the publicly available information from EPA or the state. If the burner facility has had a formal enforcement action taken against it in the previous three years for violations of the RCRA hazardous waste regulations and has been classified as a significant non-complier with RCRA Subtitle C, does the emission-comparable fuel generator have credible evidence that the burner will manage the emission-comparable fuel properly? In answering this question, the emission-comparable fuel generator can obtain additional information from EPA, the state, or the facility itself that the facility has addressed the violations, taken remedial steps to address the violations and prevent future violations, or that the violations are not relevant to the management of emission-comparable fuel under the conditions of this section.

(C) Does the burner have the equipment and trained personnel to manage the emission-comparable fuel under the conditions of this section?

(ii) In making these reasonable efforts, the generator may use any credible evidence available, including information obtained from the burner and information obtained from a third party;

(iii) The generator must maintain for a minimum of three years

documentation and certification that reasonable efforts were made for each burner facility to which emission-comparable fuel is shipped.

(A) Documentation and certification must be made available upon request by a regulatory authority within 72 hours, or within a longer period of time as specified by the regulatory authority.

(B) The certification statement must:

(*1*) Be signed and dated by an authorized representative of the generator company; and

(*2*) Incorporate the following language: ''I hereby certify in good faith and to the best of my knowledge that, prior to arranging for transport of emission-comparable fuel to [insert name(s) of burner facility], reasonable efforts were made to ensure that the emission-comparable fuel would be stored and burned under the conditions prescribed by § 261.38, and that such efforts were based on current and accurate information.''

(iv) Reasonable efforts must be repeated at a minimum of every three years.

(v) An unaffiliated burner is a boiler or hazardous waste combustor located at a facility that is not owned by the same parent company that generated the emission-comparable fuel.

(e) *Alternative storage conditions for emissions-comparable fuel.* Emission-comparable fuel may be stored in a tank or container under the following conditions adopted from 40 CFR Part 264 in lieu of the conditions specified under paragraphs (c)(1)(iii) through (c)(1)(viii) of this section. When satisfying these conditions, you must substitute the term ''emission-comparable fuel'' for each occurrence of the term ''hazardous waste'' or ''waste.'' You must document in the operating record whether you are complying with the alternative storage conditions of this paragraph, or the storage conditions under paragraphs (c)(1)(iii) through (c)(1)(viii) of this section.

(1) *Security.* You must comply with the requirements under § 264.14 of this chapter to provide security for your emission-comparable fuel storage facility.

(2) *General inspection requirements.* You must comply with the general inspection requirements under § 264.15 of this chapter for your emission-comparable fuel storage facility.

(3) *Personnel training.* You must comply with the personnel training requirements under § 264.16 of this chapter for emission-comparable fuel storage facility personnel.

(4) *General requirements for ignitable, reactive, or incompatible materials.* You must comply with the requirements for ignitable, reactive, or incompatible materials managed by the emission-comparable fuel storage facility.

(5) *Preparedness and prevention.* You must comply with the preparedness and prevention requirements under §§ 264.31 through 264.37 of this chapter with respect to your emission-comparable fuel storage facility.

(6) *Contingency plan and emergency procedures.* You must comply with the contingency plan and emergency procedure requirements under §§ 264.51 through 264.56 of this chapter with respect to your emission-comparable fuel storage facility.

(7) *Air emission requirements for equipment leaks.* You must comply with the requirements under §§ 264.1051 through 264.1065 of this chapter to control leaks from equipment used to manage emission-comparable fuel;

(8) *Use and management of containers.* If you store emission-comparable fuel in a container, you must comply with the following requirements for use and management of those containers:

(i) *Condition of containers.* You must comply with the requirements to ensure containers are in good condition under § 264.171 of this chapter;

(ii) *Compatibility of emission-comparable fuel with containers.* You must comply with the requirements to ensure compatibility of emission-comparable fuel with containers under § 264.172 of this chapter;

(iii) *Management of containers.* You must manage containers as prescribed by § 264.173 of this chapter;

(iv) *Inspections.* You must inspect containers and the containment system as prescribed by § 264.174 of this chapter;

(v) *Containment.* You must comply with the containment provisions under § 264.175 of this chapter;

(vi) *Special requirements for ignitable or reactive emission-comparable fuel.* You must comply with the provisions for ignitable or reactive emission-comparable fuel under § 264.176 of this chapter; and

(vii) *Air emission standards.* You must comply with the air emission requirements under §§ 264.1081, 264.1086(b)(1), (c), (d), and (f) through (h), 264.1088, and 264.1089 of this chapter.

(viii) *Closed vent systems and control devices.* If you use a closed vent system or control device to comply with paragraph (e)(8)(vii) of this section, you must comply with the requirements under §§ 264.1033(b) through (o), and 264.1034 through 264.1036 of this chapter.

(9) *Tank systems.* If you store emission-comparable fuel in a tank, you must comply with the following requirements:

(i) *Containment and detection of releases.* You must comply with the requirements for containment and detection of releases under § 264.193(b), (c), (d), (e), and (f) of this chapter;

(ii) *General operating requirements.* You must comply with the general operating requirements under § 264.194 of this chapter;

(iii) *Inspections.* You must comply with the inspection requirements under § 264.195 of this chapter;

(iv) *Response to leaks or spills and disposition of leaking or unfit-for-use tank systems.* You must comply with the requirements regarding response to leaks or spills and disposition of leaking or unfit-for-use tank systems under § 264.196 of this chapter, except that § 264.196(e)(1) reads for emission-comparable fuel tank systems: ''Unless the owner/operator satisfies the requirements of paragraphs (e)(2) through (4) of this section, the tank system must be closed''.

(v) *Special requirements for ignitable or reactive materials.* You must comply with the requirements for ignitable and reactive materials under § 264.198 of this chapter;

(vi) *Special requirements for incompatible materials.* You must comply with the requirements for incompatible materials under § 264.199 of this chapter; and

(vii) *Air emissions.* (A) You must comply with the requirements to control air emissions under §§ 264.1081, 264.1083(c), 264.1084(b) through (l), 264.1087 through 264.1089, and 264.1090(b) through (d) of this chapter.

(B) *Closed vent systems and control devices.* If you use a closed vent system or control device to comply with paragraph (e)(9)(vii) of this section, you must comply with the requirements under §§ 264.1033(b) through (o), and 264.1034 through 264.1036 of this chapter.

(f) *Notification of closure of an emission-comparable fuel tank or a container storage unit.* If you store emission-comparable fuel in a tank or container, you must submit a notification to the RCRA regulatory authority when a container storage area or a tank system goes out of emission-comparable fuel service which states the date when the tank or container storage area goes out of service.

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Table 1 to § 261.38--Detection and Detection Limit Values for Comparable Fuel Specification

Chemical name	CAS No.	Concentration Limit (mg/kg at 10,000 Btu/lb)	Minimum Required Detection Limit (mg/kg)
Total Nitrogen as N	NA	4900	.....
Total Halogens as Cl	NA	540	.....
Total Organic Halogens as Cl	NA	([a])	.....
Polychlorinated biphenyls, total [Aroclors, total]	1336-36-3	ND	1.4
Cyanide, total	57-12-5	ND	1
Metals:			
Antimony, total	7440-36-0	12	.....
Arsenic, total	7440-38-2	0.23	.....
Barium, total	7440-39-3	23	.....
Beryllium, total	7440-41-7	1.2	.....
Cadmium, total	7440-43-9	1.2	.....
Chromium, total	7440-47-3	2.3	.....
Cobalt	7440-48-4	4.6	.....
Lead, total	7439-92-1	31	.....
Manganese	7439-96-5	1.2	.....
Mercury, total	7439-97-6	0.25	.....
Nickel, total	7440-02-0	58	.....
Selenium, total	7782-49-2	0.23	.....
Silver, total	7440-22-4	2.3	.....
Thallium, total	7440-28-0	23	.....
Hydrocarbons:			
Benzo[a]anthracene	56-55-3	2400	.....
Benzene	71-43-2	4100	.....
Benzo[b]fluoranthene	205-99-2	2400	.....
Benzo[k]fluoranthene	207-08-9	2400	.....
Benzo[a]pyrene	50-32-8	2400	.....
Chrysene	218-01-9	2400	.....
Dibenzo[a,h]anthracene	52-70-3	2400	.....
7,12-Dimethylbenz[a]anthracene	57-97-6	2400	.....
Fluoranthene	206-44-0	2400	.....
Indeno(1,2,3-cd)pyrene	193-39-5	2400	.....
3-Methylcholanthrene	56-49-5	2400	.....
Naphthalene	91-20-3	3200	.....
Toluene	108-88-3	36000	.....
Oxygenates:			
Acetophenone	98-86-1	2400	.....
Acrolein	107-02-8	39	.....
Allyl alcohol	107-18-6	30	.....
Bis(2-ethylhexyl)phthalate [Di-2-ethylhexyl phthalate]	117-81-7	2400	.....
Butyl benzyl phthalate	85-68-7	2400	.....
o-Cresol [2-Methyl phenol]	95-48-7	2400	.....
m-Cresol [3-Methyl phenol]	108-39-4	2400	.....
p-Cresol [4-Methyl phenol]	106-44-5	2400	.....
Di-n-butyl phthalate	84-74-2	2400	.....

Diethyl phthalate	84-66-2	2400	.....
2,4-Dimethylphenol	105-67-9	2400	.....
Dimethyl phthalate	131-11-3	2400	.....
Di-n-octyl phthalate	117-84-0	2400	.....
Endothall	145-73-3	100	.....
Ethyl methacrylate	97-63-2	39	.....
2-Ethoxyethanol [Ethylene glycol monoethyl ether]	110-80-5	100	.....
Isobutyl alcohol	78-83-1	39	.....
Isosafrole	120-58-1	2400	.....
Methyl ethyl ketone [2-Butanone]	78-93-3	39	.....
Methyl methacrylate	80-62-6	39	.....
1,4-Naphthoquinone	130-15-4	2400	.....
Phenol	108-95-2	2400	.....
Propargyl alcohol [2-Propyn-1-ol]	107-19-7	30	.....
Safrole	94-59-7	2400	.....
Sulfonated Organics:			
Carbon disulfide	75-15-0	ND	39
Disulfoton	298-04-4	ND	2400
Ethyl methanesulfonate	62-50-0	ND	2400
Methyl methanesulfonate	66-27-3	ND	2400
Phorate	298-02-2	ND	2400
1,3-Propane sultone	1120-71-4	ND	100
Tetraethyldithiopyrophosphate [Sulfotepp]	3689-24-5	ND	2400
Thiophenol [Benzenethiol]	108-98-5	ND	30
O,O,O-Triethyl phosphorothioate	126-68-1	ND	2400
Nitrogenated Organics:			
Acetonitrile [Methyl cyanide]	75-05-8	ND	39
2-Acetylaminofluorene [2-AAF]	53-96-3	ND	2400
Acrylonitrile	107-13-1	ND	39
4-Aminobiphenyl	92-67-1	ND	2400
4-Aminopyridine	504-24-5	ND	100
Aniline	62-53-3	ND	2400
Benzidine	92-87-5	ND	2400
Dibenz[a,j]acridine	224-42-0	ND	2400
O,O-Diethyl O-pyrazinyl phosphorothioate [Thionazin]	297-97-2	ND	2400
Dimethoate	60-51-5	ND	2400
p-(Dimethylamino) azobenzene [4-Dime thylaminoazobenzene]	60-11-7	ND	2400
3,3[prime]-Dimethylbenzidine	119-93-7	ND	2400
α,α-Dimethylphenethylamine	122-09-8	ND	2400
3,3[prime]-Dimethoxybenzidine	119-90-4	ND	100
1,3-Dinitrobenzene [m-Dinitrobenzene]	99-65-0	ND	2400
4,6-Dinitro-o-cresol	534-52-1	ND	2400
2,4-Dinitrophenol	51-28-5	ND	2400
2,4-Dinitrotoluene	121-14-2	ND	2400
2,6-Dinitrotoluene	606-20-2	ND	2400
Dinoseb [2-sec-Butyl-4,6-dinitrophenol]	88-85-7	ND	2400
Diphenylamine	122-39-4	ND	2400
Ethyl carbamate [Urethane]	51-79-6	ND	100
Ethylenethiourea (2-Imidazolidinethione)	96-45-7	ND	110

Famphur	52-85-7	ND	2400
Methacrylonitrile	126-98-7	ND	39
Methapyrilene	91-80-5	ND	2400
Methomyl	16752-77-5	ND	57
2-Methyllactonitrile, [Acetone cyanohydrin]	75-86-5	ND	100
Methyl parathion	298-00-0	ND	2400
MNNG (N-Metyl-N-nitroso-N[prime]-nitroguanidine)	70-25-7	ND	110
1-Naphthylamine, [α-Naphthylamine]	134-32-7	ND	2400
2-Naphthylamine, [β-Naphthylamine]	91-59-8	ND	2400
Nicotine	54-11-5	ND	100
4-Nitroaniline, [p-Nitroaniline]	100-01-6	ND	2400
Nitrobenzene	98-96-3	ND	2400
p-Nitrophenol, [p-Nitrophenol]	100-02-7	ND	2400
5-Nitro-o-toluidine	99-55-8	ND	2400
N-Nitrosodi-n-butylamine	924-16-3	ND	2400
N-Nitrosodiethylamine	55-18-5	ND	2400
N-Nitrosodiphenylamine, [Diphenylnitrosamine]	86-30-6	ND	2400
N-Nitroso-N-methylethylamine	10595-95-6	ND	2400
N-Nitrosomorpholine	59-89-2	ND	2400
N-Nitrosopiperidine	100-75-4	ND	2400
N-Nitrosopyrrolidine	930-55-2	ND	2400
2-Nitropropane	79-46-9	ND	2400
Parathion	56-38-2	ND	2400
Phenacetin	62-44-2	ND	2400
1,4-Phenylene diamine, [p-Phenylenediamine]	106-50-3	ND	2400
N-Phenylthiourea	103-85-5	ND	57
2-Picoline [alpha-Picoline]	109-06-8	ND	2400
Propylthioracil, [6-Propyl-2-thiouracil]	51-52-5	ND	100
Pyridine	110-86-1	ND	2400
Strychnine	57-24-9	ND	100
Thioacetamide	62-55-5	ND	57
Thiofanox	39196-18-4	ND	100
Thiourea	62-56-6	ND	57
Toluene-2,4-diamine [2,4-Diaminotoluene]	95-80-7	ND	57
Toluene-2,6-diamine [2,6-Diaminotoluene]	823-40-5	ND	57
o-Toluidine	95-53-4	ND	2400
p-Toluidine	106-49-0	ND	100
1,3,5-Trinitrobenzene, [sym-Trinitobenzene]	99-35-4	ND	2400
Halogenated Organics:			
Allyl chloride	107-05-1	ND	39
Aramite	140-57-8	ND	2400
Benzal chloride [Dichloromethyl benzene]	98-87-3	ND	100
Benzyl chloride	100-44-77	ND	100
bis(2-Chloroethyl)ether [Dichoroethyl ether]	111-44-4	ND	2400
Bromoform [Tribromomethane]	75-25-2	ND	39
Bromomethane [Methyl bromide]	74-83-9	ND	39
4-Bromophenyl phenyl ether [p-Bromo diphenyl ether]	101-55-3	ND	2400
Carbon tetrachloride	56-23-5	ND	39
Chlordane	57-74-9	ND	14

p-Chloroaniline	106-47-8	ND	2400
Chlorobenzene	108-90-7	ND	39
Chlorobenzilate	510-15-6	ND	2400
p-Chloro-m-cresol	59-50-7	ND	2400
2-Chloroethyl vinyl ether	110-75-8	ND	39
Chloroform	67-66-3	ND	39
Chloromethane [Methyl chloride]	74-87-3	ND	39
2-Chloronaphthalene [beta-Chloronaphthalene]	91-58-7	ND	2400
2-Chlorophenol [o-Chlorophenol]	95-57-8	ND	2400
Chloroprene [2-Chloro-1,3-butadiene]	1126-99-8	ND	39
2,4-D [2,4-Dichlorophenoxyacetic acid]	94-75-7	ND	7
Diallate	2303-16-4	ND	3400
1,2-Dibromo-3-chloropropane	96-12-8	ND	39
1,2-Dichlorobenzene [o-Dichlorobenzene]	95-50-1	ND	2400
1,3-Dichlorobenzene [m-Dichlorobenzene]	541-73-1	ND	2400
1,4-Dichlorobenzene [p-Dichlorobenzene]	106-46-7	ND	2400
3,3[prime]-Dichlorobenzidine	91-94-1	ND	2400
Dichlorodifluoromethane [CFC-12]	75-71-8	ND	39
1,2-Dichloroethane [Ethylene dichloride]	107-06-2	ND	39
1,1-Dichloroethylene [Vinylidene chloride]	75-35-4	ND	39
Dichloromethoxy ethane [Bis(2-chloroethoxy)methane]	111-91-1	ND	2400
2,4-Dichlorophenol	120-83-2	ND	2400
2,6-Dichlorophenol	87-65-0	ND	2400
1,2-Dichloropropane [Propylene dichloride]	78-87-5	ND	39
cis-1,3-Dichloropropylene	10061-01-5	ND	39
trans-1,3-Dichloropropylene	10061-02-6	ND	39
1,3-Dichloro-2-propanol	96-23-1	ND	30
Endosulfan I	959-98-8	ND	1.4
Endosulfan II	33213-65-9	ND	1.4
Endrin	72-20-8	ND	1.4
Endrin aldehyde	7421-93-4	ND	1.4
Endrin Ketone	53494-70-5	ND	1.4
Epichlorohydrin [1-Chloro-2,3-epoxy propane]	106-89-8	ND	30
Ethylidene dichloride [1,1-Dichloroethane]	75-34-3	ND	39
2-Fluoroacetamide	640-19-7	ND	100
Heptachlor	76-44-8	ND	1.4
Heptachlor epoxide	1024-57-3	ND	2.8
Hexachlorobenzene	118-74-1	ND	2400
Hexachloro-1,3-butadiene [Hexachlorobutadiene].	87-68-3	ND	2400
Hexachlorocyclopentadiene	77-47-4	ND	2400
Hexachloroethane	67-72-1	ND	2400
Hexachlorophene	70-30-4	ND	59000
Hexachloropropene [Hexachloropropylene]	1888-71-7	ND	2400
Isodrin	465-73-6	ND	2400
Kepone [Chlordecone]	143-50-0	ND	4700
Lindane [gamma-BHC] [gamma-Hexachlorocyclohexane]	58-89-9	ND	1.4
Methylene chloride [Dichloromethane]	75-09-2	ND	39
4,4[prime]-Methylene-bis(2-chloroaniline)	101-14-4	ND	100
Methyl iodide [Iodomethane]	74-88-4	ND	39

Pentachlorobenzene	608-93-5	ND	2400
Pentachloroethane	76-01-7	ND	39
Pentachloronitrobenzene [PCNB] [Quintobenzene] [Quintozene].	82-68-8	ND	2400
Pentachlorophenol	87-88-5	ND	2400
Pronamide	23950-58-5	ND	2400
Silvex [2,4,5-Trichlorophenoxypropionic acid]..	93-72-1	ND	7
2,3,7,8-Tetrachlorodibenzo-p-dioxin [2,3,7,8-TCDD]	1746-01-6	ND	30
1,2,4,5-Tetrachlorobenzene	95-94-3	ND	2400
1,1,2,2-Tetrachloroethane	79-35-4	ND	39
Tetrachloroethylene [Perchloroethylene]	127-18-4	ND	39
2,3,4,6-Tetrachlorophenol	58-90-2	ND	2400
1,2,4-Trichlorobenzene	120-82-1	ND	2400
1,1,1-Trichloroethane [Methyl chloroform]	71-56-6	ND	39
1,1,2-Trichloroethane [Vinyl trichloride]	79-00-5	ND	39
Trichloroethylene	79-01-6	ND	39
Trichlorofluoromethane [Trichlormonofluoromethane]	75-69-4	ND	39
2,4,5-Trichlorophenol	95-95-4	ND	2400
2,4,6-Trichlorophenol	88-06-2	ND	2400
1,2,3-Trichloropropane	96-18-4	ND	39
Vinyl Chloride	75-01-4	ND	39

Notes:

NA--Not Applicable.

ND--Nondetect.

([a]) 25 or individual halogenated organics listed below.

TABLE 2 TO §261.38.—MAXIMUM ALLOWABLE FEEDRATES FOR EMISSION-COMPARABLE FUEL CONSTITUENTS

Chemical Name	CAS Number	Constituent Gas Flowrate-Normalized Feedrate Limit (ug/dscm)[1]
Hydrocarbons		
Benzene	71-43-2	5.33E+04
Naphthalene	91-20-3	3.20E+05
Toluene	108-88-3	1.20E+06
Benzo[a]anthracene	56-55-3	1.60E+03
Benzo[b]fluoranthene	205-99-2	2.00E+02
Benzo[k]fluoranthene	207-08-9	1.00E+03
Benzo[a]pyrene	50-32-8	5.00E+01
Chrysene	218-01-9	1.80E+03
Dibenzo[a,h]anthracene	52-70-30	4.00E+02
7,12-Dimethylbenz[a]anthracene	57-97-6	2.00E+02
Fluoranthene	206-44-0	6.10E+03
Indeno(1,2,3-cd)pyrene	193-39-5	1.00E+03
3-Methylcholanthrene	56-49-5	2.00E+02
Oxygenates		
Acetophenone	98-86-2	3.60E+05
Acrolein	107-02-8	3.60E+05
Allyl alcohol	107-18-6	3.60E+05
Bis(2-ethylhexyl)phthalate [Di-2ethylhexyl phthalate]	117-81-7	3.60E+05
Butyl benzyl phthalate	85-68-7	3.60E+05
o-Cresol [2-Methyl phenol]	95-48-7	3.60E+05
m-Cresol [3-Methyl phenol]	108-39-4	3.60E+05
p-Cresol [4-Methyl phenol]	106-44-5	3.60E+05
Di-n-butyl phthalate	84-74-2	3.60E+05
Diethyl phthalate	84-66-2	3.60E+05
2,4-Dimethylphenol	105-67-9	3.60E+05
Dimethyl phthalate	131-11-3	3.60E+05
Di-n-octyl phthalate	117-84-0	3.60E+05
Endothall	145-73-3	3.60E+05
Ethyl methacrylate	97-63-2	3.60E+05
2-Ethoxyethanol [Ethylene glycol monoethyl ether]	110-80-5	3.60E+05
Isobutyl alcohol	78-83-1	3.60E+05
Isosafrole	120-58-1	3.60E+05
Methyl ethyl ketone [2-Butanone]	78-93-3	3.60E+05
Methyl methacrylate	80-62-6	1.80E+05
1,4-Naphthoquinone	130-15-4	3.60E+05
Phenol	108-95-2	3.60E+04
Propargyl alcohol [2-Propyne-1-ol]	107-19-7	3.60E+05
Safrole	94-59-7	3.60E+05

[1] To determine the maximum allowable mass feedrate per unit time to the combustor, "ug/min," of an emission-comparable fuel constituent, multiply the gas flowrate-normalized feedrate limit, "ug/dscm," times the gas flowrate of the combustor, "dscm/min."

TABLE 3 TO §261.38—DEFAULT VALUES FOR THE CONCENTRATION OF EMISSION-COMPARABLE FUEL CONSTITUENTS IN FUEL OIL

	Chemical Name	CAS Number	Default Concentration (mg/kg)
	Hydrocarbons		
1	Benzene	71-43-2	75
2	Naphthalene	91-20-3	3500
3	Toluene	108-88-3	380
4	Benzo[a]anthracene	56-55-3	2400
5	Benzo[b]fluoranthene	205-99-2	2400
6	Benzo[k]fluoranthene	207-08-9	2400
7	Benzo[a]pyrene	50-32-8	2400
8	Chrysene	218-01-9	2400
9	Dibenzo[a,h]anthracene	52-70-30	2400
10	7,12-Dimethylbenz[a]anthracene	57-97-6	2400
11	Fluoranthene	206-44-0	2400
12	Indeno(1,2,3-cd)pyrene	193-39-5	2400
13	3-Methylcholanthrene	56-49-5	2400
	Oxygenates		
1	Acetophenone	98-86-2	2400
2	Acrolein	107-02-8	39
3	Allyl alcohol	107-18-6	30
4	Bis(2-ethylhexyl)phthalate [Di-2ethylhexyl phthalate]	117-81-7	2400
5	Butyl benzyl phthalate	85-68-7	2400
6	o-Cresol [2-Methyl phenol]	95-48-7	2400
7	m-Cresol [3-Methyl phenol]	108-39-4	2400
8	p-Cresol [4-Methyl phenol]	106-44-5	2400
9	Di-n-butyl phthalate	84-74-2	2400
10	Diethyl phthalate	84-66-2	2400
11	2,4-Dimethylphenol	105-67-9	2400
12	Dimethyl phthalate	131-11-3	2400
13	Di-n-octyl phthalate	117-84-0	2400
14	Endothall	145-73-3	100
15	Ethyl methacrylate	97-63-2	39
16	2-Ethoxyethanol [Ethylene glycol monoethyl ether]	110-80-5	100
17	Isobutyl alcohol	78-83-1	39
18	Isosafrole	120-58-1	2400
19	Methyl ethyl ketone [2-Butanone]	78-93-3	39
20	Methyl methacrylate	80-62-6	39
21	1,4-Naphthoquinone	130-15-4	2400
22	Phenol	108-95-2	2400
23	Propargyl alcohol [2-Propyne-1-ol]	107-19-7	30
24	Safrole	94-59-7	2400

TABLE 4 TO §261.38.—DEFAULT VALUES FOR THE CONCENTRATION OF EMISSION-COMPARABLE FUEL CONSTITUENTS IN COAL

Compound	Concentration in Coal (mg/kg)
Acetophenone	150
Acrolein	2900
Benzene	217
Bis(2-ethylhexyl)phthalate	730
MEK	3900
Methyl methacrylate	200
Phenol	16
Toluene	120

Note: The default value for other emission-comparable fuel constituents in coal is 0 mg/kg.

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