ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 241

[EPA–HQ–RCRA–2008–0329; FRL–9148–2]

RIN 2050–AG44

Identification of Non-Hazardous Secondary Materials That Are Solid Waste

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: On January 2, 2009, the Environmental Protection Agency (EPA or the Agency) issued an Advanced Notice of Proposed Rulemaking (ANPRM) to solicit comment on which non-hazardous secondary materials that are used as fuels or ingredients in combustion units are solid wastes under the Resource Conservation and Recovery Act (RCRA). The meaning of "solid waste" as defined under RCRA is of particular importance since it will determine whether a combustion unit is required to meet emissions standards for solid waste incineration units issued under section 129 of the Clean Air Act (CAA) or emissions standards for commercial, industrial, and institutional boilers issued under CAA section 112. CAA section 129 states that the term "solid waste" shall have the meaning "established by the Administrator pursuant to [RCRA]." EPA is proposing a definition of non-hazardous solid waste that would be used to identify whether non-hazardous secondary materials burned as fuels or used as ingredients in combustion units are solid waste. EPA is also proposing that non-hazardous secondary materials that have been discarded, and are therefore solid wastes, may be rendered products after they have been processed (altered chemically or physically) into a fuel or ingredient product. This proposed rule is necessary to identify units for the purpose of developing certain standards under sections 112 and 129 of the CAA. In addition to this proposed rule, EPA is concurrently proposing air emission requirements under CAA section 112 for industrial, commercial, and institutional boilers and process heaters, as well as air emission requirements under CAA section 129 for commercial and industrial solid waste incineration units.

DATES: *Comments.* Comments must be received on or before July 19, 2010. Under the Paperwork Reduction Act, comments on the information collection provisions are best assured of having full effect if the Office of Management and Budget (OMB) receives a copy of your comments on or before July 6, 2010.

Public Hearing. We will hold a public hearing concerning this proposed rule and the interrelated proposed CAA rules, discussed in this proposal and published in the proposed rules section of today's **Federal Register**, on June 21, 2010. Persons requesting to speak at a public hearing must contact EPA by June 14, 2010.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–HQ–RCRA–2008–0329, by one of the following methods:

- *http://www.regulations.gov:* Follow the on-line instructions for submitting comments.
- *E-mail:* Comments may be sent by electronic mail (e-mail) to: *rcra-docket@epa.gov*, Attention Docket ID No. EPA–HQ–RCRA–2008–0329. In contrast to EPA's electronic public docket, EPA's e-mail system is not an "anonymous access" system. If you send an e-mail comment directly to the docket without going through EPA's electronic public docket, EPA's e-mail system automatically captures your e-mail address. E-mail addresses that are automatically captured by EPA's e-mail system are included as part of the comment that is placed in the official public docket, and made available in EPA's electronic public docket.
- *Fax:* Comments may be faxed to 202–566–9744, Attention Docket ID No. EPA–HQ–RCRA–2008–0329.
- *Mail:* Proposed Rulemaking—Identification of Non-Hazardous Secondary Materials That Are Solid Waste, Environmental Protection Agency, Mailcode: 28221T, 1200 Pennsylvania Ave., NW., Washington, DC 20460. Please include a total of 2 copies. In addition, please mail a copy of your comments on the information collection provisions to the Office of Information and Regulatory Affairs, Office of Management and Budget (OMB), *Attn:* Desk Officer for EPA, 725 17th St., NW., Washington, DC 20503.
- *Hand Delivery:* Deliver two copies of your comments to Proposed Rulemaking—Identification of Non-Hazardous Secondary Materials That Are Solid Waste, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC 20460. Attention Docket ID No. EPA–HQ–RCRA–2008–0329. Such deliveries are only accepted during the Docket's normal hours of operation and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. EPA–HQ–RCRA–2008–0329. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *http://www.regulations.gov,* including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *http://www.regulations.gov* or e-mail. The *http://www.regulations.gov* Web site is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through *http://www.regulations.gov*, your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For additional information about EPA's public docket, visit the EPA Docket Center homepage at *http://www.epa.gov/epahome/dockets.htm.* For additional instructions on submitting comments, go to the **SUPPLEMENTARY INFORMATION** section of this document. We also request that interested parties who would like information they previously submitted to EPA to be considered as part of this action, to identify the relevant information by docket entry numbers and page numbers.

Public Hearing: We will hold a public hearing concerning the proposed rule on June 21, 2010. Persons interested in presenting oral testimony at the hearing should contact Ms. Odessa Bowling, Program Implementation and Information Division, Office of Resource Conservation and Recovery, at (703) 308–8404 by June 14, 2010. The public hearing will be held in the Washington DC area at a location and time that will be posted at the following Web site: *http://www.epa.gov/osw/nonhaz/definition.htm.* Please refer to this Web site to confirm the date of the public hearing as well. If no one requests to

speak at the public hearing by June 14, 2010 then the public hearing will be cancelled and a notification of cancellation posted on the following web site: *http://www.epa.gov/osw/nonhaz/definition.htm.* Information regarding the interrelated CAA proposals referenced can be found at *http://www.epa.gov/airquality/combustion.*

Docket: 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.*, 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.

FOR FURTHER INFORMATION CONTACT: George Faison, Program Implementation and Information Division, Office of Resource Conservation and Recovery, 5303P, Environmental Protection Agency, Ariel Rios Building, 1200 Pennsylvania Avenue, NW., Washington, DC 20460–0002; *telephone number:* 703–305–7652; *fax number:* 703–308–0509; *e-mail address: faison.george@epa.gov.*

SUPPLEMENTARY INFORMATION:

A. Does This Action Apply to Me?

Categories and entities potentially affected by this action include:

Generators		Users	
Major generator category	NAICS*	Major boiler type and primary industry category	NAICS*
Iron and Steel Mills	331111	*Industrial Boilers:*	
		Food Manufacturing	311, 312
		Pulp and Paper Mills	3221
		Chemical Manufacturing	325
Other Rubber Product Manufacturing.	32629	Petroleum Refining	32411
		Primary Metal Manufacturing	331
		Fabricated Metal Manufacturing	332
Logging	113310	Other Manufacturing	313, 339, 321, 333, 336, 511, 326, 316, 327
Sawmills and Wood Preservation	32111.		
Veneer, Plywood, and Engineered Wood Product Manufacturing.	32121	*Commercial Boilers:*	
Pulp, Paper, and Paperboard Mills	3221	Office	813, 541, 921
Cattle Ranching and Farming	1121	Warehouse	493
Hog and Pig Farming	1122	Retail	442–454
Poultry and Egg Production	1123	Education	611
Sheep and Goat Farming	1124	Social Assistance	624
Horses and Other Equine Production.	112920	Lodging, Restaurant	721, 722
Crop Production	111	Health Care Facilities	621
Support Activities for Crop Production.	11511	Other	922140, others
Food Manufacturing	311.		
Beverage and Tobacco Product Manufacturing.	312	*Common Non-Manufacturing Boilers:*	
Construction of Buildings	236	Agriculture (crop & livestock production).	111, 112, 115
Site Preparation Contractors	238910	All Mining	212
Landscaping Services	561730	Construction	236
Iron and Steel Mills	331111.		
Fossil Fuel Electric Power Generation.	221112	*Other Boilers:*	
Cement Manufacturing	327310	Electric Utility Boilers	2211
Bituminous Coal and Lignite Surface Mining.	212111.		
Bituminous Coal Underground Mining.	212112	Non HW Burning Cement Kilns	327310
Anthracite Mining	212113.		
Sewage Treatment Facilities	221320.		
Solid Waste Collection and Solid Waste Landfill.	562111, 562212.		
Metal-casting industry	331522.		
Glass and Glass Product Manufacturing.	3272.		

Generators		Users	
Major generator category	NAICS*	Major boiler type and primary industry category	NAICS*
Packaging	32611.		
Plastic manufacturers	325211.		
Electrometallurgical Ferroalloy Product Manufacturing.	331112.		
Recycling Services for Degreasing Solvents Manufacturing.	325998.		
Solvent Dyes Manufacturing	325132.		
Solvents Made in Petroleum Refineries.	324110.		
Automotive Repair and Replacement Shops.	811111.		
Recyclable Material Wholesalers	423930.		
Engineered Wood Members Manufacturing.	321213.		
All Other Miscellaneous Chemical Product and Preparation Manufacturing.	325998.		

* NAICS = North American Industrial Classification System.

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 of which EPA is aware that could potentially be affected 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 section: **FOR FURTHER INFORMATION CONTACT**.

B. What Should I Consider as I Prepare My Comments for EPA?

1. *Submitting CBI.* Do not submit this information to EPA through *http://www.regulations.gov* or e-mail. Clearly mark the part or all of the information that you claim to be CBI. For CBI information in a disk or CD ROM that you mail to EPA, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be disclosed except in accordance with the procedures set forth in 40 CFR part 2.

2. *Tips for Preparing Your Comments.* When submitting comments, remember to:

- Identify the rulemaking by docket number and other identifying information (subject heading, **Federal Register** date, and page number).
- Follow directions—The agency may ask you to respond to specific questions or organize comments by referencing a Code of Federal Regulations (CFR) part or section number.
- Explain why you agree or disagree, suggest alternatives, and substitute language for your requested changes.
- Describe any assumptions and provide any technical information and/or data that you used.
- If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.
- Provide specific examples to illustrate your concerns, and suggest alternatives.
- Explain your views as clearly as possible.
- Make sure to submit your comments by the comment period deadline identified.

3. *Docket Copying Costs.* Many documents are available only in the original and, therefore, must be photocopied. Patrons are allowed 100 free photocopies. Thereafter, they are charged 15 cents per page. When necessary, an invoice indicating how many copies were made, the cost of the order, and where to send a check will be issued to the patron.

Documents also are available on microfilm. The EPA/DC staff assist patrons locate the needed documents and operate the microfilm machines. The billing fee for printing microfilm documents is the same as for photocopying documents.

Patrons who are outside of the metropolitan Washington, DC, area can request documents by telephone. The photocopying and microfilming fee is the same as for walk-in patrons. If an invoice is necessary, EPA/DC staff can mail one with the order.

Preamble Outline

I. Statutory Authority

The U.S. Environmental Protection Agency (EPA) is promulgating these regulations under the authority of sections 2002(a)(1) and 1004(27) of the Resource Conservation and Recovery Act (RCRA), as amended, 42 U.S.C. 6912(a)(1) and 6903(27). Section 129(a)(1)(D) of the CAA directs EPA to establish standards for Commercial and Industrial Solid Waste Incinerators (CISWI), which burn solid waste (section 129(g)(6) of the Clean Air Act (CAA), 42 U.S.C. 7429). Section 129(g)(6) provides that the term, solid waste, is to be established by EPA under RCRA. Section 2002(a)(1) of RCRA authorizes the Agency to promulgate regulations as are necessary to carry out its functions under the Act. The statutory definition of "solid waste" is provided in RCRA section 1004(27).

II. List of Abbreviations and Acronyms

ANPRM Advanced Notice of Proposed Rulemaking
ASME American Society of Mechanical Engineers
Btu British Thermal Unit
CAA Clean Air Act
CAFO Concentrated Animal Feeding Operations
CCA Chromated Copper Arsenate
CCR Coal Combustion Residuals
CFR Code of Federal Regulations
CISWI Commercial and Industrial Solid Waste Incinerator
CKD Cement Kiln Dust
CWA Clean Water Act
DSE Domestic Sewage Exemption
DSW Definition of Solid Waste
EG Emission Guidelines
EGU Electric Utility Steam Generating Unit
EPA U.S. Environmental Protection Agency
GACT Generally Available Control Technology
GHG Greenhouse Gas
HAP Hazardous Air Pollutant
IWI Institutional Waste Incinerator
LCA Life Cycle Analysis
MACT Maximum Achievable Control Technology
NESHAP National Emission Standards for Hazardous Air Pollutants
NSPS New Source Performance Standards
OSWI Other Solid Waste Incinerator
PC Portland Cement
PIC Product of Incomplete Combustion
POTW Publicly Owned Treatment Works
PVC Polyvinyl Chloride
RCRA Resource Conservation and Recovery Act
SWDA Solid Waste Disposal Act
TDF Tire Derived Fuel
VSMWC Very Small Municipal Waste Combustor

III. Introduction

In 1990, Congress added section 129 to the CAA to address emissions from solid waste incinerators. CAA section 129 directs EPA to promulgate emission standards for categories of "solid waste incineration units." 42 U.S.C. 7429(a)(1). The term "solid waste incineration unit" is defined, in pertinent part, to mean "a distinct operating unit of any facility which combusts any solid waste material from commercial or industrial establishments * * *" *Id.* at § 7429(g)(1). The CAA specifically excludes the following types of units from the definition of "solid waste incineration unit": (1) Incinerators or other units required to have a permit under section 3005 of RCRA; (2) material recovery facilities (including primary and secondary smelters) which combust waste for the primary purpose of recovering metals; (3) qualifying small power production facilities, as defined in section 3(17)(C) of the Federal Power Act, or qualifying cogeneration facilities, as defined in section 3(18)(B) of the Federal Power Act, which burn homogeneous waste (such as units which burn tires or used oil, but not including refuse-derived fuel) for the production of electric energy or in the case of qualifying cogeneration facilities which burn homogeneous waste for the production of electric energy or steam or forms of useful energy (such as heat) which are used for industrial, commercial, heating

or cooling purposes, or (4) air curtain incinerators, provided that such incinerators only burn wood wastes, yard wastes and clean lumber and that such air curtain incinerators comply with the opacity limitations to be established by the Administrator by rule. *Id.*

CAA section 129 further states that the term "solid waste" shall have the meaning "established by the Administrator pursuant to the Solid Waste Disposal Act" *Id.* at 7429(g)(6). CAA section 129 refers to the Solid Waste Disposal Act (SWDA). However, this act, as amended, is commonly referred to as RCRA. Thus, the term "RCRA" is used in place of SWDA in this Notice. RCRA in turn defines the term "solid waste" to mean "* * * any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, * * *" Section 1004 (27).

IV. Background

The discussion below was previously included in the Advanced Notice of Proposed Rulemaking (ANPRM). However, because it is also pertinent to the development of today's proposal, it also is included here for the benefit of the reader. The entire record for the ANPRM is included in the record for this rulemaking. To the extent there are any inconsistencies or differences between the ANPRM and this proposal, the statements in this proposal apply.

A. What is the history of CISWI, CISWI definitions, and boiler rulemakings?

EPA promulgated a final rule setting forth performance emissions standards for Commercial and Industrial Solid Waste Incineration Units (referred to as the "CISWI Rule"). 65 FR 75338 (December 1, 2000). Under CAA section 129, the emissions standards for new sources must be at least as stringent as the emissions control achieved in practice by the best-controlled similar source. For existing sources, the emissions standards must be at least as stringent as the average emissions limitation achieved by the best-performing 12 percent of units in the category. CAA section 129 (a)(2). This level of stringency is commonly referred to as the maximum achievable control technology (MACT) "floor." EPA must also consider more stringent "beyond-the-floor" emissions controls, taking into account cost, energy, and non-air quality environmental impacts. The Administrator may also distinguish among classes, types (including mass-burn, refuse-derived fuel, modular and other types of units), and sizes of units within a category in establishing such standards. *Id.* at 7429(a)(2).

The CISWI Rule established emission limitations for new and existing CISWI units for the following pollutants: Cadmium, carbon monoxide, dioxins/furans, hydrogen chloride, lead, mercury, oxides of nitrogen (NO_X), particulate matter (PM), sulfur dioxide (SO_2), and opacity. In addition, the rule established certain monitoring and operator training and certification requirements. *See* 65 FR 75338 for a more detailed discussion of the CISWI Rule.

The CISWI Rule was challenged in *Sierra Club* v. *EPA* (No. 01–1048) (DC Cir.). After promulgation of the CISWI Rule, the DC Circuit issued its decision in a challenge to EPA's MACT standards for the cement kiln industry. *Cement Kiln Recycling Coalition* v. *EPA,* 255 F.3d 855 (DC Cir. 2001) ("Cement Kiln"). As a result of the courts decision in *Cement Kiln,* EPA requested a voluntary remand of the CISWI Rule, in order to address concerns related to the issues that were raised by the court in *Cement Kiln.* The court granted EPA's request for a voluntary remand and remanded, without vacatur, the CISWI Rule back to EPA. Because the CISWI Rule was not vacated, its requirements remain in effect. *See Sierra Club.* v. *EPA,* 374 F. Supp.2d 30, 32–33 (D.D.C. 2005).

On September 22, 2005, EPA issued revised definitions of "solid waste," "commercial or industrial solid waste incineration unit," and "commercial or industrial waste" (the "CISWI Definitions Rule"). *See* 70 FR 55568. In the CISWI Definitions Rule, EPA defined "commercial and industrial solid waste" to exclude solid waste that is combusted at a facility in a combustion unit whose design provides for energy recovery or which operates with energy recovery. Therefore, a unit combusting solid waste with energy recovery was not considered a CISWI unit.

The CISWI Definitions Rule was vacated by the DC Circuit in *NRDC* v. *EPA (*489 F.3d 1250 (DC Cir. 2007)). The court stated that the statute unambiguously requires any unit that combusts "any solid waste material at all"—regardless of whether the material is being burned for energy recovery—to be regulated as a "solid waste incineration unit." *Id.* at 1260. In the same decision, the court also vacated and remanded EPA's emissions standards for commercial, industrial, and institutional major source boilers and process heaters (the Boiler MACT Rule), concluding that the universe of sources subject to that rule would be much smaller if it did not include units that combust solid waste for the purposes of energy recovery.

B. Why is the court's decision affecting the CAA rules relevant to RCRA?

In responding to the court's vacatur and remand of the CISWI Definitions Rule and the Boiler MACT Rule, EPA is establishing, under RCRA, which non-hazardous secondary materials [1] are "solid waste." This is necessary because, under the court's decision, any unit combusting any "solid waste" at all must be regulated as a "solid waste incineration unit," regardless of the function of the combustion device. If a non-hazardous secondary material (also referred to as secondary materials in this notice) is not a "solid waste" under RCRA, then a unit combusting that material must be regulated pursuant to CAA section 112 if it is a source of HAP. Alternatively, if such material is a "solid waste" under RCRA, then a unit combusting that material must be regulated under CAA section 129.

C. What do CAA Sections 112 and 129 require?

CAA section 112 requires EPA to promulgate regulations to control emissions of 187 [2] hazardous air pollutants (HAP) from sources in each source category listed by EPA under section 112(c). The statute requires the regulations for major sources [3] to reflect the maximum degree of reduction in emissions of HAP that is achievable taking into consideration the cost of achieving the emission reduction, any non-air quality health and environmental impacts, and energy requirements. For existing sources, the emissions standards must be at least as stringent as the average emissions limitation achieved by the best-

[1] A secondary material is any material that is not the primary product of a manufacturing or commercial process, and can include post-consumer material, post-industrial material, and scrap. Many types of secondary materials have Btu or material value, and can be reclaimed or reused in industrial processes. For purposes of this notice, the term secondary materials include only non-hazardous secondary materials. *See also American Mining Congress* v. *EPA,* 824 F.2d 1177 (DC Cir. 1987) in which the U.S. Court of Appeals for the District of Columbia Circuit discussed secondary materials.

[2] EPA has delisted 3 of the 190 HAP initially listed in section 112(b)(1): Methyl ethyl ketone, glycol ethers, and caprolactam.

[3] A "major source" is any stationary source that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any HAP or 25 tons per year or more of any combination of HAP. CAA section 112(a)(1).

performing 12 percent of units in the category or subcategory for categories and subcategories with at least 30 sources, and by the best-performing five sources in the category or subcategory for categories and subcategories with fewer than 30 sources. For new sources, the emissions standard must be at least as stringent as the emissions limitation achieved by the best-performing similar source. CAA section 112(d)(3). This level of stringency is commonly referred to as the MACT "floor."

Like the CAA section 112 standards, the CAA section 129 standards are based on a MACT floor. Also, as with the section 112 standards, above-the-floor standards may be established where EPA determines it is "achievable" taking into account costs and other factors. Although CAA section 129 "establishes emission requirements virtually identical to section [112's]," *Nat'l Lime Ass'n* v. *EPA,* 233 F.3d at 631, the two sections differ in three primary respects. First, CAA section 112 requires that MACT standards be established for major sources of HAP emissions, but provides discretionary authority to establish standards based on "generally available control technology" (GACT) for area sources of HAP emissions.[4] On the other hand, under CAA section 129, EPA must issue MACT standards for all solid waste incineration units in a given category regardless of size. Second, CAA section 129 requires that numeric emission limitations must be established for the following nine pollutants, plus opacity (as appropriate): cadmium, carbon monoxide, dioxins/furans, hydrogen chloride, lead, mercury, NOx, particulate matter (total and fine), and SO_2.[5] These nine pollutants represent the minimum that must be regulated; EPA has the discretion to establish standards for other pollutants as well. Third, CAA section 129 includes specific requirements for operator training, pre-construction site assessments, and monitoring that are not included in CAA section 112. *See* CAA section 129(a)(3), (c) and (d). Rather, CAA section 112's implicit authority and CAA sections 113 and 114's explicit authority is relied upon to include provisions as necessary to assure compliance with and enforcement of the section 112 emission limitations. It is important to note that CAA section 129(h)(2) specifies that no solid waste incineration unit subject to the performance standards under CAA sections 111 and 129 shall be subject to the standards under CAA section 112(d).

V. Use of Secondary Materials

A. Introduction

The U.S. is pursuing an approach to materials management that employs the concepts of life cycle assessment[6] and full cost accounting.[7] Within the context of RCRA,[8] this proposal aims to facilitate materials management to the extent allowed by the statute, through the establishment of a regulatory framework that guides the beneficial use of various secondary materials, while ensuring that such use is protective of human health and the environment. EPA, in conjunction with the states, seeks to further facilitate this objective through research, analysis, incentives, and communication. The Agency recognizes that secondary materials are widely used today as raw materials, as products, and as fuels and/or ingredients in industrial processes. We expect these uses will continue and expand in future years as effective materials management becomes more critical to a sustainable society. The use of materials from a variety of non-traditional sources, including the use of energy-containing secondary materials, is expected to play an important role in future resource conservation efforts.

The use of secondary materials as alternative fuels and/or ingredients in manufacturing processes using combustion not only recovers valuable resources, it is known to contribute to emission reductions. For example, both greenhouse gas (GHG) and particulate matter (PM) emissions have been reduced as a co-benefit of the use of secondary materials.[9] The use of secondary materials, such as use as a fuel in industrial processes may also result in other benefits. These may include reduced fuel imports, reducing negative environmental impacts caused by previous dumping (*e.g.,* tires), and reduced methane gas generation from landfills.

Secondary materials may, in most cases, be more appropriately defined as "by-products,"[10] reflecting their inherent resource recovery value in the generation and production of heat, energy, and/or marketable products. These secondary materials can provide micro (firm level) and macroeconomic benefits when legitimately used as an effective substitute for, or supplement to primary materials. Economic efficiency can be improved with the use of secondary materials, when substituted for increasingly scarce primary materials, because the use of such materials often results in an equivalent level of output at lower overall resource use, or in turn, more output could be generated using the same amount of resource inputs. When this occurs, monetary savings resulting from reduced resources would, theoretically, be applied to a higher and better use in the economy. This helps advance economic growth as a result of improved industrial efficiency,[11] which, in turn, helps move the country toward material sustainability and energy self sufficiency, while protecting human health and the environment.

B. Secondary Materials Use and Benefits

A wide and diverse range of secondary materials are currently used as fuels and/or ingredients in

[4] An "area source" is any stationary source of HAP that is not a major source. CAA section 112(a)(2). Area sources may be regulated under CAA section 112(d)(2) standards if the Administrator finds that the sources "presen[t] a threat of adverse effects to human health or the environment (by such sources individually or in the aggregate) warranting regulation under this section." Section 112(c)(3). Certain categories of area sources must be regulated in accordance with section 112(c)(3) and (k)(3)(B).

[5] Of these nine pollutants, cadmium, dioxins/furans, hydrogen chloride, lead, and mercury are also regulated HAP pursuant to CAA section 112, and particulate matter and carbon monoxide are commonly used as surrogate emission standards to control specific CAA section 112 HAP (*e.g.,* CAA section 112 HAP metal and organic emissions).

[6] The terms "life cycle analysis" and "life cycle assessment" are commonly used interchangeably. Life cycle assessment is a system-wide analytical technique for assessing the environmental (and sometimes economic) effects of a product, process, or activity across all life stages.

[7] Full cost accounting is an accounting system that incorporates economic, environmental, health, and social costs of a product, action, or decision.

[8] RCRA Section 6901(c)—Materials: The Congress finds with respect to materials, that—(1) Millions of tons of recoverable material which could be used are needlessly buried each year; (2) methods are available to separate usable materials from solid waste; and (3) the recovery and conservation of such materials can reduce the dependence of the United States on foreign resources and reduce the deficit in its balance of payments.

[9] For example, the GHG rate associated with the combustion of scrap tires is approximately 0.081 $MTCO_2E$ per MMBtu of scrap tires combusted, while the GHG emissions rate for coal is approximately 0.094 $MTCO_2E$ per MMBtu. Combined with the avoided extraction and processing emissions 0.006 $MTCO_2E$/MMBtu for coal, the total avoided GHG is 0.019 $MTCO_2E$ per MMBtu. Substituting tire-derived fuel for coal would also avoid an estimated 0.246 Lbs/MMBtu of PM associated with extraction and processing of the coal. Please see the Materials Characterization Papers in the docket for further details on these estimates, and other estimates of avoided emissions associated with burning tires and other secondary materials as fuel.

[10] For purposes of this action, we define by-product as a secondary or incidental material derived from the primary use or production process that has value in the marketplace, or value to the user.

[11] Opportunities for improved economic efficiency are recognized through the Action Statement of the *U.S. Business Council For Sustainable Development:* "Promoting Sustainable Development by Creating Value Through Action Establishing Networks and Partnerships, and Providing a Voice for Industry."

manufacturing or service processes. Based on our research conducted in support of the January 2, 2009 ANPRM, we identified eight non-hazardous secondary material fuels or fuel groups and six non-hazardous ingredients, or ingredient groups. The eight fuel source materials were: The biomass group (pulp and paper residuals, forest derived biomass, agricultural residues, food scraps, animal manure, and gaseous fuels); construction and demolition materials (building related, disaster debris, and land clearing debris); scrap tires; scrap plastics; spent solvents; coal refuse; waste water treatment sludge, and used oil. The six secondary material ingredients were: blast furnace slag; cement kiln dust (CKD); the coal combustion product group (fly ash, bottom ash, and boiler slag); foundry sand; silica fume; and secondary glass material. The ANPRM discussed and described these key secondary materials. In addition, we developed comprehensive Materials Characterization Papers for each of these fuel and ingredient materials. These papers were included in the docket for the ANPRM, which as we note above is incorporated into the docket for this proposed rule.

Based on our review of the public comments submitted in response to the ANPRM, plus further research, we have identified three additional secondary materials not addressed in the ANPRM. These additional secondary materials are auto shredder residue, purification process byproducts, and resinated wood products. We have prepared Materials Characterization Papers for these newly identified secondary materials, which are also included in the docket for today's proposed rule. In addition, we have updated and revised nearly all [12] of the existing Materials Characterization Papers to incorporate commenter information, as appropriate, plus relevant information derived from the 2008 combustion survey database (OMB Control Number 2060–0616). We believe that our newly defined list of secondary fuels and ingredients accounts for the vast majority of all secondary materials used in combustion processes in the U.S. However, as part of this proposal, we again solicit comment on these and any other non-hazardous secondary materials potentially used as fuels and/or ingredients. Comments containing detailed, quality controlled data are welcome and will be very useful as we move forward in this rulemaking effort. Information on the annual quantity of material generated, used, and stored; major uses (*i.e.,* fuel v. non-fuel); management practices; major markets; processing requirements; contaminants; and life cycle inventory data would be most helpful.

[12] The materials characterization paper on Silica Fume was the only paper not requiring updating.

VI. History of the Definition of Solid Waste

A. Statutory Definition of Solid Waste

RCRA defines "solid waste" as "* * *any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and *other discarded material* * * *resulting from industrial, commercial, mining, and agricultural operations, and from community activities * * *" (RCRA section 1004 (27) (emphasis added)). The key concept is that of "discard" and, in fact, this definition turns on the meaning of the phrase, "other discarded material," since this term encompasses all other examples provided in the definition.

The ANPRM provides a complete discussion on the concept of discard, as well as a description of the solid waste program under RCRA subtitle D, and the hazardous waste program under RCRA subtitle C. We refer the reader to the ANPRM for a detailed discussion on these subjects regarding the definition of solid waste. The ANPRM also includes a detailed discussion on the case law on the definition of solid waste, which we repeat below, and on the concept of legitimacy, or legitimate recycling. That discussion is relevant to this proposal and is incorporated into this rulemaking. We are repeating parts of the discussion on legitimacy below to the extent it helps in understanding this proposal.

B. Case Law on Definition of Solid Waste

Partly because the interpretation of the definition of solid waste is the foundation of the hazardous waste regulatory program, there has been a great deal of litigation over the meaning of "solid waste" under RCRA subtitle C. From these cases, a few key principles emerge which guide our thinking on the definition of solid waste.

First, the ordinary plain-English meaning of the term, "discard" controls when determining whether a material is a solid waste. *See American Mining Congress* v. *EPA,* 824 F.2d 1177 (DC Cir. 1987) ("AMC I"). The ordinary plain-English meaning of the term discarded means "disposed of," "thrown away," or "abandoned." The DC Circuit in AMC I specifically rejected a more expansive meaning for discard that would encompass any materials "no longer useful in their original capacity" even if they were not destined for disposal. 824 F.2d at 1185–87. The Court further held that the term "discarded materials" could not include materials "* * * destined for beneficial reuse or recycling in a continuous process by the generating industry itself. (824 F.2d at 1190).

Subsequent to AMC I, the DC Circuit discussed the meaning of discard in particular cases. In *American Petroleum Institute* v. *EPA,* 906 F.2d 729 (DC Cir. 1990) ("API I"), the court rejected EPA's decision not to regulate recycled air pollution control equipment slag based on an Agency determination that waste "ceases to be a 'solid waste' when it arrives at a metals reclamation facility because at that point it is no longer 'discarded material.'" 906 F.2d at 740. Instead, the court held that the materials were part of a mandatory waste treatment plan for hazardous wastes prescribed by EPA and continued to be wastes even if recycled. 906 F.2d at 741. Further, a material is a solid waste regardless of whether it "may" be reused at some time in the future. *American Mining Congress* v. *EPA,* 907 F.2d 1179 (DC Cir. 1990) ("AMC II").

One of the more important holdings of a number of court decisions is that simply because a waste has, or may have, value does not mean the material loses its status as a solid waste. *See API I,* 906 F.2d at 741 n.16; *United States* v. *ILCO Inc.,* 996 F.2d 1126, 1131–32 (11th Cir. 1993); *Owen Steel* v. *Browner,* 37 F.3d 146, 150 (4th Cir. 1994). *ILCO and Owen Steel,* however, recognize that products made from wastes are, themselves, products and not wastes.

The DC Circuit's decision in *Association of Battery Recyclers* v. *EPA,* 208 F.3d 1047 (DC Cir. 2000) ("ABR") reiterated the concepts discussed in the previous cases. The Court held that it had already resolved the issue presented in ABR in its opinion in AMC I, where it found that "* * * Congress unambiguously expressed its intent that 'solid waste' (and therefore EPA's regulatory authority) be limited to materials that are 'discarded' by virtue of being disposed of, abandoned, or thrown away" (208 F.2d at 1051). It repeated that materials reused within an ongoing industrial process are neither disposed of nor abandoned (208 F.3d at 1051–52). The court also explained that the intervening API I and AMC II decisions had not narrowed the holding in AMC I (208 F.3d at 1054–1056).

Notably, the Court in ABR did *not* hold that storage before reclamation automatically makes materials "discarded." Rather, it held that "* * * at least some of the secondary material EPA seeks to regulate as solid waste (in

the mineral processing rule) is destined for reuse as part of a continuous industrial process and thus is not abandoned or thrown away" (208 F.3d at 1056). In this regard, the court criticized all parties in the case—industry as well as EPA—because they "presented this aspect of the case in broad abstraction, providing little detail about the many processes throughout the industry that generate residual material of the sort EPA is attempting to regulate * * *." (Ibid).

American Petroleum Institute v. *EPA,* 216 F.3d 50, 55 (DC Cir. 2000) ("API II"), decided shortly after ABR and considered by the court at the same time, provides further guidance for defining solid waste, but in the context of two specific waste streams in the petroleum refining industry. The court overturned EPA's determination that certain recycled oil bearing wastewaters are wastes (216 F.3d at 55–58) and upheld conditions imposed by the Agency in excluding petrochemical recovered oil from the definition of solid waste (216 F.3d at 58–59). In the case of oil-bearing wastewaters, EPA had determined that the first phase of treatment, primary treatment, results in a waste being created. 216 F.3d at 55. The court overturned this decision and remanded it to EPA for a better explanation, neither accepting EPA's view nor the contrary industry view. The court noted that the ultimate determination that had to be made was whether primary treatment is simply a step in the act of discarding or the last step in a production process before discard. 213 F.3d at 57. In particular, the court rejected EPA's argument that primary treatment was required by regulation, instead stating that the Agency needed to "set forth why it has concluded that the compliance motivation predominates over the reclamation motivation" and "why that conclusion, even if validly reached, compels the further conclusion that the wastewater has been discarded." 213 F.3d at 58.

The court also considered whether material is discarded in *Safe Food and Fertilizer* v. *EPA,* 350 F.3d 1263 (DC Cir. 2003) ("Safe Food"). In that case, among other things, the court rejected the argument that, as a matter of plain meaning, recycled material destined for immediate reuse within an ongoing industrial process is never considered "discarded," whereas material that is transferred to another firm or industry for subsequent recycling must always be solid wastes. 350 F.3d at 1268. Instead, the court evaluated "whether the agency's interpretation of * * * 'discarded' * * * is, reasonable and consistent with the statutory purpose* * *." *Id.* Thus, EPA has the discretion to determine that a material is not a solid waste, even if it is transferred between industries.

We also note that the Ninth Circuit has specifically found that non-hazardous secondary materials may, under certain circumstances, be burned and not constitute a solid waste under RCRA. *See Safe Air For Everyone* v. *Waynemeyer* ("Safe Air"), 373 F.3d 1035 (9th Cir., 2004) (Kentucky bluegrass stubble may be burned to return nutrients to the soil and not be a solid waste).

C. The Concept of Legitimacy

An important element under the RCRA subtitle C definition of solid waste (and an important element of today's proposal) is the concept of legitimate use and recycling. Under RCRA subtitle C, some hazardous secondary materials that would otherwise be subject to regulation under RCRA's "cradle to grave" system are not considered solid wastes if they are "legitimately recycled" or legitimately used as an ingredient or substitute for a commercial product. The principal reasoning behind this construct is that use or recycling of such materials often closely resembles normal industrial production, rather than waste management. However, since there can be considerable economic incentive to manage recyclable materials outside of the RCRA hazardous waste regulatory system, there is a clear potential for and historical evidence of some handlers claiming they are recycling, when in fact they are conducting waste treatment and/or disposal in the guise of recycling. EPA considers such "sham" recycling to be, in fact, discard and such secondary materials being sham recycled are solid wastes.

To guard against hazardous secondary materials being discarded in the guise of recycling, EPA has long articulated the need to distinguish between "legitimate" (*i.e.,* true) recycling or other use and "sham" (*i.e.,* fake) recycling; *see* the preamble to the 1985 hazardous waste regulations that established the definition of solid waste under RCRA subtitle C (50 FR 638; January 4, 1985). A similar discussion that addressed legitimacy as it pertains to burning hazardous secondary materials for energy recovery (considered a form of recycling under RCRA subtitle C) was presented in the January 9, 1988 proposed amendments to the definition of solid waste (53 FR 522). Then on April 26, 1989, the Office of Solid Waste [13] issued a memorandum that consolidated the various preamble and other statements concerning legitimate recycling into a list of questions to be considered in evaluating the legitimacy of hazardous secondary materials recycling (OSWER directive 9441.1989(19)). This memorandum (known to many as the "Lowrance Memo," a copy of which is included in the Docket to today's preamble) has been a primary source of information for the regulated community and for overseeing agencies in distinguishing between legitimate and sham recycling.

On October 30, 2008, EPA finalized several exclusions from the definition of solid waste for hazardous secondary materials being reclaimed and a non-waste determination process for persons to receive a formal determination that their hazardous secondary materials are not solid wastes when legitimately reclaimed.[14] In that action, EPA codified in 40 CFR 260.43 the requirement that materials be legitimately recycled as a condition for the exclusion for hazardous secondary materials that are legitimately reclaimed under the control of the generator (40 CFR 261.2(a)(2)(ii) and 40 CFR 261.4(a)(23)) and as a condition of the exclusion for hazardous secondary materials that are transferred for the purpose of legitimate reclamation (40 CFR 261.4(a)(24) and 40 CFR 261.4(a)(25)). As part of that final rule, EPA also codified a legitimate recycling provision specifically as a requirement or condition of these exclusions and the non-waste determination process (40 CFR 260.34).

Although this proposed rule does not address the Agency's hazardous waste regulations, EPA believes the concept of legitimacy is an important one in determining when a secondary material is genuinely recycled and not discarded under the guise of recycling. Therefore, the Agency is including the following discussion in today's preamble to provide the context in which EPA has integrated the concept of legitimacy into the recently promulgated hazardous waste exclusions from the definition of solid waste.[15]

[13] On January 9, 2009, the Office of Solid Waste was renamed the Office of Resource Conservation and Recovery.

[14] *See* 73 FR 64668.

[15] The hazardous waste exclusions from the definition of solid waste became effective on December 29, 2008. On January 29, 2009, the Sierra Club submitted a petition under RCRA section 7004(a), 42 U.S.C. 6974(a), to the Administrator of EPA requesting that the Agency repeal the revisions to the definition of solid waste rule and stay the implementation of the rule. In addition, the Sierra Club and the American Petroleum Institute have filed petitions for judicial review of a rule with the

Continued

The legitimacy provision in the October 2008 final rule, which applies specifically to hazardous secondary materials excluded under the rule, has two parts. The first part includes two factors: (1) the hazardous secondary materials being recycled must provide a useful contribution to the recycling process or to the product or intermediate of the recycling process, and (2) the product or intermediate produced by the recycling process must be valuable. These two legitimacy factors make up the core of legitimacy, and, therefore, a process that does not conform to them cannot be a legitimate recycling process, but would be considered sham recycling.

The second part of the legitimacy provision consists of two factors that must be considered when determining if a particular hazardous secondary material recycling process is legitimate for the purposes of the exclusion. These two factors are: (1) The generator and the recycler should manage the hazardous secondary material as a valuable commodity, and (2) the product of the recycling process does not contain significant concentrations of hazardous constituents that are not in analogous products. EPA believes these two factors are important in determining legitimacy, but has not made them factors that must be met because the Agency is aware of situations where a legitimate recycling process exists, but may not conform to one or both of these two factors. In making a determination that a hazardous secondary material is legitimately recycled, persons must evaluate all factors and consider legitimacy as a whole. If, after careful evaluation of these other considerations, one or both of the non-mandatory factors are not met, then this fact may be an indication that the material is not legitimately recycled. To evaluate the extent to which these factors are met and in determining the legitimacy of a recycling process that does not meet one or both of these factors, persons can consider the protectiveness of the storage methods, exposure from toxics in the product, the bioavailability of the toxics in the product, and other relevant considerations.

EPA stated in the preamble to the October 2008 final rule that, although the Agency was only codifying the legitimacy provision as part of the new hazardous secondary materials recycling exclusions and non-waste determination process, it was stressing that EPA retains its long-standing policy that all recycling of hazardous secondary materials must be legitimate and that the four legitimacy factors codified at 40 CFR 260.43 are substantively the same as the Agency's long-standing legitimacy policy, as stated in the 1989 Lowrance Memo and in various definition of solid waste rulemakings.

EPA believes the same principle of "legitimacy" is likewise an important element in the recycling of non-hazardous secondary materials. That is, the concept of legitimate recycling is crucial to determining whether a non-hazardous secondary material being recycled is truly being recycled or is, in fact, being discarded through sham recycling. In the January 2, 2009 ANPRM, the Agency sought comment on the appropriate construct for determining when such non-hazardous secondary materials are legitimately burned as a fuel or used as a legitimate ingredient in an industrial process that involved combustion (*see* Section V, 74 FR 53–9). A general discussion of the comments EPA received follows in Section VII.C.

VII. ANPRM Discussion, Summary of the Proposed Approach, Comments Received on the ANPRM, and Rationale for and Detailed Description of the Proposed Rule

A. Summary of the ANPRM Approach

In the ANPRM, the Agency considered various scenarios in evaluating the usage of secondary materials (*e.g.,* as fuels or ingredients) and whether these materials should be considered solid wastes under RCRA when used in combustion devices, such that units burning these secondary materials would be subject to regulation under CAA section 129, rather than subject to CAA section 112. Specifically, the ANPRM identified several cases where such non-hazardous secondary materials are not solid wastes when combusted, and thus, subject to CAA section 112. These were: (1) Traditional fuels, (2) secondary materials used as legitimate "alternative" fuels that have not been previously discarded, (3) secondary materials used as legitimate "alternative fuels" resulting from the processing of discarded secondary materials, (4) secondary materials used as legitimate ingredients, and (5) hazardous secondary materials that may be excluded from the definition of solid waste under RCRA subtitle C because they are more like commodities than wastes. All other cases where non-hazardous secondary materials are combusted would be considered "solid wastes" and subject to CAA section 129.

1. Traditional Fuels

The ANPRM categorized cellulosic biomass (*e.g.,* wood) and fossil fuels (*e.g.,* coal, oil, natural gas) and their derivatives (*e.g.,* petroleum coke, bituminous coke, coal tar oil, refinery gas, synthetic fuel, heavy recycle, asphalts, blast furnace gas, recovered gaseous butane, coke oven gas) as traditional fuels that have been burned historically as fuels and have been managed as valuable products, and stated that they are considered unused products that have not been discarded and therefore are not solid wastes. The ANPRM further stated that wood collected from forest fire clearance activities and trees and uncontaminated wood found in disaster debris would not be discarded if managed properly and burned as a legitimate fuel, and therefore not a solid waste.

2. Guiding Principles Used To Determine if Secondary Materials Used in Combustion Units Are Solid Wastes

The ANPRM explained key factors in determining if alternative fuels or ingredients are solid wastes under RCRA, including whether they have been discarded, and if they have been discarded, whether they have been processed to produce a fuel or ingredient product that would not be considered a solid waste. The ANPRM further explained that the plain-English meaning of the term discard applies to the RCRA definition of solid waste. That is, a material is discarded if it is disposed of, thrown away, or abandoned. Moreover, the ANPRM stated the term "discarded materials" could not include materials "* * * destined for beneficial reuse or recycling in a continuous process by the generating industry itself," and that determining whether a secondary material is used in a continuous process is important because certain materials under consideration are produced and managed in a continuous process within an industry (*e.g.,* cement kiln dust that is recycled in cement kilns). The ANPRM went on to say that even if the secondary material is not used in a continuous process, if it is used as a legitimate fuel or ingredient, these secondary materials are not solid wastes if they were not previously discarded.

For alternative fuels or ingredients not to be considered discarded, and thus not to be solid wastes, the ANPRM stated that they must be legitimate fuels or ingredients. It then described EPA's criteria for determining if a secondary

United States Court Of Appeals for The District Of Columbia Circuit. One of the issues that EPA will consider is the definition of legitimate recycling. However, until that occurs, the final rule, including the definition of legitimate recycling remains in effect until and unless EPA goes through another rulemaking process (proposed and final) to repeal or amend it.

material is a legitimate fuel or ingredient. The Agency explained that it generally considers secondary materials to be legitimate non-waste fuels if they are handled as valuable commodities, have meaningful heating value, and contain contaminants that are not significantly higher in concentration than traditional fuel products. If these criteria are not met, sham recycling may be indicated and the secondary material might be a solid waste. Similarly, for non-hazardous secondary materials to be considered a non-waste ingredient, the ANPRM stated that it would generally consider secondary materials to be non-waste ingredients if the secondary material is handled as a valuable commodity, the secondary material provides a useful contribution, the recycling results in a valuable product, and the product does not contain contaminants that are significantly higher in concentration than traditional products.

3. Secondary Materials Used as Legitimate "Alternative" Fuels That Have Not Been Previously Discarded

For legitimate "alternative" fuels that have not been previously discarded, the ANPRM stated that the question of what constitutes a legitimate "fuel" reflects the availability of fuel materials generally, the demand for fuel, and technology developments. Thus, in addition to traditional fuels, the ANPRM stated that there is a category of secondary materials that are legitimate alternative fuels; that is, there are secondary materials that may not have been traditionally used as fuels, but that are nonetheless legitimate fuels today because of changes in technology and in the energy market. In cases where these legitimate alternative fuels have not been discarded, EPA said that it would not consider them to be solid wastes. We stated that much of the biomass currently used as alternative fuels are not solid waste since they have not been discarded in the first instance and are legitimate fuel products, noting that biomass can include a wide range of alternative fuels, and can be broken down into two different categories—cellulosic biomass and non-cellulosic biomass. Cellulosic biomass was described to include forest-derived biomass (*e.g.,* green wood, forest thinnings, clean and unadulterated bark, sawdust, trim, and tree harvesting residuals from logging and sawmill materials), food scraps, pulp and paper mill wood residuals (*e.g.,* hog fuel, such as clean and unadulterated bark, sawdust, trim screenings; and residuals from tree harvesting), and agricultural residues (*e.g.,* straw, corn husks, peanut shells, and bagasse). Non-cellulosic biomass was described to include manures and gaseous fuels (*e.g.,* from landfills and manures).

The ANPRM stated that biomass, especially cellulosic biomass, has a comparable composition to traditional fuel products due to the nature of the plants and animals (*i.e.,* they would not be considered to have additional "contaminants"). Thus, if they are managed as valuable commodities and have meaningful heating value, they would not be considered solid wastes.

The ANPRM also noted that tires used as tire-derived fuel (TDF), which include whole or shredded tires, that have not been previously discarded, are legitimate fuels if they meet the legitimacy criteria *i.e.,* they are handled as valuable commodities, have meaningful heating value, and do not contain contaminants that are significantly higher in concentration when compared to traditional fuel products (*see* Materials Characterization Paper on Scrap Tires in the docket for today's rule for a complete discussion on contaminants in TDF [EPA–HQ–RCRA–2008–0329]). We noted that in many cases, used tires that are collected pursuant to state tire oversight programs (*e.g.,* used tires from tire dealerships that are sent to used tire processing facilities) are handled as valuable commodities, and, therefore, have not been abandoned, disposed of, or thrown away. We noted that because states typically regulate these programs under their state solid waste authorities, it is not the Agency's intent to undercut the state's authority in this area. We requested comment on whether tires collected pursuant to state tire oversight programs have been discarded, and also requested comment on whether an EPA designation specifying that used tires, for example, managed pursuant to state collection programs are not solid wastes, would adversely impact a state's ability to manage such a program. EPA notes that it is considering a change regarding the issue of tires collected under state programs, which is discussed later in the preamble. In particular, the Agency proposes that tires collected under these recycling programs are discarded and are solid wastes. EPA proposes this formulation for tires, but is asking for further comment on the ANPRM formulation that secondary material collected and sent for legitimate use as fuels are not discarded and are not solid wastes. For more discussion, *see* sections VII.C.5.c. and VII.D.2 of today's proposal. EPA may issue a final rule containing either set of provisions depending on information received in the comment period and other information available to the Agency.

The ANPRM described other non-traditional alternative fuels in use today that we are evaluating to determine whether they have been discarded and whether they are legitimate alternative fuels (*e.g.,* construction and demolition materials,[16] scrap plastics, non-hazardous non-halogenated solvents and lubricants, and wastewater treatment sludge). The ANPRM then described secondary materials we considered to be questionable as to whether they are legitimate fuels because they lack adequate heating value (wet biomass), or because they may contain contaminants that are significantly higher[17] in concentration than those in traditional fuel products to the degree that sham recycling is indicated. The materials that were described in the ANPRM that could fall into this category include polyvinyl chloride (PVC), halogenated plastics, chromated copper arsenate (CCA) lumber, creosote lumber, copper-based treated lumber, lead-based treated lumber, and secondary mill residues, such as board, trim and breakage from the manufacture of reconstituted wood/panel products.

4. Secondary Materials Used as Legitimate "Alternative" Fuels Resulting From the Processing of Discarded Secondary Materials

The ANPRM also stated that legitimate fuel products may be extracted, processed, or reclaimed from non-hazardous secondary materials that have been discarded in the first instance and that such products would generally not be considered solid waste. Once processed to make a legitimate non-waste fuel product, such a product

[16] EPA is completing a study evaluating the use of a mobile unit for the combustion of vegetative and construction and demolition debris generated from natural disasters. This study includes monitoring of the source and ambient emissions, and a screening risk assessment. Results are projected to be available later in 2010. Extreme care needs to be taken to exclude specific materials in C&D debris, especially regulated-asbestos containing materials (RACM). Additionally, the wiring, plastics, and painted surfaces may contribute to emissions of concern and might not equate to traditional fuels. Upon publication, this study will be available at EPA's National Risk Management Research Laboratory (NRMRL) publications Web site at *http://www.epa.gov/nrmrl/publications.html.*

[17] In determining whether the concentration of contaminants in secondary materials is "significantly higher," the Agency stated in the ANPRM that it could use a qualitative evaluation of the potential human health and environmental risks posed. A contaminant concentration could be elevated without posing unacceptable risk, and therefore may not be considered "significant" for the purposes of determining whether the secondary material is a legitimate fuel.

would not be discarded and therefore would not be a solid waste, provided it met the general principles discussed in today's preamble for being a legitimate fuel. However, until a legitimate product has been processed, the secondary material that has been discarded is a solid waste, and must comply with any federal, state or local regulations. In addition, any waste generated in the "processing" of these materials would need to be managed properly and comply with the appropriate requirements. The ANPRM described various secondary materials that can be processed into fuels, including discarded biomass (*e.g.,* with dewatering/drying techniques to increase the Btu/lb, or stripping the paint off wood to produce clean biomass), coal fines, used oil, tires,[18] landfill ash, and secondary materials that are mixed and processed into pellets (or other forms) that have the consistency and handling characteristics of coal (*e.g.,* K–Fuel, N–Viro). The ANPRM stated that the degree of processing necessarily will vary depending on the specific material, but the objective remains the same—the product from the processing must be a legitimate fuel (*i.e.,* a material with meaningful heating value, with contaminants that are not present at significantly higher concentrations than those of traditional fuel products, and managed as a valuable commodity).

Although the ANPRM stated that forest-derived biomass is not considered to have been discarded, we requested comment on whether any forest-derived biomass that was determined to have been discarded and was subsequently processed by chipping or sorting prior to use as a fuel through combustion would be considered to have undergone adequate processing to convert the discarded material into a fuel product. We also requested comment on whether mined landfill power plant residuals that is crushed, screened, and/or separated into its fundamental components through density separation is adequately processed to convert it into a fuel product or ingredient (under the assumption that it meets our previously described legitimacy criteria).

With respect to used oil, the ANPRM stated that off-specification used oil that is collected from repair shops is generally thought to be originally discarded, but that on-spec used oil was considered to be a product fuel, not a waste. We also requested comment on whether off-specification used oil managed pursuant to the 40 CFR part 279 used oil management standards which are burned for energy recovery should be considered to be discarded, and thus whether such off-specification used oil should be considered a non-waste fuel. We stated that although off-specification used oil may contain contaminant levels that are higher in concentration than traditional (virgin) fossil fuels, they still are managed within the constraints of the used oil management standards, and may only be burned in specific types of combustion devices.

5. Secondary Materials Used as Legitimate Ingredients

For secondary materials used as ingredients, the ANPRM also stated we must determine whether alternative ingredients, such as CKD, bottom ash, boiler slag, blast furnace slag, foundry sand, and secondary glass material have been discarded, or whether they are being used as legitimate non-waste ingredients. For example, the ANPRM stated that coal fly ash is handled as a commodity within continuous commerce when it is marketed to cement kilns as an alternative ingredient, and would not be considered a waste if it met the legitimacy criteria.

The ANPRM also stated that secondary materials used as ingredients that were previously discarded could be processed into legitimate non-waste ingredients.

6. Hazardous Secondary Materials That May Be Excluded From the Definition of Solid Waste Under RCRA Subtitle C Because They Are More Like Commodities Than Wastes

In the ANPRM, the Agency explained that, under the hazardous waste regulations, EPA has evaluated a number of hazardous secondary materials that are legitimately used or recycled and determined that such materials, while they either met a listing description or exhibited one or more of the hazardous waste characteristics, were not "solid wastes" for purposes of the subtitle C hazardous waste regulations. Specifically, black liquor, spent sulfuric acid, and comparable fuels may be burned under certain conditions and would not be solid wastes. The ANPRM discussed EPA's interest in extending this determination so that these materials are not considered solid wastes under RCRA subtitle D as well.

7. Additional Areas for Comment in the ANPRM

a. Fuels or Materials That Have Been Discarded That Are Generally Considered To Be Solid Wastes

The ANPRM explained that secondary materials that have been previously discarded and not subsequently processed into legitimate fuels or ingredients are considered solid wastes under RCRA. However, the Agency requested comment as to whether these discarded materials—once recovered from the discard environment—should no longer be considered solid waste (assuming they are in fact valuable fuels or ingredients and otherwise meet the legitimacy criteria once recovered). EPA recognized that waste can be burned for energy or material recovery. Such materials, once they have been discarded, generally are considered "solid wastes" and units that burn these materials would be subject to the CAA section 129 incineration standards if they have not been processed into a legitimate non-waste ingredient or fuel. However, the ANPRM explained that as prices for primary materials have increased, in many cases, the economics of using secondary materials as a substitute for primary materials has shifted, changing how the secondary materials are considered in commerce. In addition, new technologies can expand the universe of secondary materials that could be considered legitimate fuels.

The ANPRM therefore requested comment on those situations where discarded materials (*e.g.,* used tires and coal refuse) can be directly used as a legitimate fuel or ingredient without processing because they are indistinguishable in all relevant aspects from a fuel or ingredient product. (Note that the Agency only requested comment on these secondary materials at the point they have been removed from their "discard" environment and managed as valuable commodities. Materials that have been disposed of in abandoned piles or landfills are clearly discarded while they remain in those environments and are subject to appropriate federal, state and local regulations.)

b. Other Approaches for Determining Whether Secondary Materials Are Fuels and Not Solid Wastes

The ANPRM requested comment on an approach, as presented to the Agency by industry representatives, for determining when non-hazardous secondary materials are fuels and thus, not solid waste, and how the process

[18] Turning scrap tires into TDF can involve two physical processing steps: Chipping/shredding and in some cases metal removal. The ANPRM stated that, at that point, the Agency's view was that tire shredding/chipping alone (without metal recovery), as well as in combination with metal recovery, are legitimate processing activities sufficient to convert a discarded material into a fuel product.

may be implemented.[19] Industry representatives suggested that non-hazardous secondary materials should be evaluated, on a case-by-case basis, to identify which criteria have been satisfied and determine whether the material is legitimately handled as a fuel. Criteria identified by industry stakeholders include: handling and storage of materials to minimize loss, use of materials within a reasonable period of time, material value (*e.g.,* whether there is a market for the material as a fuel, internal or external to the company), material managed and treated as a commodity, and processing of material to enhance fuel value. Under the industry recommended approach, the secondary material would not necessarily have to satisfy all criteria. To implement the aforementioned concepts for determining when or which secondary materials are fuels, the ANPRM described two methods presented by industry, which were not meant to be mutually exclusive. One method is self-implementing, by which an owner or operator of a combustion device must determine that the secondary material meets the criteria set forth and maintain records to demonstrate that these criteria are met. The other method is not self-implementing, but would allow an owner or operator to petition EPA or the state to specifically list a secondary material as a legitimate non-waste fuel (in addition to a pre-established list of materials). In the petition, the owner or operator would use the criteria as the basis for proposing that EPA or the state list the secondary material, or the owner or operator could submit additional information to demonstrate the environmental equivalence of the material to other listed fuels.

c. Materials for Which State Beneficial Use Determinations Have Been Made

The ANPRM explained that states regulate the management of non-hazardous solid waste, including secondary industrial materials, and that many states have a process or promulgated regulations to determine when these materials are no longer wastes because they can beneficially and safely be used as products in commerce. Materials are no longer subject to the state's solid waste regulations under the state rules when the state determines that the secondary materials are no longer solid wastes when beneficially used. The ANPRM further explained that the states are the lead Agencies for implementing the non-hazardous waste programs and, as such, the Agency wanted to make sure that state programs are not adversely affected by any decisions that are made by EPA, noting that we see a benefit to deferring to state decisions, which are able to consider site-specific information. As a result, the Agency requested comments on whether to consider secondary materials that receive a state beneficial use determination for use as a fuel or as an ingredient as not a solid waste, also not be considered a solid waste under federal law.

d. Biofuels

Biofuels can be generally described as a gas or liquid fuel made from biological materials, including plants, animal manure, and other organic sources. The ANPRM noted that biofuel production has increased dramatically in the past few years and is expected to continue increasing over the coming years, and stated that biofuels produced from secondary materials, such as ethanol and biodiesel, are not considered to be solid wastes themselves, but rather are viewed as legitimate fuel products. Secondary materials associated with biofuel production can be viewed to include both the feedstock materials that are used to produce biofuels, as well as the byproducts generated from the production of biofuels. The ANPRM stated that these materials are considered legitimate alternative fuels when they have meaningful heating value, do not contain contaminants that are significantly higher in concentration than traditional fuels, and are handled as a valuable commodity.

B. Summary of the Proposed Approach

1. Changes from the ANPRM Approach

While many of the concepts and provisions that were discussed in the ANPRM are included in this proposal, including discard and the legitimacy criteria, the basic framework is different based partly on the approach taken in the Definition of Solid Waste (DSW) final rule promulgated on October 30, 2008 (*see* 73 FR 64668) under subtitle C of RCRA, based partly on the comments received (*see* section VII.C for the comments and EPA's response), as well as on our interpretation of whether these secondary materials are considered to be discarded (*see* section VII.C.2 for the comments and EPA's response).

The ANPRM indicated that there may be a number of secondary materials that would not be considered discarded even if the original generator sent them to another entity outside of its control. For example, used tires collected from automobiles at tire dealerships and managed pursuant to state tire collection programs were not viewed as solid wastes in the ANPRM. Comments received from some states suggested that non-hazardous secondary material fuels that are transferred to a third party have entered what is traditionally considered to be the "waste stream" (and have been regulated by the states as wastes) and therefore should appropriately be considered wastes (*e.g.,* scrap tires) unless/until they are processed into non-waste fuel products. As discussed below, this proposal assumes that non-hazardous secondary materials that are used as fuels and are managed outside the control of the generator are solid wastes unless they are processed into non-waste fuel products. (Note: The same non-hazardous secondary material that is burned for energy recovery under the control of the generator and meets the legitimacy criteria would not be considered a solid waste since the non-hazardous secondary material would not be considered discarded.)

We are also proposing, as discussed below, a non-waste determination petition process. That process will allow those persons who burn non-hazardous secondary material fuels that are not managed within the control of the generator (that this proposal would consider to be solid wastes), to petition EPA for a determination that such non-hazardous secondary materials are not discarded and therefore, are not solid wastes (assuming these materials have met the applicable legitimacy criteria). While the Agency recognizes that a petition process can be resource intensive, we also believe it necessary and appropriate to provide an opportunity for persons to demonstrate to EPA that their non-hazardous secondary material fuels would not be considered "discarded" under RCRA and therefore, not solid waste.

Furthermore, some other important changes were made between the ANPRM and this proposal based on comments received and further investigation. One of the differences is the classification of "clean" biomass and on-specification used oil as a traditional fuel (*see* section VII.C.5.b.). In addition, EPA is only addressing non-hazardous secondary materials in this rulemaking, and thus, has decided not to address hazardous secondary materials that have been excluded from the definition of solid waste under subtitle C of RCRA in this rulemaking proceeding. Instead, facilities combusting hazardous secondary materials should refer to

[19] A copy of this industry-recommended approach entitled, "Outline of Regulatory Approach to Determine Materials Considered Fuels—not Solid Wastes—under RCRA," is included in the docket to today's proposed rule.

EPA's Subtitle C hazardous waste regulations to determine whether the materials they are combusting are solid wastes. Each of these changes is discussed in detail in the referenced sections.

2. General Proposed Approach

This proposal maintains the same general principles for determining whether a non-hazardous secondary material is or is not a solid waste as expressed in the ANPRM. Under the proposed rule, the following are not solid wastes when combusted for purposes of the CAA: non-hazardous secondary materials used as fuels that remain within and are combusted within the control of the generator and that meet the legitimacy criteria; non-hazardous secondary materials that meet the legitimacy criteria and are used as ingredients in a manufacturing process; materials that meet the legitimacy criteria and have been sufficiently processed into a fuel or ingredient from discarded non-hazardous secondary materials that have been discarded; and non-hazardous secondary materials used as a fuel that does not remain within the control of the generator for which EPA grants a facility's petition for a "non-solid waste" determination.

The term "discarded" is intended to encompass material handling and management scenarios that meet the plain meaning of discard (abandoned, disposed of, or thrown away). For example, a secondary material that is thrown away and disposed of in a landfill is considered to have been discarded in the first instance. Materials that have been discarded in the first instance are solid waste even if they satisfy the legitimacy criteria (unless they are processed into a legitimate non-waste product) since both wastes and non-wastes may be legitimately recycled.

3. Legitimacy Criteria

This proposal also maintains the same general principles as described in the ANPRM for determining whether a non-hazardous secondary material is or is not a legitimate fuel or ingredient. Secondary materials used in a combustion unit that are not a legitimate fuel or ingredient would be considered sham recycling and thus, a solid waste. For legitimate fuels, non-hazardous secondary materials must be handled as a valuable commodity, have meaningful heating value, be used as a fuel in a combustion unit that recovers energy, and contain contaminants at levels comparable to those in traditional fuels. As used throughout today's proposal, "comparable" levels of contaminants refer to levels that are comparable or less than those in traditional fuels. For legitimate ingredients, the non-hazardous secondary material must be handled as a valuable commodity, provide a useful contribution, result in a valuable product or intermediate, and result in products that contain contaminants at levels that are comparable in concentration to those found in traditional products that are manufactured without the non-hazardous secondary material. As with fuels, contaminant levels that are comparable refers to levels that are comparable or less than contaminant levels found in traditional products that are manufactured without the non-hazardous secondary material ingredients.

4. Traditional Fuels

This proposal recognizes that traditional fuels are not solid wastes when burned in a combustion unit. Traditional fuels are those fuels that have been historically managed as valuable fuel products rather than being managed as waste materials. Traditional fuels include fossil fuels (*e.g.,* coal, oil, including used oil meeting on-specification levels, natural gas) and their derivatives (*e.g.,* petroleum coke, bituminous coke, coal tar oil, refinery gas, synthetic fuel, heavy recycle, asphalts, blast furnace gas, recovered gaseous butane, and coke oven gas). Clean cellulosic biomass materials are also traditional fuels rather than wastes when burned as a fuel. "Clean" material is defined as those non-hazardous secondary materials that have not been altered (either chemically or through some type of production process), such that it contains contaminants at concentrations normally associated with virgin biomass materials. Clean cellulosic biomass includes forest-derived biomass (*e.g.,* green wood, forest thinnings, clean and unadulterated bark, sawdust, trim, and tree harvesting residuals from logging and sawmill materials), corn stover and other biomass crops used specifically for energy production (*e.g.,* energy cane, other fast growing grasses), bagasse[20] and other crop residues (*e.g.,* peanut shells), wood collected from forest fire clearance activities, trees and clean wood found in disaster debris, and clean biomass from land clearing operations.

We request comment on whether other fuels in use today also should be classified as traditional fuels, and also whether other types of cellulosic biomass should be designated as clean biomass, and thus a traditional fuel. In identifying other secondary materials as a traditional fuel, commenters will need to explain why such materials should be considered a traditional fuel—that is, an explanation of how the materials have historically been managed as a valuable fuel product and not a waste.

EPA acknowledges that changes in technology and in the energy market over time may result in additional secondary materials being economically viable to be used as "traditional" fuels. It also may not always be clear whether a fuel material is a traditional fuel. We agree with commenters to the ANPRM that this rulemaking should be flexible to account for increasing use and changes in commodities, technologies, markets, and fuel prices. We, therefore, request comment on whether we should provide a petition process that would allow a facility or person to request that EPA determine whether the fuel that they burn qualifies as a traditional fuel. If we adopt such a petition process, it would be implemented through the same process as the non-waste determination petition process discussed in section VII.D.5.

5. Circumstances Under Which a Non-Hazardous Secondary Material Would Not Be Considered a Solid Waste

Non-hazardous secondary materials used as fuels in combustion units would be considered solid wastes unless: (1) The non-hazardous secondary materials (not otherwise discarded) remain under the control of the generator as discussed in section VII.D.1, and meet the legitimacy criteria; or (2) they are legitimate non-waste fuels that meet the legitimacy criteria and are produced from the processing of discarded non-hazardous secondary materials as discussed in section VII.D.4. Non-hazardous secondary materials used as a fuel in combustion units that are transferred to a third party are considered solid wastes unless a non-waste determination has been granted pursuant to the proposed petition process (discussed below).

Non-hazardous secondary materials used as ingredients that are combusted in combustion units would not be considered solid waste if they have not been discarded in the first instance and if they are legitimate ingredients, irrespective of whether they have been transferred to a third party. We are not

[20] Bagasse is the matted cellulose fiber residue from sugar cane that has been processed in a sugar mill. For more information on bagasse, *see* the Materials Characterization Paper on Biomass-Agricultural Residues and Food Scraps, which is located in the docket of today's proposed rule.

proposing to differentiate ingredients that are used within the control of the generator from those that are not since we believe the use of non-hazardous secondary materials as ingredients is considered to be more integral or akin to use in a commercial manufacturing process and thus these non-hazardous secondary materials would not be considered discarded provided they satisfy the legitimacy criteria.

Except for the petition process, the proposed criteria are designed to be self-implementing in nature, not requiring Agency action. As such, we are proposing that it will be the facility's (*i.e.,* the facility that burns the material) responsibility to determine if the secondary material satisfies the proposed criteria that identifies which material is a solid waste when burned in a combustion unit.

6. Petition Process

EPA is also proposing to establish a non-waste determination petition process for secondary materials used as fuels outside the control of the generator. The petition process provides persons with an administrative process for a formal determination that their non-hazardous secondary material fuel has not been discarded and is indistinguishable in all relevant aspects from a fuel and therefore not a solid waste. The determination will be based on whether the non-hazardous secondary material has been discarded, is a legitimate fuel and the following criteria: (1) Whether market participants handle the non-hazardous secondary material as a fuel rather than a solid waste; (2) whether the chemical and physical identity of the non-hazardous secondary material is comparable to commercial fuels; (3) whether the non-hazardous secondary material will be used in a reasonable time frame given the state of the market; (4) whether the constituents in the non-hazardous secondary material will be released to the air, water, or land from the point of generation to the combustion of the secondary material at levels comparable to what would otherwise be released from traditional fuels; and (5) other relevant factors. For further information regarding the non-waste determination petition process, *see* section VII.D.5.

EPA developed two flowcharts that generally illustrate the process of determining whether nonhazardous secondary materials burned as a fuel or ingredient in combustion units are or are not solid waste. These diagrams present the proposed rule's basic framework as a series of questions that should be considered when determining the appropriate characterization of a nonhazardous secondary material (*i.e.* as a solid waste or not when burned in a combustion unit). *See* "Flow Chart for Determining Whether Non-Hazardous Secondary Material Ingredients Burned In Combustion Units are Solid Wastes", and "Flow Chart for Determining Whether Non-Hazardous Materials Used as Fuel In Combustion Units are Solid Waste" in the docket for today's proposal. We are soliciting comments on whether these flow charts should be included in the Code of Federal Regulations (CFR) as part of the final rule.

C. What were the major comments on the ANPRM?

1. Comments from State Agencies

EPA received comments from several states and state organizations in response to the ANPRM. Comments received expressed a range of viewpoints representing states with differing solid waste management programs and authorities. Consequently, it was not surprising that the comments received often articulated competing suggestions and recommendations based upon different state programs and experiences.

Comment: Some states did not want EPA to define what is or is not a waste at the federal level if it impacts or limits the scope of what states currently regulate under their solid waste management authority. Some states noted a potential problem related to existing "stringency provisions" in some state laws. For example, if a solid waste determination is made at the federal level, it could be argued that the state is less stringent through their issued exemptions and the state rule must be rescinded. Conversely, some states argued they cannot, by state statute, be more stringent than the Federal regulations, and even if they don't have this statutory limitation, they may feel pressure to not be more restrictive than the federal definition. Many states said we should defer the determination of whether those non-hazardous secondary materials used as fuels or ingredients are solid wastes to the states and urged flexibility in how each state could incorporate any new regulations into its existing solid waste management programs.

EPA's Response: The Clean Air Act (section 129(g)(6)) states that the term "solid waste" shall have the meaning established by the Administrator pursuant to the Solid Waste Disposal Act. Accordingly, EPA must define which non-hazardous secondary materials used as fuels or ingredients in combustion units are solid waste at the national level in order to identify the universe of sources subject to the boilers emissions standards to be issued under CAA section 112 and the CISWI emissions standards to be issued under CAA section 129. *See* section VIII of today's proposal for a discussion on the applicability of state solid waste definitions and beneficial use determinations, as well as a discussion on state adoption of this rulemaking.

Comment: Many states commented that they had long-standing "waste" management programs regulating non-hazardous secondary materials, that no one had questioned the legitimacy of their regulatory programs in the past, and that it was inappropriate and contrary to the intent of RCRA for EPA to exclude this material, which had been considered "waste" for many decades, from regulation under RCRA.

On the other hand, other states were concerned a federal designation that some of these non-hazardous secondary materials are "wastes" would disrupt existing recycling markets by creating a deterrent from using these non-hazardous secondary materials as fuels or ingredients. These states emphasized the importance of promoting beneficial use of non-hazardous secondary materials and were concerned that regulation of certain materials (especially used tires) under CAA section 129 would create negative incentives to their beneficial use and consequently could have negative environmental impacts.

Many states explained that they manage/regulate many of these secondary materials as solid waste (*e.g.,* tires), but determine they are not wastes (via beneficial use determinations) when after analysis the state has determined they are going to a legitimate use (*e.g.,* as a fuel). These states recommended that these materials remain a solid waste until they are approved for, procured and delivered to the potential end user in order to retain their ability to regulate the management of these secondary materials, usually under its solid waste management authority.[21] For example, some states recommended that EPA exclude whole tires from the definition of solid waste at the point of combustion.[22]

[21] Many states regulate used tires under a statutory authority outside of their solid waste management statutory authority, while some states regulate used tires pursuant to both their solid waste management authority, as well as separate tire statutory authority.

[22] Subsequent to the closing of the comment period, the Environmental Council of States (ECOS) approved Resolution 09–7, entitled "Meaning of 'Solid Waste' under the Resource Conservation and Recovery Act (RCRA) as it Applies to Non-

Continued

EPA's Response: In developing this proposed rule, EPA attempted to balance and address the concerns raised by the states regarding potential impacts on their existing solid waste programs in determining which non-hazardous secondary materials are solid wastes when combusted, while at the same time, recognizing that the proposed rule needed to be based on whether these secondary materials are considered to have been managed in a way that meets the plain meaning of discard, as defined in *AMC I.* We believe we have addressed that balance, considering the statutory limitations, but also understand that today's proposal could impact existing state solid waste management programs, as well as states' beneficial use programs, and specifically request comment on how today's proposal impacts or could impact such state programs. For example, does the proposed approach impact the ability of the states to continue to regulate the management of secondary materials prior to their final end use.

Comment: Some state commenters suggested that the Agency address CAA section 129 implementation issues by subcategorizing energy recovery units that burn waste materials and regulate this combustion similarly to the CAA section 112 requirements.[23]

EPA's Response: This comment relates to EPA's regulation of solid waste incineration units under section 129 and is not relevant to this action, which proposes to define "solid waste" under RCRA for non-hazardous secondary materials.

2. Meaning of Discard

As discussed in Section VI, RCRA defines "solid waste" as "* * * any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and *other discarded material* * * * resulting from industrial, commercial, mining, and agricultural operations, and from community activities * * *" (RCRA section 1004 (27) (emphasis added)). The ANPRM provided a thorough discussion on the definition of solid waste, including a summary of relevant case law. *See* also Section VI.B in today's preamble. Further, the ANPRM highlighted the importance of the concept of "discard," noting that the definition of solid waste turns on the meaning of the phrase, "other discarded material," as this term encompasses all other examples provided in the definition.

Comment: Several comments stressed that the Agency use the plain meaning of discard (*i.e.,* disposed of, abandoned, or thrown away) in defining the term "solid waste" for the purpose of establishing the appropriate standards for combustion units under CAA sections 112 and 129.

EPA's Response: EPA agrees with the premise of using the "plain meaning" of discard, as this position is consistent with case law on the issue (for a more detailed discussion, please refer to the ANPRM and section VI.B of today's preamble).

Comment: Some commenters noted that the same rationale and principles related to "discarded materials" should apply whether these materials are regulated under RCRA subtitles C or D, as the principles related to "discarded materials" are the same. Other commenters argued that the subtitle C approach should not be used for non-hazardous secondary materials since these materials pose less risk relative to hazardous wastes.

EPA's Response: EPA believes it is appropriate to use the same general framework that has been used to define solid waste for purposes of RCRA subtitles C and D (albeit tailored to specifically address non-hazardous secondary materials used as fuels or ingredients in combustion units), noting that the same statutory definition of solid waste applies to both RCRA subtitles D and C. However, EPA is not proposing in today's action any revisions to its hazardous waste regulations.

Comment: Some commenters argued that any secondary materials that are beneficially reused or recycled are not waste, regardless of whether or not the reuse or recycling is conducted in the same or different location or industry (on-site and off-site).

EPA's Response: The Agency does not agree with this assertion, as this position is not consistent with case law. Again, the question of whether a material is or is not a solid waste depends on the issue of discard. In *Safe Food and Fertilizer* v. *EPA,* 350 F. 3d 1263, the court rejected the argument that, as a matter of plain meaning, recycled material destined for immediate reuse within an ongoing industrial process is never considered "discarded," whereas material that is transferred to another firm or industry for subsequent recycling must always be solid wastes. 350 F. 3d at 1268. Instead, the court evaluated "whether the Agency's interpretation of * * * "discarded" * * * is, reasonable and consistent with the statutory purpose." *Id.* Thus, EPA has discretion to determine if non-hazardous secondary materials are not a solid waste if it is managed within the control of the generator, as well as if it is transferred outside the control of the generator. As previously described, this proposal states that non-hazardous secondary materials used as a fuel in combustion units that remain under the control of the generator and meet the legitimacy criteria are not solid waste, but that non-hazardous secondary materials that are transferred to a third party and combusted are considered solid wastes, unless a petition for a non-waste determination has been granted. Ingredients, on the other hand, are determined not to be solid waste even if they are managed outside the control of the generator as long as they meet the legitimacy criteria. *See* section VII.D.6 for a discussion on EPA's rationale for these determinations.

Comment: One commenter noted that EPA's hazardous waste regulations under subtitle C provide that hazardous secondary materials "burned to recover energy" or "used to produce a fuel" are "discarded" and, therefore, are solid wastes. 40 CFR.261.2(c)(2). The commenter went on to point out that under the ANPRM approach, EPA is interpreting the definition of solid waste to mean that burning of non-hazardous secondary material, under appropriate conditions, is not "discard" under RCRA. According to the comment, the ANPRM is inconsistent with the interpretation in 40 CFR 261.2. Regardless of whether EPA believes that it can issue separate definitions of solid waste for hazardous waste and non-hazardous waste, the commenter suggests "discarded" cannot be read both to include materials that are "burned to recover energy" or "used to produce a fuel" and to exclude such materials.

EPA's Response: EPA disagrees with this comment and does not believe the regulations are inconsistent. The hazardous waste definition may be considered a "presumption" that secondary materials burned for energy recovery, or used to produce a fuel, are solid wastes. EPA has, through rulemaking, excluded from the definition of solid waste a number of materials burned for energy recovery under certain conditions. *See* 40 CFR 261.2(c)(2)(A)(ii) (off specification commercial chemicals otherwise listed as hazardous wastes); 261.4(a)(6)("black liquor" in pulping processes);

Hazardous Waste Programs." This resolution, which was revised on March 23, 2010, urges EPA to exclude whole tires from the definition of solid waste for the purposes of combustion. Both the original (dated September 22, 2009) and revised versions are included in the docket for today's rule.

[23] *Id.* ECOS Resolution 09–7 presents this position as an alternative to excluding whole tires from the definition of solid waste for the purposes of combustion.

261.4(a)(7) (spent sulfuric acid); and 261.4(a)(16) (comparable fuels). In addition, EPA has excluded materials used to produce fuels. *See,* 40 CFR 261.4(a)(12) (oil bearing hazardous secondary material inserted into the petroleum refining process), and 261.4(a)(18) (petrochemical recovered oil inserted into the refining process).

Regardless of the appropriateness of these exclusions, or whether the Agency may appropriately exclude any secondary materials from the solid waste definition, consistency between the regulations for hazardous and non-hazardous secondary materials is not an issue. This proposed rule, which identifies certain secondary materials burned for energy recovery as not being solid wastes, is comparable to the conditional exclusions for the definition of solid waste in the hazardous waste regulations. Conditions apply to all of the secondary materials being considered for determinations as to whether they are solid wastes. The legitimacy criteria apply to all of the secondary materials.

It is reasonable and within EPA's discretion to determine that non-hazardous secondary materials may be burned as products and are not wastes. Today's proposal acknowledges the difficulty that the combustion of secondary materials is commonly associated with disposal. However, this view does not take into account that the secondary material may often be used to produce a safe fuel product that is a valuable commodity and is sold in the marketplace no differently from traditional fuels. This position seems like a common sense interpretation of the term, "solid waste," under RCRA.

Another difficulty the Agency faces is the misconception that secondary material that is burned, either for destruction or energy recovery, by definition has high levels of contaminants. The manner in which the secondary material is managed is a key factor that determines discard. Contaminant levels are part of that consideration. If a material has high levels of contaminants, it would be considered sham recycling, which is one type of way a material can be "discarded."

Hazardous secondary materials—those that would be hazardous wastes under RCRA subtitle C, if discarded—are more likely to contain high levels of contaminants. Thus, EPA could reasonably presume that burning such secondary materials, even if burned for energy recovery, is likely a waste activity. This was the Agency's rationale for issuing the subtitle C rule at 40 CFR 261.2(c)(2), which specifies that burning for energy recovery is a waste disposal activity. In EPA's rule establishing the comparable fuels exclusion from the definition of solid waste for hazardous secondary materials, the Agency stated that these hazardous secondary materials (comparable fuels) are lower in hazardous contaminants than the normal hazardous wastes and that burning of the comparable fuels "does not present the element of discarding hazardous constituents through combustion that underlies the typical classification of hazardous waste-derived fuels as a solid waste. 50 FR at 629–630 (Jan. 4, 1985)." 63 FR at 33783 (1998). We may, after looking at certain secondary materials, decide that they are not in fact solid wastes and are being burned as valuable commodities to recover energy. This interpretation, however, is consistent with today's proposal, which also evaluates whether materials burned for energy recovery are wastes or non-wastes.

Moreover, the case law supports the conclusion that materials burned for energy recovery or used to produce fuels may or may not be solid wastes. *American Mining Congress* v. *EPA,* 824 F.2d 1177 (DC Cir. 1987) ("AMC I"), held that the term "discarded materials" could not include materials " * * * destined for beneficial reuse or recycling in a continuous process by the generating industry itself. 824 F.2d at 1190. The provision under consideration in this case dealt specifically with material "reclaimed" in a continuous process. That is, material is regenerated from a secondary material in a continuous process. However, it is highly likely the courts would apply this same reasoning to secondary materials that are otherwise reused or recycled in a continuous industrial process, such as material used, or combusted, to recover energy. *Accord, Association of Battery Recyclers* v. *EPA,* 208 F.3d 1047 (DC Cir. 2000) ("ABR").

It is also worth noting that the Ninth Circuit has specifically found that non-hazardous secondary materials may, under certain circumstances, be burned and not constitute solid waste under RCRA. *See Safe Air For Everyone* v. *Waynemeyer* ("Safe Air"), 373 F.3d 1035 (9th Cir., 2004) (Kentucky bluegrass stubble may be burned to return nutrients to the soil and not be a solid waste). This activity is not waste treatment even in the absence of energy recovery. We believe, therefore, that burning material for another useful purpose (*e.g.,* energy recovery) does not necessarily constitute a disposal activity.

With respect to materials used to produce fuels, in *American Petroleum Institute* v. *EPA,* 216 F.3d 50 (DC Cir. 2000) ("API II"), the court overturned EPA's determination that certain recycled oil bearing wastewaters are wastes (216 F.3d at 55–58) and upheld conditions imposed by the Agency in excluding petrochemical recovered oil from the definition of solid waste (216 F.3d at 58–59). Both of these materials are returned to the petroleum refinery process and used to produce fuel. The court in this case was clearly considering the conditions under which two types of material may be excluded from the definition of solid waste. For purposes of the issue of concern in today's proposal, this decision supports EPA's discretion to determine whether or not a secondary material used as a fuel product is a solid waste or not, in light of factors relevant to determining whether the material is discarded. Therefore, EPA is not prevented from exercising its discretion to decide that issue either way.

3. General Approach

EPA received several comments on the general approach outlined in the ANPRM for determining which non-hazardous secondary materials used as fuels or ingredients in combustion units are or are not solid wastes. Most commenters supported the general regulatory structure that included: (1) A recognition that certain materials are inherently fuel products, (2) a self-implementing approach for identifying those non-hazardous secondary materials that are not considered solid waste pursuant to general criteria and (3) a petition process for receiving a non-waste determination from the Agency.[24]

Comments: Several commenters discussed whether to include a list of wastes and/or a list of non-wastes in the regulations. One commenter recommended that a list of secondary materials that are considered wastes be

[24] On August 18, 2009, EPA received a letter signed by nearly one hundred community groups and citizens that urged for an expansive definition of solid waste for the purposes of combustion and argued against the general approach of the ANPRM. A copy of this letter has been placed in the docket for today's proposed rule. The letter highlights stakeholder concerns regarding the differences between CAA sections 112 and 129 and argues against an overly narrow definition of solid waste. Partially in response to these comments and others, we are considering and taking comment on an alternative approach to that proposed and described in section VII.D. This alternative approach would include, with certain exceptions, non-hazardous secondary materials that are burned as a fuel or used as an ingredient in the combustion process within the definition of solid waste. As such, units combusting those materials would be required to meet CAA section 129 standards. For more information on the alternative approach, see section VII.E of this proposed rulemaking.

identified, rather than a list of secondary materials that are not considered wastes, while other commenters urged for the inclusion of a list of secondary materials that are not considered wastes when burned as a fuel. If EPA included a list of secondary materials that are not considered wastes when burned as a fuel in its regulations, one commenter also suggested that the Agency additionally include a list of secondary materials that are considered wastes in order to remove any uncertainty. Those commenters who urged that the regulations include a list of secondary materials not considered a waste when used as a fuel or ingredient also cautioned that such a list should not be all-inclusive in order to account for changes in technology and new secondary materials and processes that are not yet developed.

EPA's Response: In recognition of changes in economies, technologies, markets and material processes, EPA is not proposing to list specific non-hazardous secondary materials as either wastes or non-wastes in regulatory language, but is rather specifying the criteria to be used to determine if these secondary materials are or are not solid wastes. We believe that there could be instances where determinations of whether a particular non-hazardous secondary material meets the various criteria will have to be based on site-specific information; a national designation that in all circumstances, a particular non-hazardous secondary material is or is not a waste may not be possible. However, it is EPA's goal in this proposal, as well as in the pending final rule preamble, to indicate, as clearly as possible, which non-hazardous secondary materials used as fuels or ingredients in combustion units are or are not considered solid waste based on this criteria. As several commenters also noted, any approach must be flexible enough to account for changing technologies and new secondary materials that could, in the future, be viable fuels or ingredients. The proposed approach allows for these changes, not by codifying a list of specific non-hazardous secondary materials that are or not waste, but rather by adopting a self-implementing approach that can consider site-specific information, if necessary.

Comments: A few commenters noted a preference for categorical determinations that certain secondary materials were products, not wastes (*e.g.,* traditional fuels) along with clear criteria for solid waste determinations for secondary materials not falling into one of these categories (*i.e.* a petition process for non-waste determinations).

EPA's Response: EPA partially agrees with this approach. The proposed rule discusses traditional fuels as a category of fuel products that are not secondary materials and therefore, are not solid waste. With respect to non-hazardous secondary materials, although this proposal does not list types/categories of such secondary materials that are or are not solid waste in regulatory text (as discussed above), we are proposing self-implementing regulatory criteria to be used by the regulated universe to determine whether the non-hazardous secondary material would or would not be a solid waste. The regulatory criteria are based on four categories of non-hazardous secondary materials that are managed under various scenarios, including: (1) Non-hazardous secondary materials that remain within the control of the generator and meet the legitimacy criteria and used as fuel; (2) non-hazardous secondary materials that meet the legitimacy criteria and are used as ingredients; (3) fuel or ingredient products that are processed from discarded non-hazardous secondary materials and that are used as fuels or ingredients in a combustion unit, provided they meet the legitimacy criteria; and (4) EPA has granted a non-waste determination for non-hazardous secondary material fuels managed outside the control of the generator.

More detailed information on these categories and their respective criteria can be found in section VII.D. of this proposal.

Comments: Some commenters suggested that a petition process for a waste determination should not be mandatory. Proponents of this position urged that any regulatory construct for demonstrating that non-hazardous secondary materials qualify as alternative fuels should be self-implementing and not involve the need for individual regulatory determinations.

EPA's Response: The non-waste petition process that applies to non-hazardous secondary material fuels managed outside the control of the generator is not mandatory; however, we note that the assumption in this proposed rule is that these materials would be a solid waste, unless they are granted a non-waste determination by EPA. Also, as explained above, we are proposing a self-implementing approach for all the other non-hazardous secondary material management categories that can consider site-specific information, if necessary (*i.e.,* facilities will make a self-determination of whether the non-hazardous secondary material in question meets the regulatory criteria). We again note it is EPA's intention to indicate in the preamble, as clearly as possible, which non-hazardous materials used as fuels or ingredients in combustion units are or are not considered solid waste based on the criteria laid out in regulatory text. The Agency expects this self-implementing approach will govern for the majority of situations.

4. Level of Processing Needed To Produce a Non-Waste Product From Discarded Waste Material

In the ANPRM, we stated that if a non-hazardous secondary material is processed into a legitimate fuel or ingredient product, then the processed material would not be a discarded material. We listed various non-hazardous secondary materials we believed to have undergone adequate processing (*e.g.,* tire-derived fuel), and requested comment on whether some of the materials, such as mined landfilled ash, should be considered to have undergone adequate processing, such that it would be rendered a non-waste.

Comments: Most commenters generally agreed with the concept, but had differing views on what level of "processing" would render a discarded material a legitimate non-waste product fuel or ingredient product. Their views ranged from not requiring any processing, to specifying a minimum level of processing if processing criteria are retained. These commenters argued that any management activity associated with recovering the non-hazardous secondary material would be sufficient. Commenters who indicated that the non-hazardous secondary material should not be required to "undergo processing" before it is considered a non-waste fuel or ingredient argued that as long as these secondary materials meet the legitimacy criteria, they should not be viewed as a solid waste once recovered from the discard environment; these commenters provided examples of non-hazardous secondary materials, such as whole tires, biomass, and coal fly ash. Also, some commenters stated that the act of recovering or "extracting" the material from the "discard environment" should constitute the requisite degree of processing needed. Commenters who argued that no minimum level of processing be specified supported their position by noting that procedures for recovering solid waste vary widely and that the amount of processing required would be dependent on the application for which the non-hazardous secondary material is being prepared.

EPA's Response: We disagree with the commenters who generally argued that no level of processing or even a

minimum level of processing should be sufficient to produce a non-waste fuel or ingredient. We likewise disagree with those commenters who argued that the act of recovering or "extracting" secondary material from the discard environment should be sufficient to be considered processing. Rather, the Agency believes that sufficient processing of the secondary material (*e.g.,* changing the mass, chemical make-up, or removing particular components from the secondary material) must be undertaken to transform a waste-derived fuel or waste-derived ingredient into a fuel or ingredient product. Thus, our position on this issue has changed from that discussed in the ANPRM, as explained below.

For example, the Agency no longer believes that, in light of the proposed definition of processing, simply cutting or sizing a material is sufficient to produce a product fuel or ingredient. Specifically, under the proposed rule, processing "means any operations that transform discarded non-hazardous secondary material into a new fuel or new ingredient product. Minimal operations, such as operations that result only in modifying the size of the material by shredding, do not constitute processing for purposes of this definition. Processing includes, but is not limited to, operations that: Remove or destroy contaminants; significantly improve the fuel characteristics of the material, *e.g.,* sizing or drying the material in combination with other operations; chemically improve the as-fired energy content; and improve the ingredient characteristics." *See* the proposed definition in § 241.2.

We believe the proposed definition is specific enough to describe the general level of processing that would be needed, but flexible enough to apply broadly to the wide range of non-hazardous secondary materials that are currently under consideration, or that could be under consideration in the future as technologies change. We believe that discarded non-hazardous secondary materials must be sufficiently processed in order to render a secondary material into a non-waste product. Without sufficient processing, the non-hazardous secondary material that is produced would remain a waste-derived fuel or waste-derived ingredient, and if burned in a combustion unit, would be subject to the CAA section 129 requirements. The Agency specifically requests comment on these points.

See section VII.D.4 for a discussion of the processing of discarded non-hazardous secondary materials into non-waste fuel or ingredient products. That section describes EPA's rationale for why this processed material is no longer considered a solid waste, as well as examples of processing that EPA believes does or does not meet the requisite level to render a discarded secondary material into a non-waste product.

5. Comments on Specific Materials Used as Fuels

In the ANPRM, we listed a number of non-hazardous secondary materials, as well as traditional fuels, that we believe are currently being used as fuels and ingredients. We solicited comment on additional information, including: The composition or characteristics of non-hazardous secondary materials; how much of the non-hazardous secondary material is produced and utilized; how it is utilized (*i.e.* as a fuel or an ingredient); and how it is generally handled. The majority of comments submitted for fuels were in regard to traditional fuels and the following non-hazardous secondary materials—biomass, used tires, used oil, coal refuse, and sewage sludge.

a. Traditional Fuels. The ANRPM described traditional fuels to include: Coal, oil, natural gas, and their derivatives (*e.g.,* petroleum coke, bituminous coke, coal tar oil, refinery gas, synthetic fuel, heavy recycle, asphalts, blast furnace gas, recovered gaseous butane, and coke oven gas), as well as cellulosic biomass (*e.g.,* wood). We requested comment on whether there are other fuels that should be considered as traditional fuels and would fall within this grouping.

Comments: A few commenters suggested that bagasse should be included in the traditional fuel group because it is a valuable co-product which is fed directly from the mill to the boilers and has historically been the source of electrical power in communities located near the sugar cane mills. In addition, cellulosic biomass crops similar to bagasse (*e.g.,* energy cane and other fast growing grasses) grown specifically for fuel production, agricultural seeds, woody biomass, and wood collected from forest fire clearance activities, land clearing biomass, trees, unadulterated wood from pallets, and uncontaminated wood from disaster debris were suggested as materials that should qualify as traditional fuels. Last, several commenters argued that used oil, on-spec and off-spec, should be listed as traditional fuels. Since neither type of used oil is discarded, the presumption is that it is recycled.

EPA's Response: We agree with commenters that many of the materials mentioned in the comments should be classified as traditional fuels, which are not solid waste. However, to further add clarity, we are proposing that in order to qualify as a traditional fuel, cellulosic biomass must be "clean"—that is, must not be altered (either chemically or through some type of production process), such that it contains contaminants not normally associated with virgin biomass materials, to ensure that the material being burned does not introduce contaminants not normally associated with virgin biomass materials (we describe what we consider to be clean biomass in section VII.C.5.b). We believe clean biomass to include, but not necessarily be limited to: forest-derived biomass (*e.g.,* green wood; forest thinnings; clean and unadulterated bark; sawdust; trim; and tree harvesting residuals from logging and sawmill materials); corn stover and other biomass crops used specifically for energy production (*e.g.,* energy cane, other fast growing grasses); bagasse and other crop residues (*e.g.,* peanut shells, agricultural seeds); wood collected from forest fire clearance activities; trees and clean wood found in disaster debris; clean biomass from land clearing operations; and clean construction wood.

In regard to used oil, for the reasons discussed later in section VII.D.4, we are including on-spec used oil in the list of traditional fuels because we believe it meets our view of what is a traditional fuel (*i.e.,* fuels that have been historically managed as valuable fuel products rather than being managed as waste materials). However, off-spec used oil will be considered a solid waste, unless it is processed into a legitimate non-waste fuel, such as on-spec oil.

b. Biomass. Biomass includes a wide range of secondary materials which can be divided into two categories, cellulosic and non-cellulosic, as stated in the ANPRM.[25] While the ANPRM indicated that much of the biomass currently used as fuels are not solid waste since they have not been discarded in the first instance and are legitimate fuel products, we specifically requested comment on whether some biomass contains contaminants that are significantly higher in concentration when compared to traditional fuel products.

Comments: Cellulosic Biomass: For the cellulosic biomass category, several commenters argued that resinated wood products (*e.g.,* board trim, sander dust,

[25] In the ANPRM, we did not distinguish between "clean" cellulosic biomass and that which is not. Therefore, the comments discussed in this section are only in reference to cellulosic biomass that does not meet the definition of "clean."

panel trim) used to manufacture particleboard, medium density fiberboard, and hardboard are not discarded and are typically used on-site to either make composites or are used as fuel. One commenter stated that "[i]t is also important to note the quantity of formaldehyde actually present in these resonated wood fuels. It is minute. As the resins cure, virtually all of the formaldehyde in the adhesive is cross linked into polymers and no longer exists as formaldehyde. Current extraction tests on the highest formaldehyde content products show levels to be less than 0.02%, using the standard industry extraction test for formaldehyde from composites, EN 1203." Commenters also point out that formaldehyde is a common product of incomplete combustion, suggesting that trace amounts of formaldehyde would be present in the emissions irrespective of whether formaldehyde was present in the residuals. One commenter noted that incomplete combustion of virtually all organic materials produces carbon monoxide and formaldehyde. Commenters also stated that California rules on product emissions will shortly push those numbers below 0.01%, and cite several studies that indicate emissions from burning resinated wood residuals are not significantly different than burning wood absent the resinated materials.[26] Specific to panel trim, one commenter argued that emissions are not expected to be any different from those generated from unadulterated wood and traditional fuels like coal and oil that contain concentrations of part 261, Appendix VIII constituents that are orders of magnitude higher than in panel trim.

One commenter discussed the use of pulp and paper sludges as fuel. This commenter states that because these residuals are primarily composed of biomass, emissions from burning these materials are essentially the same as the emissions from burning other biomass fuels, such as bark or wood. The commenter cited a report that found that the burning of kraft pulp mill wastewater treatment residuals in bark boilers at levels below about 10 to 15 percent of total heat input is not expected to lead to an increase in any of the criteria or criteria-related pollutants, such as NO_X, SO_2, or VOC.[27] Further, the commenter states that a comparison of emission data for forty-eight organic compounds when burning wood residue and wood residue in combination with bleached kraft mill wastewater treatment residuals (around 12 percent of total heat input) in four wood-fired boilers showed no discernible differences in emissions of these organics when the residuals were co-fired. A similar comparison was conducted for metals, showing no discernable impact when burning these sludges.

Another commenter stated that treated wood (*e.g.,* pentachlorophenol, copper-based compounds, borate based compounds) also should be considered a fuel because it is not discarded and can be safely burned in boilers. In addition, commenters stated that creosote treated wood is a coal derivative and burning creosote would likely result in emissions no greater than burning coal. Creosote is a distilled and homogenous product that should burn more thoroughly than coal and is not burned in its pure form. Commenters also noted that creosote treated wood is a combination of two materials we listed as traditional fuels. For these reasons, it should qualify as a fuel. However, the same commenter noted that they would not be opposed to EPA requiring CCA lumber to be removed from the fuel stream.

EPA's Response: Cellulosic Biomass: We agree that certain biomass (cellulosic biomass that is "clean" and non-cellulosic biomass) materials can be legitimate fuels. We also generally agree with commenters that secondary materials, such as secondary mill residues (*i.e.,* residues such as sanderdust, board, trim and breakage from the manufacture of reconstituted wood/panel products) and pulp and paper mill residuals (*i.e.,* primary and secondary wastewater treatment sludges)[28] are likely legitimate fuels.

Regarding resinated wood products, we acknowledge that we have limited compositional data on these materials. As noted above, we did receive comments on the ANPRM concerning the contaminant data of these materials, specifically in regard to formaldehyde and emissions comparisons relative to burning wood that do not contain these resinated materials. Although emissions comparisons are not a direct indicator of whether these fuels satisfy the legitimacy criteria, we recognize that such data can be useful as an indicator of the contaminant levels in the secondary material fuels relative to traditional fuels. Based upon what limited data we do have regarding these materials, as well as comments received on the ANPRM, we have decided to classify resinated wood residuals as non-wastes for purposes of this proposed rule, if they are used as fuels within the control of the generator. (As we discuss in section VII.E of this preamble, the Agency is considering resinated wood residuals under the alternative approach as solid wastes when burned under the control of the generator for energy recovery, since as a matter of policy, the Agency may want to define a broader definition of solid waste.) Thus, given the general lack of data, we are requesting data and information both on the contaminant levels of these materials, as well as the appropriateness of categorizing them as non-wastes.[29] Based on the data and information the Agency receives, we may decide that such secondary materials are more appropriately defined as solid wastes.

We also acknowledge having limited data on pulp and paper sludges that are used as fuel. As noted above, we did receive comments on the ANPRM about contaminants associated with these secondary materials. Similar to resinated wood residuals, based on the limited data we have, we also have decided to classify pulp and paper sludges that are used as fuels within the control of the generator to be non-waste. (Like resinated wood residuals, the Agency also decided to classify pulp and paper sludges as solid wastes when burned under the control of the generator for energy recovery under the alternative approach being considered. *See* section VII.E.). Given the limited data we have, we also are requesting comment both on the contaminant levels of these materials, as well as the

[26] *See* U.S. EPA, "Wood Products in the Waste Stream: Characterization and Combustion Emissions, Vol. 1," November 1996. See also National Council for Air and Stream Improvement, Inc. Technical Bulletin (TB) 906, "Alternative Fuels Used in the Forest Products Industry: Their Composition and Impact on Emissions." September 2005.

[27] National Council for Air and Stream Improvement, Inc. Technical Bulletin (TB) 906, "Alternative Fuels Used in the Forest Products Industry: Their Composition and Impact on Emissions." September 2005.

[28] Primary sludges consist of wood fiber and inorganic materials and secondary sludges are primarily microbial biomass.

[29] It is worth noting that, in response to a request from EPA's Office of Air and Radiation (OAR), EPA's National Center for Environmental Assessment (NCEA) initiated an update of the formaldehyde IRIS assessment to address significant new scientific information that had become available on formaldehyde. EPA anticipates deriving an inhalation reference concentration (RfC) and reexamining the inhalation cancer assessment as part of this update. The draft assessment has been reviewed by scientists and managers within NCEA and across EPA. EPA will release a draft for public comment and independent expert scientific peer review, with a National Academy of Sciences (NAS) panel review expected to commence in late April 2010, which will coincide with a formal public comment process through the **Federal Register**.

appropriateness of categorizing them as non-wastes, and may decide based on the comments received to classify pulp and paper sludges as solid waste when burned under the control of the generator in a combustion unit for energy recovery when the rule is promulgated.

Although limited information was submitted in regard to painted wood or pentachlorophenol, copper-based and borate-based compound treated wood materials and their contaminant concentrations, we believe these secondary materials contain elevated levels of contaminants relative to traditional fuels, and thus do not meet legitimacy criteria and should be considered solid waste if burned in a combustion unit. (It should also be noted that to the extent that any of these treated wood materials are identified as a hazardous waste, it would not be eligible to be burned in a non-hazardous waste combustion unit.) In regard to creosote treated lumber, we believe there is still a fair amount of uncertainty associated with the level of contaminants (*e.g.,* levels of polycyclic aromatic hydrocarbons present in creosote) in comparison to traditional fuels. We, therefore, are requesting that commenters provide additional data on contaminant levels associated with these non-hazardous secondary materials relative to traditional fuels that are in use today as fuels.

Comments: Non-cellulosic Biomass: One commenter stated that animal manure should not be categorically excluded from the definition of solid waste because it is inherently waste-like, is discarded, and does not meet the legitimacy criteria for "handled as a valuable commodity." The commenter stated that manure generated in concentrated Animal Feeding Operation (CAFO) are known to contain heavy metals, halogens, dioxins, etc. Manure from CAFOs are discarded in two ways after it is collected: some manure is recycled for land application (*e.g.,* "used in a manner constituting disposal") and excess manure is simply disposed.

The same commenter acknowledged that manure can be recycled for use as bioenergy, but cautioned that it should not automatically be exempt from the definition of solid waste. In support of its position that manure recycled into bioenergy and used as fuel is still a solid waste, the commenter cites the regulations at 40 CFR 261.2(e)(2)(ii), which lists materials burned for energy recovery, used to produce a fuel, or contained fuels among materials that are solid wastes, even if recycling of those materials involves use, reuse, or return to the original process. Overall, the commenter is concerned with the large volumes of animal manure currently being generated at animal feeding operations and the lack of oversight at recycling facilities to ensure that recovery is immediate and happens without releasing any pollutants into the environment. Based on the commenter's observations, current regulations (*i.e.* the 2008 CAFO NPDES Rule) still are not sufficient to assure that CAFO operations will meet the two benchmarks of immediacy and environmental care that define a "valuable commodity." They conclude that for manure to be excluded from the definition of solid waste, it should have to meet numerous qualifying conditions to show that the manure is being recycled.

EPA's Response: Non-cellulosic Biomass: Because the focus of this rulemaking is to determine which non-hazardous secondary materials are or are not solid waste when burned as a fuel or ingredient in combustion units (not when utilized for other purposes, such as land application), we are not making any determination that manure is a solid waste for other possible beneficial end uses. Such beneficial use determinations are generally made by the states for these other end uses, and EPA will continue to look to the states to make such determinations.

With respect to whether manure is a legitimate non-waste fuel, EPA recognizes that manure has been used previously as a fuel, and is currently used as a fuel source in other countries. In fact, some commenters have argued that manure should be considered a traditional fuel, and if not, should at least be considered a non-waste fuel since they believe that manure meets the legitimacy criteria. While we appreciate the information submitted in the comments, we lack data sufficient to evaluate the legitimacy criteria for manure. Therefore, we request information and data on how manure is handled from its point of generation to the point it is used as a fuel, in order that EPA can determine whether manure would meet this legitimacy criterion.

In addition, EPA has limited data on the contaminant concentrations and Btu value of manure to determine whether it would meet these legitimacy criteria. Therefore, we are requesting that commenters provide additional information and data on the extent to which manure (including materials, such as chicken litter) is currently used as a fuel, as well as data to support whether these materials meet our legitimacy criteria, including the contaminant levels—that is, they contain contaminants at levels comparable to traditional fuels and heating content of the various types of manure.[30] We will evaluate the information submitted during the public comment period and will discuss our determination in the final rule.

On the other hand, if manure is processed into biofuels, by, for example, anaerobic digesters such biofuels would be considered a legitimate non-waste fuel that has been processed from a non-hazardous secondary material provided "the biofuel" meets the legitimacy criteria—that is, managed as a valuable commodity, has a meaningful heating value and contains contaminants at levels that are comparable to traditional fuel. We again acknowledge, however, that we have limited data (such as how the biofuels are managed, once generated, contaminant concentrations and Btu value) on biofuels that are produced from animal manures, and request that commenters provide additional data on the extent to which manures are currently processed into biofuels, as well as data to support whether these materials meet our legitimacy criteria, including contaminant levels and heating content.

c. Used Tires. We discussed in the ANPRM that tires used as legitimate alternative fuels can be categorized as a non-waste fuel if they have not been previously discarded (*i.e.,* if the used tires have not been abandoned and thrown away). The ANPRM further stated that used tires collected and managed pursuant to a state tire oversight program, are not considered to be discarded. The ANPRM also explained that discarded used tires that have been processed to make a legitimate fuel product (such as TDF) would not be a solid waste. Furthermore, we requested comment on whether used tires that fall within the category of secondary materials that are discarded, but can be directly used as a legitimate fuel or ingredient without processing because they are indistinguishable in all relevant aspects from a fuel or ingredient product (e g., whole tires) should not be considered a solid waste.

[30] Based on data provided to EPA by USDA, research conducted by the Texas Agricultural Experiment Station and the Texas Cooperative Extension shows that manure has a dry, ash free heating value of 8,500 Btu/lb, while other research demonstrates the energy value of manure (as received) to be much lower (between 2,710–5,764 Btu/lb). For more information, please refer to the background paper entitled, "USDA Response to EPA's Belief that Manure that is Burned as a Fuel is a Solid Waste," which is located in the docket for today's rule.

Comments: Other than the states,[31] commenters generally agreed with the approach outlined in the ANPRM. Commenters did not agree, however, that whole tires taken from waste tire piles, but not processed, should be considered solid wastes. Several commenters responded that tires should be excluded from the definition of solid waste irrespective of where they are generated, including from waste tire piles. Along the same lines, some commenters argued that regardless of the source, scrap tires are indistinguishable from one another in terms of fuel/Btu value and air emissions and that the only distinction is whether they have been previously discarded. Others stated that extraction and reclamation from a waste tire pile should be sufficient processing to classify a tire as a legitimate non-waste fuel.

EPA's Response: As discussed in section VII.D.2, we now believe that whole used tires (even if collected from tire dealerships and automotive shops and overseen by a state tire collection oversight program) are initially abandoned and thus meet the plain meaning of discard. As a result, whole used tires that are not processed into a legitimate fuel or ingredient (*e.g.,* shredded/chipped with steel belts removed) would be considered a solid waste. We acknowledge that whole tires can be legitimately burned as fuel, but because they have been discarded, whole tires would be considered solid wastes and subject to the CAA section 129 requirements unless processed into a non-waste fuel product. *See* section VII.D.2 for a more detailed discussion on why we now consider whole used tires to have been discarded by the original owner.

We are also proposing a process by which a facility or person can apply for a non-waste determination for secondary materials that are not managed within the control of the generator. As outlined in section VII.D.5, the purpose of the petition process is to recognize that some non-hazardous secondary materials may remain outside the control of the generator and not be processed into a fuel product, but still be a legitimate non-waste fuel product. As part of this petition, the facility must demonstrate that the secondary material has not been discarded in the first instance.[32]

We also are requesting comment on whether discarded materials, such as used tires that have been abandoned and disposed of in waste tire piles and have not been processed (as defined in this proposal), should not be considered solid wastes if they meet the legitimacy criteria and are indistinguishable in all relevant aspects from a product or intermediate.

d. Used Oil. As indicated in the ANPRM, we consider off-specification (or "off-spec") used oil that is collected from repair shops to have been discarded. Used oil that meets the on-specification (or "on-spec") levels and properties of 40 CFR 279.11 is considered be a legitimate non-waste fuel product. We requested comment on whether off-spec used oil managed pursuant to the 40 CFR part 279 used oil management standards and which is burned for energy recovery in certain types of combustion devices[33] should be considered a legitimate non-waste fuel.

Comments: Most commenters believe that off-spec (and on-spec) used oil should not be classified as a solid waste. Various reasons were provided in support. Specifically, one commenter reasoned that off-spec used oil should not be treated as a solid waste if it has been delivered to a legitimate recycler for processing. Designation as a solid waste would lead to costly burning in hazardous waste incinerators, burning in uncontrolled space heaters, and more undesirable disposal methods. Many commenters also referred to Congress' intent to manage used oil differently and EPA's regulatory structure for the management of used oil as evidence that used oil should not be classified as a solid waste. They added that used oil is typically neither disposed of, thrown away, nor abandoned, but is collected and contained. Used oil is a valuable product that is subject to EPA's recycling presumption. Btu content is not necessarily lower than on-spec used oil or virgin fuel, and contaminants, such as water, flashpoint, and metals can be effectively addressed. In a similar, but slightly different view, a number of commenters argued that on-spec and off-spec used oil should be included in the list of traditional fuels. Since neither is discarded, the presumption is that it is recycled. Only one commenter thought that off-spec used oil should continue to be considered a solid waste within the RCRA framework.

EPA's Response: We agree with the commenters who said that on-spec used oil should not be classified as a solid waste. Based upon how we define traditional fuels (*i.e.* fuels that have been historically managed as valuable fuel products rather than being managed as waste materials), we believe that on-spec used oil should be considered a traditional fuel. In accordance with 40 CFR part 279, once used oil is determined to be on-spec, it is no longer regulated under the used oil management standards.[34] Used oil that has been determined to be on-spec has verified that it contains contaminants at levels below the maximum concentration limits established in the standards, such that the emissions resulting from the burning of on-spec used oil will not pose an increased threat to human health or the environment than the emissions resulting from the burning of virgin oil or diesel. This is because the contaminants of concern (*i.e.,* those for which maximum concentration levels have been set) present in on-spec used oil are either at the same concentration or a lower concentration than virgin refined fuel oil.[35]

This approach is supported by *Safe Food and Fertilizer* v. *EPA,* 350 F.3d 1263 (DC Cir. 2003). The decision upheld an EPA rule that excluded from the definition of solid waste certain recycled materials used to make zinc fertilizers (and the fertilizers themselves) as long as they were not speculatively accumulated, met certain handling, storage and reporting conditions, and were "identical" to fertilizers made from raw materials, *i.e.,* they had concentration levels for certain chemicals that fall below specified thresholds. 350 F.3d at 1265. We believe on-spec used oil satisfies these criteria.

In regard to off-spec used oil, we disagree that it should not be classified as a solid waste. The used oil regulations are structured such that off-spec used oil is managed within the constraints of the used oil management

[31] For a discussion of state comments regarding used tires, *see* section VII.C.1., "Comments from State Agencies."

[32] The petition process for a non-waste determination would also require the petitioner to describe how the non-hazardous secondary material satisfies the criteria outlined in the petition process, which includes whether it meets the legitimacy criteria.

[33] Devises include industrial boilers located at facilities that are engaged in a manufacturing process where substances are transformed into new products, utility boilers used to produce electric power, steam, heated or cooled air or other gases or fluids for sale, used oil fired space heaters provided the burner meets the provisions of 40 CFR 279.23, and hazardous waste incinerators subject to regulation under 40 CFR subpart O of parts 264 and 265.

[34] Once used oil is claimed to be on-spec and the marketer complies with the requirements for analysis and record retention, notification, and record tracking shipment to on-specification burners, it is no longer subject to other management standards. We note that today's proposed rule does not change any of the regulations in place that regulate on-spec used oil.

[35] *See* Used Oil Final Rule, 50 FR 49181 (November 29, 1985).

standards until it is processed into on-spec used oil or it is properly disposed of. It may only be burned in specific types of combustion devices.[36] Although off-spec used oil may be managed within the control of the generator, it contains contaminants at levels that are not comparable to traditional fuels, and thus would not be considered a legitimate non-waste fuel per the legitimacy criteria. Therefore, today's proposed rule considers off-spec used oil as a solid waste subject to the CAA section 129 requirements, as wells as state, and local requirements, unless it is processed to meet the on-spec used oil limits specified in 40 CFR 279.11.

It also should be noted that off-spec used oil may be burned in used oil-fired space heaters pursuant to 40 CFR part 279, provided: (1) The heater burns only used oil that the owner or operator generates or used oil received from household do-it-yourself used oil generators; (2) the heater is designed to have a maximum capacity of not more than 0.5 million Btu per hour; and (3) the combustion gases from the heater are vented to the ambient air. The RCRA used oil regulations base this provision on a finding that uncontrolled emissions from these sources do not pose a significant threat to human health and the environment.[37] However, consistent with our determination that off-spec used oil be considered a solid waste when burned as a fuel, we believe that off-spec used oil managed within the control of the generator would not qualify for the generator controlled exclusion when burned in a used oil fired-space heater, since contaminant levels are not comparable to traditional fuels. Therefore, we are proposing that off-spec used oil combusted at a unit that is within the control of the generator would be solid waste. We request comment on this approach, as well as any supporting information.

e. Coal Refuse/Coal Combustion Residuals. The ANPRM identified coal refuse (*i.e.,* mining rejects and recovered landfilled ash) as a solid waste because it has been discarded and has not been subsequently processed for use as a fuel. We solicited comment on whether there are circumstances under which these materials have been discarded, but not processed, and can be considered as non-waste fuels once they are removed or recovered from the "discard" environment and managed as legitimate fuels.

Comments: Several commenters responded that coal refuse should not be classified as a solid waste. One commenter argued that there is no basis for continuing to classify an alternative fuel or ingredient as a solid waste merely because it does not have to undergo some type of processing before being used. The same commenter also indicated that the recovery of ash and mill rejects from disposal sites all involve some degree of processing. The materials have to be excavated, stored, and transported to their designated uses where they are also often subject to the same types of processing activities that are associated with the mining and management of virgin coal (*i.e.,* screening, sizing, and chemical analysis to identify Btu, ash characteristics and sulfur content). Given the significant costs associated with the extraction of these materials, including excavation and handling, as well as the nearly identical nature of these materials to traditional fuels and ingredients, the extraction operations themselves constitute the requisite degree of processing necessary to be viewed as a non-waste. One commenter stated that they were aware of one electric utility that in the past recovered high-carbon content ash from a disposal facility that it owns, and used the ash as a fuel source by supplementing the coal used in one of their utility boilers. The same company today takes high-carbon fly and bottom ash directly from several existing boiler units and burns it at their power generating station. This commenter noted that there are at least four patented processes for removing unwanted carbon from fly ash that allow the processed ash to produce both technically compliant fly ash for use in concrete and a separate carbon stream that can be re-introduced into the boiler for its fuel value.

One commenter contended that coal refuse is a solid waste due to its toxicity levels in comparison to normal coal. Specifically, waste coals can have up to four times more mercury and chromium, and three times more lead than other coals.

EPA's Response: As discussed in the Material Characterization Paper developed for this rulemaking, large volumes of coal refuse piles were accumulated at mining sites from the time mining first began in the Appalachians through the late 1970s. Beginning in the late 1970s, laws were enacted that, for the first time, required stabilization and reclamation of mining sites, including coal refuse disposal piles and fills. Current mining operations continue to generate the material, though likely at lower rates than in previous decades.

For purposes of this proposal, we are therefore differentiating between coal refuse that was generated in the past and placed into "legacy" piles, and the current generation of coal refuse. Legacy piles of coal refuse would clearly be considered to be disposed of and abandoned, thus meeting the definition of a solid waste material. We would not consider currently generated coal refuse to be abandoned or disposed of and, therefore, would not be considered a solid waste.

With regard to coal refuse from legacy piles, the processing of coal refuse for use as a fuel or ingredient involves separation through the use of screens or grizzlies, blending, crushing, and some drying. Although we understand that virgin coal is similarly processed, we believe that such operations would constitute "minimal processing" and would not meet the processing definition as proposed. *See* section VII.D.4 for a discussion of what does and does not constitute "processing" as defined in this proposal. Therefore, because coal refuse from legacy piles has been discarded and does not undergo a sufficient level of processing, it is considered a solid waste and would be subject to the CAA 129 requirements if burned in a combustion unit.

We note that one commenter contended that coal refuse contained elevated levels of mercury, chromium, and lead when compared to other coals. We recognize that available data show that coal refuse generally has higher metals concentrations than non-refuse coal concentrations. Although coal refuse can contain metals concentrations that are higher than found in virgin coal, data also show that emissions levels from some facilities burning coal refuse (namely those equipped with circulating fluidized beds (CFBs)) are lower than most existing pulverized coal utility boilers.[38] For the purposes of this proposal, however, it is not necessary to discuss whether coal refuse from legacy piles

[36] These devices, listed in 40 CFR 279.61, were determined to not pose significant health risks when burning off-spec used oil because they typically are equipped with particulate control equipment (as required by CAA permits). Nonindustrial boilers (*e.g.,* those located in apartment and office buildings, schools, and hospitals), on the other hand, were found to pose significant risk when off-spec used oil is burned because they are typically very small and may not achieve complete combustion and do not have any emission control equipment.

[37] Used Oil Final Rule, 50 FR 49194 (November 29, 1985).

[38] CFBs ability to achieve lower emissions levels is due to several factors: (1) CFB boilers are often newer than many existing pulverized coal utility boilers and may be equipped with better particulate matter (PM) controls; (2) CFBs utilize lower operating temperatures, which result in lower metal and NO_X emissions; and (3) CFB boilers often add limestone to their feed to control SO_2 emissions, which results in greater metal fixation to the ash.

satisfies the contaminant requirement of the legitimacy criteria, given that we believe that such coal refuse is a solid waste because it is discarded and is not sufficiently processed into a fuel product.

We are also differentiating between mined landfilled ash, which generally refers to landfilled coal ash, from coal refuse, which we generally characterize as coal mining rejects that have been placed in waste piles (known as gob or culm, for example).[39] Coal combustion residuals (CCRs) that have been discarded in the first instance (*e.g.,* coal ash mined from landfills) would be considered solid waste unless they are processed into legitimate non-waste fuel products. It appears that the patented processes described by the commenter that separates carbon from the fly ash to produce a fuel would satisfy the processing requirement included in this proposal. However, until the Agency has additional information, we are not in a position to indicate that such processing is sufficient to produce a non-waste fuel. Therefore, we are requesting that commenters provide additional information explaining how this processing is conducted, and the extent to which these high carbon fuels are produced nationwide. With respect to high-carbon fly and bottom ash taken directly from existing boiler units and burned at power generating stations, we believe that such secondary materials are not discarded and would not be considered a solid waste if it was managed within the control of the generator and satisfies the fuel legitimacy criteria.

Regarding the commenter that indicated coal fly ash and mill rejects are often subjected to the same types of processing activities that are associated with the mining and management of virgin coal (*i.e.,* screening, sizing, and chemical analysis to identify Btu, ash characteristics and sulfur content), we believe that screening, sizing, and chemical analysis constitutes a minimal level of processing, and would not satisfy the processing requirement of this proposal. Although we recognize that sizing of materials is an important processing step for fuels in order to improve combustion efficiency, we believe this represents an inadequate level of processing to change a discarded material into a product fuel and, therefore, these materials would be considered solid wastes under today's proposal. However, we request that commenters provide additional information on the extent to which CCRs are recovered from the discard environment (*e.g.,* landfills) and used as fuels. We also request that commenters provide more detailed information on how these secondary materials are processed, and whether these materials might satisfy the legitimacy criteria for fuels.

f. Sewage Sludge. Sewage sludge or "wastewater treatment sludge" as referred to in the ANPRM, was one of several non-hazardous secondary materials that we solicited comment as to whether it is a legitimate alternative fuel and thus would not be solid waste if it has not been previously discarded.

Comments: All commenters who addressed this issue argued that sewage sludge should not be classified as a solid waste. One commenter specifically pointed to the RCRA statutory definition of solid waste, stating that Congress expressly exempts solid and dissolved materials in domestic sewage processed at Publicly Owned Treatment Works (POTWs). Rather, sewage sludge should be regulated comprehensively under the Clean Water Act (CWA), or to the extent necessary to meet CAA obligations, EPA should regulate the combustion of POTW sewage sludge under CAA section 112. Additionally, it was put forth that if the Agency disagreed with the assertion that the RCRA statute requires the Agency to exempt sewage sludge from the definition of solid waste, that the Agency provide a regulatory exclusion for sewage sludge burned in incinerators in order to preserve the current framework for regulating sewage sludge managed under section 405 of the CWA to avoid redundancy. This commenter was also concerned about the implications a determination that sewage sludge is solid waste when incinerated would have on how states regulate sewage sludge managed for different purposes (*e.g.,* land application).

Two commenters stated that sewage sludge meets all three legitimacy criteria for fuels. It is handled as a valuable commodity by virtue of it being continuously dewatered and directly injected into the incinerator; it is not diverted or stored and every effort is made to maximize the quantity of sludge to be combusted. One commenter stated these materials have meaningful heating value, given that it recovers a net energy value of 4,300,000 Btus/hour of useable thermal energy from its combustion. Also, the CWA section 405 regulations provide risk-based limits for contaminants when incinerated, such that as long as the contaminant level is below the limits, it does not pose a significant health risk.

EPA's Response: We agree with commenters that the RCRA statutory definition of solid waste excludes the solid or dissolved material in domestic sewage. This is evidenced by the RCRA hazardous waste regulations that extend this exclusion to mixtures of hazardous waste with domestic sewage, provided that the mixture occurs in a pipeline en route to a POTW. *See* 40 CFR 261.4(a)(1). However, we do not agree with the commenters that the Domestic Sewage Exemption (DSE) applies to the sludge generated from the treatment process and thus, sewage sludge is a solid waste if it is discarded.[40] We believe that sewage sludge burned without energy recovery (*i.e.,* burned for destruction) in an incinerator is discarded, and thus a solid waste. Further, the Agency is not proposing to provide a regulatory solid waste exclusion for sewage sludge burned in incinerators that would preserve the current framework for regulating sewage sludge managed under section 405 of the CWA to avoid redundancy. However, we request comment on whether such an approach is within our discretion. Regarding the commenter's concerns about possible impacts on how states regulate sewage sludge managed for different purposes (*e.g.,* land application), as discussed in more detail in Section VIII, through this rulemaking, EPA is articulating the narrow definition of which non-hazardous secondary materials are or are not solid waste when used as fuel for energy recovery or as ingredients in combustion units. We are not making solid waste determinations that cover other possible secondary material end uses. In EPA's view, these regulations should have no effect on state programs that choose to regulate this material in different ways and under different authorities.

Two commenters indicated that many POTWs recover energy in the form of usable heat from the incineration of sewage sludge via waste heat boilers. Although waste heat boilers are useful devices for providing energy in the form of steam for secondary processes, the Agency does not regard them as legitimate energy recovery devices because they receive their energy input

[39] The ANPRM included landfill ash in its description of coal refuse.

[40] EPA has long viewed sewage sludge generated from POTWs as a solid waste, beginning with the 1980 Identification and Listing of Hazardous Waste rulemaking. In this final rule, EPA stated that the DSE is "only applicable to non-domestic wastes that mix with sanitary waste in a sewer system leading to a POTW." *See* 45 FR 33097 (May 19, 1980). In the same rule, EPA further said it decided not to exclude sewage sludge from regulation under RCRA, since the statutory expressions regarding the definitions of "solid waste" and "sludge" was clear. (*See* 45 FR 33101).

from the combustion of off-gases via a separate combustion chamber. Under the RCRA program, a legitimate energy recovery device is one that meets the definition of a boiler or an industrial furnace (*see* 40 CFR 260.10). Among other criteria, a boiler's combustion chamber and primary energy recovery section(s) must be of integral design, unless it falls under the process heater or fluidized bed combustion exemption. Thus, a combustion chamber that is connected by a duct to a waste heat boiler (or recuperator/heat exchanger) does not qualify as a legitimate energy recovery device. The CAA program views waste heat recovery units (*i.e.,* external to the combustion chamber) similarly. Waste heat recovery units are designed to cool the exhaust gas stream, and/or to recover, indirectly, the useful heat remaining in the exhaust gas from a combustion unit that has some other primary purpose (such as an institutional waste incinerator). The presence of a waste heat recovery unit on the exhaust gas does not change the fact that the unit combusting the secondary material is primarily an incineration unit burning waste for disposal purposes. *See* Other Solid Waste Incinerators (OSWI) final rule at 70 FR 74870 at 74876, (December 16, 2005). Therefore, sewage sludge burned in a waste heat recovery unit would not satisfy the meaningful heating value legitimacy criteria and would thus be considered to be burning solid waste (for more discussion on the legitimacy criteria, *see* section VII.D.6).

The Agency also notes that data generally shows that municipal sewage sludge contains metals that are typically higher in concentrations when compared to traditional fuels (*e.g.,* coal and fuel oil). *See* the table below for a comparison of the concentration of certain toxics of municipal wastewater treatment sludges to coal.

COMPARISON OF TOXICS OF MUNICIPAL WASTEWATER TREATMENT SLUDGES TO TRADITIONAL FUELS [41]

Element	Sewage sludge		Coal (mg/kg)
	40-City study (mg/kg dry weight)	National sewage sludge study (mg/kg dry weight)	
Arsenic	9.9	6.7	10
Cadmium	69	6.9	0.5
Chromium	429	119	20
Copper	602	741	Not available.
Lead	369	134.4	40
Mercury	2.8	5.2	0.1
Molybdenum	17.7	9.2	Not available.
Nickel	135.1	42.7	20
Selenium	7.3	5.2	1
Zinc	1,594	1,202	Not available.

Sewage sludge findings in this table are for final sludge which is defined as the liquid, solid, or semi-solid residue generated during the treatment of domestic sewage in a treatment works, receiving secondary treatment or better, and which may include sewage sludge processed to meet the land application standards.

As such, the Agency does not believe that sewage sludge would meet the legitimacy criteria for contaminants. Therefore, the Agency is proposing that sewage sludge, generated from POTWs and when combusted, be classified as a solid waste, and subject to the CAA Section 129 requirements.

6. Comments on Specific Materials Used as Ingredients

The ANPRM identified a number of non-hazardous secondary materials that we believe are currently being used as ingredients in combustion processes (*i.e.,* blast furnace slag; CKD; coal combustion residual group (fly ash, bottom ash, and boiler slag); foundry sand; silica fume; and secondary glass material). The ANPRM solicited comment on whether or not these non-hazardous secondary materials are legitimate ingredients per the legitimacy criteria, and requested additional data and/or information supporting whether these secondary materials are legitimate ingredients. The majority of comments submitted were in regard to: CKD, CCRs, foundry sand, and blast furnace slag/steel slag.

a. Cement Kiln Dust. For CKD, the ANPRM indicated that CKD is not a solid waste if it is recycled within the continuous clinker production process.

Comments: One commenter responded that they strongly support this view, but that other CKD which may be available could be useful if industry could find a means to incorporate this viable ingredient into the process. Thus, they believe that any EPA interpretation regarding the use of CKD must allow for access of the material irrespective of where the ingredient is maintained prior to use.

EPA's Response: As explained in section VII.D.3, we are proposing that non-hazardous secondary materials used as ingredients in combustion units that are not discarded in the first instance would not be considered a solid waste provided they satisfy the legitimacy criteria for ingredients (discussed in section VII.D.6.b). This proposal does not assume that ingredients used in combustion units that are not managed within the control of the generator are discarded materials (as is the case for non-hazardous secondary material fuels) since we believe that non-hazardous secondary materials used as ingredients in manufacturing processes, such as cement kilns are commodities managed within continuous commerce and are used as an integral part of the manufacturing process. That is, secondary materials that are directly used (or in the case of previously used materials, reused), function as raw materials in normal manufacturing operations or as products in normal commercial applications, and thus, EPA has interpreted the definition of solid waste as excluding secondary materials recycled in ways that most closely resemble normal production processes.

With respect to the comment that our interpretation regarding the use of CKD must allow for access of the material irrespective of where the ingredient is maintained prior to use, it is not clear what point the commenter is making. To the extent that the CKD has not been

[41] More information on the composition of municipal wastewater treatment sludges can be found in the Materials Characterization Paper on Wastewater Treatment Sludge, which has been placed in the docket for today's proposed rule.

discarded in the first place, we are proposing that the use of CKD in a cement kiln would not be considered a solid waste whether it remains under the control of the generator or is transferred to another person, so long as it meets the legitimacy criteria. However, if CKD has been discarded, its use as an ingredient in the cement kiln would be considered combustion of a solid waste, (and the cement kiln would be subject to the CAA section 129 requirements), unless it has been processed (as defined in section VII.D.4) to produce a non-waste ingredient.

b. Coal Combustion Residuals. The ANPRM identified what was considered to comprise the CCR group: Fly ash, bottom ash, and boiler slag. Similar to CKD, it was stated that coal fly ash that is handled as a commodity within continuous commerce when it is marketed to cement kilns as an alternative ingredient is not discarded. Under the ANPRM approach, if the CCR product was previously discarded, such non-hazardous secondary materials would be solid wastes, unless they were processed into a legitimate ingredient product. However, we solicited comment on the situation where a discarded material is recovered from the environment and directly used as an ingredient (*i.e.* without processing). Additionally, we solicited comment on the extent to which non-hazardous secondary materials that have already been discarded (*e.g.,* coal fly ash that has been landfilled) are later processed and used as ingredients in combustion units, as well as requested descriptions of the types of processing that these secondary materials undergo.

Comments: Several commenters believe CCRs can be either legitimate fuels or ingredients when used in a combustion unit. One commenter stated that there are a number of cement kilns that use or have used high carbon fly ash as a fuel and ingredient. As an ingredient, the constituents within the fly ash are similar to those required from natural materials (such as shale, marl or limestone) in that they contain fractions of silica, iron and aluminum needed in the kiln. As a fuel, the relatively high carbon content imparts energy through its combustion, reducing the need for some portion of fossil or other fuels for the kiln.

EPA's Response: As discussed above (and as further discussed in Section VII.D.6.b), we are proposing that non-hazardous secondary materials used as ingredients in combustion units that are not discarded in the first instance would not be considered a solid waste provided they satisfy the legitimacy criteria for ingredients. Commenters point out that CCRs can serve both as ingredients, as well as fuel supplements. This raises the question of whether these types of secondary materials should be treated like non-hazardous secondary materials used as fuels (where we assume they are discarded if they are managed outside the control of the generator), as opposed to ingredients (in which case they are not solid waste even if they are managed outside the control of the generator provided they satisfy the legitimacy criteria and have not been discarded in the first instance). It also raises the question as to whether these materials should be required to satisfy the legitimacy criteria for fuels or for ingredients, or both. We do not believe it would be appropriate to require these types of secondary materials to satisfy the criteria of both fuels and ingredients. As a result, we are proposing that the decision to treat them as fuels or ingredients should be based on the primary purpose of using the non-hazardous secondary material in the cement kiln. With respect to CCRs, we believe the primary purpose of their use is as an ingredient; thus, provided the CCRs satisfy the legitimacy criteria for ingredients and are not discarded in the first instance, they would not be considered solid waste.[42] However, we specifically solicit comment on this point, and in particular, whether the use of CCRs is primarily used for their ingredient value as opposed for their fuel value.

Comment: With respect to the extent that CCRs have been discarded, but are later processed, one commenter noted that there are at least four patented processes for removing unwanted carbon from fly ash that would allow the processed ash to produce both technically compliant fly ash for use in concrete and a separate carbon stream that can be re-introduced into the boiler for fuel value. Another commenter stated that coal fly ash (and mill rejects) recovered from disposal sites all involve some degree of processing, in that the materials have to be excavated, stored, and transported to their designated uses. The materials are also often subject to the same types of processing activities that are associated with the mining and management of virgin coal (*i.e.,* screening, sizing, and chemical analysis to identify Btu, ash characteristics and sulfur content). Finally, one commenter disagreed with our position on CCRs. The commenter believes that CCRs are wastes due to their high concentration of contaminants, predominantly mercury.

EPA's Response: In regard to when a discarded material is recovered from the environment and directly used as a fuel or ingredient, we are proposing that the secondary material is a solid waste, unless it undergoes a sufficient level of processing to produce a legitimate fuel product or ingredient. As discussed in detail in section VII.D.4, when a non-hazardous secondary material has been discarded, unless sufficient processing occurs to change the material to produce a legitimate fuel product or ingredient, it would remain a solid waste under this proposal. However, we are also requesting comment on whether such non-hazardous secondary materials that have been discarded and shown to be a legitimate fuel or ingredient product, should nevertheless be considered a legitimate non-waste fuel or ingredient, even if the non-hazardous secondary material does not undergo processing at all or an adequate amount of processing.

As previously described for processed CCR's that are used as fuels, it appears that the patented processes described by the commenter that separates carbon from the fly ash to produce technically compliant fly ash for use in concrete would satisfy the processing requirement included in this proposal; however, we are requesting that commenters provide additional information explaining how this processing is conducted, and whether this type of fly ash is used as an ingredient in the clinker production process.

Regarding the commenter that indicated that coal fly ash and mill rejects are often subject to the same types of processing activities that are associated with the mining and management of virgin coal (*i.e.,* screening, sizing, and chemical analysis to identify Btu, ash characteristics and sulfur content), we do not believe that screening, sizing, and chemical analysis by itself is a sufficient level of processing that would render a discarded material into a non-waste ingredient product. As we noted previously in Section VII.C.5.e., while we recognize that screening, sizing, and chemical analysis can be important for producing traditional fuels, we also are proposing that such processing is not sufficient to change a waste-derived fuel into a product fuel. Thus, such secondary materials that undergo such minimal processing are still considered waste-derived fuels because such processing of CCRs, even with screening and chemical analyses, would not be

[42] We note that used tires provide both fuel value and ingredient value in cement kilns. In this instance, however, we believe the primary purpose of using tires in a cement kiln is to recover their energy value, and therefore believe tires should satisfy the fuel criteria in determining whether the materials are discarded and legitimate.

sufficient to produce a non-waste ingredient. However, we request that commenters provide additional information as to the extent to which CCRs are recovered from the discard environment (*e.g.,* landfills) and used as ingredients in cement kilns, and if so, we request commenters provide more detailed information on the extent to which these CCRs are processed, and thus, might satisfy our proposed definition of processing in section VII.D.4.

In addressing the commenter who argued that CCRs are solid wastes due to their high concentration of contaminants, we begin by noting that the chemical properties of CCRs are influenced to a great extent by those of the coal burned, the type of combustion unit, and the air pollution controls applied.[43] We are also aware that fly ash may contain various levels of metals, such as vanadium, zinc, copper, chromium, nickel, lead, arsenic, and mercury.[44] However, in a recent Report to Congress that addressed the use of these secondary materials as ingredients in cement and concrete applications, the overall conclusion reached with respect to the perceived safety health risk barriers was a positive one, in that the risk analyses did not identify significant risks to human health and the environment associated with these uses.[45]

The Report to Congress also identifies several industry stakeholders and state agencies that have recognized that regulatory programs for the control of mercury and NO_X in electric utility air emissions (and the necessary new emission control technologies and configurations necessary to achieve emissions reductions) can potentially result in increased carbon levels in coal fly ash that impact the ability to use the ash as a supplementary cementitious material.[46] Consequently, EPA is studying the possible effects of new air emission control technologies and configurations on the composition of CCRs and publishing its findings in a series of reports.[47] Thus, we request comment on whether advanced emission control technologies, such as carbon control technologies for mercury and NO_X, are resulting or will result in increased levels of contaminants in coal ash to the extent that coal ash would not satisfy our legitimacy criteria.

c. Foundry Sand. Similar to the previously discussed ingredients, we requested data and/or information supporting whether foundry sand is discarded and if not discarded, whether it meets the legitimacy criteria.

Comment: One commenter responded and stated that foundry sand meets all four legitimacy criteria for ingredients. The commenter offered several examples of applications for foundry sand in support of why it should not be a solid waste; however, very little information was provided in the context of utilizing foundry sand as an ingredient in a combustion process.

EPA's Response: Since this proposal is limited to those situations where the non-hazardous secondary material is used as a fuel or ingredient in a combustion process, examples of using foundry sand in other applications is not directly relevant. However, as previously explained, we are proposing that non-hazardous secondary materials used as ingredients in combustion units that are not discarded in the first instance would not be considered a solid waste provided they satisfy the legitimacy criteria for ingredients (discussed in section VII.D.6.b).

d. Blast Furnace Slag/Steel Slag. The ANPRM also requested data and/or information regarding blast furnace slag and steel slag and their use as legitimate ingredients and thus, whether they are or are not considered solid waste.

Comments: Two commenters responded that steelmaking slag and mill scale should be excluded from the definition of solid waste because they meet all four legitimacy criteria for ingredients. With respect to our solicitation for comment on when a material is previously discarded and has been processed into a legitimate ingredient product, one commenter responded that current practice to obtain these materials requires the procurement of a mining license and operating practices that are similar to processing of natural aggregates (though drilling and blasting practices are not required for recovery). In particular, iron and steel slag aggregates are removed by ripping and digging, followed by magnetic separation, crushing, further magnetic separation and finally sized by screening. They are then loaded and weighed in customer trucks subject to quality assurance and quality control for comparable virgin aggregate intended for the same use.

EPA's Response: As with the previous ingredients, we are proposing that blast furnace and steel slag used as ingredients in combustion units that are not discarded in the first instance would not be considered a solid waste provided they satisfy the legitimacy criteria for ingredients. If these materials, as described by the commenter, are considered to have been discarded in the first instance, then they would have to be sufficiently processed into ingredient products that satisfy the legitimacy criteria in order to be classified as a non-waste ingredient. Based on the processing operations described above, it appears that blast furnace and steel slag undergo sufficient processing; however, before the Agency concludes this to be the case, we request that commenters provide more detailed information regarding the level of processing that occurs.

7. Legitimacy Criteria

The ANPRM discussed the following legitimacy criteria specific to fuel products that are used in combustion processes: (1) Handled as valuable commodities; (2) have meaningful heating value; (3) and contain contaminants that are not significantly higher in concentration than traditional fuel products. Likewise, for ingredients, the ANPRM listed the following criteria: (1) Handled as a valuable commodity; (2) the non-hazardous secondary material provides a useful contribution; (3) the recycling results in a valuable product; and (4) the product does not contain contaminants that are significantly higher in concentration than traditional products. We requested

[43] For more information on the different types, or ranks, of coal, please refer to the Materials Characterization Paper on Traditional Fuels and Key Derivatives, which is located in the docket of today's proposed rule.

[44] Listed by relative frequency. *See* "Technical Background Document for the Report to Congress on Removing Wastes from Fossil Fuel Combustion: Waste Characterization." U.S. EPA. March 15, 1999.

[45] "Study on Increasing the Usage of Recovered Mineral Components in Federally Funded Projects Involving Procurement of Cement or Concrete to Address the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. Report to Congress." June 3, 2008. EPA530–R–08–007. When analyzing perceived safety and health risk barriers associated with the beneficial use of recovered mineral components (including CCRs et al), this study concluded that "Findings from [several cited] analyses did not identify significant risks to human health and the environment associated with the beneficial uses of concern. In addition, [EPA] identified no documents providing evidence of damage to human health and the environment from these beneficial uses. Our overall conclusions from these efforts, therefore, are that encapsulated applications, including cement and concrete uses, appear to present minimal risk." *Id.* at 4–11.

[46] *Id* at 4–4.

[47] A series of reports have been and are being developed by U.S. EPA's Office of Research Development. To date, three documents have been finalized, including: (1) "Characterization of Mercury-Enriched Coal Combustion Residuals from Electric Utilities Using Enhanced Sorbents for Mercury Control." EPA–600/R–06/008. Feb. 2006; (2) "Characterization of Coal Combustion Residuals from Electric Utilities Using Wet Scrubbers for Multi-Pollutant Control." EPA–600/R–08/077. July 2008; and (3) "Characterization of Coal Combustion Residuals from Electric Utilities Using Multi-Pollutant Control Technology—Leaching and Characterization Data." EPA–600/R–09/151. December 2009.

comment on the criteria themselves and whether they are reasonable for non-hazardous secondary materials.

a. General

Comments: Application of Legitimacy Criteria: Commenters provided various viewpoints on the appropriateness of the legitimacy criteria for non-hazardous secondary materials that are used as fuels or ingredients. Several commenters disagreed with the application of the same subtitle C legitimacy definition for determining whether non-hazardous secondary materials are solid waste under RCRA subtitle D because non-hazardous secondary materials do not pose the same hazards. However, many of the commenters agreed with the application of the subtitle C legitimacy principles, but also argued that the criteria must be flexible to account for increasing use and changes in commodities, technologies, markets, and fuel prices and should not be more onerous than the legitimacy test codified at 40 CFR 260.43. Commenters also requested clarification as to whether all criteria need to be met, but urged EPA to recognize that legitimate uses are possible even if not all criteria are met.

EPA's Response: Application of Legitimacy Criteria: First, we would note that there are two questions that the Agency needs to answer: (1) Whether or not the non-hazardous secondary material is a fuel product or ingredient product, or whether the material has been discarded and is therefore a solid waste, which includes waste-derived fuels or ingredients and (2) whether the non-hazardous secondary material is being legitimately and beneficially used or recycled.

With respect to the legitimacy question, EPA believes it important and crucial to develop a set of legitimacy criteria to make sure that the fuel product and ingredient product are being legitimately and beneficially used and not simply being discarded via sham recycling. The definition of legitimate recycling developed for subtitle C hazardous secondary materials carefully considered the history surrounding the uses of materials, as well as the applicable case law with respect to the meaning of discard. Likewise, those same principles are pertinent to how a non-hazardous secondary material is determined not to be a solid waste. Therefore, we are proposing to codify general legitimacy criteria that use the same basic framework that has been established for the subtitle C hazardous waste regulations, but that are also tailored specifically for application to non-hazardous secondary materials that are used as fuels or ingredients in combustion units. *See* 40 CFR 241.3(d) for the proposed regulatory text of the legitimacy criteria and, for comparison *see* 40 CFR 260.43 in final regulations for the DSW hazardous waste legitimacy provisions. The rationale for the non-hazardous secondary materials legitimacy provisions (including comparisons to the DSW legitimacy provision) is discussed in section VII.D.6.

Commenters also suggested that the legitimacy criteria must be flexible to account for increasing use and changes in commodities, technologies, markets, and fuel prices and should not be more onerous than the legitimacy definition codified at 40 CFR 260.43. We agree with these commenters and have proposed qualitative criteria that we believe provide the flexibility needed in evaluating these secondary materials that will accommodate such changes. The legitimacy criteria are structured to distinguish between legitimate reuse/recycling and disposal (*i.e.,* sham recycling), while at the same time not impose restrictions on the types of non-hazardous secondary materials that may be of value in the future. For a detailed discussion of the proposed legitimacy criteria, *see* section VII.D.6.

In regard to the commenters who requested clarification on whether all criteria need to be met, we believe that each of the criteria is important and addresses certain issues that need to be assessed. Therefore, each criterion must be met in order for the non-hazardous secondary material to be considered to be a legitimate non-waste fuel or ingredient. Thus, today's proposal requires that in evaluating the legitimacy criteria, the owner/operator of the combustion unit must assure that the non-hazardous secondary material meets all of the criteria.[48] *See* section VII.D.6 for additional discussion.

[48] In EPA's final definition of solid waste rule regarding hazardous secondary materials, EPA codified a "legitimate recycling provision." *See* 40 CFR 260.43. This legitimacy provision has two parts. The first part includes two factors that must be considered and met, which are considered the core of the legitimacy factors. The second part of the legitimacy provision consists of two factors that must be considered, but need not be met because the Agency is aware of situations where a legitimate recycling process exists, but may not conform to one or both of these factors. For further discussion of the legitimacy factors in the hazardous waste rules, *see* section VII.C.7 of this preamble and the final definition of solid waste rule (October 30, 2008 beginning on 73 FR 64700). Thus, the application of the legitimacy provision proposed in this rule is different than that promulgated in the final definition of solid waste rule in that all of the criteria to be considered in today's proposed rule must both be considered and met.

Comment: Ingredients (General): We also received one general comment regarding the legitimacy criteria for ingredients. The commenter argued that the determination is not applicable for any material that is within a process and is being recycled in that process, and should not have to be justified as a secondary material, since closed-loop systems do not manage solid waste.

EPA's Response: Ingredients (General): We generally agree with the commenter. That is, to the extent that the non-hazardous secondary material has not been discarded in the first instance, which we presume it would not be as part of a closed-loop system, and such secondary material meets the legitimacy criteria, it would not be considered a solid waste when combusted. Thus, as an example, where CKD is recycled back into the cement kiln, and meets the legitimacy criteria, it is not solid waste.

b. Fuels or Ingredients Being Managed as Valuable Commodities

Comments: For this criterion, most commenters generally agreed with the Agency that such non-hazardous secondary materials should be managed as a valuable commodity, but argued that a specified containment system should not be a mandatory part of the criteria. One commenter suggested that rather than focus on containment, the focus should be on whether the non-hazardous secondary material has value for future use. Another commenter suggested that a more appropriate requirement is that the non-hazardous secondary material should be stored in a manner that preserves their economic value and avoids damaging releases to the environment. Another commenter thought that EPA should look to state requirements for containment, handling, and storage. Similarly, another commenter suggested that EPA should recognize that if a non-hazardous secondary material is managed pursuant to federal requirements that also apply to raw materials (*e.g.,* coal refuse compared to coal), the criteria are satisfied. Lastly, one commenter argued that the concept of "speculative accumulation" of one year can prevent accumulation of enough non-hazardous secondary materials to make recovery economical and thus, is not an appropriate criterion to conclude that a non-hazardous secondary material isn't being reused and is a solid waste.

EPA's Response: We generally agree with those commenters who argued that a specific containment system should not be required and, therefore, are proposing a qualitative approach in line with the same principle as the

commenter who suggested that non-hazardous secondary materials should be stored in a manner that preserves their economic value, while preventing damaging releases to the environment. We also are proposing to incorporate the concept that non-hazardous secondary materials be "contained" in the same manner as its analogous fuel or raw ingredient. Thus, we are proposing that where there is an analogous fuel or ingredient, the non-hazardous secondary material used would be required to be managed in a manner consistent with the management of the analogous fuel or ingredient or otherwise must be adequately contained so as to prevent releases to the environment. As explained in section VII.D.6, an analogous ingredient or fuel" is an ingredient or fuel for which the non-hazardous secondary material substitutes and which serves the same function and has similar physical and chemical properties as the non-hazardous secondary material. Where there is no analogous fuel or ingredient, the non-hazardous secondary material must be adequately contained so as to prevent damaging releases to the environment. "Adequately contained" is when a non-hazardous secondary material is stored in a manner that adequately prevents releases to the environment considering the nature and toxicity of the non-hazardous secondary material. In regard to the comment on speculative accumulation, we are not proposing a specific timeframe, because states already require varied timeframes and we will leave this up to the state's discretion.

c. Fuels Must Have Meaningful Heating Value. The ANPRM discussed the meaningful heating value criterion for legitimate alternative fuel, and outlined a qualitative approach rather than a "bright-line" cutoff for heating value. The ANPRM requested comment as to whether it was possible or appropriate to establish a specific heating value cutoff.

Comments: Several commenters favored the ANPRM approach, while others recommended either a lower Btu benchmark or replacing the Btu benchmark with a case-by-case analysis. No commenters recommended deleting the criterion. Commenters emphasized that innovations and advancements in technology can efficiently produce energy from non-hazardous secondary materials with lower heating value content.

EPA's Response: We are proposing a qualitative approach for a meaningful heating value criterion as outlined in the ANPRM. The proposed regulatory text specifies that "the material must have a meaningful heating value and be used as a fuel in a combustion unit that recovers energy". *See* proposed 241.3(d)(1)(ii). We are clarifying in this proposal, that non-hazardous secondary materials with a heating value of greater than 5,000 Btu/lb, as fired, would be considered to satisfy the criterion. However, non-hazardous secondary materials with a heating value lower than 5,000 Btu/lb, as fired, may also be considered to have a meaningful heating value if the unit can cost-effectively recover meaningful energy. *See* section VII.D.6.a. for an explanation of the factors that may be considered in determining whether an energy recovery unit can cost-effectively recover energy from a non-hazardous secondary material. Also, as outlined in the same section, this criterion is an appropriate factor, since it expresses the principle that non-hazardous secondary materials used as a fuel with a meaningful heating value provides a useful contribution to the manufacturing process. The Agency believes a 5,000 Btu/lb benchmark, as fired, identifying when a non-hazardous secondary material, by definition, provides fuel value is appropriate since it is consistent with determinations expressed in previous RCRA and CAA rulemakings, including the RCRA comparable fuels rule (63 FR 33781), the RCRA subtitle C boilers and industrial furnaces rule (48 FR 11157–59), and the CAA NESHAP for Hazardous Waste Combustors NODA (62 FR 24251).

We request comment on whether it would be appropriate to also identify a lower Btu/lb threshold, below which non-hazardous secondary materials would not be considered to have meaningful heating value and thus, would be a solid waste by definition.

d. Fuel/Ingredient Contaminant Levels. To address the possible presence of waste-like contaminants in non-hazardous secondary materials, the ANPRM stated that such secondary materials used as fuels should not contain contaminants that are significantly higher than those contained in traditional fuels. For ingredients, the ANPRM stated that products that use non-hazardous secondary materials as ingredients in combustion units should not contain contaminants that are significantly higher in concentration than the product produced without the non-hazardous secondary material. For both ingredients and fuels, the ANPRM suggested that a qualitative approach may be more appropriate to use than numerical specifications. In addition, we requested comment on whether the contaminants evaluated should be the hazardous constituents listed in Appendix VIII to 40 CFR part 261, or whether a different list of contaminants would be more appropriate.

Comments: Commenters were evenly divided on whether the presence of contaminants was an appropriate legitimacy criterion. For commenters favoring the criterion, most believed that a qualitative approach was preferable; stating that little risk exists for environmental exposure and numerical specifications may be impractical due to the multiplicity of fuels or ingredients. However, a minority of commenters favored a quantitative approach. For commenters recommending that the presence of contaminants not be included as a criterion, most emphasized that emissions will be controlled under either CAA sections 112 or 129. They stated that comparative contaminant concentrations are inappropriate, and that the Agency should recognize the lower risks posed by non-hazardous secondary materials. One commenter stated that the amount of contamination acceptable in an alternative fuel depends on how much is fired with the main boiler fuel, the type of contaminant (organic vs. inorganic), and the emission controls used.

Specifically with respect to the use of ingredients in combustion units, one commenter agreed that the assessment should involve the final recycled product and not the ingredient itself. However, another commenter countered that the assessment should be a comparison of post combustion emission levels, not the product made with non-hazardous secondary materials to those in a product made with virgin materials. This commenter reasoned that combustion will destroy many of the substances that EPA considers possible contaminants and basically eliminates any environmental concern. Another commenter recommended an analysis of appropriate total constituent concentrations, leachable constituent concentrations, and a comparison to traditional ingredients (as outlined in the Solid Waste RCRA subtitle D groundwater protection constituent list).

EPA's Response: Based on our assessment of all of the comments, we believe it appropriate to include contaminant levels as a legitimacy criterion. Thus, we do not agree with those commenters' that assert that contaminant comparisons are not appropriate to require as part of the legitimacy criteria. The Agency believes the criterion is necessary because non-hazardous secondary materials that contain contaminants that are not comparable in concentration to those contained in traditional fuel products or

ingredients would suggest that these contaminants are being combusted as a means of discarding them, and thus the non-hazardous secondary material should be classified as a solid waste. In some cases, this can also be an indicator of sham recycling. For example, non-hazardous secondary materials that may not contain comparable concentrations of contaminants include chromium-, copper-, and arsenic (CCA)-treated lumber, polyvinyl chloride (PVC) plastics which can contain up to 60 percent halogens (chlorine), lead-based painted wood, and fluorinated plastics. Also, we disagree with the commenter who argued that any assessment should only include a comparison of post-combustion emission levels because the combustion unit will destroy many of the substances that EPA considers possible contaminants (and thereby eliminate any environmental concern). The Agency believes that this post-combustion assessment of contaminants further supports the principle that contaminant levels (before and after combustion) are important indicators of legitimacy.

The legitimacy criterion for fuel/ingredient contaminants outlined in today's rule has changed from the criterion outlined in the ANPRM. In the ANPRM, non-hazardous secondary materials used as fuel could not contain contaminants that were significantly higher than traditional fuel products. For ingredients, the non-hazardous secondary material could not result in products that contain contaminants that are significantly higher in concentration than found in traditional products.

Under today's proposed rule, non-hazardous secondary material used as fuels in combustion units must contain contaminants (defined as HAP listed under CAA section 112(b) and the nine pollutants listed under CAA section 129) at levels "comparable" to those in traditional fuels which the combustion unit is designed to burn. For use as an ingredient, the non-hazardous secondary material must result in products that contain contaminants at levels that are "comparable" in concentration to those found in traditional products that are manufactured without the non-hazardous secondary material ingredients.

As discussed in section VII.C.7., requiring that the secondary material have contaminants at levels comparable to traditional fuels would ensure that the burning of any secondary materials in combustion units will not result in discard of materials and will not result in increased releases to the environment that could impact the health and environment of the local community. Ensuring that the level of contaminants in the non-hazardous secondary material is comparable to traditional fuels would prevent secondary materials from being discarded and be the most protective of human health and the environment. Today's proposed rule also requests comment on an approach, consistent with the ANPRM approach, which would only compare contaminants at levels that are significantly higher than traditional fuel products.

Similar to the ANPRM, the assessment of whether the non-hazardous secondary material used as a fuel has contaminants comparable to traditional fuel products is to be made by directly comparing the numerical contaminant levels in the non-hazardous secondary material to the contaminant levels in traditional fuels. *See* section VII.C.7., for a complete discussion of contaminant assessments.

The assessment of whether products produced from the use of non-hazardous secondary material ingredients in combustion units that have contaminants that are comparable in concentration to traditional products can be made by a comparison of contaminant levels in the ingredients themselves to traditional ingredients they are replacing, or by comparing the contaminant levels in the product itself with and without use of the non-hazardous secondary material ingredient. *See* section VII.D.6.b.

e. Ingredients Must Provide Useful Contribution. The ANPRM cited (from the October 2008 DSW Final Rule for hazardous waste) five ways [49] in which a secondary material can add value and usefully contribute to a recycling process and solicited comment on whether they are appropriate for non-hazardous secondary materials.

Comment: Only one commenter responded and indicated that the five criteria are too narrow and should be broadened to apply to the non-hazardous secondary material uses (*i.e.,* processes not considered recycling) since using the criteria for hazardous waste as a model is too limiting.

EPA's Response: After review of the comment, we understand that there is some interest in broadening those criteria for non-hazardous secondary material use, but the commenter did not provide any information to merit the development of a separate or additional criteria for non-hazardous secondary material use to describe how they can "add value and usefully contribute to a recycling process" (or broaden to non-recycling uses as suggested by the commenter). However, the Agency solicits comments on this point; in particular, what the separate criteria would be and how a non-hazardous secondary material would or can "add value and usefully contribute to a recycling process."

f. Ingredients Must Produce a Valuable Product. For this criterion to be met, the ANPRM indicated that a product or intermediate is valuable if it is (i) sold to a third party or (ii) used by the recycler or generator as an effective substitute for a commercial product or as an ingredient or intermediate in an industrial process. We then requested comment on whether this description of valuable product/intermediate is an appropriate way to consider this criterion in the context of non-hazardous secondary materials used as ingredients.

Comments: One commenter responded that they support this criterion, but caution that it be broad enough so that it addresses the value obtained by both its use on-site and off-site by a third party. The commenter also suggested that the provision be interpreted broadly to also include traditional recycling markets and the products generally in which such secondary materials are utilized.

EPA's Response: We believe that the criteria described in the ANPRM are broad enough to address the value obtained by both its use on-site and off-site by a third party. With regard to interpreting the criterion broadly enough to include traditional recycling markets and the products in which the secondary materials are utilized, we do not agree that it would be appropriate. Specifically, this rule is addressing a particular issue within the context of RCRA—that is, which non-hazardous secondary materials are or are not solid wastes when used in a combustion unit. We have tailored the legitimacy criteria to apply specifically to the use of these non-hazardous secondary materials as fuels or ingredients in combustion units only. An assessment of uses beyond those in combustion units is beyond the scope of this rulemaking.

8. De Minimis Concept

Although we did not discuss the concept of *de minimis* in the ANPRM, commenters argued strongly that EPA allow for *de minimis* amounts of solid

[49] The five ways include: (i) The secondary material contributes valuable ingredients to a product or intermediate; or (ii) replaces a catalyst or carrier in the recycling process; or (iii) is the source of a valuable constituent recovered in the recycling process; or (iv) is recovered or regenerated by the recycling process; or (v) is used as an effective substitute for a commercial product.

waste to be burned without being subject to the CAA 129 requirements.

Comments: Several commenters believe that any regulatory construct should include a *de minimis* exemption that excludes from the definition of solid waste for purposes of CAA section 129, those materials (*i.e.,* solid waste) that, when combusted, result in *de minimis* emissions. An example provided by the commenters of a waste material is boiler chemical cleaning waste, which consists primarily of water, but also includes metal deposits from the boiler tubes, as well as spent solvent. Another example is oily rags which are generated in small quantities during routine maintenance activities. Air emissions associated with these practices is a small fraction compared to the emissions generated from fossil fuel combustion. Commenters also cited several court decisions that held that EPA retains the legal authority to promulgate *de minimis* exceptions for regulatory schemes.

EPA's Response: The issue of whether the burning of *de minimis* amounts of solid waste (*i.e.,* because it results in *de minimis* emissions) can be exempted from CAA 129 regulation is outside the scope of this rulemaking, which is only concerned with identifying which non-hazardous secondary materials burned as fuels or ingredients in combustion units are or are not solid waste.

D. Rationale for, and Detailed Description of, Proposed Approach

Under this proposal, non-hazardous secondary materials used as fuels in combustion units would be considered solid waste unless: (1) The non-hazardous secondary materials remain under the control of the generator as discussed in section VII.D.1, and are legitimate fuels; or (2) they are legitimate fuels that are produced from the processing of discarded non-hazardous secondary materials as discussed in section VII.D.4. Non-hazardous secondary materials used as a fuel in combustion units that are transferred to a third party (and not considered to be managed within the control of the generator) are considered solid wastes unless a non-waste determination has been made pursuant to the proposed petition process (discussed below in section VII.D.5).[50]

Non-hazardous secondary materials used as ingredients in combustion units would not be considered solid waste if they have not been discarded in the first instance and if they are legitimate ingredients, irrespective of whether they have been transferred to a third party outside the control of the generator. Non-hazardous secondary materials that have been discarded may be processed into a non-waste ingredient that meets the legitimacy requirements as discussed in VII.D.4.

The ANPRM also discussed another possible exclusion from being a solid waste—that is, hazardous secondary materials that are excluded from the definition of solid waste under RCRA subtitle C when combusted. However, EPA has concluded that it does not need to include this exclusion since these materials have already been excluded from the definition of solid waste as hazardous secondary materials and, therefore, are not subject to this rule, which deals with the definition of solid waste for non-hazardous secondary materials used in combustion units. As noted in the ANPRM, under the hazardous waste regulations, the Agency has evaluated a number of hazardous secondary materials that are recycled and determined that such materials, while they either met a listing description or exhibited one or more of the hazardous waste characteristics, were not "solid wastes" for purposes of the RCRA Subtitle C hazardous waste regulations when they were combusted. Specifically, the following materials may be burned under certain conditions and are not defined as solid wastes for purposes of the hazardous waste regulations—black liquor, spent sulfuric acid, comparable fuels and commercial chemical products that are themselves fuels.[51] These secondary materials are not solid wastes provided they are handled under the applicable conditions of the exclusions specified under the RCRA subtitle C hazardous waste regulations, and are not considered solid wastes for purposes of CAA section 129. The rules covering the determinations for black liquor, spent sulfuric acid,[52] comparable fuels,[53] and commercial chemical products that are themselves fuels[54] are not being reopened in this proceeding and EPA is no longer requesting comment on those solid waste definitions for purposes of this rule.

Except for the petition process, the proposed criteria are designed to be self implementing in nature, *i.e.* they do not require prior Agency approval.

1. Non-Hazardous Secondary Materials Used as Fuel Within the Control of the Generator

We are proposing to use the general framework finalized in the Definition of Solid Waste Rule to determine circumstances under which non-hazardous secondary materials remaining under the control of the generator that are used as fuels in combustion units are not considered to have been discarded.

a. *Scope and Applicability.* EPA is proposing that non-hazardous secondary materials used as fuels in combustion units that remain within the control of the generator and that meet the legitimacy criteria specified in section VII.D.6 would not be solid waste. Non-hazardous secondary materials that remain within the control of the generator and meet these criteria are referred to as legitimate (non-waste) fuel products. The proposed conditions that must be satisfied to qualify as "under the control of the generator" are found in proposed 40 CFR part 241.3. Nevertheless, EPA is seeking comment on whether such secondary materials should be considered solid wastes and thus, be subject to the CAA section 129 requirements if combusted.

There are two scenarios where non-hazardous secondary materials used as fuels can be demonstrated to remain within the control of the generator. As such, the proposal consists of two parts in determining whether these secondary materials qualify for being "under the control of the generator." The first part applies to non-hazardous secondary material generated and used as fuels at the generating facility. For purposes of this proposed criteria, "generating facility" means all contiguous property owned, leased, or otherwise controlled by the secondary material generator, and

[50] As we noted earlier in the preamble, traditional fuels also are not considered solid wastes when burned in a combustion unit. Therefore, we will not discuss the use of traditional fuels further since we believe it is understood that they are legitimate products and not wastes.

[51] Black liquor is burned in a pulping liquor recovery furnace and then reused in the pulping process, while spent sulfuric acid is used to produce virgin sulfuric acid; in both these instances, these hazardous secondary materials are considered to be an integral part of the manufacturing process. With respect to comparable fuel, these hazardous secondary materials are considered a legitimate non-waste fuel because they meet the chemical and physical specifications of a traditional benchmark fuel. Commercial chemical products that are themselves fuels, such as off-specification fuels, including gasoline, jet fuel, kerosene, diesel, etc., are not solid wastes when burned as fuels if that is their intended purpose (40 CFR 261.2(c)(2)(ii)).

[52] *See* Definition of Solid Waste Final Rule, January 4, 1985 at 50 FR 641–642, covering both black liquor and spent sulfuric acid.

[53] *See* "RCRA Comparable Fuels Exclusion" Final Rule, June 19, 1998, 63 FR 33782.

[54] *See* 50 FR 614 "Amendments to the Definition of Solid Waste" (Final Rule), January 4, 1985 at 50 FR 618, 629. *See also* Hazardous Waste Management System; Definition of Solid Waste; Corrections, April 11, 1985 at 50 FR 14219.

"secondary material generator" means any person whose act or process produces non-hazardous secondary materials at the generating facility. A facility that collects non-hazardous secondary materials from other persons (for example, used tires collected through a collection program) is not the secondary material generator of those materials. This is consistent with the approach taken in the DSW final rule, which specified that a facility that collects hazardous secondary materials from other persons (for example, when mercury-containing equipment is collected through a special collection program), would not be considered the hazardous secondary material generator for purposes of eligibility for the generator-controlled exclusion. *See* 73 FR at 64715.

If a generator hires or contracts with a different company to use the non-hazardous secondary materials at the generator's facility as fuel, either temporarily or permanently, these materials remain under the control of the generator. However, generators sometimes contract with a second company to collect non-hazardous secondary materials at the generating facility and such materials are subsequently used as fuels in a combustion unit at another facility. In that situation, if the facility that burns the non-hazardous secondary material is not "within the control of the generator" as defined below in the second part of the definition, then the non-hazardous secondary material fuel would be considered a solid waste unless a non-waste determination has been granted pursuant to the petition process.

The second part of the proposed definition applies to non-hazardous secondary material generated and used as fuels at a different facility that is controlled by the generator (or if a person as defined in proposed § 241.2 controls both the generator and the facility using the fuel in a combustion unit). For purposes of this proposed criteria, "control" means the power to direct the policies of the facility, whether by ownership of stock, voting rights, or otherwise, except that contractors who operate facilities on behalf of a different person as defined in proposed § 241.2 shall not be deemed to "control" such facilities. Thus, when a contractor operates two facilities, each of which is owned by a different company, non-hazardous secondary materials generated at the first facility and used as a fuel at the second facility is not considered "under the control of the generator."

We note that the DSW final rule includes a third part of the definition that applies to hazardous secondary materials that are generated pursuant to a written contract between a tolling contractor and a toll manufacturer and legitimately reclaimed by the tolling contractor. For purposes of that exclusion, a tolling contractor is a person who arranges for the production of a product or intermediate made from specified raw or virgin materials through a written contract with a toll manufacturer. The toll manufacturer is the person who produces the product or intermediate made from the specified raw or virgin materials pursuant to a written contract with a tolling contractor. We view this as a very specific type of arrangement where, for example, a chemical manufacturer outsources a step in the manufacturing process to another company (typically a "batch" manufacturer), and then the batch manufacturer sends both the product and the residuals back to the main company (and the residuals are then reclaimed by the main company). Although there are two companies, there is only one manufacturing operation, and the main company keeps control over (and liability for) everything through the tolling contract.

We do not believe that tolling contracts are relevant to non-hazardous secondary materials used as fuels in combustion units as we are unaware of these types of contractual arrangements where both products and secondary material fuel are sent to what we are calling tolling contractors. As a result, we are not including this type of arrangement under the proposed definition for non-hazardous secondary material fuels that remain under the control of the generator. However, the Agency requests comments on whether to include this option in the final rule; those persons who provide comments supporting the addition of this option to the final rule should provide specific instances or examples of where non-hazardous secondary materials are managed under tolling arrangements and the frequency that such arrangements are used, and how these arrangements remain "under the control of the generator."

b. Restrictions and Requirements

Legitimate Use. Under this proposed rule, non-hazardous secondary materials used as fuels in combustion units that remain under the control of the generator must meet the legitimacy criteria proposed in § 241.3(d). To satisfy the legitimacy criteria, the non-hazardous secondary material (non-waste) fuel must be handled as a valuable commodity, have meaningful heating value and be used as a fuel, in a combustion unit that recovers energy, and contain contaminants at levels comparable to those in traditional fuels which the combustion unit is designed to burn. The details of the legitimacy criteria are discussed in Section VII.D.6. of this proposal.

Notification. We are not proposing to require facilities that use non-hazardous secondary material fuels within the control of the generator to notify EPA as part of this proposal. We believe this would be duplicative of the CAA 112 regulatory notification and record keeping requirements being proposed for boilers and process heaters today. That proposal would require specific notifications from sources subject to the standards including notifications of compliance status, test results and descriptions of applicable air pollution control devices. In addition, for sources that have made a non-waste self-determination under § 241.3, the proposal for boilers and process heaters requires that records be maintained which document how the fuel meets legitimacy criteria and the definition of processing as appropriate. However, we solicit comment on this and specifically request comment on whether the Agency should require, at least initially, if not on a periodic basis, notification and recordkeeping under RCRA by those persons who both generate or combust non-hazardous secondary materials that are not solid wastes, including documentation that explains or provides the basis for the non-hazardous secondary material meeting the legitimacy criteria, and thus, is not a solid waste.

2. Non-Hazardous Secondary Materials Used as Fuel Outside the Control of the Generator

Non-hazardous secondary materials used as a fuel in combustion units that are not considered to be managed within the control of the generator would be considered solid wastes unless they have been processed into a legitimate non-waste fuel product (discussed in section VII.D.4. below) or unless a non a non-waste determination has been made pursuant to the proposed petition process (discussed in section VII.D.5. below).

This proposed approach differs from the ANPRM approach, which specified that non-hazardous secondary materials, such as used tires collected at tire dealerships and transferred to a third party would not be considered discarded if, for example, they were managed pursuant to state tire collection programs. As previously discussed, comments received from the states suggested that non-hazardous

secondary material fuels that are transferred to a third party have entered what is traditionally considered to be the "waste stream" (and have been regulated by the states as wastes) and therefore should appropriately be considered to be solid wastes (*e.g.,* scrap tires) unless/until they are processed into non-waste fuel products. However, the Agency seeks comment on whether the approach described in the ANPRM would be more appropriate. In submitting comments supporting a broader approach, we request that commenters provide the basis for why such secondary materials have not been discarded.

When non-hazardous secondary material fuels are transferred to another party, we generally believe that the material is discarded since the generator has relinquished control of the secondary material and the entity receiving such materials may not have the same incentives to manage them as a useful product, which results in the materials being discarded. (Note: As indicated above, the Agency is proposing a petition process to allow any person to demonstrate that non-hazardous secondary material fuels transferred to another party outside the control of the generator have not been discarded, and thus, are not a solid waste. *See* section VII.D.5. below for details on the petition process.)

This lack of incentive to manage as a useful product has been well-documented in the context of hazardous secondary material recycling as evidenced by the results of the environmental problems study performed in support of the DSW final rule.[55] (This scenario does not apply to transfers taking place under the transfer-based exclusion for hazardous secondary materials that are generated and then transferred to another company for the purpose of reclamation.) However, this finding also holds true for non-hazardous secondary materials that are used as fuel.

For example, the over-accumulation of scrap tires is well known and has resulted in massive piles of discarded tires that have contributed to the overall solid waste management problem due to the threat of fires, such as the Rhinehart Tire Fire Dump,[56] and because they provide an ideal breeding ground for mosquitoes and rodents. It is estimated that 275 million tires remained in stockpiles across the United States in 2003 and that approximately 290 million new scrap tires are generated each year.[57] Other non-hazardous secondary materials destined for use as a fuel that were accumulated, but then discarded have similarly contributed to the overall solid waste management problem.[58]

As discussed in the DSW final rule,[59] this pattern of discard at off-site, third party reclaimers appears to be a result of inherent differences between commercial recycling and normal manufacturing. As opposed to manufacturing, where the cost of raw materials or intermediates (or inputs) is greater than zero and revenue is generated primarily from the sale of the output, secondary materials recycling, including when used as a fuel, can involve generating revenue primarily from receipt of the secondary materials. Recyclers of secondary materials in this situation may thus respond differently than traditional manufacturers to economic forces and incentives, accumulating more inputs (secondary materials) than can be processed and generating stockpiles with sometimes little incentive to perform actual recycling.

However, this pattern of discard does not hold true for materials that are more commodity-like than waste like, such as traditional fuels and non-hazardous secondary materials used as ingredients in manufacturing processes that utilize combustion systems. As previously discussed, traditional fuels have been burned historically as fuels and have been managed as valuable products, are considered unused products and therefore are not solid wastes. Also *see* discussion in section VIII.D.6.b below that explains EPA's rationale as to why ingredients that are not managed within the control of the generator are determined not to be discarded.

In some cases, a non-hazardous secondary material may be transferred to another entity to be burned for energy and still more closely resemble a product than a waste, despite the fact it is neither a traditional fuel nor has it been processed into a legitimate fuel. In such cases, the Agency has included a petition process where a person may petition EPA for a case-specific determination that the non-hazardous secondary materials are not discarded and therefore not solid wastes. *See* section VIII.D.5. for a more detailed discussion of the petition process.

In the proposed regulatory language, EPA is not specifying whether particular materials are or are not solid wastes. However, as discussed previously, whole tires that originate from tire dealerships and automotive shops (that are overseen by state tire collection oversight programs) would be considered to be discarded unless and until they are processed into TDF that has removed the steel belts and wire, or a case-specific non-waste determination petition is granted. EPA believes tires that are collected from tire dealerships and automotive shops, especially if overseen by a state tire collection oversight program that collects fees and regulates the process under state "waste" authorities, generally meet the plain meaning of discard; such materials can be considered as having been "discarded" by the original owner of the tire.

This is further supported by the fact that many state agencies regulate tires as wastes, either pursuant to their solid waste authority or pursuant to statutory authority that specifically addresses the management of used tires (some use both authorities). The level of regulation ranges from state to state, but many states directly regulate used tires, for example, with storage requirements, such as speculative accumulation and fire suppression requirements, up until their final use as a fuel in combustion units. In addition, many states subsidize certain end-use applications, suggesting that used tires, even if managed pursuant to state oversight programs, are discarded materials once they are generated at tire collection points, such as tire dealerships.

3. Non-Hazardous Secondary Materials Used as Ingredients in Combustion Units

Non-hazardous secondary materials used as ingredients in combustion units would not be solid wastes provided they satisfy the legitimacy criteria discussed in section VIII.D.6.b below. We are not differentiating between ingredients that are used within the control of the generator from those that are not since we believe that the use of non-hazardous secondary materials as ingredients is considered to be more integral or akin to use in a commercial manufacturing process and thus, these non-hazardous secondary materials

[55] U.S. EPA *An Assessment of Environmental Problems Associated With Recycling of Hazardous Secondary Materials* (Docket # EPA–HQ–RCRA–2002–0031–0355), January 2007.

[56] *See* 51 FR 21054, June 10, 1986.

[57] U.S. EPA *Scrap Tire Clean-Up Handbook: A Resource for Solid Waste Managers Across the United States* EPA–905–B–06–001, January 2006.

[58] U.S. EPA *Description of Non-Hazardous Secondary Material Events that Resulted in Adverse Environmental Impacts* (Docket # EPA–HQ–2008–0329), September 2009.

[59] U.S. EPA *A Study of the Potential Effects of Market Forces on the Management of Hazardous Secondary Materials Intended for Recycling* (Docket # EPA–HQ–RCRA–2002–0031–0358), November 2006. While the study focuses on hazardous secondary materials, the underlying economic theory would apply equally to non-hazardous secondary materials.

should not be considered discarded provided they satisfy the legitimacy criteria.

4. Non-Hazardous Secondary Materials Processed Into Non-Waste Fuel/Ingredient Products

EPA is proposing that legitimate fuel or ingredient products that result from the processing of discarded non-hazardous secondary materials are not solid wastes. Of course, the legitimacy criteria specified in section VII.D.6. below must be met. Because the fuel/ingredient products meeting these legitimacy criteria are, in effect, reclaimed products from a recycling process, EPA considers such materials to be new products that have not been discarded and therefore are not solid wastes. Until the non-hazardous secondary materials have been processed into a non-waste fuel or ingredient product meeting the legitimacy criteria, the discarded non-hazardous secondary material are considered solid wastes and would be subject to all appropriate federal, state and local requirements.

Similar to the proposed approach for non-hazardous secondary materials that are used as fuels within the control of the generator, we are not proposing to require facilities that combust non-hazardous secondary materials that have been processed into non-waste fuel/ingredient products to notify EPA as part of this proposal. We believe this would be duplicative to the CAA 112 regulatory notification and record keeping requirements being proposed for boilers and process heaters today. That proposal would require specific notifications from sources subject to the standards including notifications of compliance status, test results and descriptions of applicable air pollution control devices. In addition, for sources that have made a non-waste determination under 40 CFR 241.3, the proposal for boilers and process heaters requires that records be maintained which document how the fuel meets legitimacy criteria and the definition of processing as appropriate. However, we solicit comment on this and specifically request comment on whether the Agency should require, at least initially, if not on a periodic basis, notification and recordkeeping under RCRA by those persons who both generate or combust non-hazardous secondary materials that are not solid wastes, including documentation that explains or provides the basis for the non-hazardous secondary material meeting the legitimacy criteria, and thus, is not a solid waste.

a. *Proposed Definition of Processing.* The proposed definition of processing means any operations that transform discarded non-hazardous secondary material into a new fuel or new ingredient product. Minimal operations, such as operations that result only in modifying the size of the material by shredding, do not constitute processing for purposes of this definition. Processing includes, but is not limited to, operations that: remove or destroy contaminants; significantly improve the fuel characteristics of the material, *e.g.,* sizing or drying the material in combination with other operations; chemically improve the as-fired energy content; and improve the ingredient characteristics. While today's rule proposes a definition of operations that constitute processing, the level of processing that is necessary to render a discarded non-hazardous secondary material into a non-waste product is dependent on the material. We note, however, that discarded non-hazardous secondary materials that are not processed or minimally processed (as discussed above *i.e.,* processed in a manner that does not meet our definition of processing) would be considered a waste-derived fuel or ingredient, and thus a solid waste, no matter how legitimate their use is as a fuel or ingredient. In addition, non-hazardous secondary materials that are processed and used as fuels or ingredients in combustion units, but do not meet the legitimacy criteria, would be considered to be sham use and thus a solid waste. The Agency seeks comment on the proposed definition of processing, including whether such definition provides sufficient clarity that it can be implemented under the self-implementing provision in today's proposed rule (this approach is discussed further in this section).

b. Rationale for Processing Discarded Material Into Non-Waste Products. Today's proposed rule identifies circumstances where materials that have been discarded in the first instance, and are thus solid wastes, can be rendered into new non-waste products through legitimate processing consistent with the definition outlined above. The basic principle that must be satisfied is that the discarded material must undergo sufficient processing that produces either a new fuel or ingredient product. The new product must have properties that provide the end user the assurance that the material consistently satisfies the fuel/ingredient product criteria based on the type of combustion unit the secondary material is used in (*e.g.,* as a fuel in a boiler or as an ingredient in a cement kiln).

The principle that products can be produced from a waste is common to industrial processes and commercial recycling markets. Newspaper and aluminum cans discarded by consumers are then collected, sorted and processed into new recycled paper and aluminum products that are not considered solid waste. Collected plastic is generally sent to a reclaimer, who will sort, grind, and clean the plastic. The cleaned and sorted plastic is sent to a manufacturer who will use it as feedstock. These are clear examples where discarded materials are processed into legitimate non-waste products.

Recycled fuel products are no different from recycled paper and aluminum cans with respect to discard. If non-hazardous secondary materials that are discarded by being abandoned, disposed of or thrown away, but are later collected, segregated, and processed into a homogenous fuel product that is marketed and sold as a valuable commodity and are no different that traditional fuels used today, then they should no longer be considered solid waste, just as recycled paper is not a solid waste.

There are other examples beyond consumer recycled materials where discarded materials are processed into new products. These examples include specific exclusions from the hazardous waste regulations, which provide insight into how secondary materials can be processed into valuable products. For instance, discarded spent solvents are commonly recycled via distillation into legitimate, newly usable solvents. These regenerated solvents are clearly considered to be products, not wastes. *See* 50 FR 634, January 4, 1985. Scrap metal that has been discarded is another example of a non-hazardous secondary material that is processed into a non-waste. (EPA specifically exempted scrap metal that has been processed from the definition of solid waste (*see* 261.4(a)(13).) For scrap metal to be considered "processed," it must have been "manually or physically altered to either separate it into distinct materials to enhance the economic value or improve the handling of these materials. Processed scrap metal includes * * * scrap metal which has been baled, shredded, chopped, crushed, flattened, cut, melted, or separated by metal type (*i.e.* sorted) * * *" (*see* 40 CFR 261.1(c)(10)). We believe this is a good example of where the level of processing necessary to convert a waste material to a non-waste material is dependent on the material itself.

Off-spec used oil is another example of a secondary material which we believe is discarded, but can be processed into a non-waste product (*see* section VII.C.5.d.). Once used oil is determined to be on-spec, we do not view it to be a solid waste since it is no longer regulated under the used oil management standards of 40 CFR part 279 and can be managed as a traditional fuel.[60]

One of the difficulties the Agency faces with determining whether non-waste fuels can be processed from discarded materials is that the combustion of materials is commonly associated with disposal, whether it is waste disposal in incinerators or waste disposal in energy recovery devices (*e.g.,* municipal waste combustors that recover energy by producing electricity). Therefore, many equate the burning of any secondary material to discard, as some commenters have argued. This approach does not take into account that the secondary material has in fact been produced in a process that uses the discarded material as a feed stream to produce a safe fuel product that is a valuable commodity and sold in the marketplace no differently than traditional fuels. We view such an approach being a common sense interpretation of the statutory definition of solid waste under RCRA. Again, fuel produced from discarded non-hazardous secondary materials should not be considered solid waste just as recycled newspapers are not considered solid waste, since the material has been processed or "manufactured" into a new fuel product. The use of these energy containing secondary materials can be an effective substitute for traditional fuels. Such materials can provide economic efficiencies due to lower overall resource use, while still protecting human health and the environment.

Another difficulty the Agency faces is the misconception that discarded material that is burned, either for destruction or energy recovery, by definition has high levels of contaminants. We do not believe this is the case for many of the non-hazardous secondary materials we are assessing. The manner in which the secondary material is managed is a key factor that determines discard (abandoned, disposed of, or thrown away); contaminant levels are part of that consideration, such that if a secondary material has high levels of contaminants, it would be considered sham recycling, which is one type of way a material can be "disposed of." Clean materials can be discarded just like contaminated materials can. This, combined with the perception that combustion of secondary materials is equated to discard, results in the perception that there needs to be a very high threshold with respect to the level of processing that must take place to render a discarded material into a non-waste product. We believe, however, that a strict, but appropriate level of processing is necessary which is reflected in the processing definition outlined in today's proposed rule. We also note that in order for any secondary material to be considered a non-waste fuel, it must contain contaminants at levels that are comparable to traditional fuels in use today.

To put this into context, we believe it would help to include examples of processing of discarded non-hazardous secondary materials—those which we believe are clearly adequate processing to render the material into a non-waste fuel or ingredient product in accordance with the definition of processing in § 241.2 and those that do not.

c. Examples of Adequate Processing

Examples of non-hazardous secondary materials that have been discarded, but can be processed into a non-waste fuel or ingredient product include, but are not limited to, used tires, solid waste processed in gasifiers to produce synthesis gas, off-spec used oil (discussed above), sewage sludge processed into pellets, painted wood, and coal fines and biomasss processed into pellets with the impurities removed. Each of these are described in more detail below.

Used Tires. EPA views used tire processers as facilities that take solid waste that can produce valuable non-waste products. Used tires undergo various processing steps to meet certain specifications that are necessary for a particular end use, whether it be for use as TDF, or for use in other non-combustion applications, such as ground rubber applications (*e.g.,* for use in sidewalks).[61] Used tire processors typically enter into contracts with the end users of these tire derived products that specify that the processed tires meet certain specifications (*i.e.* size of tire pieces, wire content) to ensure the material consistently meets the needs of that particular end use. This is common for TDF.

Used tires are often processed by shredding and removing dirt or other contaminants to produce TDF. Processing scrap tires into TDF can involve two physical processing steps: chipping/shredding (usually ranging in size from 1 to 4 inches) and (in some cases) metal removal, with the amount of metal in TDF varying depending on how much of the tires have been processed. For some units, such as cement kilns, metal in the wire can be used in the manufacturing process.[62] However, most other units benefit from TDF that has been processed to minimize the amount of metal and improve heating efficiency.

EPA considers used tires that have been shredded/chipped into TDF and with the metal belts or wire removed, to meet the definition of processing discussed above. Thus, used tires that have been shredded/chipped without the removal of the metal belts or wire would not be considered to have been sufficiently processed, and any TDF that is generated in such a fashion would be considered a waste-derived fuel. Removing the metal belts or wire will help reduce metal contaminants in the emissions and ash, and may improve the burning characteristics for some uses of the TDF. As is the case for all types of solid fuel, proper characterization of the size and composition of TDF are important factors that combustion unit operators assess to determine if TDF is a suitable fuel for their specific combustion unit design.[63] For example, ASTM Standard 6700–01, describes standard practices for using TDF as fuels, and also specifies sampling and analysis methods and procedures that apply to TDF that cover composition, and fuel characterization analyses. The standards also address the size of the tire pieces

[60] Once used oil is claimed to be on-spec and the marketer complies with the requirements for analysis and record retention, notification, and record tracking shipment to on-specification burners, it is no longer subject to the management standards.

[61] As discussed previously, today's proposal only addresses non-hazardous secondary materials that are used in combustion process, and not in other applications.

[62] We note that most cement kilns use whole tires as fuels, as opposed to TDF chips, because their process does not require the TDF to be in the form of small chips to use it as a fuel, and does not require removal of the metal (since they use the metal as an ingredient). Under today's proposal, cement kilns that burn whole tires would be subject to the CAA section 129 requirements, unless the tires were processed to produce TDF or a non-waste determination was issued by EPA regarding the burning of whole tires.

[63] With regard to the legitimacy criteria discussed in Section VII.B.3, the heating value of scrap tires (12,000 Btu/lb to 16,000 Btu/lb) is the highest of all secondary materials, except used oil (17,800 Btu/lb), and higher than typical coal values. Contaminants of potential concern have been measured for both materials: Mercury is below detectable levels for TDF, and average 0.11 ppm for coal; barium is also below detectable levels in TDF; cadmium, chromium, lead and manganese levels are comparable; zinc is present in higher concentrations in TDF than coal.

and metal content in order to optimize combustion. The standards for metals range from wire free, to relatively wire free to no wire removed. To meet the processing definition for combusting scrap tires, those materials should have the metal belts or wire removed consistent with the ASTM standard for relatively wire free. However, as noted in footnote 62, certain types of combustion units, such as cement kilns also use the wire in the tire as an ingredient to producing cement clinker. Therefore, we are soliciting comment on whether to adopt an additional definition for processing that would not require the metal belts or wire to be removed for those combustion units, such as cement kilns where the metals serve a useful purpose in the process of making clinker.

Syngas Produced from Gasification of Solid Waste. Although not specifically discussed in the ANPRM, synthesis gas (or syngas as it is commonly referred) produced from the gasification of solid waste is a material that can also meet the requirements of a fuel product produced from processing discarded non-hazardous secondary materials, provided the syngas has been adequately processed to remove contaminants.

A variety of solid waste streams are available for conversion to energy, including conversion through gasification technologies. Gasification is a chemical production process that converts carbonaceous material into a synthesis gas that can be used for energy production (or as a building block for other chemical manufacturing processes). In general, gasification systems are designed to react carbon-containing materials and steam at high temperatures to produce a synthesis gas composed mainly of carbon monoxide and hydrogen.

Gasification systems include two basic components. The first is the reactor or gasifier and the second is a gas cleanup or polishing system used to remove various contaminants from the raw (un-polished) synthesis gas. At a minimum, syngas cleanup generally includes removal of sulfur and metals. These two components work together producing a synthesis gas that can be used as a fuel in a combustion turbine.

Other Non-Hazardous Secondary Materials That are Processed. Sewage sludge can be processed into fuel pellets by biosolid drying that destroys pathogens and bacteria. Specifically, raw sewage sludge is moved to digesters where microbes decompose the organic solids. The resulting biosludge is pressed with wide fabric belts into sheets and water is removed. This sludge cake is then baked in "tumble-drying" ovens that destroy the pathogens and bacteria, removing any remaining water, and rotate the sludge into the final pelletized product.

Although we consider this to meet our definition of processing, the fuel pellets would still have to meet the legitimacy criteria to be considered a non-waste fuel. As discussed in section VII.C.5.f., we generally believe sewage sludge itself has contaminant levels that are higher than traditional fuels in use today, and thus would not satisfy the contaminant part of the legitimacy criteria.

Wood with lead-based paint that is shaved to remove the lead-based paint is another example of processing a discarded non-hazardous secondary material to produce a legitimate product; in this case, the underlying wood can be used as a non-waste, traditional fuel, and the lead-based paint can be safely disposed of or sent for lead recovery.

Coal fines, biomass, and other materials can be mixed and processed into pellets (or other forms) that have the consistency and handling characteristics of coal. For example, the K-Fuel process employs heat and pressure to transform coal into a cleaner, more efficient fuel by removing water and polluting impurities, thus increasing combustion efficiency. When applied to different lower-rank sub-bituminous and lignite coals, the K-Fuel process removes, on average, almost 70 percent of the coal's elemental mercury.[64]

In the examples above, we view the non-hazardous secondary materials to have been sufficiently processed to produce a fuel product that would not be a solid waste if it met the legitimacy criteria specified in section VII.D.6; however, as noted previously, the non-hazardous secondary materials would be considered solid wastes prior to processing and would be subject to appropriate federal, state, and local requirements.

d. Examples of Minimal Processing That Would Not Meet Proposed Definition of Processing.

Sewage sludge, and other non-hazardous secondary materials that have a high moisture content can be dewatered to effectively increase the Btu/lb of the material prior to burning as a fuel. We do not consider dewatering, by itself, to meet our definition of adequate or sufficient processing. For example, dewatering sewage sludge would likely be required processing as part of normal waste management activities (*e.g.,* prior to landfilling, or prior to burning the sludge for disposal in an incinerator). As such, we do not view this to be sufficient processing to convert discarded materials into non-waste fuel products.

Whole tires that are, for example, removed from waste tire piles or collected and managed pursuant to state tire collection programs, that are marketed to cement kilns or other industrial furnaces and used as fuels absent processing into what we consider processed TDF would be another example of insufficient processing to produce a non-waste fuel. However, we are also requesting comment on whether discarded materials that have been collected and that otherwise have not been processed (as defined in this proposal), should not be considered solid wastes if they are indistinguishable in all relevant aspects from a product (again, of course they must be legitimate), and such whole tires are marketed to cement kilns or other industrial furnaces and are used as fuels. For example, if a discarded non-hazardous secondary material that has not been processed based on our proposed definition can be shown to be no different than other non-waste fuels in use today, could that secondary material be considered a non-waste fuel/ingredient product even though it was discarded in the first instance? Commenters should provide the rationale supporting this approach.

e. Alternative Approach for Addressing Non-Hazardous Secondary Materials That Are Processed Into Non-Waste Fuels or Ingredients

As proposed, this particular provision is self-implementing, where each person would make the determination whether or not the non-hazardous secondary material has been "sufficiently processed" to produce a non-waste fuel or ingredient. The Agency believes that such an approach is appropriate considering the large number of non-hazardous secondary materials that are generated that may be processed into a non-waste fuel or ingredient. However, there is also the question of whether the definition of processing is sufficiently clear so that the regulated community can appropriately apply the definition. Therefore, the Agency is also considering and requests comment on whether this particular provision should be addressed through the non-waste determination process under § 241.3(c) (rather than as a self-implementing provision), such that the Agency would

[64] Evergreen Energy Company Web site. *http://www.evgenergy.com/k_fuel.php.*

consider and evaluate each type of processing activity on a case-by-case basis and approve it before the processed fuel or ingredient would be considered a non-waste fuel or ingredient. We also request comment on whether the Agency should promulgate a general rulemaking provision, similar to 40 CFR 260.20,[65] that would allow EPA to evaluate various processing activities generally, as opposed to on a site-by-site basis, such that the Agency would identify in the regulations which processing activities would produce a non-waste fuel or ingredient. While such an approach would put a much greater burden on EPA, it would also provide greater certainty to the regulated community as to which non-hazardous secondary materials have been sufficiently processed to produce a non-waste fuel or ingredient.

5. Non-Waste Determination Process

This proposal would establish a non-waste determination process that provides persons with an administrative process for receiving a formal determination from EPA that non-hazardous secondary material fuel that has not been managed within the control of the generator has not been discarded, and is indistinguishable in all relevant aspects from a fuel product, and thus, is not a solid waste when used as a fuel in a combustion unit. For example, a facility that is not affiliated with the generator of the non-hazardous secondary material fuel (and thus is "outside the control of the generator") can petition EPA to determine that the secondary material they burn as fuel is not a solid waste because the material has not been discarded and is indistinguishable in all relevant aspects from a fuel.

This proposed process would be voluntary. The non-waste determination process would require the petitioner to request such a case-specific non-waste determination from EPA. Any petition that is submitted to EPA that requests that the non-hazardous secondary material be considered a non-waste fuel would need to demonstrate that the material has not been discarded in the first instance, as well as describe how the non-hazardous secondary material satisfies the five proposed criteria outlined in § 241.3(c).

To demonstrate that the non-hazardous secondary material used a fuel has not been discarded in the first instance, the petitioner would need to demonstrate that the non-hazardous secondary material was not initially abandoned or thrown away by the generator of the material. It may not always be clear whether secondary materials would be considered to be discarded in the first instance. For example, secondary material retrieved from a landfill or tires retrieved from waste tire piles would be considered materials that are discarded in the first instance. We may not, however, consider used tires collected from tire dealerships and managed pursuant to state tire collection programs to be discarded in the first instance, depending on how they are managed.

After demonstrating that the material has not been discarded in the first instance, the petitioner must then demonstrate that the material is indistinguishable in all relevant aspects from a fuel product by showing that it satisfies the following five criteria: (1) Whether market participants handle the non-hazardous secondary material as a fuel rather than a waste; (2) whether the chemical and physical identify of the non-hazardous secondary material is comparable to a commercial fuel; (3) whether the capacity of the market would use the non-hazardous secondary material in a reasonable timeframe; (4) whether the constituents in the non-hazardous secondary material are released to the air, water or land from the point of generation to the combustion of the secondary material at levels comparable to what would otherwise be released from traditional fuels; and (5) other relevant factors.

Specifically, the first criterion for a non-waste determination is whether market participants handle the non-hazardous secondary material as a fuel rather than a solid waste. This would include consideration of likely markets for the non-hazardous secondary materials used as fuels (*e.g.,* based on the current positive value of the secondary material, stability of demand, and any contractual arrangements). This evaluation of market participation is a key from a fuel products standpoint rather than as negatively-valued wastes.

The second criterion for a non-waste determination is the chemical and physical identity of the non-hazardous secondary material and whether it is comparable to commercial fuels. This "identity principle" is a key factor that the Court of Appeals for the DC Circuit cited in Safe Foods in determining whether a material is indistinguishable from a product. It is important to note that the identity of a material can be comparable to a fuel product without being identical. However, to qualify for a non-waste determination, any differences between the non-hazardous secondary material in question and the commercial fuel should not be significant from a health and environmental risk perspective.

The third criterion for making a non-waste determination is the capacity of the market to use the non-hazardous secondary material as a fuel in combustion units in a reasonable time frame and ensure that it will not be abandoned. For the non-waste determination, a person will need to provide sufficient information about the non-hazardous secondary material and the market demand for it to demonstrate that such non-hazardous secondary materials will in fact be used as a fuel in combustion units in a reasonable time frame. EPA is not proposing to explicitly define "reasonable time frame" because such time frames could vary according to the non-hazardous secondary material and industry involved, and therefore determining this time frame should be made on a case-specific basis. However, the Agency solicits comments on whether it should propose a specific timeframe as part of this criterion.

The fourth criterion for a non-waste determination is whether the constituents in the non-hazardous secondary material fuels are released to the air, water, or land water at concentrations comparable to what would otherwise be released from traditional fuels. The process that the Agency would be considering would encompass the point of generation of the material, management and storage prior to use through combustion and the end use of the secondary material. The Agency believes that to the extent the constituents are an extension of the original secondary material, their release to the environment is a possible indicator of risk and discard. The Agency recognizes that combustion using traditional fuels also result in a certain level of release and, in evaluating this criterion, would not deny a non-waste determination if the increase in release is not significant from either a statistical or a health and environmental risk perspective. However, when relatively high levels of the constituents in the non-hazardous secondary material are released to the environment in looking from the point of generation of the secondary material to its combustion, then that may be an indication that the non-hazardous secondary material is not being handled as a commercial fuel.

The fifth and final criterion for a non-waste determination includes any other relevant factors that demonstrate that the non-hazardous secondary material is

[65] 40 CFR 260.20 allows any person to petition the Administrator of EPA to modify or revoke any provision of the hazardous waste rules. A similar "general rulemaking authority" could also be promulgated under RCRA subtitle D.

not a solid waste. This catch-all criterion is intended to allow the person to provide any case-specific information considered important and relevant in making the case that its non-hazardous secondary material used as a fuel in a combustion unit is not a solid waste.

Any non-hazardous secondary material used as a fuel must also satisfy our proposed legitimacy criteria in order to be considered a non-waste fuel. In order for a non-waste determination to be granted, the applicant must also therefore show that the material satisfies the proposed legitimacy criteria. We note that there is overlap between the legitimacy criteria and the five petition criteria discussed above. Thus, the same rationale used to demonstrate that the non-hazardous secondary material contains contaminants at levels comparable to traditional fuels in combination with the argument that such secondary material contains meaningful heating value can be used to satisfy petition criterion number 2 above. Similarly, the rationale used to demonstrate that the secondary material contains contaminants at levels comparable to traditional fuels can be used as the rationale for petition criterion number 4 above.

Non-Waste Determination Process. EPA is proposing that the process for the non-waste determination be similar to that for the solid waste variances found in § 260.33, except that such requests can only be addressed by EPA. In order to obtain a non-waste determination, a facility that manages non-hazardous secondary materials that would otherwise be regulated must apply to the Regional Administrator per the procedures described in proposed § 241.3(c). The application must address the relevant criteria discussed above. The Regional Administrator for the EPA Region where the facility combusting the material will evaluate the application and issue a draft notice tentatively granting or denying the application. Notification of this tentative decision will be provided by newspaper advertisement or radio broadcast in the locality where the recycler is located. The Regional Administrator will accept comment on the tentative decision for at least 30 days, and may also hold a public hearing upon request or at his discretion. The Regional Administrator will issue a final decision after receipt of comments and after the hearing (if any).

The Agency recognizes that many states have programs in place to make such determinations under state statute, and EPA would support the states to also make such determinations—that is, allow the states to act on behalf of EPA in making such case-specific determinations. Therefore, we are specifically soliciting comment as to whether the Agency can (and if so) should allow a state, for example, under a state's beneficial use program, to also make case-specific determinations without EPA's approval. We note that under the Revisions to the Definition of Solid Waste Rule (70 FR 64668), a non-waste determination may be granted by the state if the state is either authorized for this provision or if the following conditions are met: (1) The state determines the hazardous secondary material meets the applicable criteria for the non-waste determination; (2) the state requests that EPA review its determination; and (3) EPA approves the state determination. Should EPA allow this type of non-waste determination process in determining whether or not such non-hazardous secondary material is or is not a solid waste?

We note that states may submit these determinations on behalf of the petitioner for EPA to evaluate under the proposed non-waste determination criteria in proposed § 241.3(c)(1). If EPA determines through the petition process that the secondary material in the state determinations are not solid waste, then they would not be subject to the CAA section 129 standards, but instead would be subject to the CAA section 112 standards. Conversely, EPA may make a non-waste determination for non-hazardous secondary materials under the Federal regulations that still remains subject to the state solid waste regulations.

After a formal non-waste determination has been granted, if a change occurs that affects how a non-hazardous secondary material meets the relevant criteria contained in proposed § 241.3(c)(1), persons must re-apply to the Regional Administrator for a formal determination that the non-hazardous secondary material continues to meet the relevant criteria and is not discarded and therefore, not a solid waste.

6. Legitimacy Criteria

a. Legitimacy Criteria for Fuels. This notice is proposing that non-hazardous secondary materials used as fuels in combustion units must meet the legitimacy criteria specified in proposed § 241.3(d)(1) in order to be considered a non-waste fuel.[66] To meet the fuel legitimacy criteria, the non-hazardous secondary material must be handled as a valuable commodity, have a meaningful heating value and be used as a fuel in a combustion unit that recovers energy, and contain contaminants at levels comparable to those in traditional fuels which the combustion unit is designed to burn. These criteria are discussed below.

Manage as a Valuable Commodity. We are proposing to require that non-hazardous secondary materials used as fuels be managed as valuable commodities, including being stored for a reasonable timeframe. *See* proposed 241.3(d)(1)(i). Where there is an analogous fuel, the secondary material used as a fuel must be managed in a manner consistent with the management of the analogous fuel or otherwise be adequately contained so as to prevent releases to the environment. Where there is no analogous fuel, the secondary material must be adequately contained so as to prevent releases to the environment. An "analogous fuel" is a traditional fuel for which the non-hazardous secondary material substitutes and which serves the same function and has similar physical and chemical properties as the non-hazardous secondary material.

With respect to how long a non-hazardous secondary material can be stored before the material is not considered to be "managed as a valuable commodity," we are not specifying a specific timeframe, but requiring that the non-hazardous secondary material be stored for a reasonable timeframe. EPA is not proposing to specifically define "reasonable timeframe" because such timeframes could vary according to the non-hazardous secondary material and industry involved. On the other hand, the Agency also recognizes that with this flexibility, also comes the potential for non-hazardous secondary materials to be over-accumulated, which has been demonstrated to be a problem with hazardous secondary materials. It also could raise questions from an implementation standpoint since the question of "reasonable timeframe" may differ depending on each person's perspective. Thus, while we think that "reasonable timeframe" is an appropriate standard, considering the large number of non-hazardous materials that may be subject to this rule, and is flexible enough to allow accumulation to be cost-effective, the Agency solicits comment on whether it should define a specific timeframe or range of timeframes as part of this criterion. For example, one approach is to adopt the speculative accumulation provision (*see* 40 CFR 261.1(c)(8)) that

[66] We note, however, that non-hazardous secondary materials that satisfy the legitimacy criteria would still be considered a solid waste if they were discarded (abandoned, disposed of, or thrown away), unless they were processed into legitimate non-waste fuel products.

is defined in the hazardous waste regulations for determining how much secondary material must be recycled within a specific timeframe before the material is considered to have been discarded. Another approach would be for the Agency to determine how long fuels are generally held before they are used, and adopt such a standard. To this end, the Agency specifically solicits comment on the time period or range of time periods that fossil fuels are typically held before they are used as a fuel.

We are proposing that this legitimacy factor apply to both the nonhazardous secondary materials burned under the generator-controlled exclusion, as well as to materials that have been processed into a product fuel. For the generator-controlled provision, the non-hazardous secondary material must be managed as a valuable commodity upon generation through its end use as a fuel—that is, from the initial point of generation of the non-hazardous secondary material to the time it is actually burned as a fuel either on-site or at another facility that is under the control of the generator. For non-hazardous secondary materials that are processed to produce a fuel product, the processed material must be managed as a valuable product from the point that it is first produced through its end use. As noted previously, before the fuel product is produced, the non-hazardous secondary materials are solid wastes, and must comply with any federal, state, or local requirements.

This criterion requires that the non-hazardous secondary material be managed appropriately before its end use as a fuel. In EPA's view, a company will value non-hazardous secondary materials used as fuels that provide an important contribution and, therefore, will manage those secondary materials in a manner consistent with how it manages traditional fuels. If, on the other hand, a company does not manage the non-hazardous secondary material as it would a traditional fuel, that behavior may indicate that the non-hazardous secondary material is being discarded.

This factor addresses the management of non-hazardous secondary materials used as fuels in two distinct situations. The first situation is when the non-hazardous secondary material is analogous to a traditional fuel that otherwise could be burned. In this case, the non-hazardous secondary material must be managed prior to use as a fuel similarly to the way traditional fuels are managed or otherwise must be adequately contained so as to prevent releases to the environment. For example, for liquid non-hazardous secondary materials that are used as a fuel that are similar to liquid fossil fuels, the Agency would expect that such non-hazardous secondary materials would be managed in tanks or similar type devices to control the release of the secondary materials. The Agency would also expect that the types of controls that would typically be part of a tank or similar type device for fossil fuels would also be part of any tank system that is used to manage non-hazardous secondary material. The second situation the factor addresses is the case where there is no analogous traditional fuel that otherwise could be burned. This could be either because the process is designed around a particular non-hazardous secondary material fuel, or because physical or chemical differences between the secondary material and the traditional fuel are too significant for them to be considered "analogous."

Non-hazardous secondary materials that have significantly different physical or chemical properties when compared to traditional fuels would not be considered analogous even if they serve the same function because it may not be appropriate to manage them in the same way. In this situation, the non-hazardous secondary material would have to be adequately contained so as to prevent releases to the environment for this factor to be met. A non-hazardous secondary material is "adequately contained" if it is stored in a manner that both adequately prevents releases or other hazards to human health and the environment, considering the nature and toxicity of the secondary material.[67] We note that this definition of "contained" differs slightly from the description used in the DSW final rule preamble, which defined "contained" to mean placing the material in a unit that controls the movement of that material out of the unit.[68] We believe this slightly revised definition is appropriate because of the wide range of non-hazardous secondary materials that are used as fuels, some of which may not need to be "contained" in a dedicated storage unit. However, the Agency solicits comment on this aspect of this criterion, including whether a "contained" standard, which is a general performance standard, provides sufficient direction to the regulated community. Other approaches that EPA is considering is whether to provide a more specific definition of "contained" in the rules, or whether the Agency should include specific technical standards or limit the types of units that such non-hazardous secondary materials may be managed, in order for them to be considered to be "managed as a valuable commodity."

The definition of legitimacy in the DSW final rule required that this factor be considered, but not necessarily met. Under that rule, the Agency was aware of situations in which the contained factor is not met, but the secondary material is still being managed as a valuable commodity. One example given was a hazardous secondary material that is a powder-like material that is shipped in a woven super sack and stored in an indoor containment area that has an analogous raw material that is shipped and stored in drums. A strict reading of this factor may determine that the hazardous secondary material is not being managed in a manner consistent with the analogous secondary material even if the differences in management are not actually impacting the likelihood of a release.

This proposal includes a requirement for analogous raw materials to "* * * be managed in a manner consistent with the analogous fuel or otherwise be adequately contained to prevent releases to the environment" (§ 241.3(d)(1)(i)(B)). This is similar to the DSW final rule provision, but is also different in that the requirement in today's proposal has to be met (not just considered). Thus, today's proposal would require that this factor be met (not optional) because we believe that in all situations where the factors in § 241.3(d)(1)(i) are not met, the material would be discarded.

Meaningful Heating Value and Use as a Fuel. We are proposing that non-hazardous secondary materials have a meaningful heating value and be used as a fuel in a combustion unit that recovers energy. *See* proposed § 241.3(d)(1)(ii). We are proposing the requirement for the non-hazardous secondary material to be used as a fuel in a combustion unit that recovers energy for two reasons. First, we want to be clear that non-hazardous secondary materials having a meaningful heating value, but that are not burned in a combustion device specifically for energy recovery (*e.g.,* are burned in an incinerator) are solid wastes.[69] We recognize that incinerators and similar type units may accept non-hazardous secondary materials with a meaningful heating value and use that

[67] Examples of materials that are adequately contained would include liquid fuels stored in a tank. Examples of other hazards include tire fires resulting from improper storage of scrap tires (*see* section VII.D.2.).

[68] *See* October 30, 2008; 73 FR 64681.

[69] We note that incinerators that burn waste for purposes of destruction that have a waste heat recovery boiler would not be considered a combustion unit that satisfies this legitimacy criterion.

fuel value to limit the other types of fuels it needs to burn. However, the intent of an incinerator, and similar type units, is to destroy wastes, and thus, such non-hazardous secondary materials that are burned in such units are considered discarded, and thus a solid waste. Second, since these provisions are intended to apply only to non-hazardous secondary materials that have a specific end use (in this case, use as a fuel in an energy recovery device), we believe it appropriate to highlight that point by adding that restriction directly to this legitimacy criteria.

With respect to the requirement that the non-hazardous secondary material have a meaningful heating value, in the context of the hazardous waste regulations, EPA addressed this concept—that is, whether a hazardous secondary material has an adequate, meaningful heating value, in the so-called "comparable fuels" rule (63 FR 33781) by defining it with a benchmark Btu content of 5,000 Btu/lb. EPA has also previously stated that industrial furnaces (*i.e.,* cement kilns and industrial boilers) burning hazardous wastes with an energy value greater than 5,000 Btu/lb may generally be said to be burning for energy recovery; however, we have also indicated that hazardous wastes with a lower Btu content could conceivably be burned for energy recovery due to the devices' general efficiency of combustion. "Thus, the 5,000 Btu level is not an absolute measure of burning for energy recovery * * *" (*see* 62 FR 24251, May 2, 1997).

We believe these same concepts may also be appropriate in determining whether non-hazardous secondary materials have a meaningful heating value since traditional fuels have a range of heating values in general from 4,000 to 23,000 Btu/lb, and since we recognize that new technologies may be developed in the future that can cost-effectively produce energy from secondary materials with lower energy content. As a result, for purposes of meeting the legitimacy criteria for fuels, we would consider non-hazardous secondary materials with an energy value greater than 5,000 Btu/lb, as-fired, to have a meaningful heating value, and satisfy this legitimacy criterion. For facilities with energy recovery units that use non-hazardous secondary materials as fuels with an energy content lower than 5,000 Btu/lb, as fired, it may also be appropriate to allow a person to demonstrate that a meaningful heating value is derived from the non-hazardous secondary material if the energy recovery unit can cost-effectively recover meaningful energy from the non-hazardous secondary materials used as fuels. Factors that may be important in determining whether an energy recovery unit can cost-effectively recover energy from the non-hazardous secondary material include, but are not limited to, whether the facility encounters a cost savings due to not having to purchase significant amounts of traditional fuels they otherwise would need, whether they are purchasing the non-hazardous secondary material to use as a fuel, whether the secondary material they are burning can self-sustain combustion, and whether their operation produces energy that is sold for a profit (*e.g.,* a utility boiler that is dedicated to burning a specific type of non-hazardous secondary material that is below 5,000 Btu/lb could show that their operation produces electricity that is sold for a profit).

However, the Agency requests comment on whether it should promulgate a bright-line test for determining what is considered a meaningful heating value in an effort to provide greater certainty to both the regulated community and regulatory officials. For example, the Agency could establish 5,000 Btu/lb or some other value as the bright-line test. Commenters that suggest that the Agency establish a bright-line test should indicate what value the Agency should select, as well as the basis or rationale for selecting that value. We also request comment on whether we should identify a Btu/lb cutoff below which the Agency would assume that the non-hazardous secondary material is burned for destruction as opposed to energy recovery. Under this approach, non-hazardous secondary materials between this lower level and 5,000 Btu/lb (assuming there is a difference) could pass this criterion provided the facility demonstrates the energy recovery unit can cost-effectively recover meaningful energy from the non-hazardous secondary materials used as fuels.

EPA views this proposed legitimacy criterion to encompass the useful contribution and valuable product legitimacy factors used to evaluate hazardous secondary materials in the DSW final rule. In that rule, with respect to useful contribution, EPA said that legitimate recycling must involve a hazardous secondary material that provides a useful contribution to the recycling process or to a product of the recycling process. *See* § 260.43(b)(1). This factor expresses the principle that the non-hazardous secondary materials should contribute value to the manufacturing process—legitimate use is not occurring if the secondary materials being used do not add anything to the process. This factor is intended to prevent the practice of using secondary materials in a manufacturing operation simply as a means of disposing or discarding them. We believe that non-hazardous secondary materials that are used as a fuel in a combustion unit that have meaningful heating value provide a useful contribution.

With respect to the other mandatory legitimacy factor, the DSW final rule stated the recycling process must produce a valuable product or intermediate. The product or intermediate is valuable if it is (i) sold to a third party or (ii) used by the recycler or the generator as an effective substitute for a commercial product or as an ingredient or intermediate in an industrial process." *See* § 260.43(b)(2). This factor expresses the principle that the secondary material should be a material of value, as demonstrated by someone purchasing the material, or using it as an effective substitute for a commercial product that it would otherwise have to buy or obtain for its industrial process. We believe non-hazardous secondary materials that have meaningful heating value that are used as fuels in combustion units are valuable products since they would be replacing traditional fuels that otherwise would have to be burned.

Contaminant Levels. We are proposing a legitimacy criterion under which non-hazardous secondary materials used as fuels in combustion units must contain contaminants at levels that are comparable to those in traditional fuel products which the combustion unit is designed to burn (*e.g.,* cellulosic biomass, fossil fuels and their derivatives, as identified elsewhere in this preamble). *See* proposed § 241.3(d)(1)(iii). This criterion is important to ensure that a non-hazardous secondary material being used as a fuel is not being combusted or otherwise released to the environment wholly or in part for the purpose of disposing of or discarding of unwanted materials. Combustion of non-hazardous secondary material with elevated levels of contaminants results in the contaminants being discarded either through incineration, or by being released to the environment. We also believe that requiring that the secondary material have contaminants at levels comparable to traditional fuels would ensure that the burning of any secondary materials in combustion units will not have increased releases to the environment that could impact the health and environment of the local community. Thus, ensuring that the level of contaminants in the non-

hazardous secondary material is comparable would be the most protective of human health and the environment.

We are proposing to define the term "contaminants" to mean the HAP listed under CAA section 112(b), as well as the nine pollutants required to be regulated under CAA section 129. We believe this is reasonable because this legitimacy criterion is intended to ensure that materials are not being combusted as a means of disposing of them, so the health and environmental impacts of concern will be those resulting from air emissions, and the air emissions of concern identified in the CAA include the listed HAP, as well as the section 129 pollutants. However, the Agency solicits comment on whether the list of contaminants should be narrower or broader, or whether the Agency should look at other possible lists. In particular, since the Agency is determining which non-hazardous secondary materials are considered solid waste under RCRA, the Agency could consider the list of hazardous constituents promulgated in Appendix VIII of part 261, which is a list of hazardous constituents that have been shown in scientific studies to have toxic, carcinogenic, mutagenic or teratogenic effects on humans and other life forms.

In determining which traditional fuel(s) the owner or operator of the boiler unit would make a comparison with respect to contaminant levels, the Agency is proposing to allow any traditional fuel(s) that can be or is burned in the particular type of boiler. For example, if the boiler burns fuel oil, the level of contaminants to be compared would be the level of contaminants in fuel oil or other liquid traditional fuels that is or can be burned in such unit, while for gas-fired boilers, the level of contaminants in the non-hazardous secondary material fuels would be compared to natural gas. The Agency believes that this approach is most appropriate since the non-hazardous secondary material would be replacing the use of a particular type(s) of fuel. In addition, as discussed in the preamble to the proposed boiler MACT, boilers designed to combust different types of fuels (*e.g.,* coal vs. oil) cannot easily be modified to burn another fuel. Therefore it would not be appropriate to compare the contaminants in a secondary material that is to be combusted in a boiler designed to burn oil to the contaminant levels of coal.

EPA is not proposing to establish specific numerical maximum contaminant levels that a non-hazardous secondary material would have to meet, but rather the proposal allows the owner or operator to make the comparison based on information he has or can acquire regarding the level of contaminants found in traditional fuels he burns. However, the Agency solicits comment on whether it would be more appropriate for the Agency to establish bright-line levels of various contaminants in the various traditional fuels or a single set of contaminant levels that would apply regardless of the type of traditional fuel that is burned (as EPA promulgated in the hazardous waste Comparable Fuel Rule [70]) so that the regulated community would have certainty as to whether a particular non-hazardous secondary material met this legitimacy criterion.

The assessment of whether the non-hazardous secondary material has contaminants comparable to traditional fuel products is to be made by directly comparing the numerical contaminant levels in the non-hazardous secondary material to the contaminant levels in traditional fuels. In making this comparison, the Agency solicits comment on whether the comparison should be based upon the total level of contaminants, or on the level of contaminants per Btu of heat value. In either case, we believe that a direct numerical comparison is necessary since the level of contaminants must be comparable to the level of contaminants in traditional fuels. The Agency also solicits comments on how EPA should interpret "comparable." For example, should comparable mean the same as or lower, taking into consideration natural variations in sampling events?

The Agency recognizes that there may be instances where the contaminant levels in non-hazardous secondary materials may be somewhat higher than found in traditional fuels, but the resulting air pollutant emissions would be inconsequential in terms of risks to human health and the environment in relation to the burning of traditional fuel products and thus possibly not indicative of discard. Therefore, the Agency requests comment on whether, instead of requiring that contaminant levels in non-hazardous secondary materials be comparable to traditional fuels, the Agency should adopt a criterion under which contaminants in non-hazardous secondary material used as a fuel in combustion units could not be significantly higher in concentration than contaminants in traditional fuel products. Under such an approach, the Agency believes that a qualitative approach would be appropriate in determining whether such secondary materials contain "significantly higher concentrations of contaminants" compared to traditional fuels. That is, a contaminant concentration could be elevated without indicating the secondary material is discarded and without posing an unacceptable risk, and therefore, may not be considered "significantly higher" for the purposes of determining whether the non-hazardous secondary material is legitimately being burned as a fuel in a combustion unit.

The proposed rule contemplates that this legitimacy criterion must be met, rather than merely considered. The proposed legitimacy criterion is tailored specifically to the use of these non-hazardous secondary materials as fuels in combustion units. As a result, we believe that contaminant levels in secondary materials must be comparable to be legitimately used as a non-waste fuel product. We are therefore proposing that this legitimacy criterion be a requirement for the secondary material to be considered a legitimate fuel.

Since these requirements are self implementing in nature (*i.e.,* they do not need up front approval from the regulatory agency), facilities may choose to keep supporting documentation on-site in the event they are inspected by regulatory officials. EPA is not proposing to require that such documentation be maintained, since the proposed definition of non-hazardous solid waste is intended to be self-implementing. However, the Agency solicits comment on whether we should require owners and operators of combustion units to prepare and maintain documentation that this particular legitimacy criterion has been met.

b. Legitimacy Criteria for Ingredients. Today's notice is proposing that non-hazardous secondary materials used as ingredients in combustion units meet the legitimacy criteria specified in proposed 40 CFR 241.3(d)(2). An ingredient used in a combustion unit must be managed as a valuable commodity, provide a useful contribution, be used to produce a valuable product or intermediate, and must result in products that contain contaminants at levels that are comparable in concentration to those found in traditional products that are manufactured without the non-hazardous secondary material. These criteria are discussed below.

Managed as Valuable Commodities. We are proposing to require that non-hazardous secondary materials used as ingredients in combustion units be managed as valuable commodities and

[70] *See* 40 CFR 261.38 as an example of maximum contaminant levels EPA has promulgated to determine whether a material is a comparable fuel for purposes of EPA's subtitle C hazardous waste regulations.

be stored for a reasonable timeframe. *See* proposed 241.3(d)(2)(i). Where there is an analogous ingredient, the non-hazardous secondary material used as an ingredient must be managed in a manner consistent with the management of the analogous ingredient, or otherwise be adequately contained so as to prevent releases to the environment. Where there is no analogous ingredient, the non-hazardous secondary material must be adequately contained so as to prevent releases to the environment. An "analogous ingredient," is a manufacturing process ingredient for which the secondary material substitutes and which serves the same function and has similar physical and chemical properties as the non-hazardous secondary material.

We are proposing the same storage time and containment requirements that were discussed earlier for the legitimacy criteria for fuels, and are also proposing that this criterion be met. Consistent with the legitimacy criteria for fuels, this criterion addresses the management of non-hazardous secondary materials used as ingredients in two distinct situations. The first situation is when the non-hazardous secondary material is analogous to an ingredient that otherwise would be used in the production process. In this case, the non-hazardous secondary material should be managed prior to use as an ingredient similarly to the way analogous ingredients are managed in the course of normal manufacturing, or otherwise be adequately contained.

The second situation this criterion addresses is the case where there is no analogous ingredient that otherwise would be used in the production process. This could be either because the process is designed around a particular non-hazardous secondary material, or because physical or chemical differences between the non-hazardous secondary material and the ingredient are too significant for them to be considered "analogous." *See Managed as a Valuable Commodity* under the legitimacy criteria for fuels for additional discussion of this criterion, as well as the specific issues on which EPA is soliciting comment. That is, to the extent that changes are made to this criterion with respect to those non-hazardous secondary materials that are used as fuels, we would likewise make the same changes with respect to those non-hazardous secondary materials used as an ingredient, unless comments are submitted which explain, and provide appropriate data and information, on why this criterion should be different between those non-hazardous secondary materials that are used as a fuel and those that are used as ingredients.

Useful Contribution. We are proposing that the non-hazardous secondary materials used as ingredients in combustion units provide a useful contribution to the production/manufacturing process. *See* proposed 241.3(d)(2)(ii). A non-hazardous secondary material used as an ingredient in combustion systems provides a useful contribution if it contributes valuable ingredients to the production/manufacturing process or to the product or intermediate of the production/manufacturing process. This criterion is an essential element in the determination of legitimate use as an ingredient because legitimate use is not occurring if the non-hazardous secondary materials being added do not add anything to the process. This criterion is intended to prevent the practice of adding non-hazardous secondary materials to a manufacturing operation simply as a means of disposing of them, which EPA would consider sham recycling.

The ANPRM listed five ways in which a non-hazardous secondary material can add value and usefully contribute to a recycling process: (i) The secondary material contributes valuable ingredients to a product or intermediate; or (ii) replaces a catalyst or carrier in the recycling process; or (iii) is the source of a valuable constituent recovered in the recycling process; or (iv) is recovered or regenerated by the recycling process; or (v) is used as an effective substitute for a commercial product. Since today's proposal addresses non-hazardous secondary materials that are used as ingredients in combustion units, we believe that only items (i) and (v) are specifically relevant to our assessment of whether these non-hazardous secondary materials provide a useful contribution in combustion scenarios. We request comment, however, on whether this is correct, or whether the secondary materials we are assessing as ingredients can provide useful contribution in other ways.

For purposes of satisfying this proposed criterion, not every constituent or component of the non-hazardous secondary material has to make a contribution to the production/manufacturing activity. That is, non-hazardous secondary materials used as ingredients may contain some constituents that are needed in the manufacturing process, such as, for example, zinc in non-hazardous secondary materials that are used to produce zinc-containing micronutrient fertilizers, and satisfy this criterion (although we would also note that the constituents not directly contributing to the manufacturing process could still result in the material failing the contaminant part of the legitimacy criteria). The Agency is not defining quantitatively how much of the non-hazardous secondary material needs to provide a useful contribution for this criterion to be met, since we believe that defining such a level would be difficult and is likely to be different, depending on the non-hazardous secondary material. The Agency recognizes, however, that this could be an issue if persons argue that a material is being legitimately used as an ingredient, but in fact, only a small amount or percentage of it is used. Because of the differences in the emission standards that the non-hazardous secondary material would be subject to—between CAA section 112 and 129, persons may argue that such non-hazardous secondary materials are not wastes, when in fact, the operation is really discard—that is sham recycling. Therefore, the Agency solicits comment on whether the Agency should quantitatively define how much of the non-hazardous secondary material must provide a useful contribution, or alternatively, how much constituents or components in a non-hazardous secondary material there would need to be, before the material would not be considered to provide a useful contribution.

Valuable Product. We are proposing that the non-hazardous secondary materials used as ingredients in combustion units must be used to produce a valuable product or intermediate. *See* proposed 241.3(d)(2)(iii). The product or intermediate is valuable if it is (i) sold to a third party or (ii) used as an effective substitute for a commercial product or as an ingredient or intermediate in an industrial process.

This criterion expresses the principle that the product or intermediate of the manufacturing/production process should be a material of value, either to a third party who buys it from the manufacturer, or to the same manufacturer that subsequently uses it as a substitute for another material that it would otherwise have to buy or obtain for its industrial process. This criterion is an essential element of the concept of legitimate use of secondary materials as ingredients because legitimate use cannot be occurring if the product or intermediate is not of use to anyone and, therefore, has no real value. This criterion is intended to prevent the practice of running a non-hazardous secondary material through an industrial process to make something

just for the purpose of avoiding the costs of disposal. Such a practice would be sham recycling.

One way that the use of the non-hazardous secondary material as an ingredient in the production/manufacturing process that involves a combustion unit can be shown to produce a valuable product would be to have documentation on the sale of the product to a third party. Such documentation could be in the form of receipts or contracts and agreements that establish the terms of the sale or transaction. This transaction could include money changing hands or, in other circumstances, may involve trade or barter. A manufacturer that has not yet arranged for the sale of its product to a third party could establish value by demonstrating that it can replace another product or intermediate that is available in the marketplace.

Production/manufacturing processes that use non-hazardous secondary materials as ingredients in combustion systems may produce outputs that are not sold to another party, but are instead used by the same manufacturer. These products or intermediates may be used as a feedstock in a manufacturing process, but have no established monetary value in the marketplace. Such products or intermediates would be considered to have intrinsic value, though demonstrating intrinsic value may be less straightforward than demonstrating value for products that are sold in the marketplace. Demonstrations of intrinsic value could involve showing that the product or intermediate of the production/manufacturing process replaces another material that would otherwise have to be purchased or could involve a showing that the non-hazardous secondary material meets specific product specifications or specific industry standards. Another approach could be to compare the non-hazardous secondary material's physical and chemical properties or efficacy for certain uses with those of comparable products or intermediates made from raw materials.

Some production/manufacturing processes that use non-hazardous secondary materials as ingredients in combustion systems may consist of multiple steps that may occur at separate facilities. In some cases, each processing step will yield a valuable product or intermediate. When each step in the process yields a valuable product or intermediate that is salable or usable in that form, the activity would conform to this criterion.

Contaminant Levels. We are proposing that the non-hazardous secondary material used as an ingredient must result in products that contain contaminants at levels that are comparable in concentration to those found in traditional products that are manufactured without the non-hazardous secondary material. *See* proposed § 241.3(d)(2)(iv). The term "contaminants" refers to constituents in non-hazardous secondary materials that will result in emissions of the air pollutants identified as HAP listed under CAA section 112(b) and the nine pollutants listed under CAA section 129(a)(4)) when such secondary materials are burned as fuel or used as ingredients, including those constituents that could generate products of incomplete combustion. The Agency requests comments on whether we should have a different definition of contaminants that applies specifically to ingredients. Since contaminant comparisons for the contaminant legitimacy criterion apply to a comparison of the products rather than to the secondary material, we request comment on whether a different list of contaminants should apply, or whether we should generically define contaminants to be constituents that may be a concern with respect to the product that is produced (*e.g.,* clinker).

The assessment of whether products produced from the use of non-hazardous secondary material ingredients in combustion units that have contaminants that are comparable in concentration to traditional products can be made by a comparison of contaminant levels in the ingredients themselves to traditional ingredients they are replacing, or by comparing the contaminant levels in the product itself with and without use of the non-hazardous secondary material ingredient.

The Agency recognizes that there may be instances where the contaminant levels in the products manufactured from non-hazardous secondary material ingredients may be somewhat higher than found in the traditional products that are manufactured without the non-hazardous secondary material, but the resulting concentrations would not be an indication of discard and would not pose a risk to human health and the environment. Therefore, the Agency requests comment on whether, instead of requiring that contaminant levels in products manufactured from secondary material ingredients be comparable in concentration, the Agency should adopt a criterion under which contaminants in the product could not be significantly higher than found in the traditional products that are manufactured without the non-hazardous secondary material. Under such an approach, the Agency believes that a qualitative approach would be appropriate in determining whether such products contain "significantly higher concentrations of contaminants." That is, a contaminant concentration could be elevated without indicating the secondary material is discarded and without posing an unacceptable risk, and therefore, may not be considered "significantly higher" for the purposes of determining whether the non-hazardous secondary material is legitimately used as an ingredient in a combustion unit.

Similar to fuels, we are proposing that the legitimacy criterion addressing contaminant levels in non-hazardous secondary materials used as an ingredient in combustion systems be one that must be met, as opposed to one that must only be considered. As we noted in the legitimacy criteria for fuels, this criterion is tailored specifically to the use of these non-hazardous secondary materials in combustion units, and thus, we do not believe that there are case-specific situations where this criterion could not be met, but the material would still be considered legitimately used as an ingredient.

E. Alternative Approach

In addition to the proposed approach described in Section VII.D., the Agency is identifying an alternative approach for consideration and comment. As explained below, this alternative approach, which is broader than the proposed solid waste definition discussed above, we believe could be constructed in a manner consistent with RCRA and relevant caselaw although it may raise important policy questions. This alternative may be adopted by the Agency in the final rule if warranted by information presented during the public comment period or otherwise available in the rulemaking record. Under this alternative, traditional fuels that we have identified earlier, which includes clean biomass, and that have been burned historically as fuels and managed as valuable products (as discussed in section VII.C.5.) would not be solid wastes. In addition, non-hazardous secondary materials used as fuels or ingredients are excluded from the definition of solid waste if they *both* remain within the control of the generator *and* meet the legitimacy criteria.

In contrast to the proposed approach described above, all other non-hazardous secondary materials that are burned as a fuel or used as an ingredient in the combustion process would be solid wastes subject to the CAA section 129 standards if burned in a combustion

unit. Also, all materials that result from processing of discarded non-hazardous secondary materials would be solid wastes. As with the proposed approach, wastes would include those secondary materials used as a fuel or ingredient not passing the legitimacy criteria, and those secondary materials used as a fuel that are managed outside the control of the generator. This solid waste designation would include materials, such as secondary wood products combusted on-site, coal refuse, and tires processed into TDF, on-spec used oil, and all secondary materials used as ingredients managed outside the control of the generator in combustion units. No petition process would be offered under this alternative.

We request comment on all aspects of this alternative. Comments are specifically requested related to the potential impact this alternative may have on traditional non-combustion recycling activities, potential changes in the quantity of non-hazardous secondary materials that may be landfilled, and any collateral regulatory impacts, such as the impact on the MACT floors proposed today for the Commercial and Industrial Solid Waste Incinerators if a significant number of additional sources are subject to that rule.

This alternative approach is closer to the views expressed by some commenters that any secondary material combusted for energy recovery is a solid waste and should be regulated under CAA section 129. Thus, only traditional fuels and clean biomass may be burned in a combustion unit under CAA section 112. These commenters believe that the combustion of non-hazardous secondary materials by definition constitutes discard, and therefore all such materials are solid wastes. They have also expressed concerns that section 129 mandates stringent requirements for emissions control, monitoring and reporting for all sources irrespective of size, while section 112 allows EPA discretion to treat smaller sources differently by setting standards based on generally available control technology for sources emitting less than 10 tons per year or more of any single HAP or 25 tons per year or more of any combination of HAPs (*i.e.* area sources). If non-hazardous secondary materials burned on site for energy recovery are excluded from the definition of solid waste, these commenters argue that many smaller facilities that burn such materials will not be subject to any significant pollution control, monitoring, or reporting requirements. As a result, they believe such an exclusion could have significant adverse health and welfare effects on communities across the country that are located near area sources burning such secondary materials on site for energy recovery.

We solicit comment on whether EPA should include such non-hazardous secondary materials as solid waste, and whether such a definition is consistent with or required by RCRA and/or the CAA. Further, as explained below, while we believe that the approach favored by the commenters may raise legal concerns as to the definition of "discard," as we have discussed previously and further discuss in this section of the preamble, we solicit comment on whether the Agency has the authority to regulate all non-hazardous secondary materials that are burned in combustion units either as a fuel or ingredient as solid wastes. In providing comments on this approach, we specifically request that commenters provide the basis for their recommended position in light of the existing case law on the issue of "discard."

Some commenters have also argued that, as more non-hazardous secondary materials would be subject to CAA section 129 standards when combusted, this option would help promote traditional recycling, while ensuring more stringent emissions standards under CAA section 129 for those sources that elect to continue to burn these secondary materials. Depending upon local disposal and virgin material costs, increased recycling may occur as a result of market adjustments in response to higher materials management costs.

EPA wishes to clarify, however, that simply because a waste has, or may have, value does not mean the material loses its status as a solid waste. *See API I,* 906 F.2d at 741 n.16; *United States* v. *ILCO Inc.,* 996 F.2d 1126, 1131–32 (11th Cir. 1993); *Owen Steel* v. *Browner,* 37 F.3d 146, 150 (4th Cir. 1994). Wastes may be used beneficially. Even assuming beneficial reuse takes place, therefore, a material once discarded cannot cease to be a waste solely by being beneficially reused. In the case of this rule, beneficial resuse would be, for example, use as a fuel—as opposed to incineration, where the material is combusted primarily to be destroyed.

It is also important to note that a secondary material could still be a waste even if it is recycled on site or under the control of the generator. *See* "API II," 216 F.3d at 55–58, where the DC Circuit overturned EPA's determination that certain recycled oil bearing wastewaters are wastes. The court overturned this decision and remanded it to EPA for a better explanation. Importantly for the rule we are considering today, the court neither accepted EPA's view nor the contrary industry view, noting that the relevant determination that had to be made was whether primary treatment of wastewater is simply a step in the act of discarding or the last step in a production process before discard. 213 F.3d at 57. The court rejected both EPA's and industry's views because they were only stated in broad generalities. Relevant for today's alternative approach, we note that oil bearing wastewaters discussed in API II were in fact recycled on-site, but that the court could not determine whether they were wastes or not. Clearly, the issue was not whether the recycling occurred on site, or even under the control of the generator. Rather, the relevant determination is whether the material is discarded or not.

To remedy the "on-site" problem raised by API II, EPA for this proposed rule also requires that for the material not to be a waste it must be a legitimate fuel or ingredient. This means, to summarize the legitimacy criteria very generally, if used as a fuel, it is handled as though it is a valuable product (loss must be minimal), it is a true fuel with legitimate heating value, and the material has comparable levels of contaminants to those contained in traditional fuels. In particular, if there are higher than comparable levels of contaminants, that would be an indication that the material is really a waste and it is being combusted to destroy the waste materials. If the material is used as an ingredient, under the proposed rule it must be managed as a valuable commodity, must provide a useful contribution to the production or manufacturing process, must be used to produce a valuable product or intermediate, and cannot result in products that contain contaminants that are not comparable to the concentrations found in traditional products. For details on the legitimacy requirement, *see* section VII.D.6, above. In fact, as noted below, EPA has determined, for purposes of this alternative approach, that certain secondary materials [*see* wood residuals and pulp and paper sludge below], even though they are recycled on-site or under the control of the generator, they are still considered solid wastes.

The key point regarding the legal basis of this alternative approach is that EPA is accounting for the likelihood that material recycled within a continuous industrial process by being burned for energy recovery or as an ingredient is not a solid waste. The alternative approach, accordingly, requires that the secondary material

material is *both* recycled under the control of the generator and complies with the legitimacy criteria to ensure that it is in fact not handled as a waste *and* is a truly beneficial fuel or ingredient product. An example of a material burned for energy recovery under the control of the generator and meeting the legitimacy requirements is on-spec used oil generated on-site and combusted in an industrial boiler.

With respect to other examples, such as pulp and paper sludge and wood manufacturing residuals burned on-site for energy recovery, the Agency may reach a different conclusion. Specifically, commenters to the ANPRM indicated that these materials are primarily composed of biomass and that emissions from burning these materials are essentially the same as emissions from burning other biomass fuels, such as bark or unadulterated wood (*see* section VII.C.5.). For purposes of the primary proposal, EPA has determined that wood residuals and pulp and paper sludge are not wastes based on limited contaminant data collected to date and the on-site use of the secondary material. However, for this alternative approach, for the reasons described below, EPA is proposing to classify these materials as solid waste.

This alternative acknowledges that for some categories of secondary materials, it is difficult to determine whether those materials may or may not be discarded. The DC Circuit has also acknowledged the ambiguity of the term "solid waste" under RCRA as applied to particular situations. Specifically, the court stated that "[the] term may be ambiguous as applied to some situations, but not as applied to others." ABR at 1056. Thus, there could be some secondary materials that are clearly legitimately recycled within a continuous industrial process and others that are less clear. EPA believes that wood residuals and pulp and paper sludges are just the kinds of materials that present this kind of ambiguity.

Based on information the Agency has received, pulp and paper sludges are generally used on-site by generators to fuel their boilers and are treated like valuable commodities. However, there appear to be questions with respect to contaminants in the sludges that give EPA pause as to whether the combustion of these materials is primarily a waste treatment activity—specifically because of levels of chlorine in pulp and paper sludge. The Agency has similar concerns with levels of formaldehyde in wood residuals.

Accordingly, EPA believes that with respect to contaminant levels the wood residuals and pulp and paper sludge present a situation in which reasonable persons can disagree as to whether they are discarded materials or not. EPA solicits comments on whether these secondary materials should be classified as wastes or non-wastes.

EPA believes that its formulation that secondary material recycled or reused legitimately under the control of the generator will cover all, or almost all, secondary material recycled or reused in a continuous industrial process. The Agency requests comment on the adequacy of this formulation and any data commenters may have indicating whether particular secondary materials that will fall within or outside of this framework and whether, and why, those materials are discarded or not.

Comments are specifically requested related to the potential impact this alternative may have on traditional non-combustion recycling activities and potential changes in the quantity of non-hazardous secondary materials that may be landfilled. In addition, we request comment as to whether this alternative approach should include a petition process that provides persons with an administrative process for a formal determination that their non-hazardous secondary material fuel or ingredient is indistinguishable in all relevant aspects from a fuel or ingredient, and thus is not discarded and not a solid waste.

EPA believes that an even more far reaching regulatory approach, as suggested by some comments, in which only traditional fuels are not solid wastes and all secondary materials burned for energy recovery or as an ingredient are considered discarded may not be legally acceptable in that the approach provides too broad a definition of solid waste in light of the RCRA case law on the definition of solid waste. Specifically, EPA is concerned about the case law holding that, the RCRA definition of solid waste does not extend to secondary material beneficially reused in a continuous industrial process, as that material has not been discarded and is not a solid waste. *See* "AMC I," 824 F.2d 1177 at 1190 in which the court stated that the term "discarded materials" could not include materials "* * * destined for beneficial reuse or recycling in a continuous process by the generating industry itself.'' *Accord, Association of Battery Recyclers* v. *EPA,* 208 F.3d 1047 (DC Cir. 2000) ("ABR"). The provisions under consideration in AMC I and ABR dealt specifically with material "reclaimed" in a continuous process—that is, material regenerated from a secondary material in a continuous process. It seems highly likely the courts would extend this same reasoning to secondary materials that are otherwise reused or recycled in a continuous industrial process, such as material used, or combusted, to recover energy or as an ingredient. Thus, EPA is hesitant to define all reused or recycled secondary materials as solid waste under RCRA.

F. Effect of Today's Proposal on Other Programs

The construct of this proposed rule for determining when non-hazardous secondary materials are legitimately burned as non-waste fuels or ingredients has applicability to the universe of facilities subject to CAA sections 112 and 129, as well as other rules and agency regulatory programs.

1. Clean Air Act

As discussed in Section IV, the CAA section 129 definition of solid waste incineration unit states that the term "solid waste" will have the meaning established by the Administrator of EPA under RCRA. Today's proposed rule would establish under RCRA which non-hazardous secondary materials constitute "solid waste." This proposed definition of "solid waste" has been used by EPA in its concurrent proposed CAA emissions standards for CISWI units (under CAA section 129) and boilers and process heaters (under CAA section 112). Any unit combusting "solid waste" under today's proposed definition would be regulated as a "solid waste incineration unit" under CAA section 129. If a non-hazardous secondary material is not a "solid waste" under the proposed definition and such material is burned as a legitimate fuel or used as a legitimate ingredient in a manufacturing process, the combustion unit would be regulated pursuant to CAA section 112 (by statute, a source cannot be regulated under both CAA sections 112 and 129).

2. Renewable Energy

This proposal may impact how some non-hazardous secondary materials could be used to help supply renewable energy to the U.S. and through state programs. Given the Congressional mandate for renewable energy, it is important to assess the impact of this proposed regulation on those programs. Congress has passed several laws, such as the Energy Independence and Security Act of 2007 (Pub. L. 110–140), that support the development and use of renewable sources of energy, both for power generation and for the production of transportation fuels. Qualified sources would include wind, solar, and geothermal power, but could also include power generated by the

combustion of biogenic materials, which may include some non-hazardous secondary materials burned for energy recovery. Biogenic materials are materials that result from the activity of living organisms. A number of non-hazardous secondary materials are partially or completely biogenic. For example, woody biomass contains recoverable energy and would be considered biogenic in origin. Energy from biogenic sources is generally preferable to fossil fuels.

In addition to these federal programs that may be impacted, Renewable Portfolio Standards (RPS) currently provide states with a mechanism to increase renewable energy generation using renewable energy sources (including biofuels) and a cost-effective, market-based approach. An RPS requires electric utilities and other retail electric providers to supply a specified minimum amount of customer load with electricity from eligible renewable energy sources. The goal of an RPS is to stimulate market and technology development so that, ultimately, renewable energy will be economically competitive with conventional forms of electric power. States create RPS programs because of the energy, environmental, and economic benefits of renewable energy and sometimes other clean energy approaches, such as energy efficiency and combined heat and power. Today's proposed rule determining which non-hazardous secondary materials constitute solid waste may impact the requirements for secondary materials that may be burned for energy generation under the RPS program.

3. Subtitle C Hazardous Waste Program

The result of this rulemaking effort will have no effect on the subtitle C Hazardous Waste Program. The RCRA subtitle C hazardous waste federal program has a long regulatory history in defining "solid waste" for purposes of the hazardous waste regulations. However, the 40 CFR 261.2 definition of solid waste explicitly applies only to wastes that also are hazardous for purposes of the subtitle C regulations (*see* 40 CFR 261.1(b)(1)). CAA section 129 also specifically excludes subtitle C units from coverage under that section. EPA emphasizes that it is not modifying or reopening its hazardous waste regulations; EPA does not intend to respond to any comments directed to those regulations.

RCRA section 7003 gives EPA the authority to compel actions to abate conditions that may present an "imminent and substantial endangerment" involving both solid and hazardous wastes. EPA uses this authority on a case-by-case basis. The Agency can determine in a specific factual context whether a secondary material which causes an endangerment is discarded. RCRA Sections 3007 and 3008 establish EPA's inspection and Federal enforcement authority to address violations of the Subtitle C hazardous waste regulations. Nothing in this proposed rule shall impact EPA's ability to act pursuant to RCRA sections 3007, 3008 and 7003. The proposed rule also does not limit or otherwise affect EPA's ability to pursue potentially responsible persons under section 107 of CERCLA for releases or threatened releases of hazardous substances.

VIII. State Authority

Subtitle D of RCRA establishes a framework for state, federal, and local government cooperation in controlling the management of non-hazardous solid waste. The federal role in this arrangement is to establish the overall regulatory direction, by providing minimum nationwide standards for protecting human health and the environment, and to provide technical assistance to states for planning and developing their own solid waste management practices. The actual planning and direct implementation of solid waste programs under RCRA subtitle D, however, remains largely a state and local function, and states have authority to devise programs to deal with state specific conditions and needs.

EPA has not promulgated detailed regulations of what is included in the definition of solid waste for the RCRA subtitle D (non-hazardous) programs. States have promulgated their own laws and regulations as to what constitutes solid waste and have interpreted those laws and regulations to determine what types of non-hazardous secondary material activities involve the management of a solid waste. Many states have a process or promulgated regulations to determine when these materials are wastes, and when they can be used beneficially and safely in products in commerce.

Through this rulemaking, EPA is articulating the narrow definition of which non-hazardous secondary materials are or are not solid waste when used as fuel for energy recovery or as ingredients in combustion units. We are not making solid waste determinations that cover other possible secondary material end uses.

A. Applicability of State Solid Waste Definitions and Beneficial Use Determinations

CAA Section 129 states that the term "solid waste" shall have the meaning "established by the Administrator pursuant to the Solid Waste Disposal Act" *Id.* at 7429(g)(6). Accordingly, the state's definitions of solid waste would not be applicable in determining whether the section 129 standards apply. Specifically, state determinations regarding a material's beneficial use that may exempt that non-hazardous secondary material from the state solid waste standards would not necessarily impact the status of that secondary material under EPA's solid waste definition as it relates to which combustion units are subject to the CAA section 129 standards, except perhaps as discussed in section VII.D.5, where we discuss a state's ability to submit, on behalf of the petitioner, a petition for EPA to evaluate under the proposed non-waste determination criteria.[71] Likewise, non-hazardous secondary materials that are exempted from being a solid waste by EPA's proposed rule, if finalized, would be exempt from the CAA section 129 standards, even though the state standards may define the non-hazardous secondary material as a solid waste.

The language in CAA section 129, however, may be interpreted to provide the Administrator with flexibility in determining the meaning of solid waste under that section. EPA is requesting comment on an option where, to determine applicability of the CAA section 129 requirements, the Agency would rely on a determination through a state's beneficial use program that certain secondary materials are or are not solid waste. Such state programs are meant to encourage the use of non-hazardous secondary materials, provided that the uses maintain the specified state's acceptable level of risk, protect human health and the environment, and are managed in accordance with the conditions of the determination. Generally, for a secondary material to be beneficially used and thus no longer a solid waste, it would have chemical and physical properties similar to the raw material it is replacing or, when incorporated into another product, its use would be beneficial to the final product. Relying on these beneficial use determinations

[71] If EPA determines through the petition process that the secondary materials in the state determinations are not solid waste per 40 CFR 241.3(c), then the units that burn such materials would not be subject to the CAA section 129 requirements.

would recognize state interests in defining solid waste in the context of their own solid waste program, as well as help to mitigate potential inconsistencies between federal and state solid waste determinations.

Consideration of this option, however, where the Agency could rely on determinations by a state's beneficial use program in deciding whether certain materials are solid wastes when used as fuels or ingredients in combustion units, must take into account the current legal rationale for defining solid waste under EPA authority. Specifically, the courts have held that a secondary material that has been discarded is a solid waste regardless of whether it may be reused at some time in the future and simply because a waste has, or may have, beneficial value does not mean the secondary material loses its status as a solid waste.[72]

See the ANPRM for this rulemaking for the complete discussion of case law pertaining to the solid waste definition (74 FR 51).

B. State Adoption of the Rulemaking

No federal approval procedures for state adoption of today's proposed rule are included in today's proposal under RCRA subtitle D. Although EPA does promulgate criteria for solid waste landfills and approves state municipal solid waste landfill permitting programs, RCRA does not provide EPA any additional authority to approve state programs beyond municipal solid waste. While states are not required to adopt today's rule, some states incorporate 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 changes in today's rule will be adopted by these states, consistent with state laws and state administrative procedures.

IX. Costs and Benefits of the Proposed Rule

The value of any regulatory action is traditionally measured by the net change in social welfare that it generates. This action alone does not directly invoke any costs[73] or benefits. This proposal is being developed and published in conjunction with the upcoming Boiler MACT and CISWI proposed rules.[74] Costs to the regulated community and corresponding benefits to human health and the environment fall under the jurisdiction of these rules. As such, the Agency has not prepared a separate economic assessment in support of this proposal. However, we recognize that this action, as proposed, may affect various State materials management programs, and we are sensitive to these concerns. The Agency encourages comment on any potential direct impacts this action may have on State materials management programs.

The costs and benefits indirectly associated with this action are the corresponding impacts assessed in the regulatory impact analyses prepared in support of the CAA proposed rules. These independent regulatory impact analyses measure, among other factors, the estimated net change in social welfare associated with these actions. In the development of these analyses, EPA worked to ensure that the methodologies and data applied in these assessments captured appropriate RCRA related costs (*e.g.,* secondary material diversions). These assessments were designed to adhere to Agency and the Office of Management and Budget (OMB) guidelines and procedures. The Agency has also prepared a general executive summary document that addresses overall impacts of this rulemaking package. These documents are available in the docket established for today's action. The reader is encouraged to review and comment on all aspects of these documents.

X. Statutory and Executive Order Reviews

A. 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." Pursuant to the terms of Executive Order 12866, the Agency, in conjunction with the Office of Management and Budget (OMB) has determined that this proposed rule is a significant regulatory action because it contains novel policy issues, as defined under part 3(f)(4) of the Order. Accordingly, EPA submitted this action to OMB for review under EO 12866. Any changes made in response to OMB recommendations have been documented in the docket for this action.

B. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the *Paperwork Reduction Act,* 44 U.S.C. 3501 *et seq.* The Information Collection Request (ICR) document prepared by EPA has been assigned EPA ICR number 2382.01.

This proposal establishes a voluntary non-waste determination petition process for materials identified as solid wastes. Facilities claiming this non-hazardous solid waste exclusion are required to seek approval from the Agency through the submission of a petition prior to operating under this exclusion. Sufficient information about the secondary material and the market demand for this material will be necessary to demonstrate that the non-hazardous secondary material will in fact be used as a fuel or ingredient in the combustion process. Specifically, the petition will need to contain information to assess the following criteria: (1) Whether market participants handle the non-hazardous secondary material as a fuel rather than a waste; (2) whether the chemical and physical identify of the non-hazardous secondary material is comparable to a commercial fuel; (3) whether the capacity of the market would use the non-hazardous secondary material in a reasonable timeframe; (4) whether the constituents in the non-hazardous secondary material are not discarded to the air, water or land from the point of generation through combustion of the secondary material at significantly higher levels from either a statistical or from a health and environmental risk perspective than would otherwise be released; and (5) other relevant factors.

The facility-level burden associated with this voluntary petition option is uncertain. However, we estimate an average total one-time burden of approximately 700 hours per facility, with a total cost per facility of approximately $71,400. The total number of facilities likely to take advantage of this option is undetermined, but we would expect that only a limited number of facilities may submit such a petition. The Agency requests comment on the number of petitions that are likely to be submitted to EPA for consideration. 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

[72] *See* AMC II, 907 F.2d at 1186; API I, 906 F.2d at 741 n.16; *United States* v. *ILCO* Inc., 996 F.2d at 1131–32; *Owen Steel* v. *Browner,* 37 F.3d at 150.

[73] Excluding minor administrative burden/cost (*e.g.* rule familiarization) and voluntary petition costs.

[74] National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers; National Emission Standards for Hazardous Air Pollutants for Industrial/Commercial/Institutional Boilers and Process Heaters; and, Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incineration (CISWI) Units.

control number. The OMB control numbers for EPA's regulations in 40 CFR are listed in 40 CFR part 9.

To comment on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, EPA has established a public docket for this rule, which includes this ICR, under Docket ID number EPA–HQ–RCRA–2008–0329. Submit any comments related to the ICR to EPA and OMB. *See* the **ADDRESSES** section at the beginning of this notice for where to submit comments to EPA. Send comments to OMB at the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, Attention: Desk Office for EPA. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after June 4, 2010, a comment to OMB is best assured of having its full effect if OMB receives it by July 6, 2010. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

C. 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.

For purposes of assessing the impacts of today's rule on small entities, small entity is defined as: (1) A small business, as defined by the Small 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 today's proposed rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. No small entities are directly regulated by this proposed rule (*see* discussion above under costs and benefits). Small entities potentially affected indirectly by this action include: major source industrial, commercial, and institutional boilers and process heaters, area source industrial, commercial, and institutional boilers and commercial and industrial solid waste incineration units. We estimate that these units operate in approximately 50 different industry categories based on the NAICS three digit sector code level. These sectors include: crop production; forestry and logging; support activities for agriculture and forestry; oil and gas extraction; mining (except oil and gas); utilities; heavy and civil engineering construction; food manufacturing; beverage and tobacco product manufacturing; textile mills and textile product mills; wood product manufacturing; paper manufacturing; petroleum and coal products manufacturing; chemical manufacturing; plastics and rubber products manufacturing; nonmetallic mineral product manufacturing; primary metal manufacturing; fabricated metal product manufacturing; machinery manufacturing; computer and electronic product manufacturing; transportation equipment manufacturing; furniture and related product manufacturing; merchant wholesalers; motor vehicle and parts dealers; air, rail, and pipeline transportation; warehousing and storage; waste management and remediation services; educational services; hospitals; accommodation; repair and maintenance; and public administration. Any potential impacts to small entities under these and any other potentially affected sectors are addressed in the regulatory flexibility analysis prepared in support of the CAA proposed rules that are linked to this action.[75]

We have determined that, because no small entities are directly impacted by this proposed action, there will not be a significant economic impact on a substantial number of small entities. This determination is based on the findings, as discussed above.

Although this proposed rule will not have a significant economic impact on a substantial number of small entities, EPA nonetheless has tried to reduce the (indirect) impact of this rule on small entities through the careful and targeted identification of solid waste materials. We continue to be interested in the potential impacts of the proposed rule on small entities and welcome comments on issues related to such impacts.

D. Unfunded Mandates Reform Act

This proposed 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. Because this action is linked to the CAA rules (*see* footnote under section C), this rule alone will not result in significant economic impacts on States, local and tribal governments, in the aggregate, or the private sector in any one year. Thus, this rule is not subject to the requirements of sections 202 or 205 of UMRA.

This proposed rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. As described above, this action alone does not result in unique effects, or significant economic impacts.

E. Executive Order 13132: Federalism

This action 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. This action, independent of the CAA rules, as proposed (*see* footnote 81), will not result in substantial direct effects on the states. Furthermore, this action will not preempt state laws related to the affected materials. States will remain free to manage these materials as appropriate under their Subtitle D programs. Thus, Executive Order 13132 does not apply to this action.

Although we believe that this action, as proposed, will not result in substantial direct effects on the states, we are sensitive to the perceptions States may have of this action in regard to their solid waste management programs. On January 2, 2009 we published an ANPRM (Identification of Non-Hazardous Materials That Are Solid Waste) that presented the Agency's anticipated approach for this action. We received numerous comments on this ANPRM, many of which came from States. Furthermore, we have reached out to the States with various informational conference calls throughout the development of this proposal. .

In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA

[75] National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers; National Emission Standards for Hazardous Air Pollutants for Industrial/Commercial/Institutional Boilers and Process Heaters; and, Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incineration (CISWI) Units.

and State and local governments, EPA specifically solicits comment on this proposed action from State and local officials.

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

Subject to the Executive Order 13175 (65 FR 67249, November 9, 2000) EPA may not issue a regulation that has tribal implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by tribal governments, or EPA consults with tribal officials early in the process of developing the proposed regulation and develops a tribal summary impact statement.

EPA has concluded that this action may have tribal implications. However, it will neither impose substantial direct compliance costs on tribal governments, nor preempt Tribal law. The proposed rule may have minor tribal implications to the extent that entities generating or burning solid wastes on tribal lands could be affected.

EPA consulted with tribal officials early in the process of developing this regulation to permit them to have meaningful and timely input into its development. EPA specifically solicits additional comment on this proposed action from tribal officials.

G. Executive Order 13045: Protection of Children From Environmental Health and Safety Risks

This action is not subject to EO 13045 (62 FR 19885, April 23, 1997) because it is not economically significant as defined in EO 12866, and because the Agency does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. This action's health and risk assessments related to this action are contained in the support documents prepared for the CAA section 129 CISWI and section 112 boiler MACT proposed rules.

H. Executive Order 13211: Actions that Significantly Affect Energy Supply, Distribution or Usage

This action is not a "significant energy action" as defined in Executive Order 13211 (66 FR 28355 (May 22, 2001)), because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. This action, independent of the CAA rules, as proposed, is not expected to directly affect energy use or use patterns. Energy impacts resulting for the CAA (*see* rule identification in footnote 72) application of this action are assessed and discussed in the preambles and supporting materials for those rules.

I. 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 proposed rulemaking does not involve technical standards. Therefore, EPA is not considering the use of any voluntary consensus standards.

J. 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 is evaluating the question of whether this proposed rule will or will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations. We have completed preliminary environmental justice analyses, in conjunction with the Boiler MACT and CISWI proposed rules (*see* section IV.A.). These preliminary environmental justice analyses are compiled in the "Review of Environmental Justice Impacts" for both this proposal and the Boiler MACT and CISWI proposed rules. This document is available in the docket for today's rule (Docket ID No: EPA–HQ–RCRA–2008–0329).

EPA is committed to addressing environmental justice concerns and has assumed a leadership role in environmental justice initiatives to enhance environmental quality for all citizens of the United States. The Agency's goals are to ensure that no segment of the population, regardless of race, color, national origin, income, or net worth, bears disproportionately high and adverse human health and environmental impacts as a result of EPA's policies, programs, and activities. Our goal is to ensure that all citizens live in clean and sustainable communities. In response to Executive Order 12898, and to the concerns voiced by many groups outside the Agency, EPA's Office of Solid Waste and Emergency Response (OSWER) formed an Environmental Justice Task Force to analyze the array of environmental justice issues specific to waste programs and to develop an overall strategy to identify and address these issues (OSWER Directive No. 9200.3–17).

The Environmental Justice analysis in today's proposal includes two main parts: (1) Demographic analysis and environmental impacts; and (2) outreach.

Demographics Analysis and Environmental Impacts

For this proposal, the demographic analysis focuses on the management of secondary materials that have been proposed to be solid waste under this proposed rule (versus the emissions from the combustion of the non-hazardous secondary materials which will be covered in the Boiler MACT and CISWI proposed rules). Specifically, the analysis focuses on the populations around the facilities accepting non-hazardous secondary materials that under the proposal would be considered to be solid waste. These wastes would be diverted from units previously combusting materials in accordance with the CAA section 112 standards for non-wastes according to today's proposed rulemaking. The analysis includes a demographic evaluation (focusing on the presence of low-income and minority populations) and possible impacts associated with solid waste being sent to municipal waste combustors and landfills (which are projected to receive the majority of the diverted materials as assessed by the impacts of the CISWI and Boiler MACT proposed rules using the least cost approach). The analysis also covers additional diversion implications. The assessment includes impacts on the abatement of scrap tire piles, stockpiling of secondary materials, and the disposal of used oil not in compliance with applicable standards.

The impacts of the new proposed emissions standards are included in the

Boiler MACT and CISWI proposed rules. The analysis in those proposals includes the following efforts: identification of sources, identification of demographic characteristics near sources, evaluation of area wide air quality, estimation of Boiler MACT/CISWI emission reductions of HAPs from the proposed standards and work practices.

Outreach

The outreach aspect of the environmental justice analysis will help stakeholders participate in the rulemaking process and build a dialog during the comment period for the proposed rule. The first step in the outreach process took place at the EPA Community Engagement in Rulemaking Roundtable Discussion in New Orleans, LA on January 28, 2010. This discussion was held concurrently with the National Environmental Justice Advisory Council public meeting. At the roundtable meeting, the basics of the advanced notice of proposed rulemaking were discussed, including how it interacts with EPA's upcoming CAA section 112 and section 129 rulemakings, and provided an educational forum to bring together EPA technical experts, community leaders, nonprofit groups, and others to discuss key themes of the proposed rulemaking. Based on the results of the roundtable meeting, the Agency developed an approach for public participation and outreach during the comment period for the proposal (including planned forums to discuss the proposed rules and/or learn more about environmental impacts of the rule). The activities associated with the outreach are posted at *http://www.epa.gov/waste/nonhaz/definition.htm.*

List of Subjects in 40 CFR Part 241

Environmental protection, Air pollution control, Waste treatment and disposal.

Dated: April 29, 2010.

Lisa P. Jackson,

Administrator.

For the reasons stated in the preamble, title 40, chapter I of the Code of Federal Regulations, is proposed to be amended by adding part 241 to read as follows:

PART 241—SOLID WASTES USED AS FUELS OR INGREDIENTS IN COMBUSTION UNITS

Subpart A—General

Sec.

Subpart B—Identification of Non-Hazardous Secondary Materials That Are Solid Wastes When Used as Fuels or Ingredients in Combustion Units

Authority: 42 U.S.C. 6903, 6912, 7429.

Subpart A—General

§ 241.1 Purpose.

This part identifies the requirements and procedures for the identification of solid wastes used as fuels or ingredients in combustion units under section 1004 of the Resource Conservation and Recovery Act and section 129 of the Clean Air Act.

§ 241.2 Definitions.

For the purposes of this subpart:

Contained means the non-hazardous secondary material is stored in a manner that both adequately prevents releases or other hazards to human health and the environment considering the nature and toxicity of the material.

Contaminants means any constituent in non-hazardous secondary materials that will result in emissions of the air pollutants identified in CAA section 112(b) and the nine pollutants listed under CAA section 129(a)(4)) when such secondary materials are burned as fuel or used as ingredients, including those constituents that could generate products of incomplete combustion.

Control means the power to direct the policies of the facility, whether by the ownership of stock, voting rights, or otherwise, except that contractors who operate facilities on behalf of a different person as defined in this section shall not be deemed to "control" such facilities.

Generating facility means all contiguous property owned, leased, or otherwise controlled by the non-hazardous secondary material generator.

Intermediate product means a finished product traded usually among producers or suppliers rather than end users.

Non-hazardous secondary material means a secondary material that, when discarded, would not be identified as a hazardous waste under part 261 of this chapter.

Person is defined as an individual, trust, firm, joint stock company, Federal agency, corporation (including government corporation), partnership, association, State, municipality, commission, political subdivision of a state, or any interstate body.

Processing means any operations that transform discarded non-hazardous secondary material into a new fuel or new ingredient product. Minimal operations, such as operations that result only in modifying the size of the material by shredding, do not constitute processing for purposes of this definition. Processing includes, but is not limited to, operations that: remove or destroy contaminants; significantly improve the fuel characteristics of the material, *e.g.,* sizing or drying the material in combination with other operations; chemically improve the as-fired energy content; and improve the ingredient characteristics.

Secondary material means any material that is not the primary product of a manufacturing or commercial process, and can include post-consumer material, off-specification commercial chemical products or manufacturing chemical intermediates, post-industrial material, and scrap.

Solid waste means the term solid waste as defined in 40 CFR 258.2.

Within control of the generator means that the non-hazardous secondary material is generated and burned in combustion units at the generating facility; or that such material is generated and burned in combustion units at different facilities, if the facility combusting the material is controlled by the generator; or if both the generating facility and the facility combusting the material are under control of the same person as defined in this section.

Subpart B—Identification of Non-Hazardous Secondary Materials That Are Solid Wastes When Used as Fuels or Ingredients in Combustion Units

§ 241.3 Standards and procedures for identification of non-hazardous secondary materials that are solid wastes when used as fuels or ingredients in combustion units.

(a) Except as provided in paragraph (b) of this section, non-hazardous secondary materials that are combusted are solid wastes, unless a petition is submitted to, and a determination granted by, the Regional Administrator pursuant to paragraph (c) of this section. The criteria to be addressed in the petition, as well as the process for making the non-waste determination, are specified in paragraph (c) of this section.

(b) The following non-hazardous secondary materials are not solid wastes when combusted:

(1) Non-hazardous secondary materials used as a fuel in a combustion unit that remains within the control of the generator (as defined in § 241.2) and that meets the legitimacy criteria specified in paragraph (d)(1) of this section.

(2) Non-hazardous secondary materials used as an ingredient in a combustion unit and that meets the legitimacy criteria specified in paragraph (d)(2) of this section.

(3) Fuel or ingredient products that have undergone processing (as defined in § 241.2) from discarded non-hazardous secondary materials and that are used as fuels or ingredients in a combustion unit, and that meet the legitimacy criteria specified in paragraph (d)(1) of this section, with respect to fuels, and paragraph (d)(2) of this section, with respect to ingredients.

(c) The Administrator may grant a non-waste determination that a non-hazardous secondary material used as a fuel is not discarded and therefore not a solid waste when combusted. The criteria and process for making such non-waste determinations includes the following:

(1) Submittal of an application to the Regional Administrator for the EPA Region where the facility combusting the non-hazardous secondary material is located by an applicant for a determination that the non-hazardous secondary material, even though it has been transferred to a third party, has not been discarded and is indistinguishable in all relevant aspects from a product fuel. The determination will be based on whether the non-hazardous secondary material has been discarded, is a legitimate fuel as specified in paragraph (d)(1) of this section and on the following criteria:

(i) Whether market participants treat the non-hazardous secondary material as a fuel rather than a solid waste;

(ii) Whether the chemical and physical identity of the non-hazardous secondary material is comparable to commercial fuels;

(iii) Whether the non-hazardous secondary material will be used in a reasonable time frame given the state of the market;

(iv) Whether the constituents in the non-hazardous secondary material are released to the air, water or land from the point of generation to the combustion of the secondary material at levels comparable to what would otherwise be released from traditional fuels; and

(v) Other relevant factors.

(2) The Regional Administrator will evaluate the application based on the following procedures:

(i) The applicant must apply to the Regional Administrator for the non-waste determination addressing the relevant criteria in paragraphs (c)(1)(i) through (v) of this section.

(ii) The Regional Administrator will evaluate the application and issue a draft notice tentatively granting or denying the application. Notification of this tentative decision will be published in a newspaper advertisement or radio broadcast in the locality where the facility combusting the non-hazardous secondary material is located, and be made available on EPA's Web site.

(iii) The Regional Administrator will accept comment on the tentative decision for at least 30 days, and may also hold a public hearing upon request or at his discretion. The Regional Administrator will issue a final decision after receipt of comments and after the hearing (if any).

(iv) If a change occurs that affects how a non-hazardous secondary material meets the relevant criteria contained in paragraphs (c)(1)(i) through (v) of this section after a formal non-waste determination has been granted, the applicant must re-apply to the Regional Administrator for a formal determination that the non-hazardous secondary material continues to meet the relevant criteria and is not discarded and is thus not a solid waste.

(d) Legitimacy criteria for non-hazardous secondary materials.

(1) Legitimacy criteria for non-hazardous secondary materials used as fuels in combustion units include the following:

(i) The non-hazardous secondary material must be managed as a valuable commodity based on the following factors:

(A) The storage of the non-hazardous secondary material prior to use must not exceed reasonable time frames;

(B) Where there is an analogous fuel, the non-hazardous secondary material must be managed in a manner consistent with the analogous fuel or otherwise be adequately contained to prevent releases to the environment;

(C) If there is no analogous fuel, the non-hazardous secondary material must be adequately contained so as to prevent releases to the environment;

(ii) The non-hazardous secondary material must have a meaningful heating value and be used as a fuel in a combustion unit that recovers energy.

(iii) The non-hazardous secondary material must contain contaminants at levels comparable or lower to those in traditional fuels which the combustion unit is designed to burn. Such comparison is to be based on a direct comparison of the contaminant levels in the non-hazardous secondary material to the traditional fuel itself.

(2) Legitimacy criteria for non-hazardous secondary materials used as an ingredient in combustion units include the following:

(i) The non-hazardous secondary material used as an ingredient must be managed as a valuable commodity based on the following factors:

(A) The storage of the non-hazardous secondary material prior to use must not exceed reasonable time frames;

(B) Where there is an analogous ingredient, the non-hazardous secondary material must be managed in a manner consistent with the analogous ingredient or otherwise be adequately contained to prevent releases to the environment;

(C) If there is no analogous ingredient, the non-hazardous secondary material must be adequately contained to prevent releases to the environment;

(ii) The non-hazardous secondary material used as an ingredient must provide a useful contribution to the production or manufacturing process. The secondary material provides a useful contribution if it contributes a valuable ingredient to the product or intermediate or is an effective substitute for a commercial product.

(iii) The non-hazardous secondary material used as an ingredient must be used to produce a valuable product or intermediate. The product or intermediate is valuable if:

(A) The material is sold to a third party, or

(B) The material is used as an effective substitute for a commercial product or as an ingredient or intermediate in an industrial process.

(iv) The non-hazardous secondary material used as an ingredient must result in products that contain contaminants at levels that are comparable or lower in concentration to those found in traditional products that are manufactured without the non-hazardous secondary material.

[FR Doc. 2010–10837 Filed 6–3–10; 8:45 am]

BILLING CODE 6560–50–P