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40 CFR Part 241
Additions to List of Section 241.4 Categorical Non-Waste Fuels; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 241

[EPA–HQ–RCRA–2013–0110; FRL–9900–55–OSWER]

RIN–2050–AG74

Additions to List of Section 241.4 Categorical Non-Waste Fuels

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA or the Agency) is proposing amendments to the Non-Hazardous Secondary Materials (NHSM) regulation under the Resource Conservation and Recovery Act (RCRA). The NHSM rule generally established standards and procedures for identifying whether non-hazardous secondary materials are solid wastes when used as fuels or ingredients in combustion units. In a February 7, 2013 rule, EPA listed particular non-hazardous secondary materials as ''categorical non-waste fuels'' provided certain conditions are met. EPA also indicated that it would consider adding additional non-hazardous secondary materials to the categorical listings. Today's action proposes to add three materials to the list of categorical non-waste fuels: Construction and demolition (C&D) wood processed from C&D debris according to best management practices; Paper recycling residuals, including old corrugated cardboard (OCC) rejects, generated from the recycling of recovered paper and paperboard products and burned on-site by paper recycling mills whose boilers are designed to burn solid fuel; and Creosote treated railroad ties that are processed and combusted in units designed to burn both biomass and fuel oil.

DATES: Comments must be received on or before June 13, 2014.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–HQ–RCRA–2013–0110 by one of the following methods:

- *http://www.regulations.gov:* Follow the on-line instructions for submitting comments.
- *Email:* Comments may be sent by electronic mail (email) to *rcra-docket@epa.gov,* Attention Docket ID No. EPA–HQ–RCRA–2013–0110.
- *Mail:* Send comments to: RCRA Docket, EPA Docket Center, Mail Code 28221T, Environmental Protection Agency, 1200 Pennsylvania Avenue NW., Washington DC 20460, Attention Docket ID No. EPA–HQ–RCRA–2013–0110. Please include two copies of your comments. 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: Environmental Protection Agency, EPA Docket Center, Room 3334, 1301 Constitution Avenue NW., Washington DC, Attention Docket ID No. EPA–HQ–RCRA–2013–0110. 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–2013–0110. 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 email. 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 email comment directly to EPA without going through *http://www.regulations.gov,* your email 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.

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, such as 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 at *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: For more detailed information on specific aspects of this rulemaking, contact George Faison, Office of Resource Conservation and Recovery, Materials Recovery and Waste Management Division, MC 5304P, Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460; telephone number: (703) 305–7652; fax number: 703–308–0509; email: *faison.george@epa.gov.*

SUPPLEMENTARY INFORMATION:

A. Does this action apply to me?

Categories and entities potentially affected by this action, either directly or indirectly, include, but may not be limited to the following:

GENERATORS AND POTENTIAL USERS [a] OF THE NEW MATERIALS PROPOSED TO BE ADDED TO THE LIST OF CATEGORICAL NON-WASTE FUELS

Primary Industry Category or Sub Category	NAICS [b]
Utilities	221
Construction of Buildings	236
Site Preparation Contractors	238910
Manufacturing	31, 32, 33
Wood Product Manufacturing	321
Sawmills	321113
Wood Preservation (includes crosstie creosote treating)	321114
Pulp, Paper, and Paper Products	322
Cement manufacturing	32731
Railroads (includes line haul and short line)	482
Scenic and Sightseeing Transportation, Land (Includes: railroad, scenic and sightseeing)	487110
Port and Harbor Operations (Used railroad ties)	488310

GENERATORS AND POTENTIAL USERS [a] OF THE NEW MATERIALS PROPOSED TO BE ADDED TO THE LIST OF CATEGORICAL NON-WASTE FUELS—Continued

Primary Industry Category or Sub Category	NAICS [b]
Landscaping Services	561730
Solid Waste Collection	562111
Solid Waste Landfill	562212
Solid Waste Combustors and Incinerators	562213
Marinas	713930

[a] Includes: Major Source Boilers, Area Source Boilers, and Solid Waste Incinerators.
[b] NAICS—North American Industrial Classification System.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities potentially 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 **FOR FURTHER INFORMATION CONTACT** section.

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 email. Clearly mark all 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 commenters 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 estimating burden or costs, explain methods used to arrive at the estimate in sufficient detail to allow for it to be reproduced.
- Provide specific examples to illustrate any concerns and suggest alternatives. Make sure to submit comments by the comment period deadline identified above.

C. How do I obtain a copy of this document and other related information?

The docket number for this proposed action is Docket ID No. EPA–HQ–RCRA–2013–0110. In addition to being available in the docket, an electronic copy of the proposed action is available on EPA's Web site at *http://www.epa.gov/epawaste/nonhaz/define/.* EPA posted a copy of the proposed action on this Web site, as well as other information related to this proposed action.

Organization of this Document. The following outline is provided to aid in locating information in this preamble.

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I. National Technology Transfer and Advancement Act
J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

I. Statutory Authority

The EPA is proposing that additional non-hazardous secondary materials (NHSMs) be categorically listed as non-waste fuels in 40 CFR part 241.4(a) 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 Clean Air Act (CAA) directs the EPA to establish standards for Commercial and Industrial Solid Waste Incinerators (CISWI), which burn solid waste. Section 129(g)(6) of the CAA provides that the term ''solid waste'' is to be established by the EPA under RCRA (42 U.S.C. 7429). 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 stated in RCRA section 1004(27).

II. List of Abbreviations and Acronyms

ATCM Airborne Toxic Control Measure
BMP Best Management Practice
Btu British thermal unit
C&D Construction and Demolition
CAA Clean Air Act
CARB California Air Resources Board
CBI Confidential Business Information
CCA Chromated Copper Arsenate
CFR Code of Federal Regulations

CISWI Commercial and Industrial Solid Waste Incinerator
CTRT Creosote-Treated Railroad Tie
EPA U.S. Environmental Protection Agency
FR Federal Register
HAP Hazardous Air Pollutant
ICR Information Collection Request
MACT Maximum Achievable Control Technology
NAICS North American Industrial Classification System
ND Non-detect
NESHAP National Emission Standards for Hazardous Air Pollutants
NHSM Non-Hazardous Secondary Material
OCC Old Corrugated Cardboard
OMB Office of Management and Budget
PAH Polycyclic Aromatic Hydrocarbons
ppm Parts Per Million
PRR Paper Recycling Residual
PVC Polyvinyl Chloride
RCRA Resource Conservation and Recovery Act
RIN Regulatory Information Number
SBA Small Business Administration
SO_2 Sulfur Dioxide
SVOC Semi-volatile organic compound
TCLP Toxicity Characteristic Leaching Procedure
UMRA Unfunded Mandates Reform Act
UPL Upper Prediction Limit
U.S.C. United States Code
VOC Volatile organic compound
WWW Worldwide Web
XRF X-Ray Fluorescence

III. Introduction

The Resource Conservation and Recovery Act (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 meaning of ''solid waste,'' as defined under RCRA, is of particular importance as it relates to section 129 of the Clean Air Act (CAA). If material is a solid waste under RCRA, a combustion unit burning it is required to meet the CAA section 129 emission standards for solid waste incineration units. If the material is not a solid waste, combustion units are required to meet the CAA section 112 emission standards for commercial, industrial, and institutional boilers. Under CAA section 129, 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 . . .'' 42 U.S.C. 7429(g)(1). 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). The Solid Waste Disposal Act, as amended, is commonly referred to as the Resource Conservation and Recovery Act or RCRA.

Regulations concerning non-hazardous secondary materials (NHSM) used as fuels or ingredients in combustion units are codified in 40 CFR part 241.[1] Today's action proposes to amend the part 241 regulations by adding three NHSMs to the list of categorical non-waste fuels codified in 241.4(a). These new proposed categorical listings are for:

- Construction and demolition (C&D) wood processed from C&D *debris* according to best management practices (refer to Section V of the preamble or the proposed regulatory text for a full description of the categorical listing).
- Paper recycling residuals, including old corrugated cardboard (OCC) rejects, generated from the recycling of recovered paper and paperboard products and burned on-site by paper recycling mills whose boilers are designed to burn solid fuel.
- Creosote-treated railroad ties that are processed and combusted in units designed to burn both biomass and fuel oil.

IV. Background

A. History of the NHSM Rulemakings

The Agency first solicited comments on how the RCRA definition of solid waste should apply to NHSMs when used as fuels or ingredients in combustion units in an advanced notice of proposed rulemaking (ANPRM), which was published in the **Federal Register** on January 2, 2009 (74 FR 41). We then published an NHSM proposed rule on June 4, 2010 (75 FR 31844), which EPA made final on March 21, 2011 (76 FR 15456).

The March 2011, NHSM final rule codified the standards and procedures to be used for identifying which NHSMs are ''solid waste'' when used as fuels or ingredients in combustion units. Under that rule, traditional fuels, including historically managed traditional fuels (e.g. coal, oil, natural gas) and ''alternative'' traditional fuels (e.g. clean cellulosic biomass) are not secondary materials and thus, are not solid wastes. In addition, the Agency identified the following NHSMs as not being solid wastes:

- The NHSM is used as a fuel and remains under the control of the generator (whether at the site of generation or another site the generator has control over) that meets the legitimacy criteria (40 CFR 241.3(b)(1));
- The NHSM is used as an ingredient in a manufacturing process (whether by the generator or outside the control of the generator) that meets the legitimacy criteria (40 CFR 241.3(b)(3));
- The NHSM has been sufficiently processed to produce a fuel or ingredient that meets the legitimacy criteria (40 CFR 241.3(b)(4)); or
- Through a case-by-case petition process, it has been determined that the NHSM handled outside the control of the generator has not been discarded, is indistinguishable in all relevant aspects from a fuel product, and meets the legitimacy criteria (40 CFR 241.3(c)).

In October 2011, the Agency announced that it would be initiating a new rulemaking proceeding to revise certain aspects of the NHSM rule.[2] On December 23, 2011, EPA published a proposed rule, which addressed specific targeted amendments and clarifications to the 40 CFR part 241 regulations (76 FR 80452). These proposed revisions and clarifications were limited to certain issues on which the Agency had received new information, as well as targeted revisions that the Agency believed were appropriate in order to allow implementation of the rule as EPA originally intended. The amendments to the part 241 regulations were made final on February 7, 2013 with modifications to § 241.2, § 241.3 and the addition of § 241.4, and include the following:[3]

- *Revised Definitions:* EPA revised three definitions discussed in the proposed rule: (1) ''clean cellulosic biomass,'' (2) ''contaminants,'' and (3) ''established tire collection programs.'' In addition, based on comments received on the proposed rule, the Agency revised the definition of ''resinated wood.''
- *Contaminant Legitimacy Criterion for NHSMs Used as Fuels:* EPA issued revised contaminant legitimacy criterion for NHSMs used as fuels to provide additional details on how contaminant-specific comparisons between NHSMs and traditional fuels may be made.[4]

[1] See 40 CFR 241.2 for the definition of non-hazardous secondary material.

[2] See October 14, 2011, Letter from Administrator Lisa P. Jackson to Senator Olympia Snowe. See docket (EPA–HQ–RCRA–2008–0329–1873).

[3] See 78 FR 9112 (February 7, 2013) for a discussion of the rule and the Agency's basis for its decisions.

[4] Under 40 CFR 241.3(d)(1), the legitimacy criteria for fuels include: (1) management of the material as a valuable commodity based on the following factors—storage prior to use must not exceed reasonable time frames, and management of the material must be in a manner consistent with an

The revisions include: (1) the ability to compare groups of contaminants where technically reasonable; (2) clarification that ''designed to burn'' means can burn or does burn, and not necessarily permitted to burn; (3) the ability to use traditional fuel data from national surveys and other sources beyond a facility's current fuel supplier; and (4) the ability to use ranges of traditional fuel contaminant levels when making contaminant comparisons, provided the variability of the NHSM contaminant levels is also considered.

• *Categorical Non-Waste Determinations for Specific NHSMs Used as Fuels:* EPA codified determinations that certain NHSMs are non-wastes when used as fuels. If a material is categorically listed as a non-waste fuel, persons that generate or burn these NHSMs will not need to make individual determinations, as required under the existing rules, that these NHSMs meet the legitimacy criteria. Except where otherwise noted, combustors of these materials will not be required to provide further information demonstrating their non-waste status. Based on all available information, the EPA determined that the following NHSMs are not solid wastes when burned as a fuel in combustion units and has categorically listed them in 241.4(a).[5] (1) Scrap tires that are not discarded and are managed under the oversight of established tire collection programs, including tires removed from vehicles and off-specification tires;

(2) Resinated wood; (3) Coal refuse that has been recovered from legacy piles and processed in the same manner as currently-generated coal refuse;

(4) Dewatered pulp and paper sludges that are not discarded and are generated and burned on-site by pulp and paper mills that burn a significant portion of such materials where such dewatered residuals are managed in a manner that preserves the meaningful heating value of the materials.

• *Rulemaking Petition Process for Other Categorical Non-Waste Determinations:* EPA made final a rulemaking process in § 241.4(b) that provides persons an opportunity to submit a rulemaking petition to the Administrator, seeking a determination for additional NHSMs to be categorically listed in § 241.4(a) as non-waste fuels, if they can demonstrate that the NHSM meets the legitimacy criteria, or after balancing the legitimacy criteria with other relevant factors, EPA determines that the NHSM is not a solid waste when used as a fuel.

The February 2013 amendments under § 241.4, entitled ''Non-Waste Determinations for Specific Non-Hazardous Secondary Materials When Used as a Fuel'' were in response to issues raised after promulgation of the March 2011, NHSM final rule concerning application of the legitimacy criteria, and the extent of information required to make a demonstration that an NHSM is not a solid waste. To provide additional clarity and assist in implementation of the rule, the Agency also codified in § 241.4(b) a process for determining that certain NHSMs are not solid wastes when used as a fuel for the purpose of energy recovery, where the Agency has sufficient information and knowledge that these NHSMs are not wastes.

Based on these non-waste categorical determinations, as discussed above, facilities burning NHSMs that meet the categorical listing description will not need to make individual determinations that the NHSM meets the legitimacy criteria or provide further information demonstrating their non-waste status on a site-by-site basis, provided they meet the conditions of the categorical listing. Please refer to Section IV.C (How Will EPA Make a Categorical Non-Waste Determination?) below for details on the process.

B. Background to Today's Proposed Rule

As discussed in the February 2013 final rule,[6] the Agency received comments on the December 23, 2011, proposed rule that additional NHSMs should be categorically listed as non-waste fuels for which the Agency had not requested information as a part of that proposal. We did not respond to such comments and issues since they were beyond the scope of that rulemaking and indicated that, because the Agency did not specifically solicit comments or propose that those NHSMs be categorically listed in 40 CFR 241.4(a), the Agency must go through notice and comment rulemaking before making a final decision. The February 2013 final rule noted, however, that two NHSMs—paper recycling residuals (including OCC rejects) and construction and demolition debris processed pursuant to best practices—would be good candidates for a future proposal based on information provided to the Agency[7] and expected to propose those listings in a subsequent rulemaking.

In addition to the comments identified in the February 2013 rule, the Agency received supplementary information on these two NHSMs from stakeholders (see Section V). As discussed in the following sections, EPA believes that the information received to date, when taken together, supports a categorical determination of these materials as non-waste fuels and is today proposing to list them as categorical non-waste fuels in section 241.4(a).

Furthermore, the Agency identified creosote-treated railroad ties in the February 2013 final rule as a potential candidate for a categorical non-waste listing. However, the Agency also indicated that additional information would need to be submitted before this NHSM could be addressed. If such information supported the representations made by the industry—that is, the American Forest & Paper Association (AF&PA) and the American Wood Council—EPA stated that it expected to propose a categorical listing

analogous fuel, or where there is no analogous fuel, adequately contained to prevent releases to the environment; (2) the material must have a meaningful heating value and be used as a fuel in a combustion unit that recovers energy; and (3) the material must contain contaminants at levels comparable to or less than those in traditional fuels which the combustion unit is designed to burn.

[5] In the March 2011 NHSM rule, EPA identified two NHSMs as not being solid wastes, although persons would still need to make individual determinations that these NHSMs meet the legitimacy criteria: (1) Scrap tires used in a combustion unit that are removed from vehicles and managed under the oversight of established tire collection programs and (2) resinated wood used in a combustion unit. However, in the February 2013 NHSM rule, the Agency amended the regulations and categorically listed these NHSMs as not being solid wastes.

[6] 78 FR 9111, February 7, 2013 (page 9172 in a section called ''Other Materials for Which Additional Information Was Not Requested'').

[7] Comments on December 23, 2011 proposed rule supporting a categorical non-waste determination for paper recycling residuals: American Forest & Paper Association, et al. EPA–HQ–RCRA–2008–0329–1946–A1; Georgia-Pacific LLC (GP) EPA–HQ–RCRA–2008–0329–1902–A1; National Alliance of Forest Owners (NAFO) EPA–HQ–RCRA–2008–0329–1950–A2; Packaging Corporation of America (PCA) EPA–HQ–RCRA–2008–0329–1966–A1; and United Steelworkers (USW) EPA–HQ–RCRA–2008–0329–1910–A1. Comments supporting a categorical non-waste determination for paper recycling residuals and C&D wood: American Forest & Paper Association, et al. EPA–HQ–RCRA–2008–0329–1946–A1; Construction Materials Recycling Association (CMRA) EPA–HQ–RCRA–2008–0329–1928–A1; Covanta Energy Corporation (Covanta) EPA–HQ–RCRA–2008–0329–1893–A; Energy Recovery Council (ERC) EPA–HQ–RCRA–2008–0329–1927–A1; Georgia-Pacific LLC (GP) EPA–HQ–RCRA–2008–0329–1902–A1; Michigan Biomass EPA–HQ–RCRA–2008–0329–1905–A1; National Alliance of Forest Owners (NAFO) EPA–HQ–RCRA–2008–0329–1950–A2; United Steelworkers (USW) EPA–HQ–RCRA–2008–0329–1910–A1; Waste Management (WM) EPA–HQ–RCRA–2008–0329–1957–A2; and Weyerhaeuser EPA–HQ–RCRA–2008–0329–1930–A1.

for this material as well.[8] [9] Finally, we noted in the February 2013 final rule that the Agency received a letter from the Treated Wood Council asking that non-hazardous treated wood be categorically listed—a broad category that would include creosote-treated railroad ties. The Agency noted that it was in the process of reviewing the information in the letter and would consider whether to propose a categorical listing for this broader set of treated wood material.

The Agency has reviewed the information submitted from stakeholders regarding creosote-treated railroad ties. As discussed in the following sections, EPA believes that the information received to date, when taken together, supports a categorical determination of the processed creosote-treated railroad ties as non-waste fuels when combusted in units designed to burn both biomass and fuel oil and is today proposing to list them as categorical non-waste fuels in section 241.4(a).

C. How will EPA make a categorical non-waste determination?

The February 7, 2013, revisions to the NHSM rule discuss the process and decision criteria whereby the Agency would make additional categorical non-waste determinations. The proposed determinations regarding processed C&D wood, paper recycling residuals, and creosote-treated railroad ties described in the following sections are based on information submitted during the February 7, 2013, rulemaking effort, as well as supplementary information received since issuance of the rule.

While the proposed categorical non-wastes are not based on rulemaking petitions, the criteria EPA used to assess these NHSMs as categorical non-wastes matches the criteria to be used by the Administrator to determine whether to grant or deny the categorical non-waste petitions.[10] [11] These determinations follow the criteria set out in § 241.4(b)(5) to assess additional categorical non-waste petitions and follow the statutory standards as interpreted by EPA in the NHSM rule for deciding whether secondary materials are wastes. Pursuant to these criteria, the supporting information will ultimately need to demonstrate that each NHSM has not been previously discarded (*i.e.,* was not initially abandoned or thrown away), or if discarded, has been sufficiently processed, and is legitimately used as a product fuel. The information (including supporting tests or studies) must also demonstrate that each NHSM is used as a non-waste fuel in a combustion unit and that it either meets the legitimacy criteria as described in § 241.3(d)(1) or, if the NHSM does not meet the legitimacy criteria, that the NHSM is a legitimate product fuel, after balancing the legitimacy criteria with other relevant factors (e.g. the non-hazardous secondary material is integrally tied to production practices, or the material is functionally the same as the comparable traditional fuel, etc.).

Based on comments received on this information, the Agency will determine whether (or not) to list the three proposed NHSMs as categorical non-wastes in a final rule. Specific preliminary determinations on whether processed C&D wood, paper recycling residuals, and creosote-treated railroad ties should be listed as categorical non-wastes and how the information was assessed by EPA according to the criteria in § 241.4(b)(5) are discussed in detail in Section V.

As noted above, the Agency also received a petition from the Treated Wood Council asking that non-hazardous treated wood be categorically listed—a broad category that would include creosote-treated railroad ties. Other treated wood addressed in the petition included waterborne borate-based preservatives, waterborne organic-based preservatives, waterborne copper-based wood preservatives (ammoniacal/alkaline copper quat, copper azole, copper HDO, alkaline copper betaine, or copper naphthenate); creosote; oilborne copper naphthenate; pentachlorophenol; or dual-treated with any of the above. The Agency is in the process of reviewing that petition and supplementary information submitted subsequent to the petition. Accordingly, while creosote treated railroad ties is included in the current proposal, other treated wood materials identified in the Treated Wood Council's petition are not addressed in today's proposal. If upon completion of the Agency's review of the Treated Wood Council's petition the information supports a categorical listing of one or more of these other treated wood materials, the Agency would propose those materials in a future rulemaking.

V. Proposed Categorical Non-Waste Listing Determinations

The sections below describe the three additional NHSMs that EPA is proposing to categorically list in section 241.4(a) as not being solid wastes when burned as a fuel in combustion units. Definitions for these three NHSMs are also proposed to be defined in 40 CFR 241.2 and we are taking comment on those definitions.

A. Construction and Demolition (C&D) Debris Processed According to Best Management Practices

1. Detailed Description of C&D Wood

C&D wood is generated from the processing of debris from construction and demolition activities for the purposes of recovering wood. At *construction* activities, this debris results from cutting wood down to size during installation or from purchasing more wood than a project ultimately requires, while at *demolition* activities, this debris results from dismantling buildings and other structures or removing materials during renovation. Information previously compiled by the Agency indicates that C&D activities generate an estimated 33 to 49 million tons of scrap wood each year, approximately half of which is of acceptable size, quality, and condition to be considered available for recovery. However, information on the amount of processed C&D wood that is burned for energy recovery is unavailable, although sources surveyed by EPA for the 2010 proposed Commercial and Industrial Solid Waste Incinerator (CISWI) rule and the National Emission Standards for Hazardous Air Pollutants for Area and Major Industrial, Commercial, and Institutional Boilers (Boilers) rule indicate that between 4.7 to 11.2 million tons per year of processed C&D wood may be burned for energy recovery.[12]

Also, as discussed below, because clean C&D wood is considered ''clean

[8] The additional information EPA cited in the preamble to the final rule for which it solicited comment included: (1) a list of industry sectors, in addition to forest product mills, that burn creosote-treated railroad ties for energy recovery, (2) the types of boilers (e.g., kilns, stoker boilers, circulating fluidized bed, etc.) that burn creosote-treated railroad ties for energy recovery, (3) the traditional fuels and relative amounts (e.g., startup, 30%, 100%) of these traditional fuels that could otherwise generally be burned in these types of boilers, (4) the extent to which non-industrial boilers (e.g., commercial or residential boilers) burn creosote-treated railroad ties for energy recovery, and (5) laboratory analyses for contaminants known to be present in creosote-treated railroad ties or known to be significant components of creosote, specifically, polycyclic aromatic hydrocarbons (i.e., PAH–16), dioxins, dibenzofurans, hexachlorobenzene, biphenyl, quinoline, cresols, and 2,4-dinitrotoluene.

[9] 78 FR 9111, February 7, 2013 (page 9172)

[10] For a full discussion regarding the petition process for receiving a categorical non-waste determination, see 78 FR 9111, February 7, 2013 (page 9158).

[11] Supplementary information received from by M.A. Energy Resources (February 2013) in support of the crosstie derived fuel was submitted as a categorical petition in accordance 40 CFR 241.4(b).

[12] Materials Characterization Paper: Construction and Demolition Materials. February 3, 2011. EPA–HQ–RCRA–2008–0329–1811.

cellulosic biomass'' and is already excluded from being a solid waste, we believe that today's proposal addresses C&D wood generated predominantly from demolition activities.[13] However, clean C&D wood generated from construction activities, that is mixed with C&D debris that contains contaminated material would be subject to the same proposed practices and requirements described in this proposed rulemaking because it is not within the definition of ''clean cellulosic biomass.''

Although contractors may segregate C&D debris at building sites, the common practice—at demolition sites in particular—is to send co-mingled debris to independent C&D recycling or processing facilities. At these facilities, operators recover wood scraps from a mixture of building materials that often includes metals, concrete, plastics, and other items that are unsuitable for energy recovery in combustion units. Some operators use ''positive sorting'' techniques, meaning they specifically remove wood scraps from the co-mingled debris, picking out only desirable wood and leaving all other C&D debris behind for disposal or other recycling processes. Other operators use ''negative sorting'' techniques, meaning they achieve a similarly clean final product by removing or excluding contaminated or otherwise undesirable material from the C&D debris. Regardless of whether they use positive or negative sorting, processing facilities then grind the recovered wood to a specified size and deliver it to energy recovery facilities.

C&D wood processing facilities can use a variety of techniques to remove or exclude debris unsuitable for a fuel product. Typically, processors use some combination of source control, inspection, sorting, and screening to meet the specifications identified by their customers (*i.e.,* combustion facilities). The nature of the incoming C&D debris, the extent of material segregation prior to arrival at the processing facility, whether positive or negative sorting is employed, and the scale of the processing facility (e.g., the degree of sorting and number of screening devices) help determine which combination of practices will be most effective. Individual states also have different requirements related to the processing and combustion of C&D wood.[14] Despite the variety of options, certain practices, which are described below in Section V.A.4 (*Rationale for Proposed Listing),* are essential to ensuring that processing the C&D debris produces a legitimate product fuel. In addition to excluding or removing a set list of C&D materials known to contain contaminants (*e.g.,* certain types of treated wood), processors must take steps to minimize less obvious contaminant sources (*e.g.,* lead-based paint). Consequently, the standards proposed in this rule are designed to ensure that the contaminants in the fuel that is burned will not be unpredictable, even though the sources of the wood may vary.

2. C&D Wood Under Current NHSM Final Rules

In both the March 2011 and February 2013 NHSM final rules, EPA discussed two scenarios under which the Agency would consider C&D wood to be a non-waste fuel.[15] First, ''clean'' C&D wood can be burned as a traditional fuel—without any requirement for testing or recordkeeping—because it is a ''clean cellulosic biomass'' material indistinguishable in composition from virgin wood. Second, the Agency believes that wood recovered from C&D debris (i.e., contaminated wood) can be sufficiently processed to meet the legitimacy criteria and, thus, would be a non-waste fuel, although combustion facilities burning the material would need to keep records documenting the material's non-waste status. Records would need to document not only how the processing operations meet the definition of processing in section 241.2, but also how the fuel product meets the NHSM legitimacy criteria.[16] [17] The Agency believes that much of the C&D wood recovered from *construction* activities is unused and untreated, thereby falling under the definition of ''clean cellulosic biomass'' (*i.e.,* the first scenario), and that much of the C&D wood currently recovered from *demolition* activities can be sufficiently processed to meet the legitimacy criteria (*i.e.,* the second scenario).

3. Comments Submitted on C&D Wood in the December 2011 Proposed Rule

Although the December 2011 NHSM proposed rule did not discuss or solicit comments on processed C&D wood, a number of commenters submitted comments arguing that processed C&D wood (i.e., that is recovered from demolition activities) should be categorically listed as a non-waste fuel under section 241.4(a), or otherwise a non-waste.[18] The commenters' rationale for listing processed C&D wood as a non-waste fuel includes the following.

- It is utilized in combination with other biomass materials to optimize and manage combustion in boilers due to its low moisture/high heat characteristics.
- It is sufficiently processed to remove impurities.
- From a practical materials management standpoint, C&D materials are not discarded; collection of most of these materials is planned for, with C&D recycle sorting and processing yards receiving the materials as a destination and the point of generation of the fuel product.
- Comments detail the processing and test data available for C&D materials, which demonstrates their value as a fuel.
- Commenters noted that EPA has already included clean C&D materials in their proposed clean cellulosic biomass definition for traditional fuels, but EPA elsewhere identifies C&D materials that are not clean as subject to the legitimacy criteria.

The commenters argue, therefore, that EPA should remove doubt and list these materials in the newly proposed § 241.4(a) as a non-waste fuel given their demonstrated fuel value and the industry that has been established for recycling these non-hazardous secondary materials into useful product fuel.

Expanding further on these comments, several trade organizations submitted information in support of a categorical non-waste determination that would list processed C&D wood as a product fuel when burned in combustion units. The information suggested that a non-waste listing include all C&D wood processed in

[13] Clean C&D wood is included in the definition of ''clean cellulosic biomass'' and thus, may be combusted as a traditional fuel if it does not contain contaminants at concentrations not normally associated with virgin wood. (See 78 FR 9138, February 7, 2012 and 40 CFR 241.2.) Conversely, C&D wood that is not ''clean'' is that which must be processed to remove contaminants such as lead-painted wood, treated wood containing contaminants, such as arsenic and chromium, metals and other non-wood materials. (See 78 FR 9139, February 7, 2013).

[14] This rulemaking does not change or replace existing state requirements regarding C&D wood. See Section VIII, *State Authority,* for further explanation.

[15] 76 FR 15456, March 21, 2011 (page 15485); and 78 FR 9111, February 7, 2013 (page 9138).

[16] Recordkeeping requirements for area source boilers are found at § 63.11225(c)(2)(ii), while recordkeeping requirements for major source boilers are found at § 63.7555(d)(2).

[17] While the combustor would be responsible for maintaining the records that such NHSM met the legitimacy criteria, the combustor could request that the person that generated the C&D wood provide them with documentation that the processing operations meets the definition of processing, as well as the legitimacy criteria, especially the contaminant legitimacy criterion.

[18] Comments have been included in docket: EPA–HQ–RCRA–2008–0329. Specifically, see the document ID#'s ending in –1902, –1910, –1950, –1930, –1928, –1946, –1957, –1927, –1893, and –1905.

accordance with industry practices proven to produce a wood product meeting the NHSM legitimacy criteria. The commenters identified ''proven practices'' as the sorting (both mechanical and manual) of C&D material to separate the following contaminants: non-wood material, wood treated with pentachlorophenol, chromated copper arsenic (CCA) treated wood, or other copper, chromium or arsenical preservatives, and lead (through the separation of either lead-painted wood or fines or through other means as specified in applicable state law). Commenters also compiled a dataset of contaminant concentrations in processed C&D wood from nine combustion facilities in seven states to demonstrate the efficacy of the identified practices.

Case-by-case analysis is not necessary, the trade organizations contend, to ensure that sufficient processing occurs and that C&D wood products—produced by different processors using different sorting techniques—are consistently managed as a valuable commodity, have meaningful heating values, and contain contaminants at levels comparable to or lower than traditional fuels. Instead, they argue that persons burning C&D wood for energy recovery only need to certify that the processed C&D wood came from a facility using the aforementioned sorting practices.

Other commenters on the December 2011 NHSM proposed rule asserted that C&D wood should be regulated as a solid waste based on what they described as highly unpredictable contaminant levels. The commenters referenced specific combustion facilities that accepted C&D wood, including lead-painted wood and CCA-treated wood, as well as plastics and foreign debris.

4. Scope of Proposed Categorical Non-Waste Listing for C&D Wood

EPA has reviewed the information submitted, including the study of contaminants in processed C&D wood from seven states. Based on this review, the Agency is proposing a categorical non-waste listing as follows: Construction and demolition (C&D) wood processed from C&D debris according to best management practices. Combustors of C&D wood must obtain a written certification from C&D processing facilities that the C&D wood has been processed by trained operators in accordance with best management practices.[19] Best management practices for purposes of this categorical listing must include sorting by trained operators that excludes or removes the following materials from the final product fuel: non-wood materials (*e.g.,* polyvinyl chloride and other plastics, drywall, concrete, aggregates, dirt, and asbestos), and wood treated with creosote,[20] pentachlorophenol, chromated copper arsenate, or other copper, chromium, or arsenical preservatives. In addition:

(i) C&D processing facilities that use positive sorting—where operators pick out desirable wood from co-mingled debris—must either exclude all painted wood from the final product fuel, use X-ray Fluorescence to ensure that painted wood included in the final product fuel does not contain lead-based paint, or require documentation that a building has been tested for and does not include lead-based paint before accepting demolition debris from that building.

(ii) C&D processing facilities that use negative sorting—where operators remove contaminated or otherwise undesirable materials from co-mingled debris—must remove fines (*i.e.,* small-sized particles that may contain relatively high concentrations of lead and other contaminants) and either remove painted wood, use X-ray Fluorescence to detect and remove lead-painted wood, or require documentation that a building has been tested for and does not include lead-based paint before accepting demolition debris from that building.

5. Rationale for Proposed Listing

a. Processing of C&D Wood

EPA considers the wood present in C&D debris to be a solid waste prior to processing, and persons must transform the debris into a legitimate product fuel in order to burn the material as a non-waste fuel.[21] Based on the information submitted to date, EPA concludes that C&D wood processed according to best management practices—provided those management practices satisfy the conditions set forth in today's proposal—would be sufficiently processed such that it would be transformed into a non-waste fuel product. In accordance with 40 CFR 241.2, processing must include operations that transform discarded NHSM into a non-waste fuel or non-waste ingredient, including operations necessary to: remove or destroy contaminants; significantly improve the fuel characteristics (e.g., sizing or drying of the material, in combination with other operations); chemically improve the as-fired energy content; or improve the ingredient characteristics. Minimal operations that result only in modifying the size of the material by shredding do not constitute processing for the purposes of the definition.

Compared to mixed C&D debris, processed C&D wood will have significantly fewer contaminants and improved fuel characteristics. Specifically, the removal or exclusion of specified materials, such as creosote-treated wood (PAHs, dibenzofuran), pentachlorophenol-treated wood (pentachlorophenol, dioxins), CCA-treated wood (chromium, arsenic), other copper, chromium, and arsenical treated wood, plastics (chlorine), drywall (sulfur), lead-based paint (lead), as well as insulation and other materials containing asbestos,[22] would result in significant contaminant removal. In addition, the removal of concrete, aggregates, dirt, and other non-combustible material will significantly increase the material's energy value. Finally, grinding all remaining wood to a specified size will allow combustors to transport, store, and use processed C&D wood in the same manner as virgin wood and biomass materials.

As noted earlier in Section V.A.1 (*Detailed Description of C&D Wood*), the

[19] If a person does not believe that the processed C&D wood meets the categorical listing, the processed C&D wood may still be considered a non-waste fuel (on a case-by-case basis), although any combustor that burns such processed C&D wood would need to keep records documenting the materials non-waste status pursuant to § 63.11225(c)(2)(ii) and § 63.7555(d)(2).

[20] Although industry trade groups did not list creosote treated wood as wood that is excluded or removed, they provided information indicating that C&D debris can include creosote treated wood. Based upon the contaminants present in creosote treated wood and the types of boilers that burn C&D wood (i.e., those that are designed to burn clean wood and biomass), we believe it appropriate to require operators to exclude or remove creosote treated wood. With respect to creosote and as discussed later in Section C, the Agency evaluated data provided for creosote-treated railway ties and determined that boiler design was an integral factor in satisfying the contaminant legitimacy criterion.

[21] This rulemaking does not change the waste status of C&D wood prior to processing, up to which point the material would likely be a solid waste subject to appropriate federal, state, and local requirements unless it meets the definition of ''clean cellulosic biomass.''

[22] CAA regulations provide additional safeguards to ensure asbestos is removed from buildings prior to demolition. Part 61, subpart M, § 61.145 requires that owners or operators of a demolition or renovation activity to inspect the affected building for the presence of asbestos prior to demolition or renovation and notify the Administrator. EPA notes, however, that the 40 CFR 61.141 definition of ''facility'' explicitly excludes ''residential buildings having four or fewer dwelling units'' thus, small residential buildings that are demolished or renovated are not covered by the Federal asbestos NESHAP regardless of whether the demolition or renovation is performed by agents of the owner of the property or whether the demolition or renovation is performed by agents of the municipality. See also the ''Asbestos NESHAP Clarification of Intent'' (60 FR 38725; July 28, 1995).

nature of the incoming C&D debris, the extent of material segregation prior to arrival at the processing facility, whether positive or negative sorting is employed, and the scale of the processing facility (e.g., the degree of sorting and number of screening devices) determine which combination of practices will be most effective. The Agency believes that the proposed best management practices when performed by trained operators will address the variability within the industry, such that C&D processing facilities will produce a non-waste fuel product with contaminants that are no greater than clean biomass, regardless of the characteristics (e.g., extent of material segregation prior to arrival at the processing facility) that can influence the level of contaminants in the final wood product. Thus, the Agency believes that such processing meets the definition of processing in 40 CFR 241.2.

Further, to ensure that the C&D wood is processed according to best management practices, the Agency believes it is important for the processor to certify that they are meeting such best management practices, using trained operators.[23] Therefore, we are also proposing that the combustor be required to obtain a written certification from the C&D processor(s) that they have used trained operators in processing the C&D debris in accordance with best management practices to produce processed C&D wood. The combustor has the ultimate responsibility to determine that the C&D wood has been sufficiently processed.

b. Legitimacy Criteria

In determining whether to list processed C&D wood as a categorical non-waste fuel in § 241.4(a), the Agency evaluated the legitimacy criteria in 40 CFR 241.3(d)(1)—that is, whether it is managed as a valuable commodity, whether it has a meaningful heating value and is used as a fuel in a combustion unit to recover energy, and whether contaminants or groups of contaminants are at levels comparable to or less than those in the traditional fuel the unit is designed to burn. To the extent that processed C&D wood does not meet one or more of the legitimacy criteria, the Agency may consider other relevant factors in determining whether to propose to list C&D wood as a categorical non-waste fuel (40 CFR 241.4(b)(5)(ii)) (see discussion on formaldehyde below).

i. Managed as a Valuable Commodity

Regarding the first legitimacy criterion, EPA believes that C&D trade organizations have demonstrated that both processors and combustors manage processed C&D wood as a valuable commodity. Specifically, after processing, including grinding to size, processors ship the material to energy recovery facilities in covered chip vans or semi-trailers. The material is then stored on-site at the combustion facilities in wood fuel storage yards and generally used within 90 days of delivery. Because storage does not exceed reasonable time frames, and management is similar to that of virgin wood and biomass, the Agency has determined that processed C&D wood meets this legitimacy criterion.

ii. Meaningful Heating Value and Used as a Fuel To Recover Energy

With respect to the second legitimacy criterion, EPA believes C&D trade organizations have demonstrated that processed C&D wood has a meaningful heating value and is used as a fuel to recover energy. Specifically, information submitted to the Agency demonstrates that processed C&D wood has an average as-fired energy content of 6,640 Btu/lb,[24] which is greater than 5,000 Btu/lb, which the Agency considers to have a meaningful heating value (see 76 FR 15541, March 21, 2011). This also compares favorably to information compiled by EPA in 2011, in which 95 samples of unadulterated timber burned by major source boilers across the country exhibited an average as-fired energy content of 5,150 Btu/lb.[25] According to C&D trade organizations, energy recovery facilities purchase processed C&D wood and burn the material as fuel to generate electricity. Thus, EPA has determined that processed C&D wood meets this legitimacy criterion.

iii. Contaminants Comparable to or Lower Than Traditional Fuels

To address the third legitimacy criterion, C&D trade organizations provided EPA with contaminant analyses of more than 220 samples of processed C&D wood from nine combustion facilities in California, Maine, Massachusetts, Minnesota, New York, the state of Washington, and Wisconsin. EPA has compared the contaminant levels found in the processed C&D wood to the contaminant levels found in clean wood and biomass materials since any unit burning processed C&D wood can clearly burn clean wood and biomass materials as well.

Summary results for the contaminant comparisons are presented in Table 1, with the contaminants most likely to be present in unprocessed C&D debris listed first. Specifically, arsenic and chromium are likely present due to CCA-treated wood; lead due to lead-based paint chips; mercury due to light bulbs, ballasts, thermostats and other mercury-containing devices present in buildings; chlorine due to PVC and other plastics; sulfur due to plaster or drywall containing gypsum, a sulfate mineral; formaldehyde due to resinated wood; and pentachlorophenol due to utility poles and other treated wood products currently accepted by some combustion facilities. Although sources of fluorine in C&D debris are less clear, the contaminant's presence may be due to its use in flame retardants incorporated into carpet, furniture, and other building materials.

TABLE 1—COMPARISON OF CONTAMINANTS IN CLEAN WOOD/BIOMASS AND PROCESSED C&D WOOD [26] [27] [28]

Contaminant	Clean Wood/Biomass	Processed C&D wood			
	Range	# samples	Average	90% UPL	Maximum
Contaminants Most Likely to be Present in C&D Debris					
Arsenic	ND—298	n = 221	35.9	91.8	261
Chromium	ND—340	n = 212	45.0	116	283

[23] Results from a pilot study conducted in the state of Florida indicate that the processing facilities that were highly successful in identifying treated wood (i.e., CCA-treated wood) had extensive worker training programs in place. See Blassino, Monika, et al. ''Methods to Control Fuel Quality at Wood Burning Facilities.''

[24] Appendix A of April 26, 2013, submittal from Susan Bodine on behalf of BPA and CMRA.

[25] USEPA, Office of Air Quality Planning and Standards, Emissions Database for Boilers and Process Heaters Containing Stack Test, CEM & Fuel Analysis Data Reported Under ICR No. 2286.01 and ICR No. 2286.03 (Version 6). EPA Docket/Document Number EPA–HQ–OAR–2002–0058–3255. February 2011.

TABLE 1—COMPARISON OF CONTAMINANTS IN CLEAN WOOD/BIOMASS AND PROCESSED C&D WOOD [26 27 28]—Continued

Contaminant	Clean Wood/Biomass	Processed C&D wood			
	Range	# samples	Average	90% UPL	Maximum
Lead	ND—340	n = 224	53.9	136	482
Mercury	ND—1.1	n = 180	0.1	0.16	0.7
Chlorine	ND—5400	n = 173	809	1567	3521
Fluorine	ND—300	n = 86	45.9	139	313
Sulfur	ND—8700	n = 183	1300	2200	7300
Formaldehyde	1.6—27	n = 45	47.6	104.2	176.8
Pentachlorophenol	ND	n = 21	19.7	N/A	126
Contaminants Less Likely to be Present in C&D Debris					
Antimony	ND—26	n = 50	2.6	7.1	16.6
Beryllium	ND—10	n = 50	0.1	0.23	0.3
Cadmium	ND—17	n = 107	0.3	0.53	1.3
Cobalt	ND—213	n = 50	1.1	2.1	3.5
Manganese	ND—15800	n = 50	78.8	115	180
Nickel	ND—540	n = 50	4.0	8.6	27.4
Selenium	ND—9	n = 43	0.4	1.0	1.3
Nitrogen	200—39500	n = 75	3900	8000	12600

With the exception of four contaminants—fluorine, lead, formaldehyde and pentachlorophenol, every sample of processed C&D wood's contaminant levels was well within the range of clean wood and biomass materials. With respect to these four contaminants:

• Fluorine: While only one sample out of 45 samples of processed C&D wood exceed the range for fluorine in clean wood and biomass, the Agency still considers fluorine to be at levels comparable to those found in clean wood and biomass since this lone sample is present within a small acceptable range (*i.e.,* 313 ppm is comparable to 300 ppm).[29 30]

• Lead: Despite efforts by C&D processing facilities to remove lead, the data demonstrate that some processing facilities do a better job than others, with isolated samples from Massachusetts reaching 407 and 437 ppm lead, and one of seven samples from Wisconsin reaching 482 ppm lead. While most of the 224 samples detected lead within the range found in clean wood and biomass materials (ND—340 ppm), it is important to recognize that each high sample could represent a large amount of processed C&D wood produced by an outlier facility. Accordingly, an overly broad categorical non-waste listing could include processed C&D wood from facilities where the final product consistently contains high lead levels, amounts that would not be considered a normal part of clean wood or biomass. In this instance, one facility in Massachusetts provided a composite sample for each of seven days, and two out the seven samples exceeded the range of lead values found in clean wood and biomass. That could mean more than 28 percent of the processed C&D wood produced by that facility exceeds lead levels found in clean wood and biomass. C&D processing facilities have options for minimizing lead concentrations in the processed C&D wood they produce, and information submitted with the contaminant dataset indicates that the two facilities (one in Massachusetts, the other in Wisconsin) exhibiting the highest lead levels shared similar lead minimization strategies. Although both facilities accept painted wood, neither uses X-ray Fluorescence (XRF) analyzers to detect and remove lead-based painted wood. Nor do they require documentation of a building inspection that includes testing for lead-based paint. By comparison, the Washington facility included in the dataset requires documentation of XRF testing before accepting demolition debris from a particular building, and as evidenced by a maximum lead concentration of 26 ppm, lead concentrations in the processed C&D wood it burns tested lower than for any other facility in the dataset. The Minnesota facility included in the dataset does not accept painted wood, and as evidenced by a maximum lead concentration of 110 ppm, lead concentrations in the processed C&D wood it burns are also well within the range of clean wood and biomass materials. Both the Massachusetts facility and the Wisconsin facility relied solely on removing ''fines'' to control lead levels. Fines are small-sized particles that may contain relatively high concentrations of contaminants, and facilities can remove them before and after shredding via screens or flotation. EPA does not dispute that the removal of fine particles can reduce the levels of lead and other contaminants, particularly for C&D processing facilities using negative sorting. Without additional measures, however, this strategy does not appear to remove sufficient lead to transform the C&D debris into a product fuel in all cases that would warrant processed C&D wood being categorically listed as a non-waste fuel. As a result, the Agency is proposing conditions related to lead removal as part of the categorical listing for processed C&D wood. Specifically, EPA is proposing the following conditions:

○ Facilities using positive sorting must either: (1) Exclude painted wood

[26] Sources: Clean Wood/Biomass ranges taken from a combination of EPA data and literature sources, as presented in EPA document *Contaminant Concentrations in Traditional Fuels: Tables for Comparison, November 29, 2011,* available at *www.epa.gov/epawaste/nonhaz/define/index.htm.* Processed C&D Wood data from April 26, 2013, submittal by Susan Bodine on behalf of BPA and CMRA.

[27] All units expressed in parts per million (ppm) on a dry weight basis.

[28] Upper Prediction Limit (UPL) calculations were made by commenters using EPA's ProUCL software, using either a lognormal distribution or nonparametric statistics, as appropriate.

[29] 76 FR 15523–24, March 21, 2011.

[30] In addition to determining that the one sample of fluorine is within a small acceptable range, one can consider that the Upper Prediction Limit (UPL) for fluorine in processed C&D wood, when calculated at a 90 percent confidence level based on all 45 samples (139 ppm), is well within the range of clean wood and biomass materials. The UPL taken at a 90 percent confidence level yields a number (i.e., 139 ppm), and in the context of analyzing contaminant samples, persons can be confident that the next sample taken will be at or below that number 90 percent of the time.

via the sorting process by selecting only unpainted wood from incoming C&D debris for further processing, (2) use XRF to ensure that painted wood included in the final product fuel does not contain lead-based paint, or (3) require documentation that a building has been tested for and does not include lead-based paint before accepting demolition debris from that building.

○ Facilities using negative sorting must remove fine particles, which may include asbestos fibers and other contaminants in addition to lead, and they must also either: (1) remove painted wood via the sorting process, (2) use XRF to detect and remove lead-painted wood, or (3) require documentation that a building has been tested for and does not include lead-based paint before accepting demolition debris from that building.

The Agency believes, based on the available information, that facilities complying with these conditions would produce processed C&D wood that contains lead at levels comparable to those in clean wood and biomass.

• Pentachlorophenol: The presence of pentachlorophenol in some processed C&D wood results from processors either choosing to include industrial wood products treated with pentachlorophenol in their product fuel (in the case of positive sorting) or from processors not removing those same industrial wood products from C&D debris (in the case of negative sorting) prior to the final grinding step. EPA restricted the use and sale of pentachlorophenol in 1987, with no registered residential uses allowed for the past 26 years. The Agency believes that the pentachlorophenol concentrations in processed C&D wood are a direct result of easily identified wood products, predominantly utility poles, that processing facilities can choose to exclude or remove prior to grinding recovered C&D wood.[31] Therefore, under the regulatory conditions proposed in today's rule, processing facilities must exclude or remove these known sources of pentachlorophenol from their final product fuel for it to be considered a categorical non-waste fuel.

• Formaldehyde: For C&D debris processed pursuant to best management practices, inclusive of the regulatory conditions in today's proposal, formaldehyde (present in concentrations as high as 176.8 ppm versus 27 ppm in clean wood/biomass) is the only remaining contaminant that raises questions as to whether it meets the contaminant legitimacy criterion. Although the situation appears similar to the categorical non-waste listing for resinated wood in section 241.4(a)(2), details surrounding use of the two NHSMs as fuel are not the same. In the case of resinated wood, as defined in section 241.2, the Agency determined that energy recovered from the combustion of manufacturing process residues and off-specification resinated wood is integrally tied to the industrial production process. The equivalent for C&D wood would be sawmills reliant on recovering energy from sawdust and off-specification lumber to power the construction lumber production process. Sawmills may do this, but that is not the scenario commenters have described and the Agency is evaluating.

While EPA disagrees with petitioners' claims that resinated wood components in C&D debris are categorical non-wastes and the corollary that formaldehyde concentrations are therefore irrelevant, the Agency agrees that additional factors are worth considering in determining whether to propose to list processed C&D wood categorically as a non-waste fuel. First, formaldehyde concentrations in processed C&D wood may reach 176.8 ppm, but are lower than in pure resinated wood, which may reach 200 ppm. National rules developed by the CARB Composite Wood ATCM, per Public Law 111–199, will ensure that newly produced resinated wood will contain even less formaldehyde in the future by setting limits on how much formaldehyde may be released.[32] Second, for many combustors, processed C&D wood scraps that include resinated wood components, actually have added value and are either selected for (in the case of positive sorting) or specifically not removed (in the case of negative sorting) because the wood has been kiln-dried prior to use in construction. Kiln-dried wood has a greater heating value than virgin wood, almost double in some cases. Kiln-dried wood also has a more consistent moisture content; an equally important benefit to combustors because a consistent fuel improves combustion efficiency and leads to reduced emissions of particulate matter, carbon monoxide and other organic hazardous air pollutants.[33]

Therefore, based on all available information, including a careful analysis of contaminant levels, the Agency is proposing to categorically list in 40 CFR 241.4(a) processed C&D wood using trained operators in accordance with best management practices and certified as such by the processor as a non-waste fuel.[34] After weighing the evidence, the Agency has concluded that, provided the regulatory conditions in today's proposal are met, the processing of mixed C&D debris transforms the material into a product fuel.

6. Summary and Request for Comment

EPA believes it has sufficient information to determine that C&D debris that is processed by trained operators according to best management practices is not a solid waste when used as a fuel, provided those practices meet the criteria proposed today. The Agency invites comment on this proposed categorical non-waste determination, and specifically on the following items:

Processing Techniques for lead and pentachlorophenol. We request comment on the efficacy of specific processing techniques related to lead referenced in today's proposal, as well as the feasibility of reducing pentachlorophenol concentrations in processed C&D wood by excluding or removing utility poles and other industrial wood products known to be treated with the chemical.

Formaldehyde levels. The Agency seeks comment on the decision to balance elevated formaldehyde levels with the greater heating value and more consistent moisture content that resinated wood components lend to processed C&D wood, rather than specifically requiring that resinated wood be excluded or removed from C&D debris as part of the best management practices.[35] Any additional factors that

[31] Based on discussions with plant staff during an EPA tour of Industrial Disposal Services, Inc. Broad Run Recycling facility in Manassas, Virginia on May 23, 2013. The facility processes discarded C&D wood into a product fuel.

[32] On May 29, 2013, EPA proposed two rules to protect the public from the risks associated with exposure to formaldehyde. The proposals would implement the Formaldehyde Standards for Composite Wood Products Act (Title VI of the Toxic Substances Control Act): one will implement the Act's emission standards and the other will ensure products meet the TSCA formaldehyde emission standards. See *http://www.epa.gov/oppt/chemtest/formaldehyde/.*

[33] At this time, the Agency is not requiring resinated wood to be excluded or removed from C&D debris as part of best management practices, but is requesting comment on the decision to balance elevated formaldehyde levels with greater heating value and consistent moisture content. See Section 6. *Summary and Request for Comments.*

[34] The categorical listing proposed in this rule would allow material to be considered clean biomass without having to test each batch of processed wood for contaminant levels. Instead, the material could be considered clean biomass if certain practices are followed, as described in the rule.

[35] Where any one of the legitimacy criteria in § 241.3(d)(1) is not met, ''other relevant factors'' may be considered by the Administrator when granting or denying a non-waste determination. See § 241.4(b)(5)(ii).

would be appropriate to consider are welcome.

CCA-treated wood. As proposed, CCA-treated wood is to be excluded or removed from C&D debris. Although the data submitted to the Agency indicates that arsenic and chromium concentrations in processed C&D wood are comparable to levels found in traditional fuels, there is some concern that because a majority of CCA-treated wood is still in use, we will see an increase in the amount of CCA-treated wood in C&D debris. Currently, CCA-treated wood can represent up to 30% of the C&D wood waste stream.[36] The concern is further compounded by the reality that visual identification of CCA-treated wood is at times very difficult, especially when the wood is weathered, dirty, painted, or if the wood is characterized by low retention levels.[37] One pilot study conducted in the state of Florida showed that visual sorting of CCA-treated wood at three different facilities produced differing results of success. The two facilities with the greatest success, which correctly identified 89% and 90% of the pre-sorted wood as untreated wood, had provided extensive training to its employees. The third facility correctly identified 60% as untreated wood. Given the variability in visually identifying untreated versus treated wood, augmenting technologies have been developed to detect the presence of arsenic, copper, and chromium, as well as other contaminants. Studies have concluded that the use of stains (e.g., PAN Indicator Stain)[38] and X-ray Florescence (XRF) technology are the most promising technologies, with chemical stains being suitable for sorting small quantities of wood and XRF technology being better suited for sorting large quantities of wood.

Again, the Agency's concern is based on anticipated increases of CCA-treated wood in C&D debris, as well as the accuracy of visual sorting among C&D processors. Therefore, the Agency requests comment on the viability of either requiring, as best management practices, C&D processors to implement formal training programs that emphasize sorting of treated wood from untreated wood[39] or the use of XRF technology to provide greater certainty that CCA-treated wood is removed from the processed C&D wood.

Disaster Debris. The definition for C&D wood as proposed does not include disaster debris. The Agency has defined ''clean cellulosic biomass'' to include clean wood found in disaster debris.[40] However, disaster debris wood that is mixed with contaminated materials (e.g., lead-based painted wood, asbestos containing materials, etc.) has not been specifically addressed. The Agency notes that management of disaster debris is more expedited and less controlled and thus, prone to include contaminants that might otherwise be sorted out prior to processing.[41] Despite these concerns, the Agency requests comment on the appropriateness of including wood that is recovered from disaster debris, but that is mixed with other contaminated materials prior to arrival at the processing facility, as processed C&D wood and eligible for the categorical non-waste listing. Commenters should provide any data or information that demonstrates mixed disaster debris wood, once processed, produces wood that contains contaminants comparable to or lower than biomass and virgin wood. Further, whether other conditions imposed by contingency plans, for example, can facilitate the removal of contaminated material found in disaster debris.

Trained operators. The proposed best management practices require sorting by ''trained operators'' to remove or exclude all non-wood debris, certain treated wood, and lead-based painted wood from the final product fuel. The Agency believes that operators who are trained to sort C&D debris, especially to recognize treated wood, play an important role in reducing contaminant levels in the final fuel product. Therefore, we request comment on whether the Agency should require that C&D processors have formal training programs in place as part of the best management practices, as well as whether processors would be required to keep records as a condition of the categorical listing to demonstrate that such operators have been formally trained. The Agency is not prescribing what a training program could include at this time. Certain factors such as where the C&D debris originates from and the amount of sorting prior to arrival at the processing facility can influence the extent and type of contaminated material arriving at the processing facility. Thus, the Agency also seeks comment on training program requirements that would be flexible enough to address the variability of the incoming C&D debris, but that provide added assurance that C&D processing facilities are producing a non-waste fuel product with contaminants that are no greater than clean wood/biomass.

Written Certification. As proposed, the combustor would need to obtain a written certification from the C&D processor that the C&D wood has been processed by trained operators in accordance with best management practices. The written certification could take the form of a contract, purchase agreement, or other document that requires the supplier to process the C&D wood according to combustor specifications and best management practices. It is the Agency's understanding that purchase agreements and contracts are common between a processor/supplier and combustor. Thus, we request comment on whether such agreements and contracts are sufficient documentation (i.e., can serve as the written certification) or if a written certification statement developed specifically to address the requirements in this proposal would be clearer and more effective. We would note that the existing record keeping requirements for combustors that combust NHSMs as fuels listed under section 241.4,[42] the purchase agreement, contract, or other document that would meet the written certification requirement would be considered a ''record'' which satisfies the record keeping requirements of sections 60.2740(u) (Emissions Guidelines) and 60.2175(w) (New Source Performance Standards) for CISWI units and sections 63.11225(c)(2)(ii) for area source boilers and 63.7555(d)(2) for major source boilers.[43]

[36] Fattah, Hassan Abdel, et al. ''Online Sorting of Recovered Wood Waste Using Automated X-Ray Technology'' Final Report; November 30, 2009. See p. 2.

[37] Blassino, Monika, et al. ''Methods to control Fuel Quality at Wood Burning Facilities.''

[38] PAN stands for the chemical name of 1-(2-pyridylazo)-2-naphthol, an orange-red solid with a molecular formula C15H11N3O. It is used to determine the presence of almost all metals excluding alkali metals. The stain is not specific to arsenic within CCA. It reacts with the copper, so that wood treated with any copper-based preservative will also test positive using this stain.

[39] The Agency is proposing sorting by ''trained operators'' under best management practices. Here, the Agency requests comment regarding whether training programs should include a component specific to sorting treated wood from untreated wood.

[40] 76 FR 15478 (March 21, 2011); codified at § 241.2.

[41] Management of disaster debris can involve significantly greater volumes. For example, prior to the 1994 Northridge earthquake in Los Angeles, one local company processed 150 tons of C&D debris per day. After the earthquake, the city picked up as much as 10,000 tons of C&D debris per day.

[42] Section 241.4 lists the categorical or ''Non-waste determinations for specific non-hazardous secondary materials when used as a fuel.''

[43] These sections state that for units combusting NHSM as fuel per § 241.4, you must keep records documenting that the material is listed as a non-waste under § 241.4(a).

B. Paper Recycling Residuals (PRRs)

1. *Detailed Description of PRRs*

Paper recycling residuals (PRRs) are a co-product of the paper recycling manufacturing process and are generated on-site at paper recycling mills. The feedstock used in paper recycling mills, where PRRs are generated, is post-consumer paper, such as magazines, newspaper, office paper, and old corrugated containers obtained through various commercial and residential recycling programs or purchased from retail establishments.[44] However, some paper recycling mills' feedstock is limited solely to old corrugated containers. The paper recycling process generates two materials: (1) Recovered fibers used to make new paper and paperboard products; and (2) processing residuals (or PRRs) that are not suitable for making new paper products, but are landfilled, sent for metals recycling, or used as a fuel.[45] Today's proposal considers only the processing residuals, or ''PRRs,'' that primarily consist of unsuitable wood fibers that are used as a fuel.[46] See Section V.B.4 (*Rationale for Proposed Listing*) below for a more detailed description of how and where PRRs are generated in the paper recycling process.

Current data indicates that paper recycling mills generate between 450,000 and 600,000 tons of PRRs per year. Approximately 30 percent of the PRRs (135,000 to 180,000 tons) generated are burned for their fuel value at 15 to 20 different paper recycling mills.[47] Although there are over 100 paper recycling mills across the U.S., the majority of mills' boilers use natural gas and cannot burn solid fuels. As a result, PRRs generated in their processes generally are landfilled. At any particular paper recycling mill capable of burning PRRs (i.e., their boilers burn solid fuel), between 55 to 100 percent of the PRRs generated on-site are burned and may represent between 20 to 25 percent of the total solid fuel burned in their solid fuel boilers. Of the 30 percent of PRRs burned as fuel, no more than 5 percent is burned off-site.[48] For the PRRs burned off-site, they appear to be used to supplement other fuels burned at either a commercial cogeneration plant[49] or commercial biomass gasification plant.[50]

The Agency previously understood PRRs to be a term industry commonly used to refer to Old Corrugated Container (OCC) rejects.[51] Since publication of the March 2011 NHSM final rule and the December 23, 2011 proposal, however, the Agency has received comments more appropriately identifying OCC rejects as a subset of the PRR universe. Specifically, OCC rejects refers to only one grade of recovered fiber, whereas PRRs encompass residuals from all types of fiber grades. Therefore, in today's proposal, the Agency is including OCC rejects within the broader PRR universe in a proposed categorical non-waste determination.

2. OCC Rejects Under Current NHSM Rules

a. March 2011 NHSM Final Rule

In the March 2011 NHSM final rule, EPA disagreed with those commenters who argued that OCC rejects should be considered a traditional or alternative fuel. On the other hand, we believed that OCC rejects are not discarded when used within the control of the generator, such as at pulp and paper mills, since these NHSMs are part of the industrial process. In addition, we stated that the data submitted during the comment period would seem to suggest that these materials would or could meet the legitimacy criteria. For example, the data indicated that the contaminant levels in these materials are comparable to, if not less than, those in traditional fuels used at pulp and paper mills. With respect to the meaningful heating value criterion, we noted that, although the Btu value of OCC rejects, as fired, is lower than 5,000 Btu/lb, it can still meet this criterion if it can be demonstrated that the combustion unit can cost-effectively recover energy from these materials. Last, the information submitted also demonstrated that OCC rejects are managed as a valuable commodity as they are managed in the same manner as the analogous fuel—bark (76 FR 15456, March 21, 2011 (pages 15486–7). Therefore, the Agency generally concluded that OCC rejects burned as a fuel within the control of the generator were not solid wastes.

b. February 2013 NHSM Final Rule

Under the February 2013 final rule, we reiterated our belief that paper recycling residuals (which include OCC rejects) are not discarded when burned under the control of the generator, since these non-hazardous secondary materials are part of the industrial process. Also, since publication of the March 2011 final rule and during finalization of the February 2013 final rule, we received additional information regarding the cost effectiveness of PRRs used as a fuel, including the amount of PRRs replacing traditional fuels at paper recycling mills and percentages of residuals generated that are combusted as a fuel.[52] Based upon the information received at that time, we stated that we believed it supported the categorical listing of PRRs as a non-waste fuel burned on-site. On the other hand, for PRRs transferred off-site for use as a fuel, we requested information regarding how and where they are burned and whether they are managed as a valuable commodity. We also stated that if information is submitted that supports off-site use as a fuel, the Agency may include those PRRs in a subsequent rulemaking.[53]

3. *Scope of Proposed Categorical Non-Waste Listing for PRRs*

PRRs generated during the paper recycling manufacturing process vary in composition; however, the unsuitable fibers portion make up the majority of residual material that is used as a fuel. Although PRRs are generated at more than 100 paper recycling mills, only between 15 to 20 mills can burn them as a fuel because their boilers are designed to burn solid fuels. The majority of paper recycling mills' cannot burn solid fuels because their boilers are designed to burn natural gas, and thus, usually send their PRRs to landfills.

As stated in the preceding section, additional data and information submitted to the Agency by the industry

[44] See Attachment 4, page 1, footnote 2 of AF&PA's Comments to Docket: EPA–HQ–RCRA–2008–0329–0871.

[45] Because the incoming feedstock may contain a number of other materials, including metals, metals may also be recovered and sent for recycling.

[46] Although we consider PRRs to be ''primarily'' composed of unsuitable fibers, PRRs may also include small amounts of solids and non-fiber packaging materials as described by the listing of contaminants, when burned as fuel.

[47] *Generation, Management, and Processing of Paper Processing Residuals.* Industrial Economics Corporation, October 26, 2012.

[48] *Generation, Management, and Processing of Paper Processing Residuals.* Industrial Economics Corporation, October 26, 2012. This is posted within the docket for today's rulemaking (Docket: EPA–HQ–RCRA–2013–0110).

[49] A cogeneration plant is one that generates electricity and useful heat (instead of releasing it into the environment via cooling towers, for example) for heating purposes either on-site or for use nearby.

[50] National Council for Air and Stream Improvement, Inc. Technical Bulletin (TB) No. 806, ''Beneficial Use of Secondary Fiber Rejects,'' pp. 10–11. See attachment to AF&PA Comments to Docket, August 3, 2010 (docket document ID number: EPA–HQ–RCRA–2008–0329–0871).

[51] Another term industry often uses when referring to OCC rejects is ''recycling process residuals'' which was identified in the March 2011 final rule (76 FR 15486).

[52] *Generation, Management, and Processing of Paper Processing Residuals.* Industrial Economics Corporation, October 26, 2012.

[53] 78 FR 9111, February 7, 2013 (page 9173).

demonstrates that PRRs are not discarded when used as a fuel on-site or within the control of the generator. Further, this data and information indicates that all three legitimacy criteria are met. Therefore, the Agency is proposing to categorically list PRRs as a non-waste fuel for those paper recycling mills whose on-site boilers are designed to burn solid fuels. The rationale for this proposal is discussed in the sections below.

4. *Rationale for Proposed Listing*

a. Paper Recycling Process

The level of contamination in recovered paper and paperboard products can range from minimal to severe depending upon its original manufacture, its finishing and converting operations, and its subsequent use and collection. Accordingly, the type, number, and sequence of processing equipment vary by mill.[54] Despite the potential differences between mills, the paper recycling manufacturing process may be grouped generally, into three steps, for purposes of identifying where residuals are generated and, thus, when they are discarded or used to produce a product fuel.

In the first step of the paper recycling manufacturing process, bales of the incoming feedstock enter a pulper where the paper and fiber are wetted and dispersed. A ''debris rope'' or ''ragger'' continuously withdraws strings, wires, and rags that could otherwise damage the processing equipment. Recovered metals may be sold to metals recovery facilities, but other materials removed by the ragger are landfilled because they produce a heterogeneous mixture.

In the second step of the paper recycling manufacturing process, materials that remain in the pulper can either pass to a junk tower for removal of heavy materials and continue to a drum screen for removal of lighter materials; or go directly to coarse screens. For those materials that go to the coarse screens, the resulting rejects may pass through an air separator and/or a high efficiency cyclone, which further removes materials based on size, shape and density, such as plastic and unsuitable paper fibers (i.e., wet strength and short wood fibers), which make-up the largest portion of PRRs destined for fuel use. These PRRs may be consolidated with those generated from the junk tower and drum screen, and sent across a dewatering screen or a screw or ram press to improve both ease of handling and heating value.

In the final step of the paper recycling manufacturing process, a series of fine screens remove any remaining material that cannot be used to make paper or paperboard products. These rejected materials include unusable paper fiber fines, clays, starches, waxes and adhesives, other filler and coating additives, and dyes and inks. During this step, reject materials may either pass along to the wastewater treatment system or become part of the PRR stream and used as a fuel. For example, reject materials that are dispersed and small, such as dyes and inks, waxes, and coating adhesives generated from recovered magazines and other papers, will not be removed by fine screens and therefore, enter the wastewater treatment system. In contrast, light reject material generated from recovered corrugated containers is captured in fine screens and can be used as a fuel.[55] These PRRs would then be consolidated with the PRRs generated in the preceding step before being conveyed to the combustion source where they are blended with traditional fuels and fed to the combustor.

Thus, PRRs are generated at various steps of the paper recycling manufacturing process, with the second step producing the bulk of PRRs (i.e., unsuitable fibers) destined for use as a fuel. While the discussion above provides an overall description of the paper recycling process itself, it also demonstrates how PRRs (and other residuals) are generated throughout the process. By virtue of the processing steps conducted throughout the paper recycling manufacturing process, PRRs burned as a fuel require minimal additional processing themselves prior to their use as fuel. For the most part, all that is required after screening is removal of moisture to increase the Btu value. Removal of moisture can range from simply allowing PRRs to drain freely (e.g., for coarse and heavy PRRs) to sending them through a press (e.g., for smaller and compressible PRRs).

In determining whether PRRs used as a fuel are more product-like than waste-like, we consider the following attributes:

- PRRs that are burned as a fuel are never discarded.
- For paper recycling mills that can burn PRRs, they burn a significant amount of what they generate on-site: 55%–100%.
- PRRs are a co-product of the paper recycling manufacturing process and are used to replace traditional fuels by as much as 25%.

Accordingly, PRRs are more product-like than waste-like.

b. Legitimacy Criteria

As discussed above, EPA considers whether the NHSMs meet the legitimacy criteria when deciding whether to list an NHSM categorically as a non-waste fuel. If the NHSM meets the legitimacy criteria, the Agency can list the material categorically as a non-waste fuel and those who use the material would not have to evaluate and document the regulatory status of the material on a case-by-case basis. The three legitimacy criteria to be evaluated are: (1) The NHSM must be managed as a valuable commodity; (2) the NHSM must have a meaningful heating value and be used as a fuel in a combustion unit to recover energy; and (3) the NHSM must have contaminants or groups of contaminants at levels comparable to or less than those in the traditional fuel the unit is designed to burn.[56]

i. Managed as a Valuable Commodity

Regarding the first legitimacy criterion, PRRs that are utilized as a fuel are managed similarly to traditional fuels that are burned on-site at the paper recycling mill, such as hogged wood, other clean biomass, or coal. Some paper recycling mills store PRRs in containers (i.e., from the container, PRRs can be fed directly to the boiler) or convey them to a storage pile of traditional solid fuels where they are comingled prior to burning, while other paper recycling mills convey PRRs directly to the fuel feed systems. This demonstrates that PRRs are handled promptly, such that after processing, they are fed directly to the boiler or when not used immediately, they are managed in containers and storage piles along with other traditional fuels used on-site and thus, are managed as a valuable commodity.

ii. Meaningful Heating Value and Used as a Fuel To Recover Energy

With respect to the second legitimacy criterion, PRRs, as fired, average 3,700 Btu/lb (or on a dry basis, averages 9,100 Btu/lb).[57] While this is lower than the

[54] National Council for Air and Stream Improvement, Inc. Technical Bulletin (TB) No. 806, ''Beneficial Use of Secondary Fiber Rejects,'' p 1. See attachment to AF&PA Comments to Docket, August 3, 2010 (document ID: EPA–HQ–RCRA–2008–0329–0871).

[55] AF&PA Technical Bulletin, Attachment 4, Recycling Process Residuals, p 2. September 10, 2009.

[56] We would note that even if the NHSM does not meet one or more of the legitimacy criteria, the Agency could still propose to list a NHSM categorically as a non-waste fuel by balancing the legitimacy criteria with other relevant factors. (See 78 FR 9156, February 7, 2013.)

[57] See AF&PA Comments, p 62, to Docket document ID: EPA–HQ–RCRA–2008–0329–0871.

general guideline of 5,000 Btu/lb, as fired,[58] the Agency has previously stated that flexibility exists for facilities with energy recovery units that use NHSMs as fuels with an energy content lower than 5,000 Btu/lb, as fired. In such cases, a person may demonstrate a meaningful heating value is derived from the NHSM if the energy recovery unit can cost-effectively recover meaningful energy from the NHSM used as fuels. Factors that may be considered by the Agency in determining that a combustion unit cost-effectively recovers energy from NHSMs 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 would purchase the NHSM to use as a fuel; whether the NHSM can self-sustain combustion; and/or whether the operation produces energy that is sold for a profit.[59]

While some of these specific factors are relevant with respect to the combustion of PRRs,[60] additional factors beyond those listed may also demonstrate that a combustion unit can cost-effectively recover energy. In the case of PRRs, we would note that the industry has argued that paper recycling mills' boilers can cost effectively recover energy from PRRs, because of the boiler design itself. Specifically, a trade organization representing paper recycling mills has indicated that the mills' solid fuel boilers are designed to burn wet fuels, with each mill optimizing its operation around boiler design. Typical boilers used include stoker fired and fluidized bed combustion, which often have over-fire and/or under-grate air that assists in the efficient burning of wetter fuels. This allows paper recycling mills to burn clean cellulosic biomass fuels, such as hog fuel and bark, which is the primary fuel, as well as PRRs, that have varying degrees of moisture content. In fact, the industry has argued that if the material being fed to the boiler is too dry, the combustion temperature can become too hot, requiring operational adjustments. Consistently wet materials are handled well in these boilers, leading to fewer temperature swings and minimized boiler tuning adjustments. They also argue that PRRs are analogous to the primary fuels—hog fuel and bark—used in solid fuel boilers at paper recycling mills in that they both have high moisture content, usually >40%, and can have Btu values below 5000 Btu/lb, as fired. However, PRRs can also have Btu values higher than 5,000 Btu/lb, depending upon the amount of moisture that has been removed (i.e., whether simply draining freely versus pressed), amount of solids, fiber content, presence of non-fiber packing materials, and combustion conditions necessary for the effective operation of the boilers.[61] Therefore, based on all the available information, including the fact that PRRs are primarily wood fibers, the Agency believes that PRRs meets the meaningful heating value legitimacy criterion, and that they are burned as a fuel to specifically recovery energy.

iii. Contaminants Comparable to or Lower Than Traditional Fuels

For the third legitimacy criterion, we have conducted an expanded (i.e., previous rules only considered OCC rejects) contaminant comparison to capture data that is representative of all PRR fuel types within EPA's Boiler MACT Database.[62] See Table 2.

TABLE 2—COMPARISON OF CONTAMINANTS IN PAPER RECYCLING RESIDUALS (PRRS) AND TRADITIONAL FUELS

Contaminants [a]	Clean wood/ biomass	Coal [b]	PRRs [c d]
	Range		
Group 1:			
Arsenic	ND–298	ND–174	0–17.7
Chromium	ND–340	ND–168	<0.17–26.9
Lead	ND–340	ND–148	<0.10–21.1
Mercury [e]	ND–1.1	ND–3.1	ND–0.0724
Chlorine	ND–5400	ND–9,080	<9.8–7310
Sulfur	ND–8700	740–61,300	237–2500
Group 2:			
Antimony	ND–26	ND–10	0.07–0.9
Beryllium	ND–10	ND–206	0.005–0.329
Cadmium	ND–17	ND–19	0.03–7.1
Cobalt	ND–213	ND–30	1.05–1.99
Manganese	ND–15,800	ND–512	<0.10–21.1
Nickel	ND–540	ND–730	<0.27–25
Selenium [f]	ND–9	ND–74.3	ND–3.29
Fluorine [g]	ND–300	ND–178	<17–<26

[a] All units expressed in parts per million (ppm) on a dry weight basis.

[b] Coal and Biomass data taken from EPA document *Contaminant Concentrations in Traditional Fuels: Tables for Comparison,* November 29, 2011, available at *www.epa.gov/epawaste/nonhaz/define/index.htm*. Refer to document for footnotes and sources of the data.

[c] December 2011 boiler database—Boiler Reconsideration Proposal Databases: Emissions Database for Boilers and Process Heaters Containing Stack Test, CEM, & Fuel Analysis Data Reported under ICR No. 2286.01 & ICR No. 2286.03 (version 7); *http://epa.gov/ttn/atw/boiler/boilerpg.html*. Data presented is for paper manufacturing facilities with NAICS code #322 and where fuel type indicates it refers to the repulped paper fibers that are used as fuels and include: "Dewatered combustible residues," "hydro pulper refuse," "OCC rejects," "recycle fiber lightweight rejects," and "recycled fiber."

[d] CAA 112 Hazardous Air Pollutant (HAP) compounds (e.g., benzene, PAHs) data was not collected in this data set. HAP compounds may be present.

[58] 76 FR 15522.

[59] 76 FR 15523.

[60] For example, the industry has provided information indicating that: if they were to cease burning PRRs, replacement fuel, such as biomass or coal would need to be purchased at a cost of over $8 million and several boilers burning PRRs produce electricity for on-site use, displacing the need to purchase electricity from the local utility. See "Supplemental Information to Support the Listing of Paper Recycling Residuals (PRR) As a Non-waste Fuel under section 241.1" (December 12, 2012).

[61] See "AF&PA–AWC Responses to EPA's Questions on PRR and Railroad Ties (May 2013)."

[62] In response to the ANPRM, commenters submitted data for OCC rejects, which generally indicated that OCC rejects would or could meet the contaminant criterion.

[e] Other PRR sample results indicate mercury was non-detect at 0.1 ppm; therefore, some samples could have been between the highest recorded value of 0.0724 ppm and the non-detect limit of 0.1 ppm.

[f] Other PRR sample results indicate that selenium was non-detect at 7 ppm; therefore, some samples could have been between the highest recorded value of 3.29 ppm and the non-detect limit of 7 ppm.

[g] Fluorine was not detected in any samples; the highest non-detect level is listed.

We compared the contaminant concentrations of those constituents found in Table 2 in PRRs to the levels found in coal and biomass, since both of these traditional fuels can be burned in boilers at paper recycling mills. Data indicate that PRRs meet the contaminant legitimacy criterion. The only reported instance of PRRs containing a contaminant at levels approaching the highest levels in coal and biomass is a chlorine concentration at a mill burning OCC rejects. However, the highest reported value for chlorine in PRRs was 7,310 ppm, which is still below the highest reported value for chlorine in coal (9,080 ppm). Therefore, the contaminant concentrations for these contaminants are comparable to the traditional fuels that the boilers are designed to burn.

With regard to organic HAP present in PRRs, there does not appear to be any data available on the concentration of these contaminants in PRRs. Limited data has been published, however, on TCLP extracts of OCC rejects that include several organic HAPs. With the exception of toluene, which was found at trace levels ranging from <0.001 to 0.004 mg/L, no other HAP were detected in the TCLP extracts for OCC rejects.[63] For purposes of comparability, a total constituent analysis for toluene would yield a concentration of up to 0.08 mg/L (or 0.08 ppm), assuming worst case conditions, which is well below the concentration found in coal at 8.6–56 ppm.[64] [65] Likewise, we would expect similar results from the broader universe of PRRs, since the processing steps that generate PRRs would be equivalent to or more than those that generate only OCC rejects (i.e., where the feedstock is limited to OCCs), resulting in potentially fewer contaminants.

5. Summary and Request for Comment

PRRs are generated from the recycling of recovered paper and paperboard products, which consists of several processing steps. These processing steps remove contaminants and sort PRRs by passing them through a series of screens and cyclones, and increase their Btu value in preparation for burning. This fuel product meets the legitimacy criteria as described above. Based on current information, the Agency believes that PRRs are a non-waste fuel, provided that such units are located on-site and the boilers that are used are designed to burn solid fuels. The Agency invites comment on this proposed categorical non-waste determination, which would categorically list PRRs as a non-waste fuel in section 241.4(a) and the following specific items:

Meaningful Heating Value. We request comment on the meaningful heating value determination, as well as information regarding the percentages of non-fiber materials (e.g., polystyrene foam, polyethylene film, other plastics, waxes and adhesives, dyes and inks, clays, starches, and other filler and coating additives, etc.) that typically make-up PRRs. This information may be useful in understanding the variability of the PRR's heating value, since PRRs that contain a larger portion of wood fibers could be expected to have a higher heating value.

Other discarded materials. In addition, although the data provided in the boiler database regarding the level of contaminants in the PRRs indicates that they meet the contaminant legitimacy criterion, evaluations conducted for the development of the boiler database suggested that, in a few cases, OCC rejects used as fuel on-site contain other discarded materials. For example, some paper recycling mills may accept cardboard containers from off-site that have not been completely emptied of their contents or otherwise are contaminated with foreign materials. The Agency is interested in receiving information regarding how common this practice is, the composition of the contents/materials, any precautions taken to ensure that the contents/materials do not contribute to unacceptable contaminant concentrations, and whether any additional conditions should be imposed to ensure that such cardboard containers have been emptied. In other words, any remaining contents/materials should only be incidental.

PRRs burned off-site. Finally, the Agency is considering whether to expand the categorical listing to include PRRs that are burned as a fuel product off-site (i.e., in cases where the generating mill does not have a boiler designed to burn solid fuels) at other paper recycling mills and commercial power plants. According to earlier comments submitted on subsequent NHSM rulemakings, OCC rejects have been used as a supplemental fuel in two plants: A commercial biomass gasification plant and a commercial cogeneration plant (where OCC rejects provide 3 to 4 percent of the total fuel input at the latter plant).[66] An intermediary company takes the OCC rejects from three mills and processes them by removing large pieces of plastic, shredding, and drying the remaining residuals and delivers the OCC reject fuel to the plants.[67] Thus, contrary to what the Agency previously concluded based on the information it had at the time of the March 2011 final rule,[68] it now appears that the OCC rejects burned off-site in commercial power plants can be managed more like a non-waste fuel than a waste fuel. While the information we have generally indicates that these PRRs are managed much the same way as those

[63] National Council for Air and Stream Improvement, Inc. Technical Bulletin (TB) No. 806, ''Beneficial Use of Secondary Fiber Rejects,'' Appendix B, Table B1. TCLP Analysis of OCC Rejects. See attachment to AF&PA Comments to Docket, August 3, 2010 (document ID number; EPA–HQ–RCRA–2008–0329–0871).

[64] Section 1.2 of Method 1311 (Toxicity Characteristic Leaching Procedure) allows for a total constituent analysis in lieu of a TCLP analysis. That is, the Agency allows calculating a solid phase's maximum theoretical concentration expected in a TCLP extract by dividing a sample's total constituent concentration by 20, representing 20:1 liquid-to-solid ratio (by weight) employed in the TCLP procedure. See *http://www.epa.gov/osw/hazard/testmethods/faq/faq_tclp.htm.* While leaching extract concentrations do not reflect total constituent concentrations, multiplying the extract concentration (0.004 ppm) by 20 provides the minimum total concentration in the waste. However, because toluene is somewhat soluble in water (515 mg/L at 20° C), the leaching extract concentration multiplied by 20, is for this constituent, a reasonable approximation of the total toluene concentration. Water solubility data can be found at: *http://www.epa.gov/chemfact/s_toluen.txt.*

[65] *Concentrations in Traditional Fuels: Tables for Comparison,* November 29, 2011, available at *www.epa.gov/epawaste/nonhaz/define/index.htm* and in the docket (EPA–HQ–RCRA–2008–0329).

[66] In the 2011 final NHSM rule, the agency previously believed these facilities to be municipal or commercial incinerators (76 FR 15487). Subsequent comments have identified these facilities to be commercial biomass and cogeneration plants.

[67] National Council for Air and Stream Improvement, Inc. Technical Bulletin (TB) No. 806, ''Beneficial Use of Secondary Fiber Rejects,'' pp. 10–11. See attachment to AF&PA Comments to Docket, August 3, 2010 (document ID: EPA–HQ–RCRA–2008–0329–0871).

[68] The Agency had stated that limited information indicated that OCC rejects are ''burned in municipal or commercial energy facilities (which appear to be municipal or commercial incinerators) and thus, would clearly indicate discard . . .'' 76 FR 15487.

burned on-site, it is based on only two cases and lacks sufficient detail to determine that PRRs when sent off-site for energy recovery continue to meet the legitimacy criteria and are not discarded. Therefore, we request additional information for PRRs that are burned off-site which demonstrates how they: (1) Are managed as a valuable commodity (from point of generation at the paper recycling mill to insertion at the off-site combustor, to clearly show that discard is not occurring); (2) have a meaningful heating value; (3) contain contaminants at levels comparable to or lower than those in traditional fuel(s) which the combustor is designed to burn; and (4) the types of facilities that combust these PRRs.

C. Creosote-Treated Railroad Ties (CTRTs)[69]

1. Detailed Description of CTRTs

Railroad ties are typically comprised of North American hardwoods that have been treated with creosote. Creosote was introduced as a wood preservative in the late 1800's to prolong the life of railroad ties. Creosote-treated wood ties remain the material of choice by railroads due to their long life, durability, cost effectiveness, and sustainability. As creosote is a by-product of coal tar distillation, and coal tar is a by-product of making coke from coal, creosote is considered a derivative of coal. The creosote component of CTRTs is also governed by the standards established by the American Wood Protection Association (AWPA). AWPA has established two blends of creosote, P1/13 and P2.[70] Railroad ties are typically manufactured using the P2 blend that is more viscous than other blends.

Under today's proposed rule, CTRTs are railroad crossties removed from service and processed prior to being used as a fuel. Approximately 17 million crossties are removed from service each year. About one third of the removed CTRTs are used for landscaping, with the majority of the remaining two thirds used for energy recovery. Because of its high energy content, CTRTs can be used for heat and energy recovery in combustion units as a nonhazardous biomass alternative to fossil fuel.[71]

Most of the energy recovery with crossties is conducted through three parties: The generator of the crossties (railroad or utility); the reclamation company that sorts the crossties, and in some cases processes the material received from the generator;[72] and the combustor as third party energy producers. Typically, ownership of the crossties are generally transferred directly from the generator to the reclamation company that sorts materials for highest value secondary uses, and then sells the products to end-users, including those combusting the material as fuel. Some reclamation companies sell CTRTs to processors who remove metal contaminants and grind the ties into chipped wood. Other reclamation companies have their own grinders, do their own contaminant removal, and can sell directly to the combusting facilities. Information submitted to the Agency indicates there are approximately 15 CTRT recovery companies in North America with industry wide revenues of $65–75 million. Members of AF&PA report that the value of CTRTs is underscored by the approximately $20—$30 per ton paid for CTRTs which can sometimes be a premium price compared to certain hog fuels (untreated clean wood residues from sawmills).[73]

After crossties are removed from service, they are transferred for sorting/processing, but in some cases, they may be temporarily stored in the railroad rights-of-way or at another location selected by the reclamation company. One information source indicated that when the crossties are temporarily stored, they are stored until their value as an alternative fuel can be realized, generally through a contract completed for transferal of ownership to the reclamation contractor or combustor.[74] This means that not all CTRTs originate from crossties removed from service in the same year; some CTRTs are processed from crossties removed from service in prior years and stored by railroads or removal/reclamation companies until their value as a landscaping element or fuel could be realized.

Typically, reclamation companies receive CTRTs by rail. The processing of the crossties into fuel by the reclamation/processing companies involves several steps. Metals (spikes, nails, plates, etc.) are removed using a magnet. Metal removal may occur several times during the process. The crossties are then ground or shredded to a specified size depending on the particular needs of the end-use combustor, with chip size typically between 1–2 inches. This step may occur in several phases, including primary and secondary grinding, or in a single phase. Once the crossties are ground to a specific size, additional metal may be removed and there is further screening based on the particular needs of the end-use combustor. Depending on the configuration of the facility and equipment, screening may occur concurrently with grinding or at a subsequent stage. Throughout the process, a surfactant is applied to the crossties being processed to minimize dust.

Once the processing of CTRTs is complete, the CTRTs are sold directly to the end-use combustor for energy recovery. Processed CTRTs are delivered to the buyers by railcar or truck. The CTRTs are then stockpiled prior to combustion, with a typical storage timeframe ranging from a day to a week. When the CTRTs are to be burned for energy recovery, the material is then transferred from the storage location using a conveyor belt or front-end loader. The CTRTs may be combined with other biomass fuels, including hog fuel and bark. CTRTs are commonly used to provide the high BTU fuel to supplement low (and sometimes wet) BTU biomass to ensure proper combustion, often in lieu of coal or other fossil fuels.[75] The combined fuel may be further hammered and screened prior to combustion.

In general, contracts for the purchase and combustion of CTRTs include fuel specifications limiting contaminants, such as metal and precluding the receipt of wood treated with preservatives other than creosote.

2. CTRTs Under Current NHSM Rules

a. March 2011 NHSM Final Rule

The March 2011 NHSM final rule indicated that even though most creosote-treated wood is non-hazardous, the presence of hexachlorobenzene, a

[69] As noted previously, the categorical listing of CTRTs does not include other creosote-treated wood. The Agency is currently evaluating these NHSMs, based on the petition submitted by the Treated Wood Council included in the docket for today's rule.

[70] AWPA Standard P1/P13 and P2 provide specifications for coal-tar creosote used for preservative treatment of piles, poles and timber for marine, land and freshwater use. The character of the tar used, the method of distillation, and the temperature range in which the creosote fraction is collected all influence the composition of the creosote, and the composition may vary with the requirement of standard specifications. April 2010. Forest Products Laboratory. 2010 Wood Handbook. General Technical Report FPL_GTR–190. Madison, WI.

[71] American Forest & Paper Association, American Wood Council—Letter to EPA Administrator, December 6, 2012.

[72] In some cases, the reclamation company sells the crossties to a separate company for processing.

[73] American Forest & Paper Association, American Wood Council—Letter to EPA Administrator, December 6, 2012.

[74] M.A. Energy Resources LLC, Petition submitted to Administrator, EPA. February 2013.

[75] American Forest & Paper Association, American Wood Council—Letter to EPA Administrator, December 6, 2012.

CAA 112 HAP, as well as other HAP suggested that creosote-treated wood, including CTRTs contained contaminants at levels that were not comparable to or lower than those found in wood or coal, the fuel that creosote-treated wood would replace. In making the assessment at that time, the Agency did not consider fuel oil as a traditional fuel that CTRTs would replace. Thus, the data provided at that time indicated that combustion of creosote-treated wood may result in destruction of contaminants contained in those materials, which is an indication of incineration, a waste activity. Accordingly, creosote-treated wood, including CTRTs when burned, seemed more like a waste than a commodity, and did not appear to meet the contaminant legitimacy criterion.[76] This material, therefore, was considered a solid waste when burned and units combusting it would be subject to the section 129 CAA emission standards. The conclusions from the March 2011 rule regarding creosote-treated wood are discussed further in Section V.C.4 (Rationale for Proposed Listing) below.

b. February 2013 NHSM Final Rule

In the February, 2013 NHSM final rule, EPA noted that AF&PA and the American Wood Council submitted a letter with supporting information on December 6, 2012, seeking a categorical listing for all railroad ties combusted in any unit.[77] The letter included information regarding the amounts of railroad ties combusted each year and the value of the ties as fuel. The letter also discussed how CTRTs satisfy the legitimacy criteria, including its high Btu value.

While this information was useful, it was not sufficient for EPA to propose that CTRTs be listed categorically as a non-waste fuel. Therefore, to further inform the Agency as to whether to list CTRTs categorically as a non-waste fuel, EPA requested that additional information be provided, and indicated that if this additional information supported and supplemented the representations made in the December 2012 letter, EPA would expect to propose a categorical listing for CTRTs. The requested information and responses provided are as follows:

• *A list of industry sectors, in addition to forest product mills, that burn railroad ties for energy recovery:* One respondent claimed that a number of end-use combustors utilize CTRTs as an alternative fuel to offset fossil fuel at all times. Such facilities use as much as 100–500 tons of CTRTs daily. The respondent also claimed to know of additional end-use combustors that utilize CTRTs occasionally based on availability and cost. Furthermore, the respondent was aware of other end-use combustors that are operationally able to utilize CTRTs as an alternative fuel to offset fossil fuel, but have chosen not to use CTRTs as a result of the current solid-waste implications associated with CTRTs. The end-use combustors that currently utilize CTRTs, both full-time and part-time, represent a variety of industry sectors, including pulp and paper manufacturing, cogeneration plants, utilities, and chemical manufacturing facilities. For the utility sector, at least 14 utilities could burn (i.e. are permitted to burn) or are burning CTRT.[78] Another respondent claimed that data [79] show that a number of forest product mills are currently using railroad ties as a fuel and that other mills are permitted to burn these materials as fuels, but have stopped using them as a fuel due to their uncertain regulatory status, as well as other economic factors (e.g. lower cost of other fuels).

• *The types of boilers (e.g., kilns, stoker boilers, circulating fluidized bed, etc.) that burn railroad ties for energy recovery:* Respondents stated that the types of units operated by those end-use combustors that utilize CTRTs as an alternative fuel include fluidized bed, traveling grate, and spreader stoker. Forest product industry boilers that used to burn railroad ties are generally one of three types: stoker, bubbling bed or fluidized bed boilers. In addition, cement kilns have combusted CTRTs.[80]

• *The traditional fuels and relative amounts (e.g., startup, 30%, 100%) of these traditional fuels that could otherwise generally be burned in these types of units:*

Respondents also claim that units operated by end-use combustors that utilize CTRTs as an alternative fuel typically burn a variety of ''traditional fuels,'' such as coal, biomass (i.e., hog fuel, bark fuel, and other biomass fuel materials), and fuel oil, as well as other materials and wastes, such as tire derived fuel, waste derived liquid fuel, and waste derived solid fuel.[81] [82] In general, they claim that all of the units that burn CTRTs also burn significant quantities of biomass given the similarity of the fuels' characteristics. In addition, they claim that most of these units are permitted to burn fuel oil either during start-up or during normal operations. The respondents claim that many factors determine how much fuel oil is burned. For example, because natural gas prices are low, natural gas is often the fuel of choice, if available. In addition, they claim that some states are looking to reduce SO_2 emissions from sources and thus, encourage greater use of biomass or natural gas rather than fuel oil.[83]

Respondents claim that the most comparable traditional fuel to railroad ties is fuel oil. However, they believe the question of whether a combustion unit is designed to burn a specific fuel is not relevant when EPA makes a determination under section 241.4(a). Specifically, the respondents claim that the EPA has interpreted the phrase ''designed to burn'' to mean that a combustor that burns NHSMs as a non-waste fuel has to be able to burn the NHSM in the combustion unit, which in the case of CTRTs, would require the installation of a nozzle for the delivery of liquid fuel into the boiler, to meet the contaminant legitimacy criterion EPA explained that this standard is to avoid the possibility that discard could be occurring in some situations.[84] However, in the context of a specific non-waste determination under section 241.4(a), the respondents argue that EPA has the opportunity to evaluate all the

[76] 76 FR 15483.

[77] American Forest & Paper Association, American Wood Council—Letter to EPA Administrator, December 6, 2012.

[78] Information received subsequent to the request for data in the February 13, 2013 rule discussed above claims that 14 entities in the utility sector could burn (i.e. are permitted to burn) or are burning cross-tie derived fuel (i.e. CTRT). Of the 14 entities, 9 companies are currently firing or have fired CTRT within the past two years. Information on pulp and paper and utility sources currently utilizing CTRT indicates that several of these sources use between 5,000 and 70,000 tons of CTRT per year. Information compiled by M.A. Energy LLC. (MAER) contained in letters and emails from All4 Inc. to EPA dated January 29, and February 28, 2014.

[79] American Forest and Paper Association and American Wood Council's letter to George Faison, EPA. March 7, 2013.

[80] Petition for Determination Identifying Non-Hazardous Secondary Treated Wood Biomass as a Non-Waste under 40 CFR 241.4(a). Treated Wood Council April 2013.

[81] To the extent that any of these boilers burn fuel derived from waste, or any other solid waste, they would be subject to the CAA Section 129 CISWI standards, and the Agency's proposal today would not impact their regulatory status.

[82] American Forest and Paper Association and American Wood Council's letter to George Faison, EPA. March 7, 2013.

[83] Examples of combustors utilizing a variety of traditional and other fuels, including facilities combusting both CTRT and fuel oil, is found in documentation provided by the American Associations of Railroads (AAR). The document listed 11 non- pulp and paper facilities including power generators. All of the facilities listed combust CTRT, three facilities combust CTRT and fuel oil, three facilities combust CTRT and natural gas. Other fuels combusted include tire-derived fuel, and landfill gas. February 2013.

[84] See 78 FR 9149

factors relating to the use of CTRTs as a fuel, including the fact that CTRTs is a commodity that is purchased by the combustor. Furthermore, respondents argue that EPA has the discretion to recognize that when a combustor purchases CTRTs and then burns it in a boiler, that combustion is for the purpose of generating energy rather than discarding the railroad ties. According to the respondents, any other conclusion would lead to the absurd result that one boiler can burn CTRTs as a legitimate fuel and another boiler—with essentially the same design except for a nozzle feed for fuel oil—would have to consider the CTRTs as a solid waste. (The Agency's response to this comment is discussed in Section V.C.4 Rationale for Proposed Listing.)

• *The extent to which non-industrial boilers (e.g. commercial or residential boilers) burn CTRTs for energy recovery:*

The respondent understands that the residential use of CTRTs for purposes of energy recovery is unlikely. However, they explained that several local utilities in the northern Midwest utilize CTRTs for purposes of power generation but they have not identified the specific facilities.

• *Laboratory analyses for contaminants known or reasonably suspected to be present in creosote-treated railroad ties, and contaminants known to be significant components of creosote, specifically polycyclic aromatic hydrocarbons (i.e., PAH–16), dibenzofuran, cresols, hexachlorobenzene, 2,4-dinitrotoluene, biphenyl, quinoline, and dioxins:*[85]

Respondents submitted contaminant data for crushed CTRTs, which are discussed in Section V.C.4 (Rationale for Proposed Listing) below. With the exception of dioxins, which respondents explain will not be present in CTRTs, analyses were submitted for all requested constituents and many other contaminants.

3. Scope of Proposed Categorical Listing for CTRTs

As discussed above, AF&PA and the American Wood Council submitted a letter and supporting information to EPA on December 6, 2012, seeking a categorical listing for CTRTs.[86] Information also has been provided by M.A. Energy Resources, LLC[87] and the Treated Wood Council regarding cross-tie derived fuel.[88] In addition, information on contaminant levels found in CTRTs has been provided by the Association of American Railroads.[89] Based on the additional data and information submitted to the Agency, contaminant levels found in CTRTs may not be materially different from fuel oil and biomass that these facilities are designed to burn as a fuel. Therefore, the Agency is proposing to list, categorically, processed CTRTs when used as a fuel in combustion units designed to burn both biomass and fuel oil.[90] The rationale for this proposal is discussed in detail in the sections below.

4. Rationale for Proposed Listing

a. Discard

When deciding whether an NHSM should be listed as a categorical non-waste fuel in accordance with section 241.(4)(b)(5), EPA first evaluates whether or not the NHSM has been discarded, and if not discarded, whether or not the material is legitimately used as a product fuel in a combustion unit. If the material has been discarded, EPA evaluates the NHSM as to whether it has been sufficiently processed into a material that is legitimately used as a product fuel.

As discussed above, crossties removed from service are sometimes temporarily stored in the railroad right-of-way or at another location selected by the reclamation company. This means that not all CTRTs originate from crossties removed from service in the same year; some CTRTs are processed from crossties removed from service in prior years and stored by railroads or removal/reclamation companies until a contract for reclamation is in place.

The December 6, 2012, letter from AF&PA states that in those cases where the railroad or reclamation company wait for more than a year to realize the value of the CTRTs as a fuel (or in landscaping), it does not mean or indicate that the CTRTs have been discarded and cite 76 FR 15456, 15520 of the March 2011 rule. That section of the rule addresses the management of the NHSM as a valuable commodity and states that storage of the NHSM must be within a reasonable timeframe.[91] The December 6 letter claims that a robust market for companies engaged in railroad tie reclamation, and the cost of this material indicates that the material is a valuable commodity and has not been discarded.

While the Agency recognizes that the reasonable timeframe for storage may vary by industry, the Agency does not believe that any explanation (other than a repeat of what the rules say) has been provided of why storage that may be longer than a year is not discard, especially when they argue that CTRTs are a valuable material. Put another way, if the CTRTs have such value as a fuel or landscaping material, then why aren't they processed and used as a fuel or landscaping material in a relatively short period of time? Therefore, without further explanation or information from the public, the Agency concludes that CTRTs removed from service and stored in a railroad right of way or other location for long periods of time—that is, a year or longer, without a determination regarding their final end use (e.g. landscaping, as a fuel or land filled) indicates that the material has been discarded and is a solid waste (see the preamble discussion of discard 76 FR 15463 in the March 2011 rule). Regarding the assertion that the CTRTs are a valuable commodity in a robust market, the Agency would like to remind persons that NHSMs may have value in the marketplace and still be considered solid wastes.

Since the railroad ties removed from service are considered discarded because they can be stored for long periods of time without a final determination regarding their final end use, in order for them to be considered a non-waste fuel, they must be processed, thus transforming the railroad ties into a product fuel that meets the legitimacy criteria, or if not meeting the legitimacy criteria, would still be considered a non-waste fuel in balancing the legitimacy criteria with other relevant factors. The Agency concludes that the processing of CTRTs described above in section C.1. meets the definition of processing in 40 CFR 241.2. As discussed in Section V.A, processing includes operations that transform discarded NHSM into a non-

[85] The Agency requested these analyses based on the limited information previously available concerning the chemical makeup of CTRTs. That limited information included one well-studied sample from 1990 (which indicated the presence of both PAHs and dibenzofuran), past TCLP results (which indicated the presence of cresols, hexachlorobenzene and 2,4-dinitrotoluene), Material Safety Data Sheets for coal tar creosote (which indicated the potential presence of biphenyl and quinoline), and the absence of dioxin analyses prior to combustion despite extensive dioxin analyses of post-combustion emissions.

[86] AF&PA Ibid.

[87] M.A. Energy Resources, LLC 40 CFR Part 241, Subpart B—Crosstie Derived Fuel. February, 2013.

[88] Letter from Jeffrey Miller, Treated Wood Council to Lisa Feldt. December 17, 2012.

[89] Evaluation of Used Railroad Ties Treated with Creosote for Polynuclear Organic Material which includes Polynuclear Aromatic Hydrocarbons. January 2013. URS Corporation on behalf of American Association of Railroads.

[90] Fuel oils means fuel oils 1–6, including distillate, residual, kerosene, diesel, and other petroleum based oils. It does not include gasoline or unrefined crude oil.

[91] As discussed in the NHSM final rule (76 FR 15520), ''reasonable time frame'' is not specifically defined as such time frames vary among the large number of non-hazardous secondary materials and industries involved.

waste fuel or non-waste ingredient, including operations necessary to: remove or destroy contaminants; significantly improve the fuel characteristics (e.g., sizing or drying of the material, in combination with other operations); chemically improve the as-fired energy content; or improve the ingredient characteristics. Minimal operations that result only in modifying the size of the material by shredding do not constitute processing for the purposes of the definition. Specifically, the Agency concludes that CTRTs meet the definition of processing in 40 CFR 241.3 because:

- Contaminants (spikes, nails, plates, etc.) are removed using a magnet. This magnetic removal of metals may occur several times during processing.
- The fuel characteristics of the material are improved when the crossties are ground or shredded to a specified size depending on the particular needs of the end-use combustor. The grinding may occur in one or more phases. Once the CTRTs are ground, there may be additional screening to bring the material to a specified size.

b. Legitimacy Criteria

As discussed above, EPA can list a discarded NHSM categorically as a non-waste fuel if it has been ''sufficiently processed,'' and meets the legitimacy criteria. If the Agency were to list such NHSM categorically as a non-waste fuel, those who use the material would not have to evaluate and document the regulatory status of the material on a case-by-case basis. The three legitimacy criteria to be evaluated are: (1) The NHSM must be managed as a valuable commodity, (2) the NHSM must have a meaningful heating value and be used as a fuel in a combustion unit to recover energy, and (3) the NHSM must have contaminants or groups of contaminants at levels comparable to or less than those in the traditional fuel the unit is designed to burn.[92]

i. Managed as a Valuable Commodity

The processing of CTRTs is correlated to the particular needs of the end-use combustor. Additional screening may take place after the grinding and shredding of the CTRTs if deemed necessary. Once the CTRTs meet the end use specification, they are then sold directly to the end-use combustor for energy recovery. CTRTs are delivered to the end-use combustors via railcar and/or truck similar to how traditional biomass fuels are delivered. While awaiting combustion at the end-user, which usually takes place within a week of arrival, the CTRTs are transferred and/or handled from storage in a manner consistent with the transfer and handling of biomass fuels. Such procedures typically include screening by the end-use combustor, combining with biomass fuels, and transferring to the combustor via conveyor belt or front-end loader. Since processed CTRTs storage does not exceed reasonable time frames and are handled/treated similar to analogous biomass fuels by end-use combustors, CTRTs meets the criterion for being managed as a valuable commodity.[93]

ii. Meaningful Heating Value and Used as Fuel To Recover Energy

EPA received recent information that the heating value of processed CTRTs ranges from 6,000–8,000 Btu/lb as fired, and that combustion units recover energy by burning the material as fuel. Information compiled by EPA in 2011 indicates that CTRTs could replace clean wood that has an average as-fired heating value of 5,150 Btu/lb, with a low as-fired heating value of 3,440 Btu/lb.[94] In the March 2011 NHSM final rule, the Agency indicated that NHSMs with an energy value greater than 5,000 Btu/lb, as fired, are considered to have a meaningful heating value.[95] Thus, CTRTs have greater heating value than much of the traditional fuel it replaces and, therefore, meets the criterion for meaningful heating value and used as a fuel to recover energy.

iii. Contaminants Comparable to or Lower than Traditional Fuels

Data on contaminant comparisons. For CTRTs, EPA has compared the additional data submitted on contaminant levels by petitioners to analogous data for two traditional fuels: biomass (including untreated clean wood) and fuel oil. As noted above, the data EPA received on CTRTs comes from the following three sources: M.A. Energy Resources (MAER), URS Corporation on behalf of the Association of American Railroads, and AF&PA. The information submitted by MAER included a comprehensive analysis of one CTRT sample. The sample came from a CTRT pile located at an end-use combustor. The URS Corporation report included three samples of processed CTRT from the National Salvage facility in Selma, Alabama, and from a Stella Jones facility in Duluth, Minnesota. AF&PA submitted documents comparing contaminant concentrations in CTRTs with traditional fuels. AF&PA compiled data from various sources in these documents. EPA considers data from these eight facilities to be representative of the CTRT universe because the composition of the creosote component of the CTRTs is the same–that is, the P2 blend of creosote, as well as the fact that multiple samples have been taken in different parts of the country at different points in the CTRT management chain. Table 3 lists the aggregated CTRT data received as it compares to contaminants found in two traditional fuels that petitioners claim are used, in varying amounts, at facilities burning processed CTRTs for energy recovery.

TABLE 3—CONTAMINANT RANGES IN TRADITIONAL FUELS AND CTRT

[In parts per million]

Contaminant	Biomass [a]	Fuel Oil [a]	CTRT[b]
Metal Elements:			
Antimony (Sb)	ND–26	ND–15.7	ND
Arsenic (As)	ND–298	ND–13	ND–3.2
			ND
Beryllium (Be)	ND–10	ND–19	ND–0.3
Cadmium (Cd)	ND–17	ND–1.4	ND–0.3

[92] We note that even if the NHSM does not meet one or more of the legitimacy criteria, the Agency could still propose to list an NHSM categorically by balancing the legitimacy criteria with other relevant factors.

[93] Prior to the CTRTs being processed as a product fuel, the CTRTs are considered solid wastes and would be subject to appropriate federal, state, and local requirements.

[94] Fuel analysis data for unadulterated time. USEPA, Office of Air Quality Planning and Standards, Emissions Data for Boilers and Process Heaters Containing Stack Test, CEM & Fuel Analysis Data Reported Under ICR No.2286.03 (Version 6) EPA Docket Number EPA–HQ–OAR–2002–0058–3255. February 2011.

[95] See 76 FR 15541.

TABLE 3—CONTAMINANT RANGES IN TRADITIONAL FUELS AND CTRT—Continued

[In parts per million]

Contaminant	Biomass [a]	Fuel Oil [a]	CTRT[b]
Chromium (Cr)	ND–340	ND–37	ND–15.3
Cobalt (Co)	ND–213	ND–8.5	ND
Lead (Pb)	ND–340	ND–56.8	ND–9.6
Manganese (Mn)	ND–15,800	ND–3,200	63–185
Mercury (Hg)	ND–1.1	ND–0.2	0.02–0.05
Nickel (Ni)	ND–540	ND–270	ND–38
Selenium (Se)	ND–9	ND–4	ND–1
Non-Metal			
Chlorine (Cl)	ND–5,400	ND–1,260	22–400
Fluorine (F)	ND–300	ND–14	100
Nitrogen (N)	200–39,500	42–8,950	1,600–14,400
Sulfur (S)	ND–8,700	ND–57,000	681–3,277
Volatile Organic			
Benzene		ND–75	ND
Phenol		ND–7,700	ND
Styrene		ND–320	ND
Toluene		ND–380	ND
Xylenes		ND–3,100	0.325
Cumene		6,000–8,600	ND
Ethyl benzene		22–1270	0.058
Formaldehyde	1.6–27		ND
Hexane		50–10,000	ND
15 Additional VOC			ND
Total VOC [c]	1.6–27	6,072–19,810	0.383
Semivolatile:			
Biphenyl		1,000–1,200	137–330
16-PAH [d]		3,900–54,700	6641–21,053
Dibenzofuran			570–1,500
Quinoline			40.2
Cresols			1.51
Hexachlorobenzene		ND	ND
2,4-dinitrotoluene		ND	ND
Lindane			0.238
11 Additional			ND
Total SVOC [c]		4,900–54,700	7,618–22,883

[a] "Contaminant Concentrations in Traditional Fuels: Tables for Comparison" document available at *http://www.epa.gov/epawaste/nonhaz/define/pdfs/nhsm_cont_tf.pdf.* Contaminant data drawn from various literature sources and from data submitted to USEPA, Office of Air Quality Planning and Standards (OAQPS).

[b] (1) MA Energy Resources, LLC. February 2013 Crosstie Derived Fuel Petition; (2) URS, Evaluation of Used Railroad Ties Treated with Creosote. Prepared for Association of American Railroads. January 28, 2013; (3) AF&PA, Comparison of Contaminant Concentrations in Crosstie Derived Fuel with Traditional Fuels. February 28, 2013.

[c] Total VOC and SVOC ranges do not represent a simple sum of the minimum and maximum values for each contaminant. This is because minimum and maximum concentrations for individual VOCs and SVOCs do not always come from the same sample.

[d] 16–PAH includes: acenaphthene, acenaphthylene, anthracene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene.

As shown in Table 3, all contaminant concentration levels for metals are within the ranges identified for fuel oil and biomass. We note that when comparing the non-metal elemental contaminants, however, fluorine and nitrogen levels in CTRTs are not comparable to fuel oil, and semi-volatile organic compound (SVOC) levels are not comparable to biomass. Given that CTRTs are a type of treated wood biomass, and any unit burning CTRTs typically burns untreated wood, EPA considered three scenarios that petitioners described.[96]

In the first scenario, where a combustion unit is designed to only burn biomass, EPA compared contaminant levels in CTRT to contaminant levels in biomass. In this scenario, the total SVOC levels can reach 22,883 ppm, driven by high levels of polycyclic aromatic hydrocarbons (PAHs) and, to a lesser extent, the levels of dibenzofuran and biphenyl.[97] These compounds are largely nonexistent in clean wood and biomass, and the contaminants are therefore not comparable in this instance. In fact, they are present at orders of magnitude higher than found in clean wood and biomass.

In the second scenario, where a combustion unit is designed to burn various solid fuels, EPA compared

[96] We note that contaminant data received also compared coal to CTRTs as the traditional fuel for comparison. Like biomass, CTRT contaminant concentration levels for SVOCs exceeded those in coal, but were comparable to levels in fuel oil. Likewise, contaminant levels for nitrogen and fluorine in CTRTs were comparable to those in coal, but exceeded those in fuel oil. Thus, units designed to burn both biomass and fuel oil may, in addition, burn coal if the unit is also designed to burn that material.

[97] We note that for several SVOCs—cresols, hexachlorobenzene, and 2,4-dinitrotoluene, which were expected to be in creosote, and for which information was specifically requested in the February 7, 2013 NHSM final rule (78 FR 9111), the data indicate that they were not detectable, or were present at levels so low to be considered comparable.

contaminant levels in CTRTs to both coal and biomass (see footnote 23). Again, however, total SVOCs would not be comparable, and in fact, would be present at orders of magnitude higher than found in biomass i.e. up to 22,883 ppm in CTRTs.

In the third scenario, a combustion unit is designed to burn biomass and fuel oil. As previously mentioned, fluorine, and nitrogen levels in CTRTs are present at elevated levels when compared to fuel oil. However, the highest levels of fluorine (100 ppm) and nitrogen (14,400 ppm) are comparable to, or well within the levels of these contaminants in biomass. Likewise, SVOCs are present in CTRTs (up to 22,883 ppm) at levels well within the range observed in fuel oil (up to 54,700 ppm). Accordingly, contaminant concentration levels for fluorine, nitrogen, and SVOCs are within the ranges identified for either biomass or fuel oil. Therefore, CTRTs have comparable contaminant levels to other fuels combusted in units designed to burn both biomass and fuel oil, and as such, meet this criterion.

As stated in the preamble to the February 7, 2013, NHSM final rule, EPA believes that combustors may burn NHSMs as a product fuel if they compare appropriately to any traditional fuel the unit can or does burn. (78 FR 9149) Combustion units are often designed to burn multiple traditional fuels, and some units can and do rely on different fuel types at different times based on availability of fuel supplies, market conditions, power demands, and other factors. Under these circumstances, it would be arbitrary to restrict the combustion for energy recovery of NHSMs based on contaminant comparison to only one traditional fuel if the unit could burn a second traditional fuel chosen due to such changes in fuel supplies, market conditions, power demands or other factors. If a unit can burn both a solid and liquid fuel, then comparison to either fuel would be appropriate.

In order to make comparisons to multiple fuels, as was also discussed in the preamble to the February 7 rule, units must be designed to burn those fuels (78 FR 9111, page 9150). If a facility compares contaminants in an NHSM to a traditional fuel a unit is not designed to burn, and that material is highly contaminated, a facility would then be able to burn excessive levels of waste components in the NHSM as a means of discard. Such NHSMs would be considered wastes regardless of any fuel value. Accordingly, the ability to burn a fuel in a combustion unit does have a basic set of requirements, the most basic of which is the ability to feed the material into the combustion unit. The unit should also be able to ensure the material is well-mixed and maintain temperatures within unit specifications.

Available information regarding use of fuel oil. As discussed in section 2.b., petitioners indicated during the comment period that there are combustion units designed to burn biomass and fuel oil, but did not identify specific units. In a March 2013 letter,[98] petitioners stated that the overwhelming majority of creosote-treated railroad ties burned at paper mills are burned in boilers that are fully capable and permitted to burn at maximum capacity rating. AFPA claims that most of these boilers (80%) can or do burn oil during operating conditions outside of startup and shutdown periods.[99]

Additional information was submitted by petitioners subsequent to this claim, however.[100] The new information indicates that while stoker, bubbling bed or fluidized bed boilers at major source [101] paper mills are currently designed to combust both fuel oil and CTRTs, few, if any, of these units may be combusting both fuel oil and biomass in the future since those units will be switching from fuel oil to natural gas for start-up periods and operations. The petitioners indicated that continued use of fuel oil during operation would result in higher compliance costs and higher costs per Btu. Petitioners stated that the switch to natural gas for operation requires replacement of start-up fuel systems, and that the most efficient and least emitting start-up systems use specialized burners for gas.

We note that EPA collected information from owners and operators of combustion units across a wide variety of industries in its development of emissions standards for boilers and process heaters under section 112 of the Clean Air Act. In that context, based on the information submitted by industry (including petitioners and others), EPA concluded that units that combust solid fuels generally used fuel oil or natural gas only as a startup fuel. EPA concluded that changing the fuel type in such units would generally require extensive changes to the fuel handling and feeding system, as well as modification to the burners and combustion chambers. 75 FR 32006, 32017. For these reasons, EPA treated these units as units designed to combust solid fuels (including biomass). Further, the information submitted for the ICR indicated that some biomass units may combust fuel oil at other times, for example, for transient flame stability purposes if they are combusting biomass with a high moisture content. However, the ICR did not indicate the amount of fuel oil being combusted, or whether fuel oil was combusted alone or in conjunction with solid fuel, such as biomass. Therefore, at the time of the development of the boiler MACT, EPA did not have any information, including information submitted in response to the ICR, indicating there are units designed to burn solid fuel which commonly switch between combusting biomass and fuel oil or otherwise combusted fuel oil as part of normal operation.

Information related to dibenzofurans and dioxins. As discussed above, the Agency requested data on dibenzofuran and dioxins, in large part because dibenzofuran is known to be present in CTRTs and listed as a HAP under CAA section 112 and dioxins are a pollutant under CAA sections 112 and 129.

Petitioners submitted an explanatory document in response to the Agency's request.[102] The document provided additional information regarding (a) the presence of dibenzofuran in creosote and creosote-treated wood, and (b) whether the presence of dibenzofuran can indicate the concurrent presence of the polychlorinated versions of these compounds, viz., polychlorinated dibenzo p-dioxins and dibenzofurans (PCDD/F—often collectively termed dioxins).

The petitioners' data confirms the presence of dibenzofurans. Petitioners acknowledged that coal tar creosote used in preparing railroad ties may have levels of dibenzofuran up to 4.5% or 45,000 ppm, and dibenzofuran concentrations measured in seven samples of railroad ties previously treated with creosote ranged from 570 to 1,500 ppm. However, as indicated by

[98] American Forest and Paper Association and American Wood Council's letter to George Faison, EPA. March 7, 2013.

[99] American Forest and Paper Association and American Wood Council's letter to George Faison, EPA. March 7, 2013.

[100] E.O. 12866 meeting between Office of Management and Budget and American Forest and Paper Association—September 20, 2013. Meeting between American Forest and Paper Association and Mathy Stanislaus, December 19, 2013. Handouts from the meeting can be found in the docket for today's rule.

[101] Section 112(a)(1) of the CAA defines the term ''major source'' to mean any stationary source or group of stationary sources located within a contiguous area that emit or have the potential to emit in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants.

[102] American Forest and Paper Association and American Wood Council—Letter to George Faison, EPA March 7, 2013.

the petitioners, this compound should not be confused with dioxins or furans, which refers to a larger group of polychlorinated dibenzofurans and dibenzodioxins.

The Agency agrees with the petitioners explanation that dibenzofuran present in the CTRTs should not result in the formation of dioxins, but as a HAP itself, dibenzofuran is still appropriate to include in the list of SVOCs for comparison to traditional fuels.[103] Regarding dioxins, the document indicted that dioxins should not be present in the material. The Agency agrees that the level of chlorine during creosote production is not sufficient to form dioxins in coal tar creosote and therefore dioxin should not be present in CTRTs prior to combustion.

As discussed previously, the March 2011 NHSM final rule noting the presence of hexachlorobenzene and dinitrotoluene, suggested that creosote-treated lumber include contaminants at levels that are not comparable to those found in wood or coal, the fuel that creosote-treated wood would replace, and would thus be considered solid wastes. Today's proposed rule differs in several respects from the conclusions in the March 2011 rule. Today's proposal concludes that CTRTs are a categorical non-waste when combusted in units designed to burn both fuel oil and biomass. The March 2011 rule, using 1990 data on railroad cross ties, was based on contaminant comparisons to coal and biomass and not fuel oil. As discussed above, when compared to fuel oil, total SVOC contaminant concentrations (which would include dinitrotoluene and hexachlorobenzene) in CTRTs would be less that those found in fuel oil, and in fact, the 2012 data referenced in today's proposal showed non-detects for those two contaminants.

c. Other Relevant Factors in a Categorical Non-Waste Determination for CTRT

In their request for a categorical listing of CTRTs and in background information submitted subsequent to that request, petitioners argue that, in the context of a specific non-waste determination under § 241.4(a), the Agency can balance the legitimacy criteria against other relevant factors in any decision to list an NHSM categorically. See 40 CFR 241.4(b)(5). Specifically, the petitioners argue that the phrase ''designed to burn'' can be another relevant factor that the Agency can consider in making a decision on listing CTRTs categorically as a non-waste fuel. They argue that by conducting such balancing, the Agency could allow CTRTs to be burned as a non-waste fuel in any combustion unit that can combust biomass, whether or not the combustion unit is designed to burn fuel oil. Thus, the petitioners request that the Agency re-define or ignore the ''design to burn'' concept, as currently interpreted for the purposes of this categorical listing.

In arguing that the Agency can re-define or ignore the ''design to burn'' concept, petitioners identified additional relevant factors to be considered in a categorical listing for CTRTs. Specifically:

- CTRTs are functionally the same as other comparable traditional fuels, such as fossil fuels used in a fuel mix to maintain an appropriate BTU level for the biomass boilers., combusted in the same units and subject to the same air pollution controls.[104] [105]
- CTRTs are integral to the production process similar to any other fuel used and consistently have lower moisture content and higher Btu value than other biomass fuel.
- CTRTs are commodity fuels—users pay $20—$30 per ton thus the petitioners believe that the material is not being discarded.
- High levels of PAHs in CTRTs and removal of oil delivery mechanisms from units designed to combust fuel oil and CTRTs is not an indication that the material is being ''discarded'' and is thus a solid waste.[106] As discussed previously, units will be switching from fuel oil to natural gas. Such units designed to combust both fuel oil and CTRTs include stoker, bubbling bed and fluidized bed boilers. Boilers that have burned fuel oil currently or in the past will discontinue using fuel oil, however, petitioners argue that they have clearly demonstrated the ability to burn that material as a product fuel.

In general, the petitioners argue that any combustor that purchases CTRTs for use as a fuel is purchasing the material because of its fuel value and that any burning is clearly for generating energy, as opposed to discarding CTRTs. Otherwise, they argue it would lead to the absurd result that for a boiler that can burn fuel oil and CTRTs, the CTRTs would be considered a non-waste fuel, whereas another boiler that cannot burn fuel oil, but also burns CTRTs, the CTRTs would be considered a solid waste. Some recyclers and combustors, according to petitioners, have been managing CTRTs as non-waste fuel, irrespective of the type of boiler or combustion unit.

While we agree with the petitioners that the agency can list an NHSM categorically by balancing the legitimacy criteria against other relevant factors (40 CFR 241.4(b)(5)(ii), we do not agree that the Agency can simply ignore any of the legitimacy criteria, or other relevant factors, including the contaminant legitimacy criterion. In particular, the petitioners argue that any biomass material regardless of the contaminant or how contaminated it is, should be considered a non-waste fuel.

Purchase of the material as a commodity for its fuel value is a factor, but not determinative when considering whether discard has occurred. Further, elevated levels of contaminants remaining in the material can indicate that the material is being discarded. While the Agency recognizes that other relevant factors may be considered when one of the legitimacy criteria are not met, there is a limit to the levels of contamination allowed in balancing other relevant factors with the legitimacy criteria.

We do not agree with petitioner's claim that CTRT are functionally the same as other comparable traditional fuels, such as fossil fuels that are used in a fuel mix to maintain an appropriate BTU level for the biomass boilers, that are combusted in the same units and subject to the same air pollution controls. CTRT contains contaminants at levels that are not comparable to the

[103] When making contaminant comparisons for purposes of meeting the legitimacy criterion, the Agency allows grouping of contaminants. For example, under the grouping concept, individual SVOC levels may be elevated above that of the traditional fuel, but the contaminant legitimacy criterion will be met as long as total SVOCs is comparable to or less than that of the traditional fuel. Such an approach is standard practice employed by the Agency in developing regulations and is consistent with monitoring standards under CAA sections 112 and 129. See 78 FR 9146 for further information.

[104] Petitioner arguments regarding functional equivalence and use of CTRT as a commodity are also outlined in Legal Analysis Supporting Listing Railroad Tie Fuel as a Nonwaste under § 241.4(a)(January 15, 2014.) American Forest and Paper Association.

[105] To further support a finding of functional equivalency, petitioners submitted data claiming that stack emissions of PAHs (PAHs are higher in railroad ties than in coal or biomass), are controlled in the same way as all organic constituents present in the other fuels used by the boilers that combust railroad tie fuel. The Air Emissions Impact of Burning Railroad Tie-Derived Fuel. NCASI, January 2014.

[106] Petitioners also argued in their December 19, 2013 background material that high PAH levels in fuels are not related to PAH emission levels. They indicated that Boiler MACT carbon monoxide (CO) limits ensure good combustion practices by minimizing PAHs and other products of incomplete combustion (under the Boiler MACT standards, CO is a surrogate for organic HAPs such as PAHs.) Dry fuels such as CTRT increase heat value of the fuel mix improving combustion temperature and conditions.

contaminant levels in biomass, the traditional fuel the units combusting CTRT are designed to burn. As discussed, there is a limit to the levels of such contamination allowed in balancing other relevant factors and elevated levels of contaminants remaining in the material can indicate that the material is being discarded. Further, all CTRTs are not functionally the same as comparable traditional fuels since it must be processed by reclamation companies to remove metals (spikes, nails etc) and shredded into chips to make it suitable as a fuel source.

We also do not agree that CTRTs are integral to the production process. In a previous categorical determination for resinated wood, the Agency did conclude that the material was integrated into the production process and was thus a categorical non-waste (78 FR 9155). The Agency based that conclusion on information indicating that resinated wood production facilities were specifically designed to utilize that material for their fuel value, and the plants could not operate as designed without the use of resinated wood. Similar information was not received for CTRTs.

Nevertheless, we agree with petitioners that the removal of oil delivery mechanisms from units designed to combust fuel oil and CTRT is not necessarily an indication that the material is being ''discarded.'' As discussed above, units designed to combust both fuel oil and CTRT, including stoker, bubbling bed and fluidized bed boilers, are switching from fuel oil in order to combust natural gas. Boilers that have burned fuel oil currently or in the past will discontinue using fuel oil but have demonstrated the ability to burn that material.

5. Summary and Request for Comment

EPA believes it has sufficient information to list CTRTs categorically as a non-waste fuel in combustion units that are designed to burn both biomass and fuel oil. We would like to make clear that the Agency would consider units to meet this requirement if the unit combusts fuel oil as part of normal operations and not solely as part of start up or shut down operations.

At the same time, the Agency is considering an approach (based on the information described above) that would include as a categorical non-waste, CTRTs that are: (1) Combusted as part of normal operations in existing units that are designed to burn both CTRTs and fuel oil; and, (2) combusted in units at major source pulp and paper mills that are being modified in order to use clean fuel, such as natural gas instead of fuel oil. The Agency does not believe that combustion of CTRTs in boiler units that are currently designed to burn both biomass and fuel oil but are changing (i.e. removing oil delivery equipment) in order to burn natural gas should be considered discard. Information indicating that CTRTs are an important part of the fuel mix due to the consistently lower moisture content and higher Btu value, as well as the benefits of drier more consistent fuel to combustion units with significant swings in steam demand, further suggest that discard is not occurring. [107]

If EPA were to include this additional approach in the categorical listing, the CTRT could continue to be combusted only if certain conditions are met, which are all intended to ensure that the CTRTs are not being discarded. Such conditions include:

- The CTRTs must be burned in an existing stoker, bubbling bed or fluidized bed boiler;—
- The CTRTs can comprise no more than 40% percent of the fuel that is used on a monthly basis;[108]
- The boiler that burned the CTRTs must have been designed to burn both fuel oil and biomass; and
- The boiler is modifying its design to also burn natural gas.

The Agency emphasizes that the approach described above is meant to address only the current circumstance where contaminants in CTRTs are comparable to or less than the traditional fuels the unit was designed to burn (both fuel oil and biomass) but that design is modified in order to combust natural gas. The approach is not a general means to circumvent the contaminant legitimacy criterion by allowing combustion of any NHSM with elevated contaminant levels, i.e. levels not comparable to the traditional fuel the unit is currently designed to burn.

The particular facilities in this case have used CTRTs and would clearly be in compliance with the legitimacy criteria if they do not switch to the cleaner natural gas fuel. EPA believes it is appropriate to balance other relevant factors in this categorical non-waste determination and that it is appropriate for the Agency to decide that the switching to the cleaner natural gas [109] would not render the CTRTs a waste fuel in view of the historical usage which would be a product fuel in the stoker, bubbling bed and fluidized bed boilers. The nature of the CTRTs as a product fuel does not make it a waste on switching to the cleaner natural gas for the boiler.

The Agency invites comments on the proposed non-waste categorical determination and the additional approach under consideration described above. Comments should only be submitted regarding CTRTs. The Agency is not accepting comments on other wood treated with creosote. The Agency also requests comments specifically on the use of multiple fuels for contaminant comparison in evaluating whether to categorically list CTRTs, including whether fuel oil itself should be one of the traditional fuels used for comparison given the factual circumstances described above. In addition, the Agency requests any additional data that should be considered in making the comparability determination.

Regarding the additional approach under consideration, the Agency requests comment whether the approach should be applied to sources at other industries in addition to pulp and paper mills, such as utilities and co-generation plants. Regarding the condition that CTRTs can comprise no more than 40% of the fuel that is used on a monthly basis, the Agency requests comment on the appropriateness of the 40% limit as a percentage of fuel used, the monthly or yearly basis for the limit, and, if the additional approach is applied to other industries, such as utilities, what percentage (if any) would be appropriate for that industry(s). Finally, the Agency requests comment on whether combustors should be required to keep records that the conditions for burning of CTRT described above have been met.

VI. Technical Corrections

A. Change to 40 CFR 241.3(b)(2)

As NHSMs that are not solid wastes when combusted under 40 CFR 241.3(b), § 241.3(b)(2) includes reserved sections (i) and (ii). Sections (i) and (ii) were reserved in response to the new 40 CFR 241.4(a)(1) categorical non-waste

[107] The approach under consideration, if adopted, is in addition to the proposed categorical listing of CTRTs combusted in units designed to burn biomass and fuel oil. It is not an alternative approach or replacement for that proposed listing.

[108] Statements at meeting between American Forest and Paper Association and Mathy Stanislaus on December 19, 2013 indicate that, CTRT generally comprises 40% of total fuel load.

[109] The Agency recognizes natural gas as a source of clean energy. The burning of natural gas produces nitrogen oxides and carbon dioxide, but in lower quantities than burning coal or oil. Methane, a primary component of natural gas and a greenhouse gas, can also be emitted into the air when natural gas is not burned completely. Similarly, methane can be emitted as the result of leaks and losses during transportation. Emissions of sulfur dioxide and mercury compounds from burning natural gas are negligible. (see *http://www.epa.gov/cleanenergy/energy-and-you/affect/natural-gas.html*)

standards in the February 7, 2013 rulemaking. Those standards had eliminated the need for previous standards under sections (i) and (ii) related to scrap tires managed under established tire collection programs and resinated wood (see section IV.A. History of NHSM Rulemakings). However, reserving only (i) and (ii), and not the introductory sentence, led to some confusion with the categorical non-waste standards. For clarity, and to ensure consistent numbering with the following sections, we are proposing to amend 40 CFR 241.3(b)(2) by reserving paragraph (b)(2) in its entirety.

B. Change to 40 CFR 241.3(c)(1)

The description of the petition process identified in 40 CFR 241.3(c)(1) contains a typographical error. Specifically, the last sentence of the 40 CFR 241.3(c)(1) regulatory text from the February 2013 final rule states the determination will be based on whether the non-hazardous secondary material that has been discarded is a legitimate fuel as specified in paragraph (d)(1) of the section and on the following criteria.

However, the intent of this sentence is to say that the determination is based on ''whether it has or has not been discarded'' in addition to other factors. Therefore, we are proposing to amend the regulatory text in this proposed rule to add a ''not'' before ''been discarded'' and remove ''that'' after ''non-hazardous secondary material.''

C. Change to 40 CFR 241.3(d)(1)(iii)

The Agency is also making a technical correction to 40 CFR 241.3(d)(1)(iii) to clarify that the provision applies to combustion units (not just boilers). Specifically, that section of the rule identifies the legitimacy criteria for non-hazardous secondary materials relating to contaminant comparisons between the traditional fuel(s) a unit is designed to burn and the NHSM. It states that a person may choose a traditional fuel that can be burned in any type of *boiler* (emphasis added), whereas the rest of the sentence refers to the combustion unit. Like a boiler, a cement kiln that combusts any non-hazardous solid waste is subject to regulation as a Commercial or Industrial Solid Waste Incineration (CISWI) unit pursuant to section 129(g)(1) of the CAA. In order for a cement kiln not to be classified as a CISWI unit, it must use a fuel that is/has been determined to be a non-waste fuel under 40 CFR part 241 when combusted. Consistent with the section as a whole, the word ''boiler'' is replaced with ''combustion unit'' to clarify that a person may choose a traditional fuel that can be or is burned in a combustion unit, which can be a cement kiln, as well as a boiler.

VII. Effect of Today's Proposal on Other Programs

Beyond proposing to expand the list of NHSMs that categorically qualify as non-waste fuels, this proposal does not change the effect of the NHSM regulations on other programs as described in the March 2011 NHSM final rule, as amended in February 2013. Refer to Section VIII of the March 2011 NHSM final rule [110] for the discussion on the effect of the NHSM rule on other programs.

VIII. State Authority

A. Relationship to State Programs

This proposal does not change the relationship to state programs as described in the March 2011 NHSM final rule. Refer to Section IX of the March 2011 NHSM final rule [111] for the discussion on state authority including, ''Applicability of State Solid Waste Definitions and Beneficial Use Determinations'' and ''Clarifications on the Relationship to State Programs.'' The Agency, however, would like to reiterate that this proposed rule (like the March 2011 and the February 2013 final rules) is not intended to interfere with a state's program authority over the general management of solid waste.

B. State Adoption of the Rulemaking

No federal approval procedures for state adoption of today's proposed rule are included in this rulemaking action under RCRA subtitle D. Although the EPA does promulgate criteria for solid waste landfills and approves state municipal solid waste landfill permitting programs, RCRA does not provide the EPA with authority to approve state programs beyond those landfill permitting programs. While states are not required to adopt regulations promulgated under RCRA subtitle D, 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, the EPA anticipates that, if required by state law, the changes being proposed today, if finalized, will be incorporated (or possibly adopted by authorized state air programs) consistent with the state's laws and administrative procedures.

IX. Cost and Benefits

The value of any regulatory action is traditionally measured by the net change in social welfare that it generates. This rulemaking, as proposed, establishes a categorical non-waste listing for selected NHSMs under RCRA. This categorical non-waste determination allows these materials to be combusted as a product fuel in units, subject to the section 112 CAA emission standards, without being subject to a detailed case-by-case analysis of the material(s) by individual combustion facilities. The proposal establishes no direct standards or requirements relative to how these materials are managed or combusted. As a result, this action alone does not directly invoke any costs [112] or benefits. Rather, this RCRA proposal is being developed to simplify the rules for identifying which NHSMs are not solid wastes and to provide additional clarity and direction for owners or operators of combustion facilities. In this regard, this proposal provides a procedural benefit to the regulated community, as well as the states through the establishment of regulatory clarity and enhanced materials management certainty.

Because this RCRA action is definitional only, any costs or benefits indirectly associated with this action would not occur without the corresponding implementation of the relevant CAA rules. However, in an effort to ensure rulemaking transparency, we have prepared an assessment in support of this action that examines the potential scope and direction of these indirect impacts, for both costs and benefits.[113] This document is available in the docket for review and comment. Finally, we recognize that this action would indirectly affect various materials management programs and policies, and we are sensitive to these concerns. The Agency encourages comment on these effects.

The assessment document, as mentioned above, finds that facilities operating under CAA section 129 standards that are currently burning CTRTs, and no other solid wastes, and who had planned to continue burning these materials, may experience cost savings associated with the potential modification and operational adjustments of their affected units. In this case, the unit-level cost savings are estimated, on average, to be

[110] 76 FR 15456, March 21, 2011 (page 15545).

[111] 76 FR 15456, March 21, 2011 (page 15546).

[112] Excluding minor administrative burden/cost (e.g. rule familiarization).

[113] U.S. EPA, Office of Resource Conservation and Recovery, ''Assessment of the Potential Costs, Benefits, and Other Impacts *for the* Proposed Rule: Categorical Non-Waste Determination for Selected Non Hazardous Secondary Materials (NHSMs): Construction and Demolition Wood, Recycling Process Residuals, and Creosote-Treated Railroad Ties'' July 22, 2013.

approximately $266,000 per year. In addition, the increased regulatory clarity and certainty associated with this action may stimulate increased product fuel use for one or more of these NHSMs, potentially resulting in upstream life cycle benefits associated with reduced extraction of selected virgin materials.

X. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is a ''significant regulatory action'' because it may raise novel legal or policy issues. Accordingly, EPA submitted this action to the Office of Management and Budget (OMB) for review under Executive Orders 12866 and 13563 (76 FR 3821, January 21, 2011). 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 2493.01.

This action will impose a direct RCRA related burden associated with reading and understanding the rule. This burden is estimated at approximately $74 per entity and would impact facilities that generate the proposed NHSMs, and those that combust these materials as a fuel product. In addition, combustors of C&D wood must request a written certification from C&D processing facilities that the C&D wood that they intend to burn as a non-waste fuel has been processed by trained operators in accordance with best management practices, as defined in the rule. We estimate the preparation of this certification would take about 4.1 hours for processors to prepare, at a total cost of approximately $299 per statement.[114] In addition, the burner would need to receive, review and maintain the certification statement. The indirect cost for this activity is estimated at $23.40 per submission. Burden is defined at 5 CFR 1320.3(b).

The preparation of the certification statement and the need to maintain certification status is the responsibility of the processor. The combustor also would be required to maintain the certification statement on file; however, there is already an existing requirement for combustors to maintain records that show how they are in compliance with the 40 CFR 241.3 and 241.4 requirements. Thus, the requirement to maintain the certification statement provided by the processor would simply be in place of records that would need to be maintained for processed C&D wood, absent a categorical non-waste fuel determination. OMB has previously approved the information collection requirements contained in the existing NHSM regulation at 40 CFR part 241 under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. and has assigned OMB control number 2050–0205.

An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in 40 CFR are listed in 40 CFR part 9.

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–2013–0110. Submit any comments related to the ICR to EPA and OMB. See **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 April 14, 2014, a comment to OMB is best assured of having its full effect if OMB receives it by May 14, 2014. 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 proposed rule on small entities, small entity is defined as: (1) A small business as defined by the SBA's 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; or (3) a small organization that is any not-for-profit enterprise that 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. In determining whether a rule has a significant economic impact on a substantial number of small entities, the impact of concern is any significant *adverse* economic impact on small entities, since the primary purpose of the regulatory flexibility analysis is to identify and address regulatory alternatives ''which minimize any significant economic impact of the rule on small entities.'' 5 U.S.C. 603 and 604. Thus, an agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, or otherwise has a positive economic effect on all of the small entities subject to the rule.

The proposed addition of the three NHSMs to the list of categorical non-waste fuels is expected to indirectly reduce materials management costs. In addition, this action will reduce regulatory uncertainty associated with these materials and help increase management efficiency. We have therefore concluded that today's proposed rule will relieve regulatory burden for all affected small entities. 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 action contains no Federal mandates under the provisions of Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), 2 U.S.C. 1531–1538 for State, local, or tribal governments or the private sector. UMRA generally excludes from the definition of ''Federal intergovernmental mandate'' duties that

[114] U.S. EPA, Office of Resource Conservation and Recovery, ''Assessment of the Potential Costs, Benefits, and Other Impacts *for the* Proposed Rule: Categorical Non-Waste Determination for Selected Non Hazardous Secondary Materials (NHSMs): Construction and Demolition Wood, Recycling Process Residuals, and Creosote-Treated Railroad Ties'' July 22, 2013. [Appendix C]

arise from participation in a voluntary Federal program. Affected entities are not required to manage the proposed additional NHSMs as non-waste fuels. As a result, this action may be considered voluntary under UMRA. Therefore, this action is not subject to the requirements of sections 202 or 205 of the UMRA.

This action 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. In addition, this proposal will not impose direct compliance costs on small governments.

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 proposed rule will not impose direct compliance costs on state or local governments and will not preempt state law. Thus, Executive Order 13132 does not apply to this action.

In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA 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. Potential aspects associated with the categorical non-waste fuel determinations under this proposed rule may invoke minor indirect tribal implications to the extent that entities generating or consolidating these NHSMs on tribal lands could be affected. However, any impacts are expected to be negligible.

EPA specifically solicits additional comment on this proposed action from tribal officials.

G. Executive Order 13045: Protection of Children From Environmental Health Risks 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. Based on the discussion below, the Agency found that the populations of children near potentially affected boilers are either not significantly greater than national averages, or in the case of landfills, may potentially result in reduced discharges near such populations.

The proposed rule, in conjunction with the corresponding CAA rules, may indirectly stimulate the increased fuel use of one or more of the three NHSMs by providing enhanced regulatory clarity and certainty. This increased fuel use may result in the diversion of a certain quantity of these NHSMs away from current baseline management practices. Any corresponding disproportionate impacts among children would depend upon whether children make up a disproportionate share of the population living near the affected units. Therefore, to assess the potential an indirect disproportionate effect on children, we conducted a demographic analysis for this population group surrounding CAA section 112 major source boilers, municipal solid waste landfills, and construction and demolition (C&D) landfills for the Major and Area Source Boilers rules and the CISWI rule.[115] We assessed the share of the population under the age of 18 living within a three-mile (approximately five kilometers) radius of these facilities.

For major source boilers, our findings indicate that the percentage of the population in these areas under age 18 years is generally the same as the national average.[116] In addition, while the fuel source and corresponding emission mix for some of these boilers may change as an indirect response to this rule, emissions from these sources would remain subject to the protective CAA section 112 standards. For municipal solid waste and C&D landfills, we do not have demographic results specific to children. However, using the population below the poverty level as a rough surrogate for children, we found that within three miles of facilities that may experience diversions of one or more of these NHSMs, low-income populations, as a percent of the total population, are disproportionately high relative to the national average. Thus, to the extent that these NHSMs are diverted away from municipal solid waste or C&D landfills, any landfill-related emissions, discharges, or other negative activity potentially affecting low-income (children) populations living near these units are likely to be reduced. Finally, transportation emissions associated with the diversion of some of this material away from landfills to boilers are likely to be generally unchanged, while these emissions are likely to be reduced for on-site generators of paper recycling residuals that would reduce off-site shipments.

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

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.

I. National Technology Transfer and 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.

[115] The extremely large number of area source boilers and the absence of site-specific coordinates prevented us from assessing the demographics of populations located near these sources. In addition, we did not assess child population percentages surrounding cement kilns that may use some out-of-service railroad crossties for their thermal value.

[116] U.S. EPA, Office of Resource Conservation and Recovery. *Summary of Environmental Justice Impacts for the Non-Hazardous Secondary Material (NHSM) Rule, the 2010 Commercial and Industrial Solid Waste Incinerator (CISWI) Standards, the 2010 Major Source Boiler NESHAP and the 2010 Area Source Boiler NESHAP.* February 2011.

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 has concluded that it is not practicable to determine whether there would be disproportionately high and adverse human health or environmental effects on minority and/or low-income populations from this proposed rule. However, the overall level of emissions, or the emissions mix from affected boilers are not expected to change significantly because the three NHSMs proposed to be categorically listed as non-waste fuels are generally comparable to the types of fuels that these combustors would otherwise burn. Furthermore, these units remain subject to the protective standards established under CAA Section 112.

Our environmental justice demographics assessment conducted for the prior rulemaking [117] remains relevant to this action. This assessment reviewed the distributions of minority and low-income groups living near potentially affected sources using U.S. Census blocks. A three-mile radius (approximately five kilometers) was examined in order to determine the demographic composition (*e.g.,* race, income, etc.) of these blocks for comparison to the corresponding national compositions. Findings from this analysis indicated that populations living within three miles of major source boilers represent areas with minority and low-income populations that are higher than the national averages. In these areas, the minority share [118] of the population was 33 percent, compared to the national average of 25 percent. For these same areas, the percent of the population below the poverty line (16 percent) was higher than the national average (13 percent).

In addition to the demographics assessment described above, we also considered the potential for non-combustion environmental justice concerns related to the potential incremental increase in NHSMs diversions from current baseline management practices. These may include the following:

- *Reduced upstream emissions resulting from the reduced production of virgin fuel:* Any reduced upstream emissions that may occur in response to reduced virgin fuel mining or extraction may result in a human health and/or environmental benefit to minority and low-income populations living near these projects.
- *Alternative materials transport patterns:* Transportation emissions associated with NHSMs diverted from landfills to boilers are likely to be similar, except for on-site paper recycling residuals, where the potential for less off-site transport to landfills may result in reduced truck traffic and emissions where such transport patterns may pass through minority or low-income communities.
- *Change in emissions from baseline management units:* The diversion of some of these NHSMs away from disposal in landfills may result in a marginal decrease in activity at or near these facilities. This may include non-adverse impacts, such as marginally reduced emissions, odors, groundwater and surface water impacts, noise pollution, and reduced maintenance cost to local infrastructure. Because municipal solid waste and C&D landfills were found to be located in areas where minority and low-income populations are disproportionately high relative to the national average, any reduction in activity and emissions around these facilities is likely to benefit (even if only marginally) the citizens living near these facilities.

Finally, this rule may help to accelerate the abatement of any existing stockpiles of these NHSM materials. To the extent that these stockpiles may have negative human health or environmental implications, minority and/or low-income populations that live near such stockpiles may experience marginal health or environmental improvements. Aesthetics may also be improved in such areas.

As previously discussed, this RCRA action alone does not directly require any change in the management of these NHSMs. Any potential materials management changes, and corresponding impacts to minority and low-income communities, should be considered indirect responses to this rulemaking, and would only occur when this rule is implemented in conjunction with the corresponding CAA rules.

List of Subjects in 40 CFR Part 241

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

Dated: March 24, 2014.

Gina McCarthy,

Administrator.

For the reasons stated in the preamble, Title 40, chapter I, of the Code of Federal Regulations is proposed to be amended as follows:

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

■ 1. The authority citation for part 241 continues to read as follows:

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

Subpart A—General

■ 2. Section 241.2 is amended by adding the definitions for ''Construction and demolition (C&D)'', ''Creosote treated railroad ties'', and ''Paper recycling residuals'' in alphabetical order to read as follows:

§ 241.2 Definitions.

* * * * *

Construction and demolition (C&D) wood means wood that is generated from the processing of debris from construction and demolition activities for the purposes of recovering wood. C&D wood from *construction* activities results from cutting wood down to size during installation or from purchasing more wood than a project ultimately requires. C&D wood from *demolition* activities results from dismantling buildings and other structures or removing materials during renovation.

* * * * *

Creosote treated railroad ties means railway support ties treated with a wood preservative containing creosols and phenols and made from coal tar oil.

* * * * *

Paper recycling residuals means the co-product material generated from the paper recycling process and is

[117] U.S. EPA, Office of Resource Conservation and Recovery. *Summary of Environmental Justice Impacts for the Non-Hazardous Secondary Material (NHSM) Rule, the 2010 Commercial and Industrial Solid Waste Incinerator (CISWI) Standards, the 2010 Major Source Boiler NESHAP and the 2010 Area Source Boiler NESHAP.* February 2011.

[118] This figure is for overall population minus white population and does not include the Census group defined as ''White Hispanic.''

composed primarily of wet strength and short wood fibers that cannot be used to make new paper and paperboard products. The term paper processing residuals also includes fibers from old corrugated container rejects.

* * * * *

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

■ 3. Section 241.3 is amended by revising paragraphs (b)(2), (c)(1) introductory text, and (d)(1)(iii) to read as follows:

§ 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.

* * * * *

(b) * * *

(2) [Reserved]

* * * * *

(c) * * *

(1) Submittal of an application to the Regional Administrator for the EPA Region where the facility or facilities are located or the Assistant Administrator for the Office of Solid Waste and Emergency Response 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 fuel product. The determination will be based on whether the non-hazardous secondary material has not been discarded is a legitimate fuel as specified in paragraph (d)(1) of this section and on the following criteria:

* * * * *

(d) * * *

(1) * * *

(iii) The non-hazardous secondary material must contain contaminants or groups of contaminants at levels comparable in concentration to or lower than those in traditional fuel(s) which the combustion unit is designed to burn. In determining which traditional fuel(s) a unit is designed to burn, persons may choose a traditional fuel that can be or is burned in the particular type of combustion unit, whether or not the unit is permitted to burn that traditional fuel. In comparing contaminants between traditional fuel(s) and a non-hazardous secondary material, persons can use data for traditional fuel contaminant levels compiled from national surveys, as well as contaminant level data from the specific traditional fuel being replaced. To account for natural variability in contaminant levels, persons can use the full range of traditional fuel contaminant levels, provided such comparisons also consider variability in non-hazardous secondary material contaminant levels. Such comparisons are to be based on a direct comparison of the contaminant levels in both the non-hazardous secondary material and traditional fuel(s) prior to combustion.

* * * * *

■ 4. Section 241.4 is amended by revising the section heading and adding paragraphs (a)(5), (6), and (7) to read as follows:

§ 241.4 Non-waste determinations for specific non-hazardous secondary materials when used as a fuel.

(a) * * *

(5) Construction and demolition (C&D) wood processed from C&D debris according to best management practices. Combustors of C&D wood must obtain a written certification from C&D processing facilities that the C&D wood has been processed by trained operators in accordance with best management practices. Best management practices for purposes of this categorical listing must include sorting by trained operators that excludes or removes the following materials from the final product fuel: Non-wood materials (*e.g.,* polyvinyl chloride and other plastics, drywall, concrete, aggregates, dirt, and asbestos), and wood treated with creosote, pentachlorophenol, chromated copper arsenate, or other copper, chromium, or arsenical preservatives. In addition:

(i) C&D processing facilities that use positive sorting—where operators pick out desirable wood from co-mingled debris—must either:

(A) Exclude all painted wood from the final product fuel,

(B) Use X-ray Fluorescence to ensure that painted wood included in the final product fuel does not contain lead-based paint, or

(C) Require documentation that a building has been tested for and does not include lead-based paint before accepting demolition debris from that building.

(ii) C&D processing facilities that use negative sorting—where operators remove contaminated or otherwise undesirable materials from co-mingled debris—must remove fines (*i.e.,* small-sized particles that may contain relatively high concentrations of lead and other contaminants) and either:

(A) Remove painted wood,

(B) Use X-ray Fluorescence to detect and remove lead-painted wood, or

(C) Require documentation that a building has been tested for and does not include lead-based paint before accepting demolition debris from that building.

(6) Paper recycling residuals, including old corrugated cardboard (OCC) rejects, generated from the recycling of recovered paper and paperboard products and burned on-site by paper recycling mills whose boilers are designed to burn solid fuel.

(7) Creosote-treated railroad ties that are processed and combusted in units designed to burn both biomass and fuel oil.

* * * * *

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