Non-Hazardous Secondary Materials (NHSM) Rule:
Comparable Contaminant Guidance Concept Paper

Background

- The NHSM rule under the Resource Conservation and Recovery Act (RCRA) identifies which non-hazardous secondary materials are, or are not, solid wastes when burned in combustion units for the purpose of determining whether Clean Air Act (CAA) section 112 or 129 requirements apply to the combustion of those materials.

- The NHSM Rule was issued after the U.S. Court of Appeals for the District of Columbia Circuit's 2007 decision to vacate and remand to the U.S. Environmental Protection Agency (EPA) the Commercial and Industrial Solid Waste Incinerator Definition rule and the Boiler maximum achievable control technology (MACT) rule. Under the Court's decision, any unit combusting any "solid waste" at all must be regulated as a solid waste incineration unit. Because section 129 of the CAA defines "solid waste" as having the meaning established by EPA under RCRA, the definition is critical to the Agency's ability to finalize emission standards for boilers and incinerators under sections 112 and 129 of the CAA, respectively.

- The rule maintains industry's flexibility to use traditional fuels, including clean biomass and fossil fuels, as well as to legitimately recycle secondary materials as alternatives to traditional fuels.

- To address questions raised by industry, assist them in making determinations under the rule, and ensure their use of the flexibility embodied in the rule, EPA plans to issue guidance acknowledging that many common and appropriate secondary materials could be used as product fuels under the rule. The guidance is intended to provide a transparent and predictable approach that achieves the goals of RCRA.

- A key element in determining whether a secondary material is being legitimately recycled (and therefore is not a solid waste) is whether the concentrations of contaminants in the secondary materials are comparable to the concentrations of those same contaminants in traditional fuels. This concept is important in determining whether a material is being used as a product fuel or is also being burned to destroy waste materials. That is, even if burned as a fuel, a secondary material would be a waste if contaminants are present at excessive levels. The contaminants of interest in this case are the hazardous air pollutants (HAPs) and criteria air pollutants identified in sections 112 and 129 respectively of the CAA.[1]

Guidance Concept

- The rule provides flexibility to industry regarding which traditional fuel or fuels should be used in its comparison of contaminant levels. It is well-recognized that there is a range of contaminants in any

[1] While industry could use this guidance in evaluating their secondary materials to determine whether contaminant levels are comparable to traditional fuels, persons can develop their own methodology or use their own data. Any use of additional data or an alternate methodology would be evaluated by EPA when determining whether the legitimacy criteria have been met.

traditional fuel, and our guidance would assist in determining whether the range of contaminants in the secondary material is comparable to those found in traditional fuels. As stated in the rule, a facility can make contaminant comparisons to the traditional fuel being burned in the combustion unit, as well as comparisons to any traditional fuel the combustion unit is designed to burn. The latter includes traditional fuels that can be burned, although they may not currently be burned or recognized under current facility permits. In other words, if a facility burns biomass in its combustion unit, but that same combustion unit could also burn coal, the facility could compare its secondary material to either traditional fuel.

- Through this guidance, EPA intends to offer a methodological example that the regulated community could use to determine whether their secondary materials are comparable to traditional fuels in terms of contaminant levels. EPA intends to use all available data for traditional fuels and clarify how the NHSM data could be compared to traditional fuels using common statistical methods. Industry and other interested parties could use these data, but they could also supplement it with additional data they may have.

    - The Agency has collected considerable information regarding the levels of various contaminants in traditional fuels. EPA plans to update its traditional fuels data to reflect the most recent information used in developing the recent CAA rules. In the guidance, EPA intends to share this information with the regulated community and explain how combustors can use the methodology.

Contaminant Comparison

- The guidance would clarify how contaminant comparisons could be done under the rule. There are several options that the guidance may address. For example:

    - Consolidating the data into three traditional fuel categories: solid fuels, liquid fuels, and gaseous fuels (e.g., the solid fuel category could include all the data for coal, wood and other solid clean biomass materials).

    - Using a simplified list of surrogate measurements for the large number of compounds on the HAP list (e.g., grouping some of the 185 HAPs into categories such as total volatile organics (VOC), total hydrocarbons (THC), total organic halogens, volatile metals, semi-volatile metals, others).

    - We note that industries using NHSM include a widely diverse universe of facilities and emissions sources that represent similarly diverse process variations and operating conditions. In some cases, it could be impracticable to identify and quantify every individual compound that may result in emissions of air pollutants (see definition of contaminant section in 40 CFR 241.2).

    - We also note that quantifying groups of compounds may be a reasonable mechanism to compare contaminant levels. Some constituents are not practicable to measure and analyze

at low concentrations, and shared chemical properties lead compounds within each group to behave similarly in combustion units, which results in similar environmental emissions.

- Recommending an approach for how the regulated community could demonstrate compliance. The approach will capture the full variability represented by data on traditional fuels that EPA or any facility can obtain.[2]

- Although the Agency believes that its updated traditional fuel data will aid the regulated community in making determinations under the rule, the guidance will make clear that facilities could use their own data as the basis for this comparison, if it is reasonable to use such data.

- This assessment could be based on either direct measurement of contaminants (or possibly classes of contaminants) or rely on the knowledge of the facility operator that the contaminants are present at comparable levels. This assessment could occur only once, provided the facility continues to operate in the same way and uses the same type of secondary material as when the assessment was made.

- An important administrative tool under the rule for identifying appropriate uses of secondary materials by an industry is the process for receiving a formal determination from EPA that a material combusted outside the control of the generator has not been discarded and is not a solid waste. Such petitions may be submitted by an industry utilizing the methodologies outlined above for a whole category of non-hazardous secondary materials, for a particular type of combustor, or for specific individual combustors.

- EPA believes its planned guidance is a reasonable approach to its obligation to identify the solid waste incineration units subject to Section 129 standards for Commercial and Industrial Solid Waste Incinerators. The guidance being developed would supplement the discussion in the preamble and provide clarity to facilities about the secondary materials that they burn as fuels.

[2] The NHSM rule states that contaminant levels may be considered comparable even if levels are within a small range above levels typically found in traditional fuels. Thus, a facility can determine that contaminant levels (whether individually or as classes of contaminants) present in their secondary material may be comparable even if they are present above levels typically found in the traditional fuels, provided such levels are within a small range.