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February 2, 2009

EPA Docket Center (EPA/DC)  
United States Environmental Protection Agency  
U.S. EPA (2822T)  
1200 Pennsylvania Avenue NW  
Washington, D.C. 20460

**Re: Comments of the National Association of Clean Water Agencies (NACWA) on U.S. EPA's Advanced Notice of Proposed Rulemaking, 74 Fed. Reg. 41 (January 2, 2009) Seeking Input on Defining "Solid Waste" as it Applies to Non-Hazardous Materials**

Attention Docket ID No. EPA-HQ-RCRA-2008-0329

Dear Sir or Madam:

These comments are submitted by the National Association of Clean Water Agencies ("NACWA") in response to the United States Environmental Protection Agency's ("EPA's") January 2, 2009 request for public comments on the meaning of "solid waste" under the Resource Conservation and Recovery Act ("RCRA") published at 74 Fed. Reg. 41-61. NACWA asks that EPA clarify in its upcoming rulemaking that "solid waste" does not include the sewage sludge (biosolids) processed at Publicly Owned Treatment Works ("POTWs") that are the "solid and dissolved materials in domestic sewage" that Congress expressly exempts from its definition of solid waste at 42 U.S.C. § 6903(27). The solid waste definition rule presents an opportunity to clarify and codify that the statutory Domestic Sewage Exclusion applies to the sewage sludge extracted from domestic sewage and combusted or land applied. Express exclusion of POTW sewage sludge from the definition of solid waste is consistent with NACWA's position that sewage sludge incinerators ("SSIs") should be regulated under Section 112 instead of Section 129 of the Clean Air Act ("CAA").

NACWA represents the interests of nearly three hundred of the nation's POTWs, which collectively serve the majority of the sewered population in the United States. For over thirty-five years, NACWA has maintained a leadership role in legal and policy issues affecting clean water agencies, and has been at the forefront of the development and implementation of scientifically-based, technically-sound, and cost-effective environmental programs for protecting public and ecosystem health. Congress' Domestic Sewage Exclusion recognizes the unique function and purpose of

POTWs as distinct from other types of wastewater treatment. POTWs perform a necessary public function that protects the environment. From 1968 to 1995, POTWs served 35% more people while decreasing the biochemical oxygen demand of their discharges by 45% and significantly improving dissolved oxygen levels in 73% of major river basins. They also have made and continue to make significant strides in reducing contaminants and returning many watersheds to a condition acceptable for recreation. Without POTWs, the waste of approximately 190 million people living within their service areas would go untreated. POTWs have been, and continue to be, committed to serving their communities and improving environmental quality through compliance with the Clean Water Act ("CWA").

POTWs are authorized under the CWA to impose pretreatment obligations and other restrictions on dischargers to the sewer system. This enables POTWs to protect their treatment systems and helps ensure that the sewage sludge extracted meets the criteria necessary for future beneficial use.

Sewage sludge processed at POTWs must meet strict health-based standards established under the CWA. The CWA requires EPA to identify pollutants "which, on the basis of available information on their toxicity, persistence, concentration, mobility or potential for exposure, may be present in sewage sludge in concentrations which may adversely affect public health or the environment." CWA § 405(d)(2)(A), 33 U.S.C. § 1345(d)(2)(A). The numerical limits and management practices promulgated by EPA must be "adequate to protect public health and the environment from any reasonably anticipated adverse effects of each pollutant." CWA § 405(d)(2)(D). EPA proceeded to establish these health-based limits at 40 CFR Part 503 as the standards for the use or disposal of sewage sludge. When promulgating these standards, EPA used exposure assessment models with conservative assumptions that overstated risk to derive numerical pollutant limits that protect individuals from events that are likely to occur and to protect public health and the environment from the reasonably anticipated adverse effects of each pollutant. *See* 58 Fed. Reg. 9248, 9249, 9277 (Feb. 19, 1993).

When looking to update these health-based standards, EPA has various options. The agency could conclude, as courts have, that Congress intended POTW sewage sludge to be regulated comprehensively under the CWA. *See Natural Resources Defense Council v. EPA*, 790 F.2d 289 (3rd Cir. 1986) (directing EPA to meet the CWA's "command for a comprehensive framework to regulate the disposal and utilization of sludge ..."). The CWA requires that EPA review its sewage sludge regulations "from time to time but not less often than every two years ... for the purpose of identifying additional toxic pollutants and promulgating regulations for such pollutants." CWA § 405(d)(2)(D). EPA need not look beyond the CWA for its authority to comprehensively regulate the use and combustion of sewage sludge consistent with the best available scientific information.

EPA may also look to the Clean Air Act ("CAA") to regulate SSIs for health-based standards as it has already done for technology-based standards at 40 CFR Part 60, Subpart O. However, since Congress has declared the solid material in domestic sewage excluded from the definition of "solid waste," EPA should not look to CAA Section 129 to regulate sewage sludge combustion. Section 129 is limited to solid waste incinerators and as indicated above and explained more completely below POTW SSIs are not combusting solid wastes and should not be included in Section 129. If CAA regulation is required, NACWA prefers regulation of SSIs under Section 112 for hazardous air pollutants and that they be consistent with the Part 503(E) regulations under the CWA that protect human health and the environment. Previous EPA determinations have confirmed in 2005 and 2007 that SSIs are more appropriately regulated under Section 112 instead of Section 129.

NACWA asks that EPA clarify in its upcoming solid waste definition rule that “solid waste” does not include sewage sludge from the processing of domestic sewage. This will clarify the proper path for potential regulation of SSIs under Section 112 of the CAA.

### **General Comments**

#### **I. Sewage Sludges Processed at POTWs are Not a Solid Waste**

##### **A. The Resource Conservation and Recovery Act (“RCRA”) Expressly Excludes the Solid and Dissolved Material to be Processed at POTWs from the Definition of Solid Waste Through the Domestic Sewage Exclusion**

The CAA defines solid waste by referencing the definition of solid waste under RCRA: “The term ‘solid waste’ . . . shall have the meaning established by the Administrator pursuant to the Solid Waste Disposal Act [commonly referred to as RCRA].” CAA § 129(g)(6). 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, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but *does not include solid or dissolved material in domestic sewage . . .*<sup>1</sup>

42 U.S.C. § 6903(27) (emphasis added). This expressly excludes the sewage sludge in domestic sewage from the definition of “solid waste” in what is commonly referred to as the “Domestic Sewage Exclusion.”

##### **B. The Domestic Sewage Exclusion Encompasses Sewage Sludge Processed at POTWs**

Both Congress and EPA have stated that the Domestic Sewage Exclusion includes the sewage sludge processed at POTWs. After all, sewage sludges are simply the “solid and dissolved materials in domestic sewage” that are filtered and extracted during the wastewater treatment process. These are the very materials that the Domestic Sewage Exclusion is designed to exclude from solid waste regulation. Congress and EPA also have stated repeatedly that the Domestic Sewage Exclusion continues to apply to sewage sludge when a POTW treats non-domestic sources discharged into the domestic sewage system.

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<sup>1</sup> The definition specifically excludes: (1) incinerators or other units which are Treatment, Storage and Disposal Facilities (TSDFs) under RCRA; (2) materials recovery facilities which combust waste for the primary purpose of recovering metals; (3) “qualifying small power production facilities” and “qualifying cogeneration facilities” which burn homogeneous waste (such as tires or used oil) for the production of electric energy or electric energy and steam or forms of useful energy; and (4) air curtain incinerators, provided that such incinerators burn only wood wastes, yard wastes, and clean lumber. *Id.*

1. Congress Has Explicitly Considered the Scope of the Domestic Sewage Exclusion and Concluded That the Exclusion Encompasses Sewage Sludge from the POTW Process.

During the 1992 RCRA Amendment process, Congress specifically considered the scope of the Domestic Sewage Exclusion in the context of hazardous waste regulation. At that time, Senator Chafee clearly confirmed that sewage sludge extracted from a domestic sewer system is covered by the Domestic Sewage Exclusion even when the system is receiving industrial wastewater through sewer connections:

Sewage treatment plants operated by local governments - POTWs - have a special exemption called the domestic sewage exclusion under RCRA. ***If most of the waste received by a POTW is domestic sewage, their sludge and wastewater is exempt from hazardous industrial waste regulation even if they are also receiving hazardous industrial waste through sewer connections.***

138 Cong. Rec. 514755, 514758 (1992) (emphasis added). Senator Chafee's statement is also reflected in the Senate reports of the Committee on Environment and Public Works during consideration of the 1992 RCRA Amendments:

"Currently, the volume of hazardous waste discharged to sewers in the U.S. is greater than the volume of hazardous waste that is managed in facilities regulated under subtitle C of RCRA. The material disposed in sewers is, however, not considered a hazardous waste because the definition of solid waste at section 1004(27) of RCRA ***excludes material that is mixed with domestic sewage.***"

S. REP. 102-301, at 91 (1992). The Committee further stated:

Although section 421 limits the domestic sewage exclusion for industrial discharges, it does not in any way change the status of the POTWs with respect to regulation under subtitle C. The amendment specifically provides that ***POTWs shall not be considered hazardous waste treatment, storage or disposal units, even if an industrial discharger should discharge a hazardous waste to the POTW in violation of the revised statute.***

S. Rep. 102-301, at 92 (1992) (emphasis added). EPA recognized this congressional intent to include indirect industrial discharges processed by POTWs within the Domestic Sewage Exclusion during its 1980 consideration of hazardous waste rules when it stated, "[t]he exclusion of domestic sewage and mixtures that pass through sewer systems to POTW's is based on Congressional intent . . . ." 45 Fed. Reg. 33084, 33098 (May 19, 1980). While these statements are all made in the context of hazardous waste regulation, they are no less relevant when crafting exclusions for solid waste under regulations for non-hazardous materials, as they refer to the Section 1004(27) statutory definition of solid waste which applies to both the hazardous waste (Subtitle C) and nonhazardous waste (Subtitle D) sections of RCRA. Congress has had ample opportunity to adjust the requirements of the CWA or to adjust the Domestic Sewage Exclusion, and it is significant that it has not done so.

2. Previous EPA Rulemakings Recognize the Congressional Intent that the Domestic Sewage Exclusion Includes Sewage Sludge from POTWs.

EPA has revisited the definition of solid waste many times during the development of hazardous waste regulations, and each time has incorporated the Domestic Sewage Exclusion into the regulatory definition of solid waste. *See* 40 C.F.R. § 240.101(y); 40 C.F.R. § 243.101(y); 40 C.F.R. § 246.101(bb); 40 C.F.R. § 257.2; 40 C.F.R. § 258.2; 40 C.F.R. § 261.4. EPA has repeatedly recognized the congressional intent that the Domestic Sewage Exclusion includes sewage sludge processed at POTWs and has regulated accordingly.

Perhaps the clearest example of EPA's exclusion of POTW sewage sludge from the definition of solid waste in reliance on the Domestic Sewage Exclusion under RCRA is found in EPA's promulgation of a rule to identify and list hazardous wastes for petroleum refinery process wastewaters. In the Preamble to the Final Rule (November 2, 1990), EPA concludes that POTW sewage sludge falls within the Domestic Sewage Exclusion:

It should be noted that if wastewaters generated at petroleum refineries are discharged to a POTW and such wastewaters are mixed with domestic sewage from nonindustrial sources, ***the sludges generated in the POTW are covered under the domestic sewage exclusion*** and are not included in today's listings.

55 Fed. Reg. 46354, 46364 (November 2, 1990) (emphasis added). EPA also has adopted the position that POTWs do not lose the Domestic Sewage Exclusion when they receive non-domestic wastes into their sewer system in the following definition of "solid waste" in the hazardous waste regulations:

The following materials are not solid wastes for the purpose of this subpart:  
(1)(i) Domestic sewage; and (ii) ***any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly-owned treatment works for treatment.***

40 C.F.R. § 261.4 (emphasis added). Both Congress and EPA have been clear about the scope of the Domestic Sewage Exclusion. The Exclusion specifically applies to domestic sewage, and includes the sewage sludge from POTWs that process domestic sewage with other wastes that pass through the domestic sewer system.

POTW sewage sludges have been consistently excluded from regulation as a solid waste under RCRA's scheme for protecting public health and the environment during the management of hazardous wastes. NACWA requests that EPA continue to exclude POTW sewage sludge from its definition of solid waste in its rule for the management of non-hazardous materials. This Domestic Sewage Exclusion should expressly extend to the sewage sludge from POTWs whose primary function is the treatment of domestic sewage.

**C. Consistent with the Congressional Purpose for the Domestic Sewage Exclusion, EPA Should Regulate Sewage Sludge Comprehensively under the Clean Water Act**

In the Domestic Sewage Exclusion, Congress is expressing its preference for comprehensive regulation of sewage sludge under the Clean Water Act. Summarizing the legislative history, EPA concluded that the Domestic Sewage Exclusion was included in the definition of solid waste because domestic sewage passing through POTWs was already adequately regulated under the CWA. *See* 45 Fed. Reg. 33084, 33097 (May 19, 1980) (EPA summarizing Congress' reasoning behind the Domestic Sewage Exclusion). Congress has revisited the definition of solid waste since then, and has consistently reaffirmed its conclusion that sewage sludge processed by POTWs are adequately regulated under the CWA and need not be regulated under RCRA. During the consideration of the 1992 RCRA Amendments, the Senate approved the continued application of the Domestic Sewage Exclusion in stating that "[t]he rationale for the domestic sewage exclusion is that this material is already regulated under the Clean Water Act." S. Rep. No. 102-301, at 91 (1992).

Consistent with that apparent legislative preference, EPA should defer to the CWA for comprehensive regulation of all potential environmental effects of sewage sludge. EPA has regulations that govern SSI emissions under Section 405 of the CWA promulgated at 40 CFR Part 503. As mandated by Congress, the Agency identified those pollutants "which, on the basis of available information on their toxicity, persistence, concentration, mobility or potential for exposure, may be present in sewage sludge in concentrations which may adversely affect public health or the environment." CWA § 405(d)(2)(A). Also, as mandated by Congress, the numerical limits and the management practices required by the Part 503 Regulations "are adequate to protect public health and the environment from any reasonably anticipated adverse effects of each pollutant." *Id.* § 405(d)(2)(d).

In carrying out this statutory mandate, EPA enacted Part 503 regulations and described them as requiring "an unprecedented effort to assess the potential for pollutants in sewage sludge to affect public health and the environment through a number of different routes of exposure." 58 Fed. Reg. 9248 (Feb. 19, 1993). Part 503 regulations for sewage sludge incineration currently impose numeric emission limits for arsenic, beryllium, cadmium, chromium, lead, mercury and nickel; total hydrocarbon or alternative carbon monoxide emission limits; and numerous requirements regarding management practices. These requirements are risk-based standards that EPA has determined to be adequate to protect human health and the environment. Congress has further directed that EPA revisit these regulations at least every two years to ensure that they remain adequate to protect public health and the environment.

Mindful of the congressional preference for comprehensive sewage sludge regulation, NACWA asks that EPA defer to the Part 503 regulations as the primary focus of health-based regulations for sewage sludge use and combustion. To the extent necessary to meet CAA obligations, EPA should regulate the combustion of POTW sewage sludge under Section 112 for hazardous air pollutants so as not to disrupt the historic legislative and regulatory exclusion of this sewage sludge from solid waste regulation.

### **Specific Comments**

## **II. Supplementary Information to the Materials Characterization Paper for Wastewater Treatment Sludge**

NACWA asks that EPA expressly differentiate wastewater treatment sludge and POTW sewage sludge in its rule by defining “wastewater treatment sludge” to exclude the sewage sludge generated from a Publicly Owned Treatment Works processing domestic sewage. Since POTW sewage sludge is excluded from the definition of solid waste, this material does not need to be reflected in EPA’s Materials Characterization Paper for wastewater treatment sludge.

Nonetheless, NACWA supports EPA’s attempt to be well informed about each of the secondary materials listed in the ANPR and provides the following supplementary information regarding the sewage sludge processed at POTWs below in support of that attempt.

NACWA is providing more recent contaminant information from POTW sewage sludge than what exists in the Materials Characterization Paper. The Materials Characterization Paper contains data from 1980 and 1989. There has been a major improvement in biosolids quality since 1980 due to EPA’s Pretreatment and Biosolids Programs. NACWA supplies the following information generated from two POTWs owned and operated by the Northeast Ohio Regional Sewer District.

Reduction in Pollutant Concentrations in Sewage Sludge (1980 – 2004)		
Pollutant	Southerly WWTP	Westerly WWTP
Cadmium	96%	100%
Chromium	91%	92%
Copper	67%	91%
Lead	88%	98%
Nickel	87%	98%
Zinc	76%	89%

In addition, the mercury concentrations at both plants are less than 1 mg/dry kg, while the beryllium concentrations at both plants do not exceed 0.3 mg/dry kg.

These values demonstrate that the concentration of compounds of concern in sewage sludge has decreased significantly since 1980. This in turn indicates that the controls put in place for POTWs under Section 405 of the CWA are working. It also indicates that some pollutants, such as lead, are less prevalent in the environment due to other regulatory changes such as the elimination of lead from gasoline and paint.

It should be noted that many POTWs that incinerate their sewage sludge capture and reuse the excess heat in their incinerator exhaust gases. For example, by turning the excess heat from incinerator exhaust gases into high pressure steam used in plant processes and for building comfort heat, utilities are able to reduce their external energy consumption and carbon footprints. SSIs may also co-generate electricity to maximize energy recovery from sewage sludge. It is appropriate, therefore, to consider the fuel value of sewage sludge. When comparing sewage sludge with other fuels, as was done for “sludge incineration” in Exhibit 5 to the Waste Characterization Paper for Wastewater Treatment Sludge, EPA should utilize the most recent available data particularly with regard to lead and other metals that have been reduced significantly over time.

NACWA encourages EPA to use the most up to date and accurate data available as the basis for its rulemaking efforts. The 1980 and 1989 data for sewage sludge significantly overstate the risk associated with today’s

sewage sludge management. Similarly, the 1998 source for Exhibit 5's comparison of sludge incineration with other fuels may no longer be an accurate basis for regulatory decisions. Additional details may be found in a report titled "Improvements in Biosolids Quality Due to EPA's Pretreatment and Biosolids Programs" a copy of which is attached. Also, EPA just completed and published the results from its Targeted National Sewage Sludge Survey, which contains updated information on all of the 40 CFR Part 503 contaminants for nearly 100 POTWs nationwide.

### **III. Comments on the Criteria for Determining Whether a Secondary Material is a Solid Waste**

NACWA commends EPA for recognizing that some secondary materials that were previously regarded as wastes are now emerging as viable fuels due to technological and economic changes. The regulation of these alternative materials is of interest to all facilities, including POTWs, as the country begins to evaluate future fuel options. NACWA supports EPA's determination that materials to be used as fuels and ingredients should not be considered solid wastes. It is appropriate to exclude these materials, including dewatered and/or pelletized sewage sludge, from the definition of solid waste to encourage their beneficial use. NACWA encourages EPA to take a broad and flexible view of what constitutes a fuel or ingredient to maximize the environmental benefits associated with energy recovery and the beneficial reuse of secondary materials as ingredients.

#### **A. EPA Should Not use "Containment" as an Exclusive Criterion for Defining a Valuable "Commodity" that is not a Solid Waste.**

EPA's criteria for determining whether something is a "commodity" as opposed to a waste should be broad and flexible. Although "containment" may offer one way to indicate that a material has value and will be used in the future, many valuable commodities do not need to be contained to serve their beneficial use. Non-hazardous secondary materials should be considered valuable and, therefore, not a solid waste, if they have demonstrated value as an ingredient or fuel. Instead of focusing on containment, EPA should focus on whether the material has value for future use as an ingredient or fuel.

#### **B. EPA Should Employ a Qualitative System for Determining Legitimate Heating Values**

NACWA supports EPA's determination that heating value should be assessed qualitatively. Heating values of the same secondary material may vary widely depending on water content and other factors that can change as the material is processed. It would be unfortunate for this regulation to drive unnecessary processing or dewatering of secondary material just to meet a regulatory definition. As an example, the Materials Characterization Paper for Wastewater Treatment Sludge indicates broad heat value variation from 4,000 Btu to 16,700 Btu per pound of dry solids. While Btu heating value could be one way to demonstrate that a secondary material is a commodity and not a waste, it should not be a necessary criterion for a secondary material to qualify as a fuel. Furthermore, newer technologies (such as fluidized bed incinerators) have the ability to combust efficiently materials with lower heating values. To accommodate this trend in technology, and the potential for future developments that enable energy recovery from materials with even lower heat values, EPA should not set a bright line Btu value that distinguishes a fuel from a waste.



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### Conclusion

In issuing the Proposed and Final Rules, NACWA requests that EPA expressly include the following finding:

The Domestic Sewage Exclusion under RCRA expressly excludes “solid and dissolved materials in domestic sewage” from the definition of solid waste. This Exclusion includes the sewage sludge generated by Publicly Owned Treatment Works treating domestic sewage that may include non-domestic indirect discharges into the domestic sewer system. Sewage sludge from Publicly Owned Treatment Works treating domestic sewage are, therefore, excluded from the regulatory definition of “solid waste.”

NACWA also asks EPA to set flexible criteria for defining fuels and ingredients to maximize the environmental benefit derived from energy recovery and beneficial use of secondary materials.

NACWA thanks EPA for the opportunity to submit comments. If you have any questions or require additional information concerning NACWA’s position on this issue, please do not hesitate to contact me.

Respectfully submitted,



Chris Hornback  
Senior Director, Regulatory Affairs

Attachment

Cc: Robert Dominak  
Douglas A. McWilliams