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**Ken Kirk**

May 24, 2011

Honorable Lisa P. Jackson

Administrator

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**Re: Petition for Reconsideration and Stay of the Standards of Performance for  
New Stationary Sources and Emission Guidelines for Existing Sources:  
Sewage Sludge Incineration Units; Final Rule, 76 Fed. Reg. 15372-15454  
(March 21, 2011)**

Dear Administrator Jackson:

Please find enclosed the above-referenced petition by the National Association of Clean Water Agencies (NACWA) for reconsideration and stay of the newly promulgated emission limitations and other requirements under Clean Air Act § 129 applicable to sewage sludge incineration units.

NACWA Letter to Administrator Jackson

May 24, 2011

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Without action by EPA to correct the flaws in these new regulations, the emission limitations and other requirements affecting sewage sludge incinerators will have unjustified and substantial negative impacts on the municipalities and public clean water authorities who rely on incineration as the most economically and environmentally sound alternative for managing biosolids in numerous cities and towns across the United States.

Please contact me or Mr. Chris Hornback at (202) 833-9106 or [chornback@nacwa.org](mailto:chornback@nacwa.org) to discuss any questions regarding the enclosed petition.

Sincerely,

A handwritten signature in black ink, appearing to read "K Kirk". The signature is stylized with a large "K" and a cursive "Kirk".

Ken Kirk  
Executive Director

Encl.

cc: Nancy Stoner, U.S. Environmental Protection Agency

# U.S. ENVIRONMENTAL PROTECTION AGENCY

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**IN RE: PETITION FOR RECONSIDERATION AND STAY OF THE STANDARDS OF PERFORMANCE  
FOR NEW STATIONARY SOURCES AND EMISSION GUIDELINES FOR EXISTING SOURCES:  
SEWAGE SLUDGE INCINERATION UNITS; FINAL RULE  
76 *FEDERAL REGISTER* 15372-15454 (MARCH 21, 2011)  
DOCKET No. EPA-HQ-OAR-2009-0559**

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## I. INTRODUCTION

Pursuant to section 307(d)(7)(B) of the Clean Air Act (“CAA”), 42 U.S.C. § 7607(d)(7)(B), the National Association of Clean Water Agencies (“NACWA”) petitions the U.S. Environmental Protection Agency (“EPA” or “Agency”) to reconsider the final Agency action titled “Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Sewage Sludge Incineration Units,” 76 Fed. Reg. 15372 (Mar. 21, 2011), establishing emission limitations and other requirements under CAA § 129 applicable to sewage sludge incinerators (“SSI”) (the final rule is referenced herein as the “SSI Rule”). NACWA also requests that EPA stay implementation of the SSI Rule pending the reconsideration process and promulgation of regulations replacing the SSI Rule.

NACWA is a voluntary, non-profit association whose current membership includes 270 municipalities and public clean water authorities. NACWA’s members operate nearly 1,000 of the nation’s publicly-owned treatment works (“POTWs”), which collectively serve the majority of the sewered population of the United States. NACWA’s members own and operate approximately 110 – roughly half – of the SSIs affected by the SSI Rule.

For over 40 years, NACWA has maintained a leadership role in legal and policy issues affecting the public authorities responsible for cleaning the nation’s wastewater. NACWA is at the forefront of the development and implementation of scientifically based, technically sound, and cost-effective environmental programs for protecting public and ecosystem health.

NACWA and its members have long been advocates for maintaining the flexibility local communities need to choose the biosolids management approaches (namely incineration, land application or landfilling) that work best within the economic and environmental constraints unique to each locality. Congress’ intention to recognize and encourage that flexibility is expressly embodied in § 405(e) of the Federal Water Pollution Control Act, 33 U.S.C. § 1345 (“CWA”) (“The determination of the manner of disposal or use of sludge is a local determination”). However, EPA’s approach to regulating biosolids incineration under the SSI Rule gives no attention to the statutory factors required to be considered in order to balance CAA regulation with maintaining incineration as an environmentally beneficial and economically viable option for these communities.

As detailed in this petition, the CAA § 129 standards: (1) exceed EPA's authority to regulate SSIs under the CAA, (2) fail to satisfy the fundamental achievability test under both CAA §§ 112 and 129 for establishing a maximum achievable control technology ("MACT") floor level of control, (3) lack a rational basis in the rulemaking record, and (4) fail to consider and respond to numerous significant comments and criticisms of the standards. As a result, the final rule imposes numerous unlawful and unjustified standards, including:

- imposing overly stringent MACT floors for all SSIs without regard to their major source or area source classification as would be required under CAA § 112;
- imposing MACT floor controls on non-HAP pollutants without the statutory authority to require such controls;
- failing to establish subcategories recognizing fundamental class and use differences among SSIs, such as infrequently used backup units; and
- ignoring data showing variability in biosolids feed characteristics that affect the overall performance of each individual SSI – and thus affecting the overall achievability of the standards.

For the reasons explained below, EPA has not given NACWA meaningful opportunity to comment on, and therefore opportunity to influence the outcome of, many issues that are of central relevance to the SSI Rule, including the Agency's rationale for regulating SSIs under CAA § 129, the critical impact of biosolids fuel characteristics in determining SSI emissions, and revised standards that were not included in the proposed rule. Because the flaws in the SSI Rule are fundamental and pervasive – implicating the legal authority for the rulemaking, the selection of pollutants for which standards may be established, the selection of SSI subcategories, and numerous other aspects of the rule – it is impossible to carve-out and maintain segments of the SSI Rule that are not infected with serious legal and technical errors. If EPA initiates the requested reconsideration process, it will necessarily touch on essentially every aspect of the SSI Rule by potentially eliminating standards for non-HAP pollutants, altering the subcategorization scheme for MACT floor calculations, and including significantly more and more representative data in the standard setting process.

Given the magnitude of these problems, NACWA requests reconsideration and stay of the entire SSI Rule, so that we can work with EPA to correct errors through an appropriate and legally defensible notice-and-comment rulemaking process. NACWA also requests that EPA initiate this reconsideration process to address potentially inconsistent, overlapping and unnecessary requirements from and among the SSI Rule and Part 503 regulations. Rationalizing and streamlining the differing sets of requirements applying to SSIs is essential to provide regulatory clarity and reduce burdens on municipalities and clean water agencies and should not wait until some unspecified future rulemaking. *See* 76 Fed. Reg. at 15376/2-3.

## **II. STANDARDS FOR RECONSIDERATION AND STAY OF THE SSI RULE**

Under CAA § 307(d)(7)(B), EPA must convene a proceeding for reconsideration of a final Agency action if a person raising an objection can demonstrate that it was “impracticable to raise the objection” within the period for public comment and the “objection is of central relevance to the outcome of the rule.” The rulemaking requirements under § 307(d) apply to the SSI Rule. *See* CAA § 307(d)(1)(C) and (D). EPA also has independent and inherent authority under both §§ 129 and 112 to initiate a rulemaking to address legal and technical errors in the SSI Rule, and to re-set the effective date to allow time to promulgate a corrected rule.

EPA has included new provisions and new major legal interpretations in the final SSI Rule. These changes violate administrative law principles of notice-and-comment rulemaking unless EPA can show that the changes are a “logical outgrowth” of the proposed rule – *i.e.*, that the public “should have anticipated that the change was possible, and thus reasonably should have filed their comments on the subject during the notice-and-comment period.” *Environmental Integrity Project v. EPA*, 425 F.3d 992, 996 (D.C. Cir. 2005).

In addition to initiating a reconsideration process, NACWA also requests that EPA stay the SSI Rule pending review and promulgation of replacement regulations. Section 307(d)(7)(B) contains authority for EPA to stay the effective date of an action for up to three months during the reconsideration process. In addition, § 705 of the Administrative Procedure Act (“APA”), 5 U.S.C. § 705, provides independent authority for EPA to postpone the effective date of a rulemaking when the Administrator “finds that justice so requires.” Similarly, §§ 129(a)(5) and 301(a) of the CAA give EPA authority to undertake a process of correcting the SSI Rule and to establish a parallel stay where the stay is necessary to preserve the status quo so as to ensure that the correction is a complete cure, especially to keep communities from wasting scarce public resources attempting to comply with a defective rule.

The issues raised in this petition meet the standards for reconsideration and stay of the SSI Rule under both CAA § 307(d)(7)(B) and APA § 705, as well as CAA §§ 129(a)(5) and 301(a). Therefore, NACWA urges EPA to take all necessary action to stay the SSI Rule and to initiate a new rulemaking to develop replacement regulations addressing NACWA’s objections.

## **III. GROUNDS FOR RECONSIDERATION**

### **A. EPA’s Rulemaking Process**

Pursuant to an order entered in *Sierra Club v. Johnson*, 444 F. Supp. 2d 46 (D.D.C. 2006), the District Court for the District of Columbia established a series of deadlines by which EPA was to complete certain duties under CAA §§ 112(c)(3), (c)(6) and (k)(3), including adopting standards for SSIs. Prior to the comment period on the SSI Rule, the deadline for taking action under the District Court’s order was extended to January 16, 2011 to allow EPA additional time to develop the SSI Rule.

Through pre-proposal meetings and written submissions to EPA, NACWA and several of its members submitted a wide range of information on POTWs and SSIs, including, critically for this petition, information regarding the regional, seasonal and daily variability of biosolids composition as evidenced by metals concentration data available through the CWA Part 503 program, the effect such variability has on emissions from biosolids incineration, and information on the technical limitations of applying add-on control devices to SSIs.

After EPA issued its proposed SSI rule,<sup>1</sup> NACWA submitted additional information during the comment period reinforcing its earlier submissions to the Agency and raising numerous objections and recommendations for improvements. NACWA's comments on the proposed SSI rule totaled about 500 pages, including over 200 pages of narrative comments and approximately 300 pages of technical support.

Several NACWA members, including the following POTWs and municipalities, also submitted detailed comments and data on the proposed rule:

- Northeast Ohio Regional Sewer District (“NEORS”)”)
- City of Palo Alto (CA)
- Central Contra Costa (CA) Sanitary District
- Metropolitan St. Louis (MO) Sewer District
- City of Greensboro (NC)
- Green Bay (WI) Metropolitan Sewerage District
- City of Indianapolis (IN)
- City of Columbus (OH)
- Hampton Roads (VA) Sanitation District (“HRSD”)
- City of Vancouver (WA)

Together, NACWA and its members submitted over 750 pages of information and analysis demonstrating numerous legal, procedural and technical flaws in the proposed rule.

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<sup>1</sup> See “Proposed Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Sewage Sludge Incineration Units,” 75 Fed. Reg. 63260 (Oct. 14, 2010).

Eight days later, on December 7, 2010, EPA filed a motion asking the District Court to extend the deadline for completing the SSI Rule to July 15, 2011. EPA's initial and reply memoranda and the declarations submitted in support of EPA's motion<sup>2</sup> demonstrated the Agency's belief that it could not produce defensible rules for SSI units any sooner than July 15, 2011. To support its claim, EPA pointed to the over 80 individual substantive comments received on the SSI rule and the need to review and respond to all of these comments. *See* Declaration of Panagiotis E. Tsirigotis ("Tsirigotis Decl.") ¶¶32 and 48 (Encl. A, Exh. 6).

NACWA, as an intervenor in the *Sierra Club* case, supported EPA's motion, arguing that EPA needed at least the additional time requested in order to consider and respond to comments and to deal with the implications of those comments in revisions to the proposed rule. While EPA noted in its December 7 motion that it did not currently plan to re-propose the SSI rule, *see* EPA Memo pp. 3-4 (Encl. A) and Tsirigotis Decl. ¶48 (Encl. A, Exh. 6), that "plan" was clearly formulated before any review, or at least any serious review, of all comments on the SSI Rule. *See* Supplemental Declaration of Panagiotis E. Tsirigotis ("Tsirigotis Supp. Decl.") ¶32 (Encl. B) (EPA had reviewed "some" comments on the SSI Rule as of January 3, 2011, the date Mr. Tsirigotis' supplemental declaration was signed). Ultimately, the District Court extended the deadline for action on the final SSI Rule approximately one month – to February 21, 2011.

## **B. EPA's Final SSI Rule**

Likely due in part to the fact that EPA had less than 12 weeks from the end of the comment period to finalize the SSI Rule, the SSI Rule and EPA's preamble and response to comments document inadequately responded – and in several instances did not respond at all – to critical issues raised by NACWA. The preamble to the SSI Rule also contains a new and surprising explanation of EPA's thinking on the central legal issue of whether SSIs are subject to regulation under CAA § 129.

While we recognize that EPA might have corrected such errors given more time, the SSI Rule nonetheless contains demonstrably unlawful requirements that cannot withstand judicial review. Granting NACWA's petition would allow the additional time needed for EPA to develop a better understanding of this sector and the manner in which Congress intended for biosolids incineration to be regulated by overlapping CAA and CWA programs. Furthermore, EPA can still fully and fairly meet its obligations under CAA §§ 112(c)(3) and (c)(6) by regulating SSIs under § 112(d).

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<sup>2</sup> *See* enclosed "EPA's Memorandum in Support of Motion to Amend Order of March 31, 2006" ("EPA Memo") and exhibits thereto (Encl. A), and "EPA's Reply Memorandum in Support of Motion to Amend Order of March 31, 2006" ("EPA Reply Memo") and exhibits thereto (Encl. B).

The issues that are the subject of this petition fundamentally affect the legal defensibility and the implementability of the SSI Rule, as well as the impact the SSI Rule will have on NACWA's members and other owners and operators of SSIs.

NACWA has timely filed a petition for review challenging the SSI Rule.<sup>3</sup> In addition, NACWA seeks EPA reconsideration of the following specific aspects of the SSI Rule:

**1. EPA's new rationale for regulating SSIs under CAA § 129 instead of CAA § 112 is invalid.**

In pre-proposal submissions and in comments on the proposed rule, NACWA raised a comprehensive set of arguments as to why EPA is required under CAA § 112(e)(5) to establish emission standards for SSIs under § 112 instead of § 129. These arguments can be summarized as follows:

- Section 112(e)(5) requires EPA to promulgate standards under § 112(d) applicable to “publicly owned treatment works (as defined in title II of the Federal Water Pollution Control Act [33 U.S.C.A. § 1281 *et seq.*]).”
- The broad definition of “treatment works” in Title II of the CWA (and in EPA's implementing regulation) includes “any devices and systems used in the ... treatment, recycling, and reclamation of municipal sewage” and includes “any works ... used for ultimate disposal of residues resulting from such treatment” and, thus, encompasses SSIs at POTWs.
- NACWA provided examples of SSIs constructed and upgraded using CWA Title II construction grants, for which federal funding would have been illegally authorized by EPA were SSIs not within the CWA definition of “treatment works.”
- SSIs are physically and operationally integrated into the specific POTWs they serve and are an essential part of the solids treatment process. Without their SSIs, these POTWs could not continue to operate unless they switch to another biosolids management option, which is a major undertaking involving physical changes to the POTWs.
- EPA has repeatedly taken the position that SSIs as a source category are to be regulated under CAA § 112. Our comments provided references to such statements (formal and informal) from 1992 through 2002.

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<sup>3</sup> See enclosed Petition for Review and Rule 26.1 Disclosure Statement (Encl. C) filed on May 6, 2011 with the U.S. Court of Appeals for the District of Columbia Circuit (“D.C. Circuit”).



In the proposed rule, the sum total of EPA's statements on this topic was that it "has taken the position in its regulation of POTW under the Clean Air Act that section 112(e)(5) does not apply to SSI units and for this reason did not regulate them in its POTW section 112(d) emission standards." 75 Fed. Reg. at 63264. EPA offered nothing more than this single conclusory sentence, and similarly failed to provide any elaboration on the issue when it promulgated regulations under § 112(d) for POTWs. Thus, it goes without saying that nothing in the proposed rule fairly put NACWA or other interested parties on notice that EPA was developing a new legal interpretation – to be unveiled with the final SSI Rule – for why it believes SSIs must be regulated under § 129.

In the final SSI Rule, EPA for the first time grounded regulation of SSIs under § 129 on a reading of the CAA that: (1) § 112(e)(5) is merely a scheduling provision that "simply identifies the date by which EPA must issue emissions standards for POTW," (2) that the decision in *NRDC v. EPA*, 489 F.3d 1250 (D.C. Cir. 2007) "precludes" EPA from regulating SSIs under § 112(d), and (3) that EPA "does not have the discretion" to regulate SSIs except under § 129. See 76 Fed. Reg. at 15383/2-3. This rationale is fundamentally different from the rationale suggested by EPA's statement at the proposal stage that it "has taken the position" that § 112(e)(5) "does not apply" to SSIs and that EPA is proposing a § 129 based rule "for this reason." The final SSI Rule is apparently the first time EPA has asserted such an interpretation of the statute, and EPA certainly failed to put the interested public on notice of this novel reading in the proposed rule. EPA's failure to explain what it believed to be the legal basis for its proposed standards deprived commenters of the ability to engage the Agency on its faulty reading of § 112(e)(5) and of the *NRDC* decision in order to achieve a different outcome in this rulemaking.

Furthermore, EPA nowhere explains (1) how its new interpretation squares with the clear directive in § 112(e)(5) for the Administrator to set emission standards under § 112(d), (2) how it implicitly reached the conclusion that SSIs are not covered by the expansive CWA definition of "treatment works" incorporated into CAA § 112(e)(5), (3) how its new interpretation is legally possible in light of the numerous SSIs built and improved using CWA Title II funds, nor (4) how EPA's new interpretation squares with the examples NACWA provided of previous Agency rulemakings and policy statements. EPA's failure to address these and many other comments also violates the requirement under CAA § 307(d)(6)(B) to include in the SSI Rule "a response to each of the significant comments, criticisms, and new data submitted" in order to establish a complete record on judicial review.

EPA's view that it was compelled to promulgate standards for SSIs under § 129 is undoubtedly of central relevance to the outcome of the SSI Rule. It resulted in, for example, imposition of MACT floor level standards for all SSIs without regard to major/area source distinctions, emission standards for pollutants not subject to regulation under § 112, and in other requirements (e.g., siting analyses and operator training) which are mandatory under § 129 and not under § 112. EPA is obligated under § 307(d)(7)(B) to grant reconsideration under these circumstances, and we believe there is a substantial likelihood that changes will be made to the SSI Rule if EPA takes the opportunity to engage these issues.

## **2. EPA failed to collect sufficient data to reliably determine the MACT floors.**

NACWA submitted comments pointing out several ways in which EPA's rulemaking process was fundamentally flawed from the outset. Starting with EPA's decision to circumvent the Paperwork Reduction Act and Office of Management and Budget review by limiting its information collection to only nine of the roughly 118 POTWs operating SSIs, the Agency's fast track approach to rulemaking ensured that EPA would not have sufficient data for its rulemaking. The sizes of the SSI subcategories dictate that the existing source MACT floors would reflect the performance of the best eight fluidized bed incinerators ("FBIs") and the best 18 multiple hearth incinerators ("MHIs"). See Revised MACT Floor Analysis for the Sewage Sludge Incinerator Source Category (January 2011) ("Revised MACT Floor Memo") at 6. Even after collecting additional data from state agencies, EPA had data from only six FBIs and some of those units were not tested for all pollutants. The MHI database also lacked data from 12 percent of the MHI units for seven of the nine pollutants to be regulated. Thus, even assuming the improbable, that all of the data collected came from the top performing 12 percent of the subcategory, EPA's truncated data collection effort fell short of generating the emissions information necessary to calculate the MACT floors.

The quality and quantity of the data that EPA used to set the MACT standards are of central relevance to the development of the final SSI Rule. NACWA commented on the inadequate database and provided significant additional data for EPA to consider during the rulemaking process. Thus, NACWA was surprised when EPA's Revised MACT Floor Memo indicated in January 2011 after the close of the public comment period that the final emission standards were established based on data from as few as four and no more than six of the 60 FBIs identified by EPA. MHI units had emission limitations based on data from less than 4 percent of the 144 units in that subcategory. Section 129 of the CAA does not allow EPA to stop short of collecting sufficient emissions information. As EPA acknowledges:

While Congress adopted identical language describing the MACT floor calculation in section 129(a)(2) as it did in section 112(d)(3), the latter section includes a provision stating that the floor for existing sources cannot be less stringent than "the average emission limitation achieved by the best performing 12 percent of the existing sources (for which the Administrator has emissions information)[.]" Section 129, however, simply states that the existing source floor cannot be less stringent than the average emission limitation achieved by the best performing 12 percent of the existing sources in the category. Therefore, while EPA believes Congress intended for the MACT floor calculation under each section of the Act to be the same, *this difference in the text of the two provisions requires us to establish the MACT floor for section 129 source categories based on the best performing 12 percent of sources in the category.* Because EPA does not have that data at this time, the statistical technique described below is the only manner in which we can establish the existing source floor on that basis.

See Revised MACT Floor Memo at 8 (emphasis added). In view of this critical difference in statutory language, EPA must take the additional time necessary to collect sufficient data to set MACT standards. This is not a case where EPA tried and failed to collect the requisite data.

Instead, EPA decided not to obtain stack test data from the required minimum number of SSIs based on expediency. EPA's rush through rulemaking also resulted in the Agency disregarding data provided by NACWA and its members that would have helped fill some of these data gaps if the Agency had taken the time to evaluate the data and made reasonable requests for supporting information. This is a violation not only of the database requirements established by § 129 for making MACT floor determinations, as acknowledged by EPA, but also of the fundamental requirement underlying § 129 for rational decisionmaking. *See* CAA § 307(d)(9), 42 U.S.C. § 7607(d)(9); *Cement Kiln Recycling Coalition v. EPA*, 255 F.3d 855, 861-62 (D.C. Cir. 2001). *See generally* *NRDC v. EPA*, 194 F.3d 130, 136 (D.C. Cir. 1999). Reconsideration is an appropriate administrative step to facilitate the collection and review of all available data to fill the gaps in EPA's database.

**3. EPA failed to use data from EPA's 40 C.F.R. Part 503 program and from stack tests outside of the limited data gathered from only nine POTWs in early 2010.**

EPA has additional data in its possession that should be used to determine the emission rates achieved by the best performing sources under the full range of operating conditions. EPA relies solely on stack test data to set standards for a source category that does not have a significant amount of historic stack test data for the relevant pollutants. As a result, EPA's database relies heavily on data from the 17 stack tests performed over a few months in early 2010 in response to its information collection request to nine SSI facilities. These data cannot represent the emission profiles of the large population of SSIs – or even the profiles of the tested units themselves – over time since a handful of stack tests from a single time period do not reflect the intense geographic variability in biosolids characteristics among POTWs nor do they account for seasonal and daily variability of biosolids characteristics within a POTW. Thus, EPA's approach fails both the test of rationality, *see Cement Kiln Recycling Coalition*, 255 F.3d at 861-62, and the test of achievability undergirding § 129, as explained below.

**a. Failure to engage in rational decisionmaking.**

NACWA in its comments urged EPA to look at all of the available data – particularly biosolids concentration data available for all POTWs under EPA's Part 503 regulations – to understand that variability and to incorporate an analysis of Part 503 data into the MACT floor determinations. We pointed out that POTWs are required to track and report metals data in their biosolids year-round and during all periods of operation and, therefore, EPA already had all the Part 503 data it needs to examine variability for metals. As an illustration of the magnitude of variability encountered by POTWs, NACWA's comments included the following example of monthly average metals concentrations from two facilities owned by NEORSD showing that average metal concentrations within a single plant varied by a factor of three or more over this 12-month period:

**2009 Monthly Average Biosolids Concentrations (mg/dry kg)  
(NEORS Southernly and Westerly POTWs)**

	Cadmium		Lead		Mercury	
	Southerly	Westerly	Southerly	Westerly	Southerly	Westerly
January	7.95	13.25	62.23	97.00	0.68	0.44
February	8.45	11.95	75.60	123.10	0.77	0.41
March	8.90	14.46	84.94	141.20	0.69	0.34
April	9.11	14.96	67.93	123.00	0.84	0.37
May	10.40	12.97	87.16	145.95	0.78	0.36
June	4.60	7.94	99.54	204.30	1.24	0.77
July	4.46	7.92	123.15	218.55	1.24	0.92
August	4.78	9.08	114.10	188.23	3.12	0.59
September	5.13	8.12	103.41	183.93	2.08	0.87
October	3.99	7.19	94.33	129.27	0.98	0.63
November	4.14	6.22	82.78	104.81	0.91	0.58
December	3.80	5.97	74.66	97.55	1.38	0.40

In response to these concerns, EPA reached the utterly implausible conclusion that single stack tests in the winter of 2010 from nine different facilities in nine different states “represents sufficient variation in regions, climates, and populations that adequately incorporates variability in wastewater treatment systems across the U.S.” 76 Fed. Reg. at 15391/2-3. This conclusion is indefensible on its face, and is in obvious tension with representations EPA made to the District Court in the *Sierra Club* case. In its memoranda supporting its motion for additional time, EPA stated that in order to complete the SSI rulemaking it must address several new issues raised during the comment period, including variability of sludge characteristics. *See* EPA Reply Memo at 21. Mr. Tsirigotis’ supplemental declaration elaborated that, with respect to the variability issue:

[EPA] would need to make appropriate revisions to the proposed emissions standards, including re-evaluating the regulatory impact analysis, variability analyses, and the levels of the standards themselves. In particular, we would plan to analyze information regarding the variability of sludge content, determine whether that analysis warrants any revisions to the variability incorporated into the proposed standards, and calculate revised MACT floors, as appropriate.

Tsirigotis Supp. Decl. ¶34b. However, in the SSI Rule EPA does not even attempt to reconcile this conclusion with the large quantity of Part 503 data available to it. Instead, EPA states that “there is not enough information to determine whether it would be appropriate to incorporate variability in sludge feed into the rule,” and attempts to defend its failure to analyze Part 503 data by saying that EPA requested additional data “but did not receive adequate sampling data from the best performing sources.” *Id.* at 15391/3.

If EPA was claiming that it did not receive sludge metals concentration data from the POTWs it contends are the best performing sources, then EPA’s claim simply is not true. If, instead, EPA was merely claiming that commenters did not *enclose their Part 503 data in their comments*, then the obvious explanation is that POTWs already routinely submit these data to EPA and so commenters did not reasonably expect to have to resubmit data already in EPA’s possession. If EPA tried and had difficulty retrieving data from Agency files, the proper response would have

been to contact commenters to request additional copies of these data. *See* Tsirigotis Supp. Decl. ¶34a (justifying an extension until July 15, 2011 because, among other things, EPA needs to contact commenters to get additional information on data submitted during the comment period). That did not happen.

As part of this reconsideration request, NACWA encloses a summary and analysis of data from January 2005 to as late as December 2010 showing monthly biosolids metals (Cd, Pb and Hg) characteristics from 25 POTWs using SSIs.<sup>4</sup> Fifteen of these POTWs operate SSIs that EPA considers to be among the best performing units – including the City of Greensboro (NCTZ Osborne), Allegheny County (PA) Sanitary Authority, Upper Blackstone (MA) Water Pollution Abatement District, Central Contra Costa (CA) Sanitary District, Metropolitan District Hartford (CT), Ypsilanti (MI) Community Utilities Authority, Wayne Township (NJ) Sewer Authority, Indianapolis (IN) Sewer Authority, two POTWs operated by the Metropolitan Council (MN) Environmental Services, and five POTWs operated by HRSD.

**Cadmium in Biosolids (mg/dry kg)  
(2005-2009)**

POTW	25 <sup>th</sup> Percentile	Minimum	Median	Maximum	75 <sup>th</sup> Percentile
CCCSD (CA)	ND	ND	ND	ND	ND
Wayne Twp. (NJ)	1.6	1.1	2.2	17.3	2.8
Hartford (CT)	2.0	0.3	2.6	8.0	3.1
Greensboro (NC)	2.4	1.3	5.6	22.1	7.7
Upper Blackstone (MA)	5.3	3.2	6.0	11.0	6.8
ALCOSAN (PA)	0.5	0.0	0.7	19.1	1.3
St. Paul Metro MCES (MN)	1.2	0.8	1.5	32.2	2.7
Williamsburg HRSD (VA)	1.0	0.5	1.5	5.0	3.0
Army Base HRSD (VA)	2.8	1.0	4.0	8.0	5.0
Boat Harbor HRSD (VA)	3.0	1.0	3.0	9.0	4.0
Chesapeake Elizabeth HRSD (VA)	1.5	0.5	2.0	5.0	3.0
Virginia Initiative HRSD (VA)	1.5	0.5	3.0	5.0	3.0
Seneca MCES (MN)	0.4	0.2	0.7	46.0	1.3
Belmont Indianapolis (IN)	1.4	1.0	1.8	4.1	2.4
Ypsilanti (MI)	3.5	2.0	5.3	15.0	6.1
NOTE: For monthly data below the detection limit, one-half the detection limit was used in calculations. ND is used when over 90 percent of the data are below the detection limit and the artificial value would significantly distort actual variability.					

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<sup>4</sup> All of the enclosed data were generated pursuant to the Part 503 regulations and were previously submitted to the POTWs' respective permitting authorities. Enclosure D contains example Part 503 reports for NEORSD's Southerly and Westerly POTWs in the same form as originally submitted to the permitting authorities.

**Lead in Biosolids (mg/dry kg)  
(2005-2009)**

POTW	25 <sup>th</sup> Percentile	Minimum	Median	Maximum	75 <sup>th</sup> Percentile
CCCCSD (CA)	0.8	0.3	8.6	54.9	15.1
Wayne Twp. (NJ)	31.9	25.8	39.0	82.4	45.6
Hartford (CT)	57.6	30.0	69.2	194.0	80.6
Greensboro (NC)	17.9	6.4	24.5	39.1	30.6
Upper Blackstone (MA)	48.0	31.0	58.0	160.0	70.0
ALCOSAN (PA)	52.0	15.0	66.2	233.0	79.1
St. Paul Metro MCES (MN)	27.3	19.2	30.4	97.1	37.4
Williamsburg HRSD (VA)	15.0	6.0	18.5	49.0	23.3
Army Base HRSD (VA)	36.8	22.0	46.0	130.0	67.8
Boat Harbor HRSD (VA)	37.0	17.0	42.0	184.0	49.3
Chesapeake Elizabeth HRSD (VA)	19.0	11.0	26.0	137.0	36.3
Virginia Initiative HRSD (VA)	39.5	12.0	45.0	84.0	54.0
Seneca MCES (MN)	4.0	3.0	4.8	20.0	5.7
Ypsilanti (MI)	9.2	0.0	15.9	73.6	23.8

NOTE: For monthly data below the detection limit, one-half the detection limit was used in calculations.

**Mercury in Biosolids (mg/dry kg)  
(2005-2009)**

POTW	25 <sup>th</sup> Percentile	Minimum	Median	Maximum	75 <sup>th</sup> Percentile
CCCCSD (CA)	0.61	0.40	0.75	14.65	1.09
Wayne Twp. (NJ)	0.40	0.05	0.71	3.40	0.96
Hartford (CT)	ND	ND	ND	ND	ND
Greensboro (NC)	0.20	0.03	0.36	1.70	0.68
Upper Blackstone (MA)	0.71	0.60	0.87	1.80	1.37
ALCOSAN (PA)	1.00	0.74	1.13	2.31	1.42
St. Paul Metro MCES (MN)	0.35	0.19	0.50	3.49	0.64
Williamsburg HRSD (VA)	0.30	0.10	0.30	0.70	0.50
Army Base HRSD (VA)	0.60	0.30	0.70	6.40	0.90
Boat Harbor HRSD (VA)	0.40	0.20	0.50	0.90	0.60
Chesapeake Elizabeth HRSD (VA)	0.70	0.30	0.85	1.90	1.00
Virginia Initiative HRSD (VA)	0.40	0.30	0.50	1.90	0.63
Belmont Indianapolis (IN)	0.03	0.01	0.04	0.60	0.05
Ypsilanti (MI)	0.43	0.03	0.59	1.80	0.78

NOTE: For monthly data below the detection limit, one-half the detection limit was used in calculations.

ND is used when over 90 percent of the data are below the detection limit and the artificial value would significantly distort actual variability.

These data and the monthly average data summarized in Enclosure D strongly illustrate the significant variability in metals concentrations among POTWs and within a POTW over relatively short time periods.<sup>5</sup> For example, the enclosed monthly Part 503 data show:

- Average metals concentrations in biosolids feed vary significantly at all these POTWs. The data show average Cd concentrations ranging from a minimum of 0.2 mg/dry kg to a maximum of 46 mg/dry kg at the Seneca (MN) POTW, from 1.3 up to 22.1 mg/dry kg at the Greensboro (NC) POTW, and from 0.1 up to 33.1 mg/dry kg at the Metropolitan St. Louis Sewer District Bissell Point POTW. By way of example, an FBI (Unit ID ES-1) at the Greensboro POTW was selected by EPA as the best performing unit to set the NSPS MACT floor for Cd and was among the units used in calculating the MACT floor for existing sources. Yet this POTW experienced among the most significant variability in Cd concentrations in biosolids during the period 2005-2009, as demonstrated by the enclosed Part 503 data. Furthermore, Cd concentrations nearest the time when Greensboro performed its stack testing in response to EPA's ICR were close to the lowest levels recorded over the five years of monthly data (i.e., at or less than the 25<sup>th</sup> percentile concentration). Yet EPA did not consider this variability at all in its MACT floor calculations nor in setting the level of the final standards.
- Average Pb concentrations ranged from 6.4 up to 39.1 mg/dry kg at the Greensboro POTW and from 31 up to 160 mg/dry kg at the Upper Blackstone (MA) POTW, both of which operate the SSIs used by EPA to set the NSPS MACT floor for Pb. Yet based on the available Part 503 data both of these POTWs were at or below the 25<sup>th</sup> percentile average concentration for Pb during the period leading up to the ICR stack testing.
- Average Hg concentrations ranged from a low of 0.4 up to 14.65 mg/dry kg at the Central Contra Costa (CA) POTW, which was used to set both the new and existing source MACT floors for Hg. Yet again, the average Hg concentrations were approaching the five-year minimum and were less than one-half of the 75<sup>th</sup> percentile average in the period before stack testing took place. Looking at other POTWs, average Hg concentrations vary by a factor of 56 at the Greensboro POTW and by more than 90 times at the Metropolitan St. Louis Sewer District LeMay POTW.
- Biosolids characteristics are unique to a POTW even within the same geographic region – for example, the Metropolitan St. Louis LeMay plant registered its highest Cd concentration over a five-year period (2005-2009) in the same month (April 2008) that the Metropolitan St. Louis Bissell Point plant registered its lowest Cd value over the same five-year period.

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<sup>5</sup> This variability is evident even though the monthly averages generated from Part 503 data necessarily mask even more significant short term variability.

- Biosolids characteristics vary significantly based on seasonal events and even day-to-day activities within the POTW – by example, the HRSD Boat Harbor plant registered its lowest Pb value (17 mg/dry kg) over a five-year period in October 2009 and its highest value (184 mg/dry kg) one month later.

As with the Part 503 data, EPA also refused to consider stack test data submitted by commenters who provided summaries of test results demonstrating that the proposed emission limits were not supported by sound data. EPA did not use these data simply because commenters did not include a complete stack test report in their comment submission. *Id.* at 15387/2-3. Again, the proper response from EPA would have been to contact the commenters to obtain the backup report information so EPA could verify the data that was submitted. *See* Tsirigotis Supp. Decl. ¶34a. Taking this step is even more important under circumstances such as these where EPA is attempting to set MACT floors using such an inadequate database.

Moreover, NACWA has verified that some (and maybe most) of the nine facilities targeted by EPA's ICR submitted their stack test results using EPA's electronic reporting system, and thus never submitted the stack test reports. It is clearly improper for the Agency to use only the data it wants and to disregard contrasting information by selectively applying more stringent data validation requirements.

We request that EPA use all available data to expand the MACT floor dataset to include the statutorily mandated minimum number of units within each subcategory and to account for the inherent variability in biosolids characteristics as revealed in the Part 503 data. EPA's failure to use such a significant amount of data showing the variability and the likely impact on SSI emissions is irrational and undoubtedly affected the level of both the new and existing source emission standards.

#### **b. Failure to satisfy the achievability requirement of CAA § 129.**

The failure to use adequate data had a profound impact on EPA's ability to demonstrate that the SSI standards are in fact achieved by the best performing units over all expected operating conditions. For example:

- It appears that all of the MHIs operated by HRSD will not achieve one or more existing source standards, despite being selected as among the top performing units for several pollutants, due to variable conditions that affect inlet biosolids concentrations and similar factors not accounted for in EPA's database. These problems include trying to achieve the NOx emission limitations for existing sources without add-on pollution control devices, which have never been demonstrated as effective for MHIs.<sup>6</sup> HRSD observes that the need to find a workable solution for controlling NOx emissions for the MHIs at

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<sup>6</sup> *See* Declaration of Mr. Norman E. LeBlanc, Director of the Department of Water Quality for the Hampton Roads Sanitation District, Para. 5 ("HRSD Declaration") (Encl. E).



its Boat Harbor POTW is anomalous since this SSI is considered by EPA to be among the best performing sources for both NO<sub>x</sub> and CO. HRSD Declaration ¶5. In addition, HRSD predicts that the MHIs at its Virginia Initiative POTW cannot reliably achieve the standards for Cd, Pb, and dioxins/furans. *Id.*

- Four FBIs among the “best performing” units used to set the NSPS MACT floors either do not achieve or barely achieve the *existing* source standard for dioxins/furans. These include an FBI operated by the City of Greensboro and three FBIs operated by Metropolitan Council Environmental Services. The achievability of the existing source standard is highly suspect since these units do not employ controls for dioxin/furan emissions.
- EPA adopted a significantly revised MACT floor standard for Hg after correctly concluding that the proposed beyond-the-floor standard was flawed in several respects. However, despite EPA’s assumption that all existing FBIs will be able to achieve the MACT floor Hg limits without additional controls, NACWA has identified at least two utilities that believe their units cannot achieve the 0.037 mg/dscm Hg standard without add-on carbon controls (carbon adsorption or activated carbon injection [“ACI”]), technologies that EPA has agreed are unproven on SSIs and present serious operational problems such as corrosion and plugging/fouling. *See* 76 Fed. Reg. at 15393/2-3.

NACWA and several other commenters objected to EPA’s stringent pollutant-by-pollutant floor setting approach. We explained that the flaws in EPA’s approach are most evident when considering the inverse relationship between CO and NO<sub>x</sub> emissions. EPA’s only response to this issue was to observe that “... it is incumbent upon the SSI facility to determine whether combustion conditions can be adjusted to meet both standards and, if not, install NO<sub>x</sub> controls as necessary ... .” 76 Fed. Reg. at 15386/2. EPA admits that there are only limited data on SSIs with FGR, that no SSIs currently use SNCR or SCR, and that there are reasons to believe that such controls may not be effective or reliable for SSIs. However, EPA never attempts to deal with this issue and merely concludes that the Agency:

... [does] not know of [a] technical reason why [these NO<sub>x</sub> control technologies] could not be used. Given the limited data available on SSI units with FGR, we could not definitely determine how effective the technology was on SSI units. However, we also do not know of a technical reason why they could not be used, if necessary, to meet NO<sub>x</sub> limits, and commenters did not provide any reasons they could not be used.

*Id.* To the contrary, NACWA commented on the difficulties experienced by the two utilities that use add-on controls for Hg, where both experienced severe abrasion and corrosion problems shortly after installation. In addition, for ACI to be effective, the high exhaust gas temperatures leaving the incinerator must be cooled to roughly 350 degrees F with heat exchangers and waste heat boilers, and a contact chamber is required to ensure sufficient time for adsorption. On the

other hand, since carbon adsorption units are located after the wet scrubber, the exhaust gas temperature have high moisture content that must be dried (by increasing the exhaust gas temperature) to ensure adsorption. We believe these same conditions present efficiency and reliability problems for other types of add-on controls (including NO<sub>x</sub> controls) and EPA should fairly consider whether such controls have been demonstrated for SSIs. The “achievability” mandate in both CAA §§ 112 and 129, and fundamental principles of rational rulemaking, require EPA to demonstrate that there are methods available for well-operated SSIs to achieve all applicable standards simultaneously and under the full range of normal operating conditions. This is clear from an examination of the text and purpose of CAA § 129.

Congress intended the regulatory mandate of § 129(a) to operate so as to: (1) identify those forms of emission control that have been demonstrated to produce maximum reductions in emissions of HAPs and other § 129 pollutants when applied to particular units; (2) press all new and existing units of the same type from the standpoint of basic design (*i.e.*, within each subcategory) to achieve at least the same reduced level of emissions; and (3) preserve, protect and enhance the economic vitality of the national economy. To carry out that mandate, EPA must calculate MACT floors based on emission test data from the requisite number of best performing units and also reasonably determine that the resulting MACT floor is not merely indicative of some inherent emission feature of the units deemed best performing, which feature cannot be replicated by other units in the subcategory. EPA can make such a demonstration by showing that some technically feasible means of achieving the floor is generally available to the units within the subcategory, as demonstrated by actual use within the subcategory. Otherwise, if as is the case here EPA were to base the floors only on a tiny amount of test data, without fully examining inherent variability in emission characteristics and the limitations of control technologies, it could produce standards which many units in the subcategory – even the units used to set the MACT floors – have no hope of achieving with in-use demonstrated control technology. This approach may pressure POTWs to abandon incineration, contrary to the congressional vision for (1) MACT-based technology standards, which is to identify and spread the use of best controls within a category or subcategory, not to interfere with fundamental design choices, and (2) maximizing the prerogatives of local communities to choose the form of sludge disposal best suited to their local circumstances, as required by CWA § 405(e).

Section 129 provides strong textual evidence that Congress authorized EPA to set a floor only at a level which units within a subcategory generally have some means of achieving as a technical matter, as demonstrated by actual usage within the subcategory. In implementing § 129, EPA must give full effect to that textual evidence. *See Whitman v. American Trucking Association, Inc.*, 531 U.S. 457, 485 (2001) (“EPA may not construe the statute in a way that completely nullifies textually applicable provisions meant to limit its discretion”). A key piece of such evidence is § 129(a)(3), which in relevant part requires EPA to base standards on “methods and technologies for removal or destruction of pollutants before, during or after combustion ... .” Not mentioned, or even suggested, are changes to the basic design of the “unit” in question.

Similarly, § 129(a)(2) is also an expression of this mandate, in that it requires EPA to set the floor for new units at the level representing the “degree of reduction in emissions” that is not less stringent than the emissions control that is “achieved in practice by the best controlled similar unit . . . .” The phrases “degree of reduction in emissions,” “achieved in practice,” and “best controlled similar unit” all suggest the application of control measures to pollutant-emitting equipment. For existing units the floor is to be set at the average level actually “achieved” by the “best performing” 12 percent of “units.”

In crafting the § 129 standard-setting process, Congress took sources, such as SSIs, as a given and envisioned that the standards EPA generated would stimulate the application of “methods and technologies for removal or destruction of pollutants” from such sources, without mandating changes to the fundamental design of the “unit.” In other words, Congress sought to control § 129 emissions by forcing the application of pollution control measures without upsetting the basic choice as to the design of the pollution source. If EPA, however, were to base a floor only on emission data, without examining the features that drive emission performance of units within the subcategory and the availability of demonstrated control technology for the types of units to be regulated, it could end up setting a floor which would operate to force changes in the fundamental design of equipment and the systems of which they are a part. That would be contrary to the textual thrust of § 129(a).

Section 129(a) follows a fundamental conceptual orientation on the part of Congress which is universal to all of the technology-based standard-setting processes dictated by the CAA. Several provisions other than § 129 call for the establishment of technology-based emission standards for stationary sources, namely: § 111 (NSPS), § 112 (NESHAP), § 165 (Best Available Control Technology for certain new construction projects), § 172(c)(1) (Reasonably Available Control Technology for existing sources as control by State Implementation Plans), and § 173 (Lowest Achievable Emission Rate for certain new construction projects). In each case, the basic approach is to set a benchmark based on the application of available and “demonstrated” control technology, without fundamentally compromising the freedom to choose the basic design of their purpose-serving equipment – here incinerators for biosolids management. There is no sign in the CAA that Congress intended § 129 to operate differently or to authorize EPA in setting § 129 standards to encroach fundamentally on that basic freedom. Furthermore, § 101(b)(1) declares that an overarching purpose of the entire CAA is “to protect and enhance the quality of the Nation’s air resources so as to promote the public health and welfare and the productive capacity of its population.” If EPA were to set floors under § 129 solely on the basis of limited emissions data, without regard to the cause-and-effect relationship between available proven controls and emission rates, inevitably that approach would defeat that purpose by compromising the Nation’s productive capacity.

Finally, no court decision has addressed squarely whether EPA may set a floor solely on the basis of emission data, without regard to the existence of a proven means of achieving the floor. The D.C. Circuit in *Sierra Club v. EPA*, 479 F.3d 875 (D.C. Cir. 2007) (“Brick MACT”), did not

address that issue squarely. As characterized by EPA in its June 2010 Boiler MACT proposal, the closest the court came to addressing that issue was to rule that “[f]loors for existing sources must reflect the average emission limitation achieved by the best-performing 12 percent of existing sources, not levels EPA considers to be achievable by *all* sources.” 75 Fed. Reg. at 32009-10 (emphasis added). That is a different issue. An individual source within a particular subcategory may not be able to achieve a floor, for cost or other reasons not directly germane to setting the floor, even when a proven means of control is available to it from a technological standpoint. The Brick MACT case does not call into question EPA’s obligation to demonstrate that a proven means of control is available and that the floor is a reasonable expression of the performance of that means of control.

In the SSI Rule, EPA set the floors on such a limited snapshot of data – data that do not even represent the performance of the “best performing” units or “best controlled” unit over time – and failed to demonstrate that there are proven technologies available to SSIs for achieving the floors. This does not inevitably lead, as EPA claims, to setting standards based on a lowest common denominator. Rather, if EPA were to determine that there are no such means of control, it would have to subcategorize further in order to group units with similar biosolids characteristics or, if that is not practicable, base the standard on an engineering or work practice.

Here, EPA failed to look beyond the scanty emission data it used to identify the “method [or] technology” of emissions control that expresses the true emission performance of the best performing units. As the Part 503 data reveal, the emission limitations in the SSI Rule reflect snapshots of particular points in the oscillations of all the factors – in particular the composition of inlet biosolids – that determine emission performance and not the average performance of identifiable control “methods [or] techniques.” Thus the SSI Rule floors are based on numerical happenstance at the moment one of 17 stack tests was performed, as opposed to statistically-sound averages of the actual performance of control technologies, taking variability of known factors into account.

### **c. Summary and conclusion.**

In sum, EPA has not taken into account the large amount of available data showing that the limited floor database is not representative of variations in biosolids feed characteristics and foreseeable SSI operations. Although NACWA pointed out inherent difficulties of using add-on controls on SSIs, EPA has failed to identify any demonstrated path to compliance for the utilities that must treat wastewater flows containing elevated metals and for utilities that cannot simultaneously achieve the CO and NO<sub>x</sub> standards through combustion adjustments alone. NACWA and its members are still studying these issues and fully expect to identify additional SSIs that cannot achieve the standards using controls that have been demonstrated for SSIs.

EPA is obligated to grant reconsideration in order to consider all of the available data and to ensure that each of the final standards is achievable by the best performing units under all reasonably foreseeable operating conditions.

#### **4. The SSI Rule does not consider subcategories other than FBIs and MHIs.**

EPA's proposed and final rules address emission limits for only two subcategories of SSIs – FBIs and MHIs – based on incinerator design. After the public comment period closed, NACWA learned of a stoker/grate type design that is also being used at some POTWs. Based on the information NACWA has gathered, this type of design has previously been used in Europe and has recently been selected at a limited number of POTWs in the United States. This type of unit consists of a stoker bin feed system, combustion chamber, reciprocating grates, under- and overfire air fans and ash removal system. It requires a significantly drier biosolids – typically 90 percent solids compared to the 25-40 percent solids combusted in MHIs and FBIs. A convection belt dryer is used to dry the dewatered biosolids feed. At least one application of this stoker/grate design also has a heat recovery system that provides 70-80 percent of the energy necessary to operate the sludge feed dryer and other systems.

The stoker/grate type design has a number of features that affect emission characteristics and that differ significantly from the MHI and FBI designs. Unlike MHIs, the stoker/grate type design has under- and overfire systems and does not incorporate a drying zone in a combustion chamber. Because the stoker/grate design uses a much drier biosolids material, it is likely that these designs require less auxiliary fuel than MHIs and that operating temperatures would be more stable making the stoker/grate design less sensitive to variations in moisture content and other fuel characteristics. Because the stoker/grate applications of which we are aware include a biosolids drying process, there would also be significantly less moisture in the exhaust gas stream. FBIs, on the other hand, have air injection zones that increase combustion efficiencies and reduce particulate emissions, and many have internal afterburning zones that increase residence time to reduce CO, HC, and PM emissions. Stoker/grate designs do not share these characteristics.

NACWA was not aware of the stoker/grate design at the proposal stage. EPA also apparently was not aware of this technology, since the proposed rule does not discuss it and there are no emission data on this type of incinerator in the rulemaking docket. Absent EPA's consideration of this design, there is considerable uncertainty as to whether stoker/grate designs are or will become subject to emission limitations under the SSI Rule. This uncertainty creates a difficult environment for the POTWs who are already using this technology and for many more POTWs who may wish to evaluate this technology for future use.

#### **5. EPA's new source standards for MHIs were neither proposed nor subject to public review and comment, and may not be achievable using proven technology.**

As discussed above, EPA's proposed rule recognized two subcategories based on incinerator design. However, EPA initially abandoned all subcategorization in proposing emission limits for new SSIs. Instead, EPA proposed that the MACT floor for all new and modified SSIs would be based on the top performing FBI unit. As a result, EPA did not calculate MACT floors or

propose standards based on the best performing MHI. NACWA and other commenters objected, pointing out that EPA's approach failed to recognize differences in emission performance that are inherent in the design of MHIs and would effectively subject new and modified MHIs to unachievable emission limitations.

EPA reversed course in the SSI Rule and promulgated separate new source performance standards for MHIs and FBIs. However, in doing so EPA never made the suite of emission limits for new MHIs available for public review and comment. This means that public review and input was not available for EPA's choice of the five SSIs that were used to set the MACT floors, nor was the public given the opportunity to comment on the data and calculations EPA used to set the floors.

The failure to provide adequate notice and comment on the new source standards is not merely objectionable as to process. Based on study by utilities since the final rule was published, it appears that many new/modified MHIs, particularly those with elevated and variable metals concentrations in biosolids, will have trouble achieving the NSPS for some pollutants without add-on controls that are not demonstrated for use on MHIs. For example, NEORSD predicts that its existing MHIs, if modified as defined under the SSI Rule, could not achieve the new source Hg limits without employing ACI. EPA has agreed that ACI is not a proven technology on MHIs and that the only known applications on other incinerator types have experienced serious operational and reliability problems. Here again, EPA's failure to provide for public comment (*e.g.*, through a notice of data availability and supplemental comment period) and failure to consider data on variability has produced no known means for these SSIs to comply with the SSI Rule.

**6. The MACT floor database for dioxin/furan emissions is dominated by stack test measurements that are too low for EPA to establish defensible numerical standards.**

After the SSI Rule was promulgated, EPA issued its notice of proposed rulemaking to establish emission standards under § 112(d) for the coal- and oil-fired utility sectors.<sup>7</sup> In its preamble to the Utility MACT proposal, EPA proposes to use work practice standards, instead of numeric emission limits, for non-dioxin/furan and dioxin/furan organic HAP because the majority of the test measurements in EPA's MACT floor database were at or below the EPA test method detection limit ("MDL"). Due to the uncertainty obtaining accurate measurements of emissions at such low levels, EPA concluded that it "considers it impracticable to reliably measure emissions from these units." 76 Fed. Reg. at 25040/1.

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<sup>7</sup> See "National Emission Standards for Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units; Proposed Rule," 76 Fed. Reg. 24976 (May 3, 2011) ("Utility MACT").

To support its approach EPA noted that 1,552 of the 2,334 (67 percent) test runs for dioxin/furan organic HAP from electric utility steam generating units (“EGUs”) contained data below the MDL for one or more congeners. For the non-dioxin/furan organic HAP, EPA noted that between 57-89 percent of the test data contained values below the MDL. Finally, EPA pointed out that in several cases, all of the data for a test run were below the MDL and in only a few instances were all the data above the MDL. *Id.* at 25040/1-2. EPA also looked at whether the low dioxin/furan test measurements can be explained by the presence of sulfur, noting that formation of dioxins/furans may be inhibited when the sulfur-to-chlorine ratio in flue gas is greater than 1.0. *Id.* at 25023/3.

EPA’s approach to standard setting in the Utility MACT context raises important new reasons to reconsider the dioxin/furan limits in the SSI Rule. EPA established numeric dioxin/furan emission limitations for SSIs based on a dramatically less robust dataset, with significantly greater measurement uncertainty than is exhibited by the Utility MACT database. For example, data from five of the six test runs (83 percent) in the database used to set the dioxin/furan floor for new SSIs were below the MDL. Thus, in light of EPA’s recent response in the Utility MACT to data below detection limits, the MACT floor database for new MHIs does not contain *any* data that are not obscured by unacceptable measurement uncertainty, while the database for new FBIs contains at most *one* test run that produced usable data. The database backing the existing source standards is nearly equally flawed. Data from 20 of the 30 (66.7 percent) test runs in the existing source MACT floor database were below the MDL, including 11 of the 15 (73 percent) FBI test runs for FBIs and 9 of the 15 (60 percent) test runs for MHIs, resulting in a grand total of 10 test runs producing data above the MDL.

It also appears that, as with utility EGUs, elevated sulfur-to-chlorine ratios may explain the very low levels of dioxin/furan emissions from SSIs. For example, biosolids managed at the POTWs owned by NEORSD typically exhibit a sulfur-to-chlorine ratio much greater than 1-1, with a ratio as high as 10-1 having been reported. The elevated sulfur-to-chlorine relationship is also exhibited in the flue gases from the six MHIs serving these POTWs, with SO<sub>2</sub> emissions generally exceeding HCl emissions from these SSIs by several orders of magnitude.

Based on the foregoing, EPA should reconsider the dioxin/furan standards to address the acknowledged measurement error and should consider using a work practice standard in lieu of numerical emission limits.

**7. The SSI Rule contains new performance test specifications that likely cannot be achieved by some SSIs.**

EPA originally proposed operational requirements related to sludge feed rates but eliminated those requirements in the final SSI Rule based on comments that the feed rates would not be achievable for some SSIs, would artificially change permitted feed rates and would force some SSIs to conduct performance tests at nearly 100 percent of the unit’s rated capacity. However, EPA added a new requirement that SSIs must be operated at 85 percent of their maximum permitted capacity during each compliance test run.

The new performance test specification is not achievable for POTWs that do not generate sufficient biosolids on a continuous basis and that do not have adequate storage capacity to maintain a sufficient quantity of biosolids to meet the 85 percent permitted capacity requirement. This problem is particularly acute for longer test runs, such as the four hour tests required under the dioxin/furan standards. If EPA were to maintain the 85 percent capacity requirement, utilities will have to extend their performance testing over multiple days, at greater costs, in order to conduct the required number and duration of tests at such a high capacity. EPA should reconsider this test requirement and allow utilities to select lower feed rates for performance testing.

#### **IV. GROUNDS FOR STAY**

The Administrator has clear authority under CAA § 307(d)(7)(B) to postpone the effective date of the SSI Rule for an initial three month period if reconsideration is granted. Such a stay is appropriate based upon the same grounds underlying EPA's decision to grant reconsideration.

In addition, EPA may further postpone the effective date of the SSI Rule under APA § 705 where "justice so requires" to allow for judicial review. NACWA has timely filed a petition for review with the D. C. Circuit challenging the SSI Rule; and, as detailed below, fundamental principles of justice and of sound government strongly support granting a stay.

Furthermore, as mentioned above, CAA §§ 129(a)(5) and 301(a) give EPA authority at any point in time to undertake a process of correcting a § 129 rule and to establish a parallel stay where the stay is necessary to preserve the status quo so as to ensure that the correction is a complete cure, especially to keep communities from wasting resources in complying with a legally defective rule. Section 301(a) authorizes EPA to issue such rules as are necessary to carry out its CAA functions, one of which is to ensure that the standards are lawful and that the regulated community is not forced to comply with unlawful requirements. *See, e.g.*, 76 Fed. Reg. 4780, 4800/3 (Jan. 26, 2011) (implying that § 301(a) is a source of stay authority, but concluding that the exercise of that authority was not appropriate in the case at hand). Here, a stay is necessary to assure a complete correction of the legal defects in the SSI rulemaking and to avoid the potential for irreversible impacts on POTWs that incinerate biosolids.

*First*, there is a very real risk that refusal to stay the SSI Rule will lead to significant environmental harm. Because several of the emission limitations (*e.g.*, the NSPS/EG for Hg and dioxins/furans) are so stringent and EPA has so far failed to account for the inherent variability of biosolids characteristics, some municipalities predict that no viable control technologies exist that will allow them to incinerate in compliance with the rule. Other POTWs predict that they do not have the space and other facilities to retrofit their MHIs. Without an assurance of reconsideration and a stay of the SSI Rule, these municipalities may be forced to make a choice now whether to abandon incineration and start the conversion to landfilling.

The impacts of switching away from incineration are practically irreversible and are magnified precisely because landfilling is not an environmentally or economically attractive option for utilities who currently incinerate. Utilities who choose to switch are extremely unlikely to switch back if EPA later promulgates a defensible SSI rule because they will have eliminated



their incineration systems and invested millions in new treatment equipment, biosolids storage, and truck loading facilities. *See* HRSD Declaration ¶8. As pointed out in NACWA's comments, the increased diesel exhaust emissions from thousands of new daily truck trips travelling, in some cases, more than 100 miles one-way to the nearest landfill will exceed emissions from incineration and are far more difficult and costly to monitor and control. The harm is magnified when one also considers the resulting methane emissions from landfills, increased consumption of fuel for transportation, additional traffic congestion, wear and tear on city streets and other impacts on communities. EPA failed to consider these impacts during the rulemaking, and failure now to grant a stay may irretrievably commit some communities to higher costs for less environmentally beneficial biosolids management options.

*Second*, absent a stay, a legal interpretation adopted and defended recently by EPA will operate to cause additional irreparable and unjustifiable harm, *even if* EPA or the D.C. Circuit ultimately agrees with NACWA that the SSI Rule is legally defective. At the same time that EPA signed and published the SSI Rule, it also signed and published § 129 standards for commercial and industrial solid waste incineration units ("CISWI"). *See* 76 Fed. Reg. 15704 (Mar. 21, 2011). In the preamble to its CISWI rule, EPA responded to comments on the so-called "MACT-on-MACT" issue – *i.e.*, whether EPA may lawfully include in newly promulgated MACT floor calculations the emission levels that incinerators were forced to achieve by virtue of unlawful predecessor MACT standards that the D.C. Circuit had remanded in response to EPA's confession of error. In the CISWI preamble, EPA contended that it must use the MACT-on-MACT approach by virtue of the literal language of § 129. *Id.* at 15721-22. While NACWA disagrees with EPA's position, that position nonetheless sets the stage for a profound and irreversible impact on POTWs with SSIs. If EPA refuses to stay the SSI Rule, inevitably some POTWs will install the add-on control technology necessary to come into compliance with the SSI Rule standards, assuming compliance is possible at all. If ultimately EPA repeals those standards during reconsideration (or if the D.C. Circuit vacates and remands the SSI Rule back to EPA), then, according to EPA's current interpretation of § 129, the performance of SSIs that installed new controls will be part of the MACT floor database when it comes time to re-establish the MACT standards. The fact that these controls were added solely due to the previous unlawful standards is apparently irrelevant in the Agency's view of § 129. For example, new and modified units that were forced to install controls to achieve illegal *new* source standards could become the factual predicate for setting the floors for *existing* sources. There is an obvious irreversible impact arising from the ratcheting down of future MACT standards by virtue of a prior unlawful rulemaking. Aside from the question of whether the text of the CAA supports EPA's MACT-on-MACT interpretation or whether Congress intended such an unjust outcome, EPA plainly has the power under APA § 705 and CAA §§ 129(a)(5) and 301(a) to keep it from happening by issuing a stay pending reconsideration.

*Third*, a large number of municipalities and public clean water authorities will suffer significant economic harm unless a stay is granted. Retrofitting SSIs with the necessary add-on control equipment is a costly and time-consuming process. Many POTWs are being forced to start planning and procurement activities immediately in order to identify compliance gaps, locate capital project funding sources, acquire the necessary engineering services and equipment, and to

complete the major infrastructure and control equipment installations required for most FBIs and many MHIs. New sources must comply with the SSI Rule essentially upon startup, and existing sources have up to five years to complete capital planning, construction of new building space and acquisition/installation of several new types of add-on control equipment. Municipalities, as governmental entities, face the added challenge of longer-term financial planning requirements and uncertain financing options as state and local budgets and jobs are cut in the current economic environment.

Even by EPA's own estimation, dozens of municipalities and public authorities will be forced to start spending public funds and committing other scarce resources to planning, engineering and procurement of additional building space, add-on control devices and other equipment in order to try to meet the present emission standards. Like many others, HRSD has already started incurring significant costs in an effort to comply with the SSI Rule. They have estimated that it will cost at least \$60 million in capital costs alone to retrofit the five primary MHIs at its POTWs. *See* HRSD Declaration ¶7. This estimate assumes that all five POTWs will eliminate their current 'backup' MHI units because it is not possible to upgrade these units given space and financial constraints.

As the other examples provided throughout this petition illustrate, we believe EPA has greatly overestimated the number of SSIs that can comply with the SSI Rule without substantial new investments, and therefore has greatly underestimated the economic impact of the SSI Rule.

It is indisputable that EPA has the authority to stay the SSI Rule pending reconsideration even after it takes effect. First, the last sentence of § 307(d)(7)(B) assumes that EPA would first decide to reconsider and then, either simultaneously or subsequently, issue a three month stay. EPA's decision to reconsider, however, could occur after the rule in question takes effect. Implicitly, therefore, EPA may issue a stay of effectiveness after the initial effective date. Once the stay is in place, the SSI Rule would no longer be in effect, and then EPA could use its powers under APA § 705 and under CAA §§ 129(a)(5) and 301(a), individually or collectively, to postpone the new effective date. Indeed, EPA has had no trouble following this procedure in recent years in situations where the initial effective date has passed. *See, e.g.*, 76 Fed. Reg. 17548 (Mar. 30, 2011) (see also several *Federal Register* notices cited therein all related to rules for inclusion of fugitive emissions in PSD/NSR applicability determinations for plant modifications); 76 Fed. Reg. 13514 (Mar. 14, 2011) (relating to CAA § 112 standards for chemical manufacturing area sources).

Alternatively or in combination with the statutory authority above, EPA has the authority upon reconsideration to re-set the initial effective date of the SSI Rule as improvidently established in the first place. This could be implemented as a direct final rule soon after granting reconsideration to avoid the consequences discussed above and a new effective date promulgated in the same rulemaking that adopts replacement regulations for SSIs.

## **V. CONCLUSION**

For the foregoing reasons, NACWA urges EPA to reconsider the SSI Rule and to stay or re-set the effective date and implementation of the SSI Rule pending completion of the reconsideration process and promulgation of replacement regulations. If the issues raised by NACWA are not addressed in changes to the SSI Rule, it will lead to very significant unintended and unjustifiable impacts on the cities and towns that rely upon incineration as the most viable means for managing biosolids and on those municipalities that have invested in energy recovery using this important renewable energy source.

NACWA and its members appreciate EPA's serious reconsideration of these issues, and we look forward to assisting the Agency in meaningful reform to the SSI Rule.

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Respectfully submitted,

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