

ORAL ARGUMENT NOT YET SCHEDULED

In The
United States Court of Appeals
For The District of Columbia Circuit

**NATIONAL ASSOCIATION OF
CLEAN WATER AGENCIES, *et al.*,**

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, *et al.*,

Respondents.

**ON PETITIONS FOR REVIEW OF RULES OF THE
U.S. ENVIRONMENTAL PROTECTION AGENCY**

PAGE PROOF BRIEF OF INTERVENORS-RESPONDENTS

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The petitioners in these cases are:

1. National Association of Clean Water Agencies and Hatfield Township
Municipal Authority (“Municipal Petitioners”)
2. Sierra Club

Respondents:

The respondents in these cases are the U.S. Environmental Protection Agency and Lisa P. Jackson, Administrator.

Intervenors:

The intervenors in these cases are:

1. National Association of Clean Water Agencies and Hatfield Township
Municipal Authority (Intervenors for Respondents in 11-1185)
2. Sierra Club (Intervenor for Respondents in 11-1131 and 11-1167)
3. MaxWest Environmental Systems (Intervenor for Petitioner in 11-1131)

(iii) Amici in this Case

There are no *amici curiae*.

(iv) Circuit Rule 26.1 Disclosures for Petitioners

Rule 26.1 statements are contained within this brief.

(B) Rulings Under Review

These consolidated petitions seek review of the EPA final actions

- (1) promulgating emission limitations and other requirements for sewage sludge

incinerators (“SSI”) under CAA §129, 42 U.S.C. §7429, 76 Fed. Reg. 15372 (Mar. 21, 2011), (the “SSI Rule”).

(C) Related Cases

The following related cases have been consolidated for briefing:

1. *National Association of Clean Water Agencies v. EPA* (No. 11-131)
2. *Hatfield Township Municipal Authority v. EPA* (No. 11-1167)
3. *Sierra Club v. EPA* (No. 11-1185)
4. *National Association of Clean Water Agencies v. EPA* (No. 12-1236)
5. *Sierra Club v. EPA* (No. 12-1237)

The consolidated petitions in *Waste Management, Inc. v. EPA* (No. 11-1148) challenging EPA’s Non-Hazardous Secondary Materials rule, 76 Fed. Reg. 15456 (Mar. 21, 2011) (defining certain materials, including sewage sludge, as solid waste when incinerated) are related to the petitions challenging the SSI Rule.

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Petitioners

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Respondents

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) **No. 11-1131**
) **(and consolidated cases)**
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**RULE 26.1 DISCLOSURE STATEMENT OF THE
NATIONAL ASSOCIATION OF CLEAN WATER AGENCIES**

Pursuant to Federal Rule of Appellate Procedure 26.1 and D.C. Circuit Rule 26.1, the National Association of Clean Water Agencies (“NACWA”) makes the following disclosures:

1. NACWA is a voluntary not-for-profit trade association whose membership includes approximately 280 municipalities and municipal clean water agencies. 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.

2. NACWA's purpose and general nature is to provide a forum for collaboratively addressing issues affecting POTWs and to advocate on behalf of its members regarding legislative, regulatory and legal matters.
3. NACWA has no parent company, and no publicly held company has a 10 percent or greater ownership interest in NACWA.
4. NACWA has no outstanding shares or debt securities in the hands of the public and has no parent, subsidiary or affiliate that has issued shares or debt securities to the public.

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** There are no authorities upon which we chiefly rely.*

GLOSSARY OF TERMS

ACI – Activated Carbon Injection

CAA – Clean Air Act, 42 U.S.C. §7401, *et seq.*

Cd – Cadmium

CDD-CDF – Mono- to Tri-Chlorinated Dibenzodioxins and Dibenzofurans

CO – Carbon Monoxide

CWA – Clean Water Act, 33 U.S.C. §1251, *et seq.*

EPA – U.S. Environmental Protection Agency

ESP – Electrostatic Precipitators

FBI – Fluidized Bed Incinerator

FF – Fabric Filters

GACT – Generally Available Control Technology

HAP – Hazardous Air Pollutant

Hatfield – Hatfield Township Municipal Authority

Hg – Mercury

MACT – Maximum Achievable Control Technology

MHI – Multiple Hearth Incinerator

NACWA – National Association of Clean Water Agencies

Pb – Lead

POTWs – Publicly-Owned Treatment Works

SNCR – Selective Non-Catalytic Reduction

SSI – Sewage Sludge Incinerator

SSI Rule – Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Sewage Sludge Incineration Units; Final Rule, 76 Fed. Reg. 15372 (Mar. 21, 2011),

UPL – Upper Predictive Limit statistical analysis

JURISDICTIONAL STATEMENT

Petitioner Sierra Club seeks review of the U.S. Environmental Protection Agency (“EPA”) final action promulgating emission limitations and other requirements affecting sewage sludge incinerators (“SSIs”) under Clean Air Act (“CAA”) §129, 42 U.S.C. §7429, 76 Fed. Reg. 15372 (Mar. 21, 2011) (the “SSI Rule”). This Court has exclusive jurisdiction under CAA §307(b)(1), 42 U.S.C. §7607(b)(1).

ISSUES PRESENTED

NACWA and Hatfield refer to the issues presented for review in the Brief for Petitioner Sierra Club. *See* Sierra Club Br. at 1-2.

STATUTES AND REGULATIONS

Pertinent statutes and regulations are provided in addenda to the Brief of Municipal Petitioners and the Brief for Respondents in these consolidated cases.

STATEMENT OF THE CASE

NACWA and Hatfield adopt the statement of the case set forth in the Brief of Municipal Petitioners in these consolidated cases, with the following additional information.

Sierra Club lists a variety of health effects associated with the types of pollutants EPA has identified as emitted by SSIs. *See* Sierra Club Br. at 3. In particular, it highlights the emission of mercury (“Hg”), lead (“Pb”), and cadmium

(“Cd”), suggesting that EPA has concluded that emissions of these and other pollutants from SSIs are causing health problems. *Id.*

To the contrary, since 1993 SSIs have been subject to comprehensive risk-based standards set forth in 40 C.F.R. Part 503 addressing the potential health and environmental risks of the pollutants emitted by SSIs. In the Part 503 regulations, EPA identified the pollutants in sewage sludge that may adversely affect public health or the environment and specified the emission standards and management practices that are protective of public health and the environment. The Part 503 regulations require compliance with:

- a) National Emission Standards for Hazardous Air Pollutants for Hg and beryllium (40 C.F.R. Part 61, Subparts E and C) under the CAA;
- b) Risk-based limits for Cd, Pb, arsenic, chromium, and nickel;
- c) Technology-based emission limits for total hydrocarbons or an alternative emission limit for carbon monoxide (“CO”); and
- d) Various management practices; monitoring and reporting requirements.

As required by Clean Water Act (“CWA”) §405(d), the Part 503 regulations set standards that EPA found to be protective of human health and the environment. *See* 76 Fed. Reg. 15372, 15375 (Mar. 21, 2011) (JA:___). EPA has

repeatedly emphasized its confidence that the Part 503 regulations are protective of public health and the environment. *See* NACWA Comments (EPA-HQ-OAR-2009-0559-0127) at 6 and fn.5 (JA:___).

SUMMARY OF ARGUMENT

All of Sierra Club's arguments are grounded in the assumption that SSIs are subject to regulation under CAA §129. Because that assumption is wrong – and EPA has no authority to regulate SSIs under §129 – Sierra Club's arguments are moot.

Even if EPA had the authority to regulate SSIs under §129, Sierra Club's argument that EPA cannot use the upper predictive limit statistical method to consider variability in emissions is neither supported by the text of §129(a)(2) nor backed by any evidence of Congressional intent to prevent EPA from using such statistical methods.

Finally, Sierra Club's arguments that EPA improperly rejected “beyond-the-floor” standards based on improper cost effectiveness reasons are not supported by the text of CAA §129(a)(2) and mischaracterize the robustness of EPA's analyses and the reasons EPA rejected beyond-the-floor standards.

ARGUMENT

I. SIERRA CLUB INCORRECTLY ASSUMES THAT SSIs ARE SUBJECT TO REGULATION UNDER CAA §129 INSTEAD OF §112.

Throughout its brief, Sierra Club incorrectly assumes that SSIs are solid waste incineration units subject to regulation under CAA §129. They are not, for the reasons set forth in the Brief of Municipal Petitioners (“Mun. Br.”). *See* Mun. Br. at 18-32. Instead, SSIs are subject to regulation under CAA §112(d), along with the other parts of publicly-owned treatment works (“POTWs”).

The CAA requirements for setting standards under §112(d) applicable to non-major (*i.e.*, “area”) sources like SSIs are very different from the requirements for setting maximum achievable control technology (“MACT”) standards and other requirements applicable to solid waste incineration units under §129. First, standards under §112(d) apply only to emissions of hazardous air pollutants (“HAP”) listed under CAA §112, while standards under §129 also must include standards for emissions of several non-HAP pollutants. *See* CAA §129(a)(4); EPA Br. at 11 and n.5. Second, area sources like SSIs typically are subjected to more flexible standards reflecting “generally available control technology” (“GACT”) under §112(d)(5), instead of MACT-level controls – the latter of which are required for solid waste incineration units under §129 irrespective of their potential to emit HAP. Because EPA improperly decided to set standards for SSIs under §129, it never considered whether to adopt standards based on GACT. Third, §112

does not contain mandatory requirements for pre-construction siting approvals of new facilities, while §129(a)(3) gives EPA power to prevent construction of new solid waste incineration units. Finally, §129 contains other requirements – such as unique operator training and availability standards and monitoring requirements – that are not present under §112.

As discussed below, even if EPA had the authority to regulate SSIs under §129, Sierra Club's arguments against using the upper predictive limit statistical method and that EPA did not properly consider "beyond-the-floor" standards are legally flawed and refuted by the facts in the rulemaking record.

II. USING THE UPPER PREDICTION LIMIT STATISTICAL METHOD IS NOT CONTRARY TO THE CAA.

Sierra Club claims that EPA's use of the 99% upper prediction limit ("UPL") statistical method is not permitted under §129(a)(2), (*see* Sierra Club Br. at 23-24), and that using the UPL results in standards that are less stringent than the average emission limit achieved by the best performing SSIs, (*see* Sierra Club Br. at 25-26).

With respect to the first claim, it is undisputed that §129(a)(2) does not prohibit EPA from using statistical methods to account for variability in setting standards. *See* Sierra Club Br. at 23. Section 129(a)(2) does not dictate a particular method that EPA must use to account for variability in performance, nor

does it expressly or impliedly prohibit using the UPL for such purpose. Therefore, Sierra Club's vague and conclusory statement that using the UPL is contrary to "Congress's plainly expressed intent" is neither supported by the text of §129(a)(2) nor backed by any evidence of Congressional intent.

Equally unsupported is Sierra Club's claim that using the UPL results in new source MACT floors that are less stringent than the "emissions control that is achieved in practice by the best controlled similar unit, as determined by the Administrator," and results in existing source MACT floors less stringent than "the average emissions limitation achieved by the best performing 12 percent of units in the category." CAA §129(a)(2). As explained in the preamble to the SSI Rule and EPA's Brief, EPA used the mean (*i.e.*, average) of a three-run emissions performance test to determine the "average emissions limitation" under §129(a)(2) for each subcategory of SSIs. *See* 76 Fed. 15389 (JA:__); EPA Br. at 52-53. Because the MACT floor database was comprised solely of short-term (1-hour) performance tests, EPA correctly concluded that the mean (average) of the test runs reflects only a "snap shot" in time and does not adequately account for inherent variability in emissions performance among best performing units and at any given best performing unit over time. *See* 75 Fed. Reg. 63260, 63269 (Oct. 14, 2010) (JA:__) (short-term test data "are not representative of the range of operating conditions that the best performing facilities face on a day-to-day basis").

Therefore, EPA used the UPL method to estimate what the mean (average) of the test runs would be for the units in the MACT floor database after taking variability into consideration. *Id.* (proposed rule); 76 Fed. Reg. 15389 (final rule). The SSI Rule MACT floors are flawed for other reasons – namely because EPA failed to assemble the statutorily-mandated number of SSIs to set standards and failed to ensure that the MACT floor database contained data representative of the range of conditions experienced by the best performing units before the UPL methodology was applied. *See* Mun. Br. at 32-43. However, using the 99% UPL method to account for variability in emission performance is not prohibited by the statute, nor is it unreasonable, provided EPA uses representative data from the congressionally required 12% of units.

Sierra Club also fails to reveal what it believes the word “average” means in §129(a)(2), but the argument suggests Sierra Club believes that §129(a)(2) requires EPA to set MACT standards at a level that even the best performing units cannot achieve most of the time. *See, e.g.,* Sierra Club Br. at 25 (objecting to new source standards that the best performing SSI is expected achieve 99% of the time).¹ Such an outcome clearly is not compelled by the words “average emissions limitation,”

¹ The 99% UPL method by definition assumes that the best controlled source would be expected to achieve a MACT floor emission limit in 99 out of 100 performance tests.

and is contrary to the CAA requirement that MACT limits must be achievable by best performing units at all times and under all reasonably foreseeable conditions. *See Sierra Club v. EPA*, 551 F.3d 1019, 1022 (D.C. Cir. 2008).

III. EPA'S REJECTION OF BEYOND-THE-FLOOR STANDARDS WAS LAWFUL AND REASONABLE.

Sierra Club further contends that the SSI Rule is flawed because EPA decided not to require more stringent "beyond-the-floor" standards (1) for new multiple hearth incinerators ("MHIs") based on the emission performance achieved by fluidized bed incinerators ("FBIs"), and (2) for existing SSIs.

A. Sierra Club's Argument For More Stringent New MHI Standards Has Been Waived And Is Contrary To CAA §129(a)(2).

For the reasons set forth by EPA, Sierra Club's argument that EPA should have adopted beyond-the-floor standards for new MHIs has been waived. *See EPA Br.* at 66-67. NACWA adds, however, that Sierra Club's claim that the public had no way to anticipate that EPA would not set beyond-the-floor standards for new MHIs is particularly meritless. The proposed SSI rule contained proposed new source standards for MHIs and explained that these were not based on beyond-the-floor controls. *See* 75 Fed. Reg. 63272 and Table 3 (JA:___). In its beyond-the-floor analysis, EPA explained that, except for a beyond-the-floor option for existing MHIs, the Agency was not proposing any beyond-the-floor standards because EPA "determined that it is not reasonable to establish beyond-the-floor

limits for *existing and new SSI units*.” *Id.* at 63277 (emphasis added). Clearly, the fact that EPA proposed MACT floor standards for new MHIs, and stated that it was not proposing beyond-the-floor standards for new MHIs, provided adequate notice that EPA might do just that.

Even if the Court decides to consider this argument on the merits, it is based on the erroneous contention that EPA could lawfully set beyond-the-floor standards for new MHIs based on FBIs, which have a significantly different combustion design. Section 129(a)(2) gives EPA the power to “distinguish among classes, types ... and sizes of units *within a category* in establishing such standards” (emphasis added). In the proposed rule, EPA developed separate subcategories for MHIs and FBIs because of their “significantly different combustor designs” that result in different emissions characteristics. *Id.* at 63268. The FBI design creates higher turbulences that increase combustion efficiencies and reduce PM emissions. Many FBIs have internal afterburning zones that increase residence time to reduce CO, HC, and PM emissions. MHIs do not share these characteristics and generally require more auxiliary fuel than FBIs, which increases emissions of certain combustion-related pollutants. *Id.* (explaining differences between these combustor designs); 76 Fed. Reg. 15384 (concluding that differences between MHIs and FBIs warrant separate subcategories for standard setting); *see also* NACWA Comments at 30 (JA:___).

Although EPA developed separate categories for new MHIs and new FBIs based on these differences, EPA originally proposed not to subcategorize *new* SSIs based on its belief that no new MHIs were likely to be constructed. 75 Fed. Reg. 63272 (JA:___). In response, NACWA and other commenters explained that EPA must adopt separate MHI and FBI subcategories for both new and existing sources to avoid illegally subjecting newly-constructed or modified MHIs to unachievable emission standards based on FBIs. This is due to the fact that, under the SSI Rule, *existing* MHIs become subject to *new source* standards when they make modifications exceeding the 50% cumulative cost threshold or that increase emissions of a pollutant. See NACWA Comments at 30-31 (JA:___); 40 C.F.R. §§60.4770, 60.4775 (JA:___). Subjecting modified MHIs to emission limits based on the best performing FBIs would necessarily lead to some MHIs operating out of compliance with unachievable emission limits. In the final SSI Rule, EPA agreed with these commenters and acknowledged that the combustion design differences described above would make limits based on the top performing FBI unachievable for MHIs. 76 Fed. Reg. 15384 (JA:___). Therefore, even if Sierra Club had timely raised this issue, EPA could not lawfully set beyond-the-floor standards for MHIs based on FBIs because such standards would not be “achievable” as required under CAA §129(a)(2).

This summary of the changes from EPA's originally proposed standards for new MHIs (erroneously based on FBIs) to the final standards for new MHIs also answers Sierra Club's argument that EPA inappropriately set "much weaker" standards than originally proposed. *See* Sierra Club Br. at 35. The standards set forth in the proposed rule were unachievable for new MHIs, so it is not surprising that less stringent standards were promulgated after EPA realized that the proposed standards were flawed. That fact does not detract in any way from EPA's beyond-the-floor analysis, and it has no bearing on the adequacy of EPA's decision to reject beyond-the-floor standards for new MHIs.

B. EPA Properly Considered Costs In Rejecting Beyond-The-Floor Standards for Existing SSIs.

Sierra Club contends that EPA's approach to considering the cost of achieving beyond-the-floor emission reductions is contrary to the "unambiguous" language of CAA §129(a)(2) and arbitrary. *See* Sierra Club Br. at 36-39. The relevant part of §129(a)(2) provides that emission standards under §129

shall reflect the maximum degree of reduction in emissions [of §129 pollutants] that the Administrator, taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements, determines is achievable for new or existing units in each category.

As EPA points out in response, §129(a)(2) requires EPA to consider "the cost of achieving such emission reduction" in deciding whether to establish beyond-the-

floor standards and does not prescribe or preclude any particular method of considering costs. *See* EPA Br. at 70-71. EPA's cost effectiveness analyses for the beyond-the-floor options did precisely that. In arguing otherwise, Sierra Club does not explain how §129(a)(2) "unambiguously" precludes EPA's cost-effectiveness approach, nor does it explain how Sierra Club's "too costly to be 'achievable'" reading differs from EPA's interpretation of §129(a)(2). *See* Sierra Club Br. at 37. The only apparent difference is Sierra Club's desire to substitute its judgment for that of EPA as to what level of cost should be deemed acceptable. Sierra Club fails to identify any instances where EPA has previously concluded that emission reductions costing \$80,000 to \$100,000 per pound of Hg removed are appropriate to impose additional beyond-the-floor controls.

Sierra Club's next argument – that EPA rejected beyond-the-floor Hg controls on improper cost-effectiveness grounds – is both incorrect and misleading. The beyond-the-floor options EPA considered were far more robust than Sierra Club's brief indicates, and included beyond-the-floor analyses of packed bed scrubbers, afterburners, fabric filters ("FF"), wet electrostatic precipitators ("ESPs"), and selective non-catalytic reduction ("SNCR") as well as combinations of controls using activated carbon injection ("ACI") and FF. *See* 76 Fed. Reg. 15393-94 (JA:__); Revised Analysis of Beyond the Maximum Achievable Control Technology (MACT) Floor Controls for Existing SSI Units (EPA-HQ-OAR-2009-

0559-0172) at 3-4 and Tables 4-1 through 4-4 (JA:___). EPA properly rejected these beyond-the-floor options for several reasons, including technical impracticability, lack of demonstrated effectiveness, high energy consumption, and high costs. *See* 76 Fed. Reg. 15393-94 (JA:___).

In the example cited by Sierra Club (*see* Sierra Club Br. at 38-39), EPA rejected beyond-the-floor Hg controls using ACI, afterburners, and FF on technical impracticability and lack of effectiveness grounds, in addition to unreasonable cost effectiveness. EPA cited information submitted by NACWA and other commenters demonstrating that ACI is an unproven technology for reducing Hg emissions from SSIs and that attempting to apply this technology to SSIs would require the addition of other types of equipment to adjust flue gas temperatures into the proper operating range and to capture the added carbon particulate. *See* 76 Fed. Reg. 15393; NACWA Comments at 21-22 (JA:___). NACWA's comments pointed out that the one POTW (St. Paul, MN) using ACI has experienced rapid abrasion and corrosion of its equipment and fouling of its FFs due to the incompatibility of these controls with the high moisture content in the flue gas of SSIs. *See* NACWA Comments at 21-22 (JA:___). EPA agreed with these conclusions and rejected these beyond-the-floor options as technically unjustified. *See* 76 Fed. Reg. 15393-94.

EPA also calculated that adding these controls (*i.e.*, ACI and FF) to MHIs would cost in the range of \$80,000 to \$100,000 *per pound* of Hg removed. *Id.* at 15394. However, these costs were admittedly understated because EPA did not include the cost of adding the equipment necessary to cool the flue gas to prevent damage to FFs because EPA could not determine the cost of these changes.² *Id.* at 15393-94; EPA-HQ-OAR-2009-0559-0172 at 4 (beyond-the-floor costs for this option are “understated”) (JA:___). The record also strongly suggests that EPA further underestimated these costs and that the true cost effectiveness of beyond-the-floor Hg controls would be significantly worse than the Agency calculated. The City of Palo Alto, California conducted a similar cost analysis that put the national cost of mercury removal at nearly \$190,000 per pound, and over \$400,000 per pound for the City based on its actual emissions level. *See* Comments of Palo Alto, California at 10-11 and Table 2 (JA:___). NACWA’s comments provided data for two POTWs indicating costs greater than \$100,000 per pound of Hg for the Northeast Ohio Regional Sewer District and for the POTW serving the town of Edmonds, Washington. *See* NACWA Comments at 22-23 and Att. D (JA:___).³

² Sierra Club’s brief at page 38 misstates EPA’s estimate of the cost effectiveness of Hg control as \$80,000 per pound, when EPA’s admittedly understated estimate was actually \$80,000 to \$100,000 per pound. *Id.*

³ EPA also considered other beyond-the-floor options that are not raised or challenged by Sierra Club. EPA considered requiring afterburners but rejected this

Finally, Sierra Club is mistaken that EPA did not state why it did not include reductions of non-Hg pollutants in its beyond-the-floor cost effectiveness calculations for ACI and FF. *See* Sierra Club Br. at 38. To the contrary, EPA concluded that ACI and FF would reduce emissions of Hg and dioxins (“CDD-CDF”) but the resulting reductions in emissions of CDD-CDF would be so negligible that further analysis of beyond-the-floor control for CDD-CDF was unnecessary. *See* 75 Fed. Reg. 63277 (stating that ACI and FF would achieve CDD-CDF reductions of merely 0.000020 tons per year) (JA:___). Adding such negligible emission reductions would not have materially changed EPA’s cost effectiveness calculations, and Sierra Club’s brief does not point to any data in the record showing otherwise.

CONCLUSION

For the reasons set forth above and in EPA’s Brief, the Court should deny Sierra Club’s petition for review.

option on energy and air quality grounds after determining that afterburners could burn as much as 1,010 million cubic feet per year of natural gas thereby increasing NOx and CO emissions by 51 and 43 tons per year, respectively. 76 Fed. Reg. 15393-94. EPA also considered adding packed bed scrubbers, wet ESPs, and SNCR, but rejected these options based on the cost and secondary impacts. *Id.* at 15394.

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CERTIFICATE OF COMPLIANCE

Undersigned counsel certify that this Brief of Intervenor-Respondents complies with the typeface and type-volume requirements of Fed.R. App.P. 32(a), because the brief contains less than 4,375 words as counted by counsel's word-processing system, in compliance with the Court's July 6, 2012 order.

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CERTIFICATE OF SERVICE

I hereby certify that on this 5th day of November 2012 a copy of the foregoing Brief of Intervenor-Respondents was served electronically through the Court's CM/ECF system on all registered counsel.

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