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No. 12-1166 (consolidated with Nos. 12-1366 and 12-1420)

**IN THE UNITED STATES COURT OF APPEALS  
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

UTILITY AIR REGULATORY GROUP,

*Petitioner,*

v.

ENVIRONMENTAL PROTECTION AGENCY,

*Respondent.*

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**On Petition for Review of Final Agency Action  
77 Fed. Reg. 9304 (Feb. 16, 2012)**

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**JOINT BRIEF OF PETITIONERS**

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**Dated: October 23, 2012**

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**CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES**

Pursuant to Circuit Rule 28(a)(1), Petitioner Utility Air Regulatory Group (“UARG”) states as follows:

**A. Parties, Intervenors, and *Amici*****1. Petitioners**

UARG is the petitioner in case Nos. 12-1166 and 12-1420.

The State of Texas, Texas Commission on Environmental Quality, Texas Public Utility Commission, and Railroad Commission of Texas (“Texas”) is a petitioner in case No. 12-1366.

Eco Power Solutions (USA) Corporation (“Eco Power”) is a petitioner in case No. 12-1366. On October 10, 2012, Eco Power Solutions moved to voluntarily dismiss its petition (Doc. 1398969).

**2. Respondent**

Respondent is the U.S. Environmental Protection Agency (“EPA”).

**3. Intervenors**

The following entities are intervenors in support of petitioners:

The National Black Chamber of Commerce

The Institute for Liberty

White Stallion Energy Center, LLC

Edgecombe Genco, LLC and Spruance Genco, LLC.

The following entities are intervenor in support of EPA:

Environmental Defense Fund

American Lung Association

Chesapeake Bay Foundation

Clean Air Council

Natural Resources Defense Council

Sierra Club.

**4. *Amici***

At present, no entity has sought to participate as *amici curiae*.

**B. Rulings Under Review**

Petitioners UARG and Texas seek review of final “Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units” published at 77 Fed. Reg. 9304 (Feb. 16, 2012).

In addition, UARG seeks review of final “Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971; Standards of Performance for Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978; Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units; and Standards of Performance for Small Industrial-Commercial-Institutional Steam

Generating Units” published at 74 Fed. Reg. 5072 (Jan. 28, 2009). On October 18, this Court ordered that two issues from UARG’s challenge to that rule be severed from *Utility Air Regulatory Group v. EPA*, No. 09-1111 (filed Mar. 27, 2009), assigned a new docket (*Utility Air Regulatory Group v. EPA*, No. 12-1420), and consolidated with this case (Doc. 1400361).

### **C. Related Cases**

Two related cases are pending before this Court. *White Stallion Energy Center, LLC v. EPA*, No. 12-1100 (filed Feb. 16, 2012) and severed case *White Stallion Energy Center, LLC v. EPA*, No. 12-1272 challenge “National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units” also published at 77 Fed. Reg. 9304 (Feb. 16, 2012). On August 24, 2012, this Court directed the clerk to calendar this case for argument on the same day and before the same panel as case No. 12-1100 (Doc. 1391295). On September 12, 2012, this Court ordered that case No. 12-1272 be held in abeyance pending administrative reconsideration proceedings (Doc. 1394140).

**CORPORATE DISCLOSURE STATEMENT**

Pursuant to Rule 26.1 of the Federal Rules of Appellate Procedure and the Circuit Rules of this Court, Petitioner Utility Air Regulatory Group (“UARG”) hereby files the following corporate disclosure statement:

UARG is a not-for-profit association of individual electric generating companies and national trade associations that participates on behalf of its members collectively in administrative proceedings under the Clean Air Act, and in litigation arising from those proceedings, that affect electric generators. UARG has no outstanding shares or debt securities in the hands of the public and has no parent company. No publicly held company has a 10% or greater ownership interest in UARG.

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**GLOSSARY OF ACRONYMS AND ABBREVIATIONS**

Act	Clean Air Act
Agency	United States Environmental Protection Agency
CAA	Clean Air Act
CEMS	Continuous Emissions Monitoring System
COMS	Continuous Opacity Monitoring System
CPM	Condensable Particulate Matter
EGU	Electric Utility Steam Generating Unit
EGU MACT	40 C.F.R. Part 63, Subpart UUUUU
EPA	United States Environmental Protection Agency
IB	Industrial Boiler
ICR	Information Collection Request
JA	Joint Appendix
lb/MMBtu	Pounds per Million British Thermal Units
lb/MWh	Pounds per Megawatt Hour
MACT	Maximum Achievable Control Technology
NESHAP	National Emission Standard for Hazardous Air Pollutants
ng/J	Nanogram per Joule
NSPS	New Source Performance Standards
PM	Particulate Matter

PM CEMS	Particulate Matter Continuous Emissions Monitoring System
PRA	Paperwork Reduction Act
PS 1	Performance Specification 1
PS 11	Performance Specification 11
RTC	Response to Comments
SIP	State Implementation Plan
UARG	Utility Air Regulatory Group

## JURISDICTIONAL STATEMENT

These petitions seek review of the following final actions by the United States Environmental Protection Agency (“EPA” or “Agency”) promulgating new source performance standards (“NSPS”) for a variety of steam generating units (“boilers”) under § 111 of the Clean Air Act<sup>1</sup> (“CAA” or “Act”): (1) Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971; Standards of Performance for Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978; Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units; and Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units” published at 74 Fed. Reg. 5072 (Jan. 28, 2009) (“2009 NSPS”), and (2) Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units“ published at 77 Fed. Reg. 9304 (Feb. 16, 2012) (“2012 NSPS”). This Court has jurisdiction to review final EPA actions under CAA § 307(b)(1). Petitioner Utility Air Regulatory Group (“UARG”) petitioned for review of the 2009 NSPS and 2012 NSPS within the periods prescribed under CAA § 307(b). Petitioners State of Texas, Texas

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<sup>1</sup> The Table of Authorities has parallel U.S. Code citations.

Commission on Environmental Quality, Texas Public Utility Commission, and Railroad Commission of Texas (“Texas”) also timely petitioned for review of the 2012 NSPS.

### **STATUTES AND REGULATIONS**

The boiler NSPS are codified in 40 C.F.R. Part 60. The provisions applicable to electric utility steam generating units (“EGUs”) are codified in Subparts D and Da. The provisions applicable to large and small industrial, commercial, and institutional boilers are codified in Subparts Db and Dc, respectively.

The addendum reproduces pertinent portions of the statutory provisions and regulations.

### **STATEMENT OF ISSUES**

1. With respect to the *Subpart Da filterable particulate matter (“PM”) emission standards*, whether EPA’s adoption without required notice and comment of the following is arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law:

a. A mandate that units constructed or reconstructed after May 3, 2011 (“newly constructed or reconstructed units”) use a PM continuous emissions monitoring systems (“CEMS”) to demonstrate compliance with a standard that is

below the level at which compliance with EPA's Performance Specification 11 ("PS 11") for PM CEMS can be consistently met;

b. A requirement that units modified after May 3, 2011 ("newly modified units") comply with an internally inconsistent standard that lacks a specified compliance demonstration procedure;

c. For purposes of application of work practice standards during periods of startup and shutdown at newly constructed, reconstructed, or modified units, requirements and definitions that do not take into account the manner in which all affected units and their control devices actually operate;

d. A requirement that newly constructed, reconstructed, or modified units conduct, for informational purposes only, condensable PM ("CPM") emissions testing concurrent with testing for compliance with the applicable filterable PM emissions standard; and

e. A requirement that Subpart Da units constructed or reconstructed on or before February 28, 2005 ("original Subpart Da units") comply with a revised standard.

2. With respect to the *monitoring of PM, and monitoring of the opacity* of emissions as a surrogate for filterable PM, at Subpart D, Db, and Dc units:

a. Whether EPA's adoption without required notice and comment of a requirement that certain units seeking to use PM CEMS in lieu of a continuous

opacity monitoring system (“COMS”) to demonstrate compliance either (1) “opt into” a more stringent filterable PM standard, or (2) begin monitoring opacity as a surrogate for filterable PM by conducting periodic visible emissions testing, is arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law, in light of EPA’s determination that PM CEMS are accurate and provide a more direct measurement of compliance than opacity; and

b. Whether EPA’s failure to revise the visible emissions testing requirements consistent with revisions to Subpart Da is arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.

3. Whether EPA’s failure to fully address a Texas comment seeking to streamline affirmative defense provisions is arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.

## STATEMENT OF THE CASE

### I. Procedural Background

UARG challenges portions of the 2009 NSPS and the 2012 NSPS establishing and revising emission standards and monitoring and testing requirements. In both rulemakings, EPA promulgated final rules which differed significantly from the proposed rule. Following the 2009 rulemaking, UARG petitioned EPA under CAA § 307(d)(7)(B) to reconsider certain provisions and cure their defects. *See* Petition for Reconsideration (Mar. 29, 2009), EPA-HQ-

OAR-2005-0031-0285 (“UARG 2009 NSPS Reconsideration Petition”) (Joint Appendix (“JA”)\_\_\_). EPA purported to conduct such a reconsideration proceeding in the 2012 NSPS rulemaking. Although not required to do so, EPA conducted that rulemaking on the same schedule as EPA’s CAA § 112 rulemaking to establish National Emission Standards for Hazardous Air Pollutants for Coal-Fired and Oil-Fired Electric Utility Steam Generating Units under 40 C.F.R. Part 63, Subpart UUUUU (“EGU MACT”). Both rulemakings were inordinately rushed. *See* Joint Brief of State, Industry, and Labor Petitioners, Statement of the Case, Section III.E, *White Stallion Energy Ctr. LLC v. EPA*, No. 12-1100 (D.C. Cir. filed Oct. 23, 2012). In the end, that rulemaking not only failed to cure the 2009 NSPS’ substantive and procedural defects, it created new ones.

UARG also petitioned for reconsideration of the 2012 NSPS. *See* Petition for Reconsideration (Apr. 16, 2012), EPA-HQ-OAR-2011-0044-5771 (“UARG 2012 NSPS Reconsideration Petition”) (JA\_\_\_). Although UARG sought to hold this case in abeyance to allow EPA time to respond to that petition, or to otherwise resolve UARG’s issues (Doc. 1377883), EPA opposed that request (Doc. 1379994). At UARG’s and EPA’s request, this Court subsequently severed from UARG’s challenge to the 2009 NSPS the reconsideration issues addressed in the 2012 proceeding, and consolidated those issues with this case for briefing (Doc. 1400361).

Texas challenges EPA's failure to fully respond to its comments on the 2012 NSPS. Texas also petitioned for reconsideration on that issue. Petition for Reconsideration (Feb. 13, 2012), EPA-HQ-OAR-2011-0044-5775 ("Texas Reconsideration Petition") (JA\_\_\_).

As of the date of filing, EPA has not responded to either UARG's 2012 Reconsideration Petition or Texas' Reconsideration Petition.

## **II. NSPS Under CAA Section 111**

The NSPS program authorizes EPA to establish emission "standards of performance" for categories of major new sources. CAA § 111. A "new source" is defined in CAA § 111(a)(2) as a "stationary source, the construction or modification of which is commenced after the publication of regulations (or, if earlier, proposed regulations) prescribing a standard of performance . . . ." To promulgate a "standard of performance," EPA must determine what level of emission limitation is "achievable through the application of the best system of emission reduction" that has been "adequately demonstrated" for sources within the source category after taking into consideration cost and certain nonair quality factors. CAA § 111(a)(1).

NSPS rulemakings are subject to CAA § 307(d). CAA § 307(d)(1)(C). Among other requirements, the rulemaking proposal must "be accompanied by a statement of its basis and purpose," that includes:

(A) the factual data on which the proposed rule is based;

(B) the methodology used in obtaining the data and in analyzing the data; and

(C) the major legal interpretations and policy considerations underlying the proposed rule

CAA § 307(d)(3). Further, all of those required “data, information, and documents” must be “included in the docket on the date of publication of the proposed rule.” *Id.*

CAA § 307(d) also establishes requirements for final rules. Among other things, the promulgated rule must be accompanied by (1) a statement of basis and purpose like that required for the proposed rule, (2) an explanation of the reasons for any major changes in the promulgated rule, and (3) a response to each of the significant comments submitted during the comment period. CAA § 307(d)(6)(A) and (B).

### **III. The Pre-2009 Boiler NSPS**

#### **A. PM**

PM can be classified as either filterable or condensable. Filterable PM consists of incombustible inert matter (e.g., ash). Condensable particulate matter or CPM consists of gases that are in vapor phase at stack conditions but that condense into liquid or solid PM upon reaching ambient temperature (i.e., shortly after exiting the stack). 40 C.F.R. pt. 51, app. M, Method 202 (2012) (“Method 202”) § 3.1. Total PM is the combination of filterable PM and CPM. Filterable

PM is regulated under the boiler NSPS. CPM and total PM are not. 77 Fed. Reg. at 9424.

The oldest boiler NSPS -- “Subpart D” -- applies to EGUs constructed, reconstructed, or modified after August 17, 1971, but on or before September 18, 1978. 40 C.F.R. § 60.40(c) (2011). When EPA promulgated Subpart D, the only method for measuring filterable PM was a manual stack testing method referred to as EPA “Method 5.” 36 Fed. Reg. 24,876, 24,888 (Dec. 23, 1971) (codified at 40 C.F.R. pt. 60, app. A). Method 5 is used to determine compliance with the boiler NSPS PM standards during periodic “performance tests.” *See, e.g.*, 40 C.F.R. §§ 60.46(a) and (b)(2), 60.50Da(a) and (b), 60.46b(b) and (d)(2), 60.45c(a)(3) (2011).

In 1979, EPA promulgated the next boiler NSPS -- “Subpart Da” -- establishing a more stringent filterable PM standard that now applies only to EGUs constructed, reconstructed, or modified after September 18, 1978, but before March 1, 2005. 44 Fed. Reg. 33,580, 33,614 (June 11, 1979); 40 C.F.R. § 60.42Da(a) (2011).

In 2006, EPA revised Subpart Da to include three more stringent filterable PM standards that now apply to facilities constructed, reconstructed, or modified after February 28, 2005, but before May 4, 2011 (“2006 NSPS”). Final §§ 60.42Da(c) and (d), 77 Fed. Reg. at 9450.

## B. Opacity and Visible Emissions

Because PM performance tests are expensive and time consuming, they are performed only periodically. *See, e.g.*, 40 C.F.R. § 60.8(a) (2011) (requiring tests as requested by the Administrator). To provide another means of assessing compliance with the applicable PM standard, all of the boiler NSPS contain an opacity standard. *See, e.g.*, 40 C.F.R. §§ 60.42(a)(2), 60.42Da(b), 60.43b(f), 60.43c(c) (2011). That standard is 20 percent, except for one 6-minute period of not more than 27 percent opacity. *Id.* Opacity is not a pollutant; it is simply the “degree to which emissions reduce the transmission of light and obscure the view of an object in the background.” 40 C.F.R. § 60.2 (2011) (definition of “opacity” for the NSPS).

Although the opacity standards are independently enforceable, their sole purpose is to compensate for the lack of continuous PM emissions monitoring by providing a means of assessing filterable PM control device operation between performance tests. In 1974, EPA explained:

Opacity standards are a necessary supplement to concentration/mass standards. Opacity standards help ensure that sources and emission control systems continue to be properly maintained and operated *so as to comply with concentration/mass standards*. Particulate testing by EPA method 5 and most other techniques requires an expenditure of \$3,000 to \$10,000 per test including about 300 man-hours of technical and semi-technical personnel. Furthermore, scheduling and preparation are required such that it is seldom possible to

conduct a test with less than 2 weeks notice. Therefore, method 5 particulate tests can be conducted on an infrequent basis.

If there were no standards other than concentration/mass standards, it would be possible to inadequately operate or maintain pollution control equipment at all times except during periods of performance testing. . . .

Part 60 - Standards of Performance for New Stationary Sources; Additions and Miscellaneous Amendments, 39 Fed. Reg. 9308, 9309 (Mar. 8, 1974) (emphasis added). Given their limited role as an indicator of filterable PM control device operation, EPA also has previously made clear that the NSPS opacity standards do not require greater emission control than the applicable PM standard:

Where opacity and concentration/mass standards are applicable to the same source, *the opacity standard is not more restrictive than the concentration/mass standard.* The concentration/mass standard is established at a level which will result in the design, installation, and operation of the best adequately demonstrated system of emission reduction (taking costs into account) for each source. The opacity standard is established at a level which will require proper operation and maintenance of such control systems on a day-to-day basis, *but not require the design and installation of a control system more efficient or expensive than that required by the concentration/mass standard.*

*Id.* at 9308-09 (emphasis added). EPA also made opacity's limited role under the NSPS clear in the general provisions to the NSPS at 40 C.F.R. Part 60, Subpart A ("general provisions"), which entitle facilities that exceed the opacity standard

while demonstrating compliance with the applicable PM standard to establish an alternative (higher) opacity standard. 40 C.F.R. § 60.11(e)(6) (2011).

Opacity can be measured either periodically or continuously and, prior to 2006, all of the boiler NSPS required both. Compliance with the NSPS opacity standard is determined using EPA Method 9 at 40 C.F.R. Part 60, Appendix A (“Method 9”) (2012), and the procedures in 40 C.F.R. § 60.11. *See, e.g.*, 40 C.F.R. §§ 60.11(b), 60.46(a) and (b)(3), 60.50Da(b)(3), 60.46b(d)(7), 60.47c(a) (2011). Method 9 uses a trained human observer to evaluate emissions at the exit of the facility’s stack under specified physical conditions. COMS, on the other hand, measure opacity continuously by shining a light beam across the inside of an emissions stack and recording the results. 40 C.F.R. pt. 60, app. B, Performance Specification 1 (“PS 1”) § 1.1 (2012). The boiler NSPS generally require use of COMS to continuously measure opacity. *See, e.g.*, 40 C.F.R. §§ 60.45(a), 60.49Da(a), 60.48b(a), 60.47c(a) (2011). Exceedances of the opacity standard based on COMS are reported to EPA for further evaluation. 40 C.F.R. § 60.7(c) (2011). Most units with COMS perform Method 9 only if requested by the Administrator. *Id.* § 60.11(e).

Certain pollution control devices, like wet flue gas desulfurization or “wet scrubbers,” that are used on some NSPS regulated boilers generate water vapor that condenses as the temperature of the emissions cool, either in the stack or upon

exiting the stack. Condensed water vapor is not a pollutant. *See, e.g., id.* § 60.2 (excluding condensed water vapor from the definition of PM). Because condensed water vapor increases the opacity of emissions regardless of the level of PM (and creates a “steam plume”), Method 9 requires that such visual observations be made at a point where condensed water vapor “is not present.” Method 9 § 2.3; *see also* 40 C.F.R. § 60.11(e)(1) (2011) (making clear that readings of plumes that contain condensed water vapor “shall not be used for purposes of determining compliance”). This requires the human observer to attempt to distinguish between opacity due to water vapor and opacity due to filterable PM (e.g., by observing the plume at a point downstream of the stack exit after the water vapor has dissipated). Because COMS are located inside the stack and cannot distinguish between PM and condensed water vapor, COMS cannot measure opacity accurately when certain control devices are installed. PS 1 §§ 4.0, 8.1(2)(i).

COMS do not measure opacity caused by CPM, which only forms outside the stack (or in the measurement train of a manual stack test method, like Method 202, that is designed to measure CPM). Although Method 9 does measure opacity outside the stack, where stack emissions condense after leaving the stack, Method 9 directs that the opacity measurement be made at the stack outlet prior to condensation. Method 9 § 2.3.2.

### C. PM Continuous Emissions Monitoring Systems (“CEMS”)

In 2004, EPA promulgated specifications -- PS 11 -- for use of a new compliance monitoring technology for filterable PM that did not exist when the opacity standards were established -- the PM CEMS. 69 Fed. Reg. 1786 (Jan. 12, 2004) (codified at 40 C.F.R. pt. 60, app. B). In the 2006 NSPS, EPA gave all Subpart Da, Db, and Dc facilities the option of using PM CEMS that meet PS 11, and required their use at new Subpart Da facilities that opted to comply with an output-based standard. 71 Fed. Reg. 9866, 9880, 9881, 9883, 9885 (Feb. 27, 2006).<sup>2</sup>

In return, EPA exempted such facilities from the requirement to monitor opacity with COMS. 71 Fed. Reg. at 9872, 9881, 9884, 9886.<sup>3</sup> EPA explained that opacity monitoring was no longer necessary because opacity is used only as an indicator of filterable PM emissions, which could now be measured continuously using PM CEMS. *Id.* at 9872. EPA also provided such facilities a 24-hour (daily) average over which to meet the applicable PM emission standard, after

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<sup>2</sup> These provisions, some of which were further revised in 2007, are codified at 40 C.F.R. §§ 60.48Da(p), 60.49Da(t), 60.46b(j), and 60.45c(c) (2011).

<sup>3</sup> *See, e.g.*, 40 C.F.R. §§ 60.48b(a) and (j)(1), 60.47c(a) and (d) (2011).

determining that a daily average with PM CEMS was “equivalent in stringency” to an annual stack test with Method 5.<sup>4</sup> 71 Fed. Reg. at 9880, 9883, 9885.<sup>5</sup>

The next year, EPA revised Subpart D to also provide the option of using PM CEMS to measure PM on a daily block average basis in lieu of measuring opacity with COMS. 72 Fed. Reg. 32,710, 32,719, 32,721 (June 13, 2007).<sup>6</sup> In describing both the 2006 and 2007 revisions EPA explained that:

since PM CEMS measure the pollutant of primary interest they provide adequate assurance of PM control device performance, and continuous opacity monitoring is an unnecessary burden to affected sources using PM CEMS.

72 Fed. Reg. 6320, 6322 (Feb. 9, 2007). Consistent with that conclusion, neither the 2006 nor the 2007 revisions imposed any new opacity monitoring (e.g., periodic visible emissions testing) on units that opted to use PM CEMS.

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<sup>4</sup> EPA Memorandum, from C. Fellner to File, Control of PM Emissions from Steam Generating Units at 7 (Feb. 2006), EPA-HQ-OAR-2005-0031-0202 (JA\_\_\_).

<sup>5</sup> See 40 C.F.R. §§ 60.48.Da(p)(4), 60.46b(j)(6), 60.45c(c)(6) (2011).

<sup>6</sup> See 40 C.F.R. §§ 60.45(b)(5), 60.45(g)(4) (2011).

#### **IV. The 2009 Boiler NSPS**

##### **A. The Proposed Opacity Standard Exemption and New Periodic Visible Emissions Testing Requirements**

More than two years after exempting Subpart Da, Db, and Dc facilities using PM CEMS from *all* opacity monitoring, and a year after extending that exemption to Subpart D facilities, EPA proposed to eliminate the opacity standard at all units using PM CEMS. 73 Fed. Reg. 33,642, 33,646 (June 12, 2008). Consistent with its past statements, EPA cited the fact that opacity is used under the NSPS only as a “surrogate for PM emissions” and “indicator of [PM] control device operation and proper maintenance,” and that PM CEMS “give a more direct continuous measurement” of PM than opacity and provide data in the units of the PM standard. *Id.* 33,646 and n.1.

However, EPA also expressed concern that opacity caused by CPM would not be detected with PM CEMS (which measure only filterable PM). 73 Fed. Reg. at 33,646. As a result, EPA suggested that in place of the opacity standard, EPA would require sources with PM CEMS to measure CPM, and take Method 9 visible emissions readings, during the required periodic PM CEMS correlation testing under PS 11. 73 Fed. Reg. at 33,652, 33,655, 33,658. EPA said it would use the data collected to study the relationship between filterable PM, CPM, and opacity, and to set “an appropriate condensable PM limit.” 73 Fed. Reg. at 33,646.

For facilities not exempt from the opacity standard, but exempt from the requirement to use COMS (e.g., units combusting only natural gas or distillate oil, or performing alternative monitoring), EPA proposed to require periodic Method 9 visible emissions testing “at a minimum, every 12 months,” and solicited comment on increasing the frequency to monthly or quarterly. 73 Fed. Reg. at 33,644-45 33,648, 33,651, 33,656, 33,658.

In comments, UARG agreed that the opacity standard served no purpose at units using PM CEMS, and that such units should be exempted from it. UARG 2009 NSPS Comments at 7 (July 28, 2008), EPA-HQ-OAR-2005-0031-0270 (JA\_\_\_). However, UARG objected to the proposed CPM and Method 9 testing requirements for such units, citing abundant regulatory history establishing that the neither the PM standard nor the opacity standard regulates CPM. *Id.* at 3-7 (JA\_\_\_ - \_\_\_). UARG also questioned the relevance of the proposed “study” to the future establishment of a CPM standard, which under CAA § 111 would be based solely on identification of the best demonstrated technology for control of CPM. *Id.* at 8-10 (JA\_\_\_ - \_\_\_). No public commenter disagreed with UARG’s description of the NSPS, objected to the proposed exemption, or supported EPA’s proposed data collection and study.

On the proposed periodic visible emissions testing requirement, UARG questioned its purpose at units with PM CEMS, which EPA had simultaneously

proposed to exempt from the opacity standard. UARG explained that, without more specific justification, the proposed testing was arbitrary. *Id.* at 12-14 (JA\_\_\_\_ - \_\_\_\_).

## **B. The 2009 Final Rule**

EPA's final rule is very different from the proposal. Although EPA finalized the opacity standard exemption for Subpart Da units, EPA conditioned the exemption for Subpart Db and Dc units on compliance with a PM standard of 0.030 lb/MMBtu or less. 74 Fed. Reg. at 5079, 5086, 5091 (codified at 40 C.F.R. §§ 60.43b(f), 60.43c(c) (2011)). For Subpart D units, EPA did not provide an exemption at all. Instead, EPA required those units (which are otherwise subject to a filterable PM emission standard of 0.01 lb/MMBtu in § 60.42(a)(1)) to opt into the Subpart Da PM standard of 0.03 lb/MMBtu in order to obtain an exemption. 74 Fed. Reg. at 5077.<sup>7</sup> EPA also finalized its proposed CPM testing requirement for units with PM CEMS asserting it would use the data to determine "whether condensable PM should be included in future amendments to the PM standard." *Id.* at 5074, 5083, 5087, 5091.

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<sup>7</sup> EPA subsequently fixed a typographical error in this provision. 76 Fed. Reg. 3517, 3520 (Jan. 20, 2011). The corrected version is codified at 40 C.F.R. § 60.42(c) (2011).

EPA did not dispute UARG's assessment that the boiler NSPS do not regulate CPM. Instead, EPA for the first time offered a rationale for the opacity standard *other than* ensuring operation of controls consistent with the applicable filterable PM standard. EPA reasoned that applicability of the opacity standard now should depend upon the likelihood of a facility having more than "negligible" visible emissions due to *filterable* PM. EPA concluded that because facilities complying with a PM standard of 0.03 lb/MMBtu will operate with "little or no visible emissions (*i.e.*, less than 5 percent opacity)," they should be exempt from the opacity standard. EPA reasoned that facilities with higher limits "may have some visible emissions," and therefore should not be exempt. 74 Fed. Reg. at 5073-74; *see also* EPA Response to Public Comments on Rule Amendments Proposed June 12, 2008 (73 FR 33642) at 4-5 (Nov. 2008), EPA-HQ-OAR-2005-0031-0284 ("EPA 2009 NSPS RTC") (JA \_\_\_ - \_\_\_).

With respect to PM CEMS, EPA reversed its longstanding position regarding their adequacy to show compliance with PM standards. Instead, EPA summarily concluded that because "PM CEMS readings cannot be verified as readily as other CEMS," the opacity standard should be retained (and monitoring required) for units not meeting a PM standard of 0.03 lb/MMBtu as a "secondary check on control device performance and PM emissions." 74 Fed. Reg. at 5074.

EPA also finalized the proposed periodic visible emissions testing requirements, which under the final rule applies to any Subpart D, Db, or Dc unit using PM CEMS in lieu of COMS that is unwilling to opt into a more stringent PM standard. 74 Fed. Reg. at 5077, 5081, 5088, 5091. The final rule for the first time tied testing frequency to the results of the most recent Method 9 test, and now requires visible emissions testing within 45 calendar days of the last test for units recording a 6-minute average opacity greater than 10 percent. 40 C.F.R. §§ 60.45(b)(7), 60.49Da(a)(3), 60.48b(a), 60.47c(a) (2011).<sup>8</sup> The provision has the effect of requiring almost monthly Method 9 testing (in addition to PM CEMS) for any Subpart D unit that exceeds half of the opacity standard.

UARG petitioned for reconsideration of the conditions placed on the opacity standard exemption, and the resulting visible emissions testing requirements. UARG 2009 Reconsideration Petition at 2-3 (JA \_\_\_ - \_\_\_). EPA granted reconsideration.

### **C. EPA's "Reconsideration"**

In May 2011 EPA responded to UARG's 2012 NSPS Reconsideration Petition in two sentences by again soliciting comment on exempting from the

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<sup>8</sup> Although the 2009 NSPS required testing within 30 calendar days, EPA reduced that frequency to 45 calendar days in 2011 in order to allow for the required 30 days notice. 76 Fed. Reg. at 3519-20.

opacity standard all Subpart D units that use PM CEMS in lieu of COMS.

However, this time EPA suggested, without explanation, that § 60.11(e) would require compliance with the Subpart D PM standard “on a 3-hour average” basis, rather than the 24-hour average basis provided for in Subpart D. 76 Fed. Reg. 24,976, 25,071 (May 3, 2011). EPA provided no other discussion of the 2009 rule or the proposed exemption. EPA also proposed to reduce the frequency of visible emissions testing in *all* of the boiler NSPS. *Id.*

UARG submitted extensive comments supporting EPA’s 2008 proposed opacity standard exemption and rebutting the rationale EPA provided in the 2009 final rule for limiting and conditioning that exemption. UARG cited EPA’s numerous statements regarding the adequacy of PM CEMS to demonstrate compliance at all emission levels, and EPA’s long-standing regulatory position that the opacity standard is relevant only as an indicator of filterable PM. UARG also described the significant burdens and difficulties associated with conducting visible emissions testing on the most likely Subpart D units to use PM CEMS -- units that install wet scrubbers. UARG 2012 NSPS Comments at 33-42 (Aug. 4, 2011), EPA-HQ-OAR-2011-0044-4836 (JA\_\_\_ - \_\_\_). Again, no commenter objected to an unconditional exemption.

EPA made no change to the opacity standard applicability in the final rule. EPA also provided *no response* to UARG’s detailed comments. EPA Response to

Public Comments on Rule Amendments Proposed May 3, 2011 (73 FR 33642) at 13-14 (Dec. 2011), EPA-HQ-OAR-2011-0044-5759 (“EPA 2012 NSPS RTC”) (JA \_\_\_ - \_\_\_). Instead, while returning to its prior position that PM CEMS provide a “continuous measure of compliance” with filterable PM standards, EPA simply stated that the PM and opacity standards are “separate standards.” *Id.* at 13. To the extent EPA provided any rationale for refusing to remove the conditions, EPA did so only with respect to Subpart D, suggesting that the issue will eventually become moot for those units because “the vast majority of subpart D facilities” will qualify for exemption from the opacity standard in the future as a result of controls installed to comply with the EGU MACT rule. *Id.* at 14.

On the periodic visible emissions testing, EPA finalized only one of its proposed revisions, and only in Subpart Da. Final § 60.49Da(a)(3)(ii)(A), 77 Fed. Reg. at 9457. Although EPA stated in response to comments that it had revised all of the boiler NSPS similarly, EPA made no changes to the identical provisions in Subparts D, Db, or Dc. EPA 2012 NSPS RTC at 20 (JA \_\_\_).

**D. EPA’s Information Collection Request (“ICR”) and Removal of the CPM Testing Requirement**

A few months after finalizing the requirement that units using PM CEMS conduct “informational” CPM tests during PS 11 testing, EPA announced its intent to issue an industry-wide ICR to support the 2012 NSPS and EGU MACT rulemakings. 74 Fed. Reg. 31,725 (July 2, 2009). The final ICR, which required

stack testing of CPM in addition to various categories of hazardous air pollutants at over 400 EGUs, was sent to all EGUs on December 24, 2009.

In January 2011, after obtaining the ICR data, EPA concluded that it had “sufficient data to perform a condensable PM analysis” under the NSPS, and removed the CPM testing requirement from the boiler NSPS by direct final rule. 76 Fed. Reg. at 3519.

## **V. The 2012 Boiler NSPS**

Using the data collected in the 2009 ICR, EPA in 2011 proposed and in 2012 finalized revisions to the boiler NSPS standards and testing requirements. 76 Fed. Reg. 24,976; 77 Fed. Reg. 9304.

### **A. The PM Compliance Method for Newly Constructed and Reconstructed Units**

For newly constructed or reconstructed units, EPA proposed an output-based *total* PM standard with compliance determined using PM CEMS that are correlated using PS 11. Proposed §§ 60.42Da(f)(1), 60.49Da(t), 76 Fed. Reg. at 25,093, 25,098; 40 C.F.R. § 60.49Da(v) (2011).

PM CEMS technology is different from continuous monitoring technology for other pollutants, which measure the pollutant directly. Although there are several different kinds of PM CEMS technology, none of them can determine PM concentration without the development of a site-specific correlation of the device’s output to an EPA test method -- like Method 5. *See, e.g.*, UARG 2012 NSPS

Comments at 59-60 (JA \_\_\_ - \_\_\_). To develop and validate the necessary site-specific correlation for a PM CEMS, PS 11 requires a series of at least fifteen EPA test method runs at several different PM emission levels. PS 11 § 8.6. The correlation's acceptability is determined by a statistical analysis of the test results (comparing the PM CEMS output to the EPA test method measurements).

Because the performance criteria are expressed as a function of the emission limit, the criteria become more difficult to pass as the emission limit *decreases*. UARG 2012 NSPS Comments at 56-57 (JA \_\_\_ - \_\_\_).

UARG's comments focused on its objections to the use of total PM and the fact that PM CEMS only measure filterable PM, not total PM. *Id.* at 13-19, 55 (JA \_\_\_ - \_\_\_, \_\_\_). However, because UARG also was concerned that filterable PM emissions at highly controlled, newly constructed and reconstructed units might be below the levels at which they could be accurately measured with PM CEMS, UARG also commented on that issue. *Id.* at 57-61 (JA \_\_\_ - \_\_\_).

Specifically, UARG presented data from actual PS 11 correlations illustrating how the difficulty of passing the PS 11 statistical criteria increases substantially at an emission limit of approximately 0.01 lb/MMBtu. *Id.* UARG also noted the significant measurement error allowed under PS 11 (on the order of 25 percent) and objected to EPA's lack of evaluation of the potential for permissible

measurement error under PS 11 to affect compliance determinations at the very low levels of emissions expected. *Id.*

In the final rule, EPA agreed with UARG and others regarding the total PM standard and provided newly constructed and reconstructed units the choice between two output-based *filterable* PM standards: (1) 11 ng/J (0.090 lb/MWh) gross energy output, or (2) 12 ng/J (0.097 lb/MWh) net energy output. Final § 60.42Da(e)(1)(i), 77 Fed. Reg. at 9450. However, EPA also mandated use of PM CEMS meeting PS 11 to demonstrate compliance with those standards. Final § 60.49Da(t), 77 Fed. Reg. at 9458. EPA based the final standards entirely on PM performance test data using EPA Method 5 or similar EPA manual test methods. EPA Memorandum, Control of Total PM Emissions at 6-10 (Dec. 2011), EPA-HQ-OAR-2011-0044-5764 (JA\_\_\_ - \_\_\_). EPA provided no data to support its choice of PM CEMS as the sole compliance method.

Those final standards, when converted to an input basis, are roughly equivalent to 0.01 lb/MMBtu and 0.009 lb/MMBtu. In other words, the standards are at and below the level at which UARG demonstrated in comments that the PS 11 performance criteria become difficult to meet. EPA did not identify or respond to any of UARG's comments regarding use of PM CEMS or the difficulty meeting PS 11. *See* EPA 2012 NSPS RTC at 20-21 (JA\_\_\_ - \_\_\_).

In its petition for reconsideration, UARG explained the relevance of its prior comments on PS 11 to the final standard. UARG 2012 Reconsideration Petition at 6 (JA\_\_\_). EPA has not responded to UARG's petition. However, in July, EPA granted reconsideration of a similar PM CEMS requirement in a different rule -- the National Emission Standards for Hazardous Air Pollutants for the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants ("Portland Cement NESHAP/NSPS"). 77 Fed. Reg. 42,368, 42,374 (July 18, 2012). In that notice, EPA echoed the points UARG had made in its 2011 comments acknowledging that:

A particular challenge in applying PM CEMS to source emissions monitoring is in measuring the very low PM concentrations associated with a low applicable emissions limits for PM precisely enough to meet the PS 11 correlation requirements.

*Id.* The same position is reiterated in an internal EPA memorandum cited in EPA's reconsideration proposal. EPA Memorandum from C. Oldham to B. Schell, Particulate Matter Continuous Emission Monitoring System (PM CEMS) Capabilities at 4 (June 13, 2012), EPA-HQ-OAR-2011-0817-0187 ("It is worth repeating that meeting PS 11 correlation requirements becomes increasingly problematic with decreasing numerical emissions limits given that confidence and tolerance intervals are expressed as a percent of the emissions limit."). UARG subsequently reiterated its request for reconsideration of the Subpart Da

requirement. *See* Letter from L. Freeman to L. Jackson (Sept. 6, 2012), EPA-HQ-OAR-2011-0044-5777 (JA\_\_\_).

### **B. The PM Standard for Newly Modified Units**

For newly modified units, EPA also proposed an input-based *total* PM standard. Proposed § 60.42Da(f)(2), 76 Fed. Reg. at 25,093. Based on the comments of UARG and others, EPA decided against a total PM standard and instead promulgated a filterable PM standard of “13 ng/J (0.015 lb/MMBtu).” Final § 60.42Da(e)(1)(ii), 77 Fed. Reg. at 9450. Although the standard does not apply during periods of unit startup and shutdown, EPA in the final rule imposed separate work practice standards during those periods. Final §§ 60.42Da(e)(2), 60.48Da(a), 77 Fed. Reg. at 9450, 9454; *see also discussion infra* pp. 28-33.

In the preamble, EPA described the final standard as “essentially equivalent to the existing requirements of 13 ng/J (0.015 lb/*MWh*) heat input regardless of the type of fuel burned.”<sup>9</sup> 77 Fed. Reg. at 9423 (emphasis added). EPA further explained in response to comments:

*We are not changing the PM standard for modified facilities* finalized in 2006 because modified facilities would have to increase the size of any existing ESP or retrofit a fabric filter [sic] beyond what the present standard requires to meet the amended new source

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<sup>9</sup> As described below, there is no such standard in the 2006 NSPS.

standard and some existing facilities would be unable to do this because of space constraints.

EPA 2012 NSPS RTC at 13 (emphasis added). EPA further describes the compliance demonstration options as follows:

Compliance with this emission limit can be determined using testing, monitoring, and other compliance provisions similar to those for PM standards set forth in the existing rule. While not required, PM CEMS may be used as an alternative method to demonstrate continuous compliance and as an alternative to opacity and parameter monitoring requirements.

77 Fed. Reg. at 9423.

Contrary to EPA's representations, the standard for newly modified units bears little resemblance to the 2006 NSPS PM standard for modified units. The 2006 NSPS provides modified units a choice between *three* standards, none of which are equivalent to the final standard for newly modified units of "13 ng/J (0.015 lb/MMBtu)" or the standard of "13 ng/J (0.015 lb/MWh)" EPA referenced in the preamble. Those standards are: (1) an output-based standard of "18 ng/J (0.14 lb/MWh)," (2) an input-based standard of "6.4 ng/J (0.015 lb/MMBtu)," and (3) an alternative input-based standard of "13 ng/J (0.030 lb/MMBtu)" with an

additional “percent reduction” element of 99.8 percent.<sup>10</sup> Final § 60.42Da(c) and (d), 77 Fed. Reg. at 9450. Moreover, if the 2006 NSPS for PM correctly identifies the ng/J equivalent for each standard, the new standard is internally inconsistent (i.e., 13 ng/J and 0.015 lb/MMBtu are not equivalent).

With respect to compliance determinations, the final rule allows (but does not require) use of PM CEMS. Final § 60.49Da(t), 77 Fed. Reg. at 9458. It also provides a 30-boiler operating day average and compliance procedure for a *nonexistent* output-based standard for newly modified units. Final § 60.48Da(f), 77 Fed. Reg. at 9454. Unlike the 2006 NSPS,<sup>11</sup> the 2012 NSPS provides no averaging time for units opting to use PM CEMS to comply with the input-based standard, or procedure for performance testing of units that do not opt to use PM CEMS.

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<sup>10</sup> As with EPA’s practice in the boiler NSPS the standards are expressed in both nanogram per Joule (ng/J) and their input or output equivalent in pounds per megawatt hour (lb/MWh) or pounds per million British thermal units (lb/MMBtu).

<sup>11</sup> See 40 C.F.R. §§ 60.48Da(o) (specifying a compliance procedure for modified units not opting to use PM CEMS to comply with the 2006 input-based standards in § 60.42Da(c)(2) or (d)), including a frequency for performance testing and requirements for opacity or parametric monitoring) and 60.48Da(p)(4) (providing an averaging period -- 24-hour daily (block) -- for modified units that opt to use PM CEMS to comply with the 2006 input-based standards for modified units in § 60.42Da(c)(2) or (d)).

### C. Treatment of Startup and Shutdown

None of the boiler NSPS PM and opacity standards apply during periods of unit startup or shutdown. 40 C.F.R. §§ 60.8(c), 60.43b(g), 60.43c(d) (2011); Final § 60.48Da(a), 77 Fed. Reg. at 9454. However, facilities are required to operate “air pollution control equipment in a manner consistent with good air pollution control practice[s] for minimizing emissions.” 40 C.F.R. § 60.11(d). The “general duty” applies “[a]t all times, including periods of startup, shutdown, and malfunction . . . to the extent practicable.” *Id.* Because the terms “startup” and “shutdown” are not defined in the individual boiler NSPS, the definition in the general provisions apply. “Startup” is defined as “the setting in operation of an affected facility for any purpose.” *Id.* § 60.2. “Shutdown” is defined as “the cessation of operation of an affected facility for any purpose.” *Id.*

Despite EPA’s longstanding exclusion of periods of unit startup and shutdown, EPA proposed standards for newly constructed, reconstructed, and modified units that would have applied “at all times.” Proposed § 60.48Da(c), 76 Fed. Reg. at 25,096. In its comments, UARG explained why the proposed PM standard was unachievable. UARG 2012 NSPS Comments at 16-19 (JA\_\_\_\_ - \_\_\_\_).

A number of commenters in the EGU MACT and the boiler NSPS rulemakings also advocated adoption of work practice standards in lieu of a numerical limit for periods of startup and shutdown. *See, e.g.*, UARG EGU

MACT Comments at 127-28 (Aug. 4, 2011), EPA-HQ-OAR-2009-0234-17775 (JA \_\_\_ - \_\_\_); EPA 2012 NSPS RTC at 7 (JA \_\_\_). As precedent and example, commenters pointed to EPA's prior specification of such requirements in the CAA § 112 standards for the industrial boiler source category (the "IB MACT"). *Id.* The IB MACT work practice standards require use of "manufacturer's recommended procedures" for minimizing such periods, and rely on the definitions of "startup" and "shutdown" in the Part 63 general provisions. Final § 63.7540 and Table 3, 76 Fed. Reg. 15,608, 15,613, 15,618, 15,642, 15,676-78, 15,691-91 (Mar. 21, 2011).

In the final rule, EPA agreed with commenters that it lacked data to set PM emission standards for startup and shutdown periods and imposed work practice standards instead. 77 Fed. Reg. at 9381. However, rather than use the existing NSPS definitions of "startup" and "shutdown," and specify work practice standards in Subpart Da, EPA referenced the new work practice standards, and new startup and shutdown definitions, in "Table 3 to Subpart UUUUU of part 63" -- i.e., in the EGU MACT rule, which work practice standards were published for the first time in the same notice. Final § 60.42Da(e)(2), 77 Fed. Reg. at 9450.

The EGU MACT startup/shutdown definitions are different from and much more complex than those in the NSPS and focus on the point at which a boiler produces steam and/or electricity. The new provision defines "[s]tartup" as

beginning with “either the first-ever firing of fuel in a boiler for the purpose of producing electricity, or the firing of fuel in a boiler after a shutdown event for any purpose” and ending “when any of the steam from the boiler is used to generate electricity for sale over the grid or for any other purpose (including onsite use).” *See* 77 Fed. Reg. at 9486, 9493-94 (codified at 40 C.F.R. § 63.10042 and Part 63, Subpart UUUUU, Table 3 (2012)). “Shutdown” begins with the earlier of either “when none of the steam from the boiler is used to generate electricity for sale over the grid or for any other purpose (including on-site use), or at the point of no fuel being fired in the boiler,” and ends “when there is both no electricity being generated and no fuel being fired in the boiler.” *Id.*

The new EGU MACT work practice standards also go far beyond what is currently required under the existing “general duty” in § 60.11(d). During such periods, the EGU MACT requires combustion of “clean fuels, either natural gas or distillate oil” for ignition. Once another fuel (e.g., coal or residual oil) is fired, all applicable control devices (except a “dry scrubber” or “selective catalytic reduction”) must be “engage[d]” and operated until shutdown ends. 77 Fed. Reg. at 9479, 9493-94 (codified at 40 C.F.R. § 63.10011(f), and Part 63, Subpart UUUUU, Table 3).

In the preamble to the final EGU MACT, EPA asserts that the new definitions in the EGU MACT rule were in response to commenters’ requests for

clarification, and that they are “consistent with” the existing startup/shutdown definitions. 77 Fed. Reg. at 9381. Nevertheless, EPA also attempts to explain summarily the new concepts it included in the final rule, e.g., why it chose electricity generation as the end of startup, why it believes the combustion of coal or oil can be delayed until control devices can be operated, and how the standards might apply to various types of controls. *Id.* EPA does not identify any specific commenter that asked for new definitions, or cite to any record material to support its assumptions and conclusions.

EPA’s definitions and clean fuel requirement are difficult to interpret and do not take into account all of the types of units to which they would apply, and the fuels those units can (or have available to) combust. Under one possible interpretation, startup would end when *steam* is used for any purpose. A conflicting interpretation suggests that startup ends when *electricity* is generated for sale over the grid or for any other purpose. Both interpretations are problematic, and neither reflects an EGU’s actual startup process. Among other things, the new definition of startup does not even apply to startup of the combined-cycle block of IGCC units, as it refers to firing of fuel in a “boiler.” It also does not recognize that the appropriate endpoint for the startup for supercritical units is the cessation of the unit’s dedicated startup system’s operation. The final rule also fails to acknowledge emissions measurement issues

that may occur during the startup and shutdown periods, as defined in the final rule.

UARG petitioned for reconsideration of the details of the work practice requirements in both the boiler NSPS and the EGU MACT, explaining how the final definitions of startup and shutdown and the “clean fuel” requirement are inconsistent with the manner in which EGUs and associated emissions control equipment actually operate. UARG 2012 NSPS Reconsideration Petition at 14-20 (JA \_\_\_ - \_\_\_); UARG EGU MACT Reconsideration Petition at 47-52 (Apr. 16, 2012), EPA-HQ-OAR-2009-0234-20180 (JA \_\_\_ - \_\_\_). UARG provided specific examples to illustrate, among other things, why the details of EPA’s work practice standards could cause unsafe conditions and damage equipment, and why the definitions are not sufficient to exclude actual startup and shutdown from compliance with the numerical emission limits.

#### **D. The Revised Standard for Original Subpart Da Units**

Prior to February 16, 2012, the PM standard for original Subpart Da units was “13 ng/J (0.03 lb/MMBtu).” 40 C.F.R. § 60.42Da(a)(1) (2011). In May 2011, EPA proposed to remove from § 60.42Da(a)(1) the phrase “derived from the combustion of solid, liquid, or gaseous fuel,” but did not propose any change to the numerical emission standard or provide any data in the docket relevant to that

standard. Proposed §60.42Da(a)(1), 76 Fed. Reg. at 25,093. No public commenter suggested revision of the standard.

Nonetheless, in the final rule, EPA revised the numerical standard from 0.03 to 0.030 lb/MMBtu, so that emissions between 0.030-0.034 lb/MMBtu, which were legal under the prior rule, would now be illegal. Final § 60.42Da(a), 77 Fed. Reg. at 9450. The change is not discussed in the preamble or response to comments.

#### **E. The Subpart Da CPM Testing Requirement**

When EPA proposed a total PM standard applicable to newly constructed, reconstructed and modified Subpart Da units, EPA also proposed adding a provision requiring stack testing of CPM. Proposed § 60.50Da(b)(4), 76 Fed. Reg. at 25,099. Because EPA did not finalize a total PM standard, EPA did not finalize that provision.

However, in its place, EPA added a different provision requiring such units to nonetheless measure CPM “[i]n conjunction with a performance test” conducted to determine compliance with the filterable PM emission limit in § 60.42Da. Final § 60.50Da(b)(2), 77 Fed. Reg. at 9458. Because CPM is not regulated under the final NSPS, the data can only be for “informational” purposes. Just as with the similar requirement EPA adopted in the 2009 NSPS and later withdrew by direct final rule, *see supra* pp. 17, 21-22, EPA claims that the requirement “minimizes the

burden to the regulated community, while at the same time collecting sufficient data for evaluation of a nationwide standard.” EPA 2012 NSPS RTC at 11 (JA\_\_\_).

This new Subpart Da testing requirement is not covered under any ICR. Although EPA submitted an ICR to OMB with its proposed rule, that ICR asserted that “[b]ecause no new EGUs are projected to be built, there would be no recordkeeping and reporting burden associated with the proposed amendments.” Proposed EGU MACT and NSPS ICR at 3 (Feb. 2011), EPA-HQ-OAR-2009-0234-3031 (JA\_\_\_).<sup>12</sup> EPA did not even mention the boiler NSPS in the ICR it submitted with the final rule -- instead submitting an ICR covering only the EGU MACT. Final EGU MACT ICR (Dec. 2011), EPA-HQ-OAR-2009-0234-20127. In that ICR, EPA estimates that “2 new electric generating units will be built each year.” *Id.* at 2, 3.

#### **F. The Affirmative Defense for Malfunctions**

Both the 2012 NSPS and EGU MACT rules create a limited affirmative defense for exceeding emissions limits during equipment malfunctions. 77 Fed.

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<sup>12</sup> Under the Paperwork Reduction Act (“PRA”), 44 U.S.C. §§ 3501 *et seq.*, EPA cannot promulgate rules that result in new monitoring and reporting requirements without submittal, and notice of submittal, of an ICR to the Office of Management and Budget for review and approval. *Id.* § 3507(a).

Reg. at 9456, 9468. Under those provisions, an EGU may avoid civil penalties for the exceedance if it can prove that the event meets certain enumerated criteria. *Id.* Texas has a similar, but distinct, affirmative defense provision that it already applies for exceedances in its various air programs, including federally-delegated programs. 30 Tex. Admin. Code § 101.222(c). EPA has approved this affirmative defense in the context of Texas' state implementation plan ("SIP"). 75 Fed. Reg. 68,989 (Nov. 10, 2010) (codified at 40 C.F.R. § 52.2270(c) (2011)).

Texas asked EPA to allow it to apply its existing affirmative defense provision in lieu of the EPA provisions for both rules. Texas EGU MACT Comments at 21 (Aug. 4, 2011), EPA-HQ-OAR-2009-0234 18034 (JA\_\_\_); Texas NSPS Comments at 3 (Aug. 4, 2011), EPA-HQ-OAR-2011-0044-4714 (JA\_\_\_). EPA provided such an accommodation for the EGU MACT rule, but with no explanation for the disparity in treatment, denied the accommodation for NSPS. EPA's Responses to Public Comments on EPA's National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units, Vol. 2 at 438 (Dec. 2011), EPA-HQ-OAR-2009-0234-20126 ("EPA EGU MACT RTC") (JA\_\_\_); EPA 2012 NSPS RTC at 26 (JA\_\_\_). Texas petitioned EPA to reconsider its comment, but EPA chose not to do so. Texas Reconsideration Petition at 27-28 (JA\_\_\_ - \_\_\_).

## STANDARD OF REVIEW

EPA's 2009 and 2012 NSPS are subject to CAA § 307(d)(9), under which the Court sets aside final EPA action that is “arbitrary, capricious, or an abuse of discretion” or that exceeds statutory authority. CAA § 307(d)(1)(C). The Court also may invalidate a rule where the Agency's procedural errors during a rulemaking – including its failure to comply with CAA § 307(d)(3) and (6) – are “so serious and related to matters of such central relevance to the rule” that there is a “substantial likelihood that the rule would have been significantly changed if such errors had not been made.” *Id.* § 307(d)(8).

## SUMMARY OF ARGUMENT

In 2009 and 2012, EPA violated CAA rulemaking requirements when it adopted unsupported final boiler NSPS requirements that deviate so significantly from its proposed rules that commenters were denied notice and opportunity for comment, and failed to respond to significant comments that it did receive. The resulting NSPS requirements are substantively and procedurally invalid.

In mandating that newly constructed or reconstructed Subpart Da units use PM CEMS to demonstrate compliance with a filterable PM standard it did not propose, EPA failed to provide support for that requirement or respond to significant comments demonstrating that the Agency's own specifications for PM CEMS likely could not be met at the level of the final standard.

For newly modified Subpart Da units, EPA adopted a final PM standard that is internally inconsistent, incomplete, and inconsistent with the Agency's stated intent. As a result affected units do not even know what their obligation is. Because EPA did not propose the standard, commenters could not point out these flaws.

The detailed work practice standards EPA adopted in lieu of PM emission standards for periods of startup and shutdown at newly constructed, reconstructed and modified Subpart Da units do not take into account the manner in which the affected units and their control equipment actually operated. The final rule lacks support for these detailed requirements and, because EPA did not propose them, commenters had no opportunity to present their views.

EPA's mandate that newly constructed, reconstructed, and modified Subpart Da units conduct testing for CPM -- a pollutant not regulated under the NSPS -- with each PM performance test violates the CAA and PRA. EPA did not propose any such requirement or submit to OMB, and solicit comment on, the required ICR.

EPA's adoption in 2012 of a revised PM emission standard for Subpart Da units constructed prior to March 1, 2005 exceeds the Agency's authority to promulgate NSPS under CAA § 111. And, because EPA did not propose any such revision, the Court has no record upon which to review EPA's action.

EPA's 2009 rule requiring Subpart D, Db, and Dc units using PM CEMS to either opt into a more stringent PM standard, or begin monitoring visible emissions with EPA Method 9, is supported by neither the proposed rule nor the final record. EPA's final rule is inconsistent with the Agency's previously stated purpose for the opacity standard, and assessment of the accuracy of PM CEMS at such units. Although EPA had the opportunity to cure its errors in the 2012 proceeding, EPA failed to explain or solicit comment on its abrupt and otherwise unsupported reversal of position. The new rationales EPA offers in response to comments compound, rather than cure, the 2009 rule's substantive and procedural defects. EPA's unexplained reversal on its proposed reduction in the frequency of Method 9 testing for Subpart D, Db, and Dc units also is arbitrary.

Finally, EPA erred in failing to allow Texas to streamline the newly adopted NSPS affirmative defense requirements with Texas' EPA-approved SIP affirmative defense requirements as EPA allowed under the EGU MACT. EPA's conclusory responses to Texas' comments are inadequate to explain the Agency's disparate treatment of the two rules.

### **STANDING**

Associations suing on behalf of their members must show that: "(1) at least one of [its] members would have standing to sue in [its] own right, (2) the interests the association seeks to protect are germane to its purpose, and (3) neither the

claim asserted nor the relief requested requires that an individual member of the association participate in the lawsuit.” *City of Waukesha v. EPA*, 320 F.3d 228, 233 (D.C. Cir. 2003) (internal quotation marks omitted). UARG satisfies all standing requirements. UARG is a voluntary, nonprofit group of electric generating companies and organizations, and national trade associations. The challenged regulations directly affect UARG’s electric generating company members, which are required to monitor and test emissions, and record and report data under the boiler NSPS. UARG’s electric generating company members have standing in their own right because they satisfy the standard in *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992). UARG’s purpose is to participate on behalf of its members collectively in EPA’s rulemakings and other CAA proceedings that affect the interests of electric generators and in related litigation. Nothing in UARG’s challenge or the relief requested requires participation of any individual member.

Likewise, Texas satisfies the Article III standing requirements of injury, causation, and redressability. *See Lujan*, 504 U.S. at 560-61. Among other things, states have standing to challenge rules that make their regulatory tasks more difficult. *See Nat’l Ass’n of Clean Air Agencies v. EPA*, 489 F.3d 1221, 1228 (D.C. Cir. 2007). EPA has delegated administration of a variety of its federal air programs, including NSPS, to Texas, through the Texas Commission on

Environmental Quality. EPA's failure to address Texas' comment regarding the affirmative defense provision in this rule will force Texas to apply two different affirmative defense standards to the same emissions events when enforcing federally-delegated air rules, an additional burden and expense to the agency and State.

## ARGUMENT

### **I. The Mandate That Newly Constructed and Reconstructed Subpart Da Units Demonstrate Compliance Using PM CEMS Is Arbitrary and Unsupported**

EPA's mandate under §§ 60.42Da(e)(1)(i) and 60.49Da(t) that newly constructed or reconstructed Subpart Da units demonstrate compliance using PM CEMS meeting PS 11 is unreasonable and unsupported. EPA not only provided no data of its own to support the PM CEMS requirement, EPA ignored significant relevant comments by UARG (1) objecting to EPA's failure to evaluate the impact of permissible PM CEMS measurement error under PS 11 on compliance determinations at these units, and (2) demonstrating the difficulty of meeting the PS 11 performance criteria at the level of the standard EPA finalized. *Supra* pp. 23-24.

PM CEMS meeting the PS 11 performance criteria are permitted to produce responses that differ from what would be obtained with Method 5. Nonetheless, EPA based the PM emission standard solely on data from Method 5 and similar

EPA methods. *Id.* Sources that exceed the PM standard because of the permissible PM CEMS error would nonetheless violate the standard. The permissible error under PS 11 is of greatest concern for newly constructed and reconstructed units because the margin of compliance at the very low PM emission limit applicable to such units is much smaller than for existing units.

EPA also has acknowledged that some units may not even be able to meet the PS 11 performance criteria at such low levels. *See supra* pp. 25-26.

Nonetheless, sources that cannot meet those criteria also violate EPA's rule.

The CAA requirement that EPA both (1) provide at the proposed and final rule stages a statement of basis that includes factual data, and (2) respond to significant comments received on the proposal, are fundamental to both reasoned decision making and judicial review. *Home Box Office, Inc. v. F.C.C.*, 567 F.2d 9, 35-36 (D.C. Cir. 1977). The Agency itself routinely requires CAA permitting authorities to adhere to this responsibility and remands permit decisions to them when EPA deems their response to significant comments "inadequate." *See, e.g.*, Order Partially Denying and Partially Granting Petition for Objection to Permit, *In the Matter of CEMEX, Inc.*, Petition Number: VIII-2008-01 at 10 (Apr. 20, 2009) (JA\_\_\_) (referring to the "general principle of administrative law that an inherent component of any meaningful notice and opportunity for comment is a response by the regulatory authority to significant comments.")

Here, EPA cannot dispute (1) that it failed to provide factual data to support its application of PM CEMS as the sole compliance method at the very low emission levels expected at newly constructed and reconstructed units, (2) that UARG's comments were significant, or (3) that EPA failed to respond. UARG's comments were significant because they raised points which, "if adopted would require a change in [the] proposed rule." *Home Box Office*, 567 F.2d at 35 n.58. And, UARG's comments were not speculative. The comments regarding measurement error were based on the Agency's own performance criteria for PS 11. The data UARG presented was based on evaluation of PS 11 correlation data from actual PM CEMS installations, and is entirely consistent with EPA's staff's nearly contemporaneous assessment of the same issue in the Portland Cement NESHAP/NSPS rulemaking. *See supra* pp. 23, 25.

EPA's failure to supply its own data regarding use of PM CEMS at the expected emissions levels resulted in an incomplete proposal, which itself is a violation of the statute and a failure of reasoned decision-making. *See, e.g., Kennecott Corp. v. EPA*, 684 F.2d 1007, 1108 (D.C. Cir. 1982) ("In all the circumstances, EPA's failure to include" documents that serve to explain the Agency's "data" and "methodology" constitutes "reversible error," insofar as their absence "makes impossible any meaningful comment on the merits of EPA's assertions."). Furthermore, EPA's failure to even acknowledge, let alone respond

to, UARG's comments on use of PM CEMS deprives this Court of any record for evaluating why EPA did not change its approach in response. *Automotive Parts & Accessories Ass'n v. Boyd*, 407 F.2d 330, 335 (D.C. Cir. 1968).

In light of these failures, the Court should vacate the mandate for use of PM CEMS or remand that portion of the rule with instructions to issue a new proposal either removing the mandate, or supporting that mandate with PM CEMS data after considering the comments already received.

## **II. The PM Standard for Newly Modified Subpart Da Units Should Be Vacated**

The PM standard of "13 ng/J (0.015 lb/MMBtu)" for newly modified Subpart Da units in § 60.42Da(e)(1)(ii) is internally inconsistent, incomplete, and does not reflect EPA's stated intent. In response to comments and in the preamble, EPA describes the final standard as equivalent to the 2006 NSPS PM standard for modified units. EPA 2012 NSPS RTC at 13 (JA\_\_\_). That result would be consistent with information provided by commenters, like UARG. UARG 2012 NSPS Comments at 19 (JA\_\_\_). The 2006 NSPS, however, provides such units the choice between three numerical standards none of which are equivalent to the numerical standard EPA promulgated. *See supra* pp. 27-28. The 2006 NSPS also does not impose work practice standards that EPA has required for modified units in the 2012 NSPS. To the extent EPA intended to adopt an equivalent standard, EPA completely missed the mark.

Even more egregious, because the standard is internally inconsistent, affected facilities do not even know what the standard is or what their obligations are (or would be). In its rush to finalize the rule, EPA erred somewhere in its calculations and equated 13 ng/J to 0.015 lb/MMBtu. However, when properly converted, 13 ng/J is equal to 0.030 lb/MMBtu, and 0.015 lb/MMBtu is equal to 6.4 ng/J. And, because both expressions of the standard -- 13 ng/J and 0.015 lb/MMBtu -- appear somewhere in at least one of the alternative PM standards in the 2006 NSPS EPA says it intended to mimic, facilities cannot even guess which part of the final standard is wrong. Further complicating the issue, EPA even erred in its preamble description of the supposedly equivalent 2006 NSPS, identifying a numerical output-based standard that also is internally inconsistent and different from the actual standards (even the one EPA promulgated). *See supra* pp. 26-28.

Even if facilities interpreted the rule as providing two standards, they still could not fully implement it because the specified compliance procedures are incomplete. Operators of facilities do not know whether EPA intended units that use PM CEMS to comply on a 24-hour (daily) average basis, as they would under the 2006 NSPS, or on a “30 successive boiler operating day[]” average basis, as EPA specified in § 60.48Da(f) for the *nonexistent* output-based standard for newly modified units. *See supra* p. 28. Units that opt not to use PM CEMS would conduct performance tests using Method 5, but would not be subject to any rule

specifying a frequency for testing or have available any of the other monitoring options provided under the 2006 NSPS.

Further, because EPA did not propose this standard, UARG and others were unable to identify these defects in the rulemaking. Although EPA was right not to promulgate the total PM standard it proposed, EPA surely would have made changes to the final standard had it solicited further comment -- if only to correct its substantial errors in calculating and describing the standard.

In short, the standard is both arbitrary and procedurally defective. As such, while any of the standard's defects might be cured through a remand, the collective result is a meaningless standard that requires vacatur. Whether coincidentally or not, vacatur of the 2012 NSPS PM standard for newly modified units would have the practical effect of removing the May 3, 2011 end point for applicability of the 2006 NSPS PM standard for modified units, and applying that standard to newly modified units, as EPA said it intended to do.

### **III. The Work Practice Standards Applicable to Newly Constructed, Reconstructed, and Modified Subpart Da Units Should Be Vacated**

EPA's decision not to impose numerical emissions standards during periods of startup and shutdown was justified based on information presented by

commenters like UARG and, while not required,<sup>13</sup> work practice standards are authorized under CAA § 111(h). However, the definitions of “startup” and “shutdown,” and the “clean fuel” requirement EPA adopted in the EGU MACT and imposed in § 60.42Da(e)(2) of the final NSPS, *see supra* pp. 30-31, are seriously flawed. Those provisions do not reflect the manner in which EGUs and their associated emissions controls actually start up and shut down, or the kinds of fuels capable of being combusted during those periods. UARG EGU MACT Reconsideration Petition at 14-20 (JA \_\_\_ - \_\_\_); *discussion supra* pp. 32-33.

The new EGU MACT-specific definitions of “startup” and “shutdown” and “clean fuel” requirement cannot be justified based on EPA’s original notice and record. Commenters contemplating application of the work practice standards they advocated in lieu of numerical emission standards during those periods had no reason to assume EPA would start from scratch. The Part 60 general provisions already defined “startup” and “shutdown” and EPA had previously used similar definitions in the Part 63 general provisions in applying work practice standards in the IB MACT. *See supra* pp. 29-30. Commenters simply could not have

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<sup>13</sup> Although this Court has held that rules under CAA § 112, like the EGU MACT, must specify a § 112-compliant standard for all periods of unit operation, the Court did not examine, or opine on, NSPS standards issued under the very different provisions of CAA § 111, and the opinion does not mandate such a result in the boiler NSPS. *Sierra Club v. EPA*, 551 F.3d 1019 (D.C. Cir. 2008).

anticipated that EPA would promulgate the detailed new definitions, or limit *all* units to combustion of natural gas or distillate oil. Although UARG alerted EPA in its comments on the EGU MACT to the need for flexibility in the use of startup fuels, the duration of startup, and the timing and manner in which controls can be brought online, UARG EGU MACT Comments at 127 (JA\_\_\_), UARG could not have been expected to dream up and address in its original comments all of the issues presented by EPA's final rule.

EPA's suggestion that its definitions are "consistent with" the definitions in the general provisions, and with its proposed specification of default factors to determine compliance during those periods under the EGU MACT, is more than a stretch. The new definitions address issues and impose restrictions not contemplated by the proposed definitions. *See supra* pp. 31-32. And, EPA's proposed application during startup and shutdown of diluent gas concentration (O<sub>2</sub> or CO<sub>2</sub>) and "nominal electrical production rate equal to 5 percent of rated capacity" default values in the EGU MACT (but not Subpart Da), Proposed § 63.10005(l), 76 Fed Reg. at 25,106, did nothing to put commenters on notice that EPA would use the first generation of *any* steam or electricity to define the *end* of startup.

In the preamble, EPA also suggests that its new definitions of "startup" and "shutdown" are justified by commenters' requests for clarification. 77 Fed. Reg. at

9381. This Court has long recognized that EPA cannot “bootstrap” notice from a comment. *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 549 (D.C. Cir. 1983); *Am. Fed’n of Labor v. Donovan*, 757 F.2d 330, 340 (D.C. Cir. 1985). EPA also fails to identify any comments that would justify the new definitions it adopted. To the extent EPA questioned the adequacy of those definitions, EPA should have issued a supplemental rulemaking proposal or convened a second proceeding. *See, e.g.*, 76 Fed. Reg. 15,266 (Mar. 21, 2011) (announcing, at the time of promulgation, reconsideration of several provisions in the IB MACT).

In short, while EPA’s proposal to apply emission standards “at all times” might be construed as putting commenters on notice that they should present their views on whether the proposed standards should apply during periods of startup and shutdown, it did not provide adequate notice of the new, detailed “startup” and “shutdown” definitions and fuel restrictions EPA adopted. “[A] final rule will be deemed to be the logical outgrowth of a proposed rule if a new round of notice and comment rulemaking would not provide commenters with their first occasion to offer new and different criticisms which the agency might find convincing.” *Fertilizer Inst. v. EPA*, 935 F.2d 1303, 1311 (D.C. Cir. 1991) (internal quotation marks omitted). No such opportunity was provided here.

In light of the substantive and procedural problems identified above, the requirement that newly constructed, reconstructed, and modified Subpart Da units comply with the new work practice requirements in the EGU MACT must be vacated.

#### **IV. The Revised PM Standard for Original Subpart Da Units Should Be Vacated**

CAA § 111(a) authorizes EPA to specify a level of emissions control for newly constructed or modified sources, based on best “adequately demonstrated” technology for that source category. EPA has no authority to revise NSPS emission standards without such a determination, or to apply a revised emission standard to existing sources that have not been modified. *See supra* p. 6. When EPA established the § 60.42Da(a)(1) PM standard in the 1979 NSPS, EPA determined (and provided emissions test data to demonstrate) that the identified best demonstrated technology warranted an emission standard of 0.03 lb/MMBtu for sources within this source category. EPA’s revision of that standard to 0.030 lb/MMBtu is unlawful. A standard of 0.03 lb/MMBtu is not the same as 0.030 lb/MMBtu. For example, a Method 5 test result of 0.031 lb/MMBtu, which under conventional rounding procedures would be rounded to 0.03 lb/MMBtu, would not exceed the original 1979 standard. However, the same test result would exceed the revised 1979 standard of 0.030 lb/MMBtu. Furthermore, any change to the

original standard, even if justified, can only apply to sources constructed, reconstructed, or modified after the date of the proposed revision.

CAA § 307(d) requires that EPA provide a rulemaking proposal that provides both notice of a proposed change, and support for it, including any policy considerations. Without such notice, commenters are unable to challenge the Agency's assertions. Final rules must provide similar support. *See supra* pp. 6-7. EPA provided neither. Although EPA proposed minor editorial revisions to remove unnecessary fuel specifications from the standard, EPA gave no indication that the numerical standard might be revised, and provided no information in the docket to support such a change. *See supra* pp. 33-34. Although the final rule can differ from the proposal, “[s]omething is not a logical outgrowth of nothing.” *Kooritzky v. Reich*, 17 F.3d 1509, 1513 (D.C. Cir. 1994). EPA's final rule is similarly devoid of any mention of, or support for, the revisions and must be vacated. *See Small Refiner Lead Phase-Down Task Force*, 705 F.2d at 551 (“A rule without a stated reason is necessarily arbitrary and capricious.”).

**V. The CPM Testing Requirement for Newly Constructed, Reconstructed, and Modified Subpart Da Units Should Be Vacated**

The requirement in § 60.50Da(b)(2) for testing of CPM for informational purposes at newly constructed, reconstructed, and modified units is unlawful. Although EPA proposed to require CPM testing as part of the compliance demonstration requirements for its proposed total PM standard, EPA finalized a

filterable only standard that rendered the proposed CPM testing requirement irrelevant. *See supra* pp. 34-35. Commenters, like UARG, who objected to the proposed total PM standard could not have anticipated that EPA would require CPM testing even if the final standard did not regulate CPM.

EPA's finalization of such a standard is even more unexpected, given EPA's prior promulgation and subsequent removal of a similar "informational" testing requirement for CPM from the 2009 NSPS. EPA removed that requirement in 2011 (prior to collecting any data under it, and just prior to proposing the total PM standard in this NSPS rulemaking), because it already had collected a sufficient amount of CPM to satisfy its NSPS obligations. *See supra* pp. 21-22. No commenter could have anticipated that EPA would repromulgate what it had, less than four months before, deemed an "unnecessary additional testing burden" under the NSPS. 76 Fed. Reg. at 3519. Commenters are not required to construe a proposal inconsistent with recent and related EPA action. *Fertilizer Inst.*, 935 F.2d at 1310-11; *see also Int'l Union v. Mine Safety Health Admin.*, 407 F.3d 1250, 1259 (D.C. Cir. 2005).

EPA also failed to provide a rational basis, or submit an ICR, for the requirement. *See supra* p. 35. EPA does not argue that the data have any relevance to the 2012 NSPS. Instead, EPA says it will result in the collection of "sufficient data" for evaluation of a future standard. But EPA has been down that

road already and proved its own assertion wrong. EPA removed its 2009 testing requirement precisely because it was not needed to provide data for standard setting. EPA also fails to explain why it needs to impose this requirement now, or how it hopes to obtain “sufficient data” from a single test each<sup>14</sup> at the zero (or at most 2) new EGUs each year EPA estimates will be subject to the requirement. *Id.* EPA has not identified any timeframe for such a rulemaking or explained why it chose these units for testing. The requirement is hastily framed, unsupported, and arbitrary; and EPA adopted it in violation of the PRA.

**VI. The Requirement That Subpart D, Db, and Dc Units Using PM CEMS Either Meet a More Stringent PM Standard or Perform Periodic Visible Emissions Testing Is Unsupported**

For more than 35 years, EPA interpreted the boiler NSPS opacity standard as nothing more than a tool to assess, in the absence of continuous PM emissions data, whether PM emission controls were being operated *consistent with the applicable filterable PM standard*. *See supra* pp. 9-11. For Subpart D units, that standard is 0.10 lb/MMBtu and 20 percent opacity. 40 C.F.R. § 60.42(a) (2011). Since 2006, EPA has deemed PM CEMS sufficiently accurate not only to allow, but to *require* their use to determine compliance with boiler NSPS PM standards.

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<sup>14</sup> Because newly constructed, reconstructed, and modified units are required to demonstrate compliance using PM CEMS, and not periodic performance tests, data would be collected at most once upon startup.

And, in 2007, EPA deemed PM CEMS meeting PS 11 sufficiently accurate to allow their use to determine compliance with the Subpart D PM limit -- so accurate, in fact, that EPA ceased to require any monitoring of opacity at those units. *See supra* pp. 13-14. Then, in 2009, after reiterating both of its longstanding positions and proposing to exempt *all* boiler NSPS units using PM CEMS from the opacity standard, EPA abruptly reversed its positions on both points *in a final rule*. *See supra* pp. 15-19.

In support of the 2009 final rule, EPA offers new and previously unidentified reasons for the opacity standard. For units already demonstrating compliance with the *applicable filterable PM standard* using PM CEMS, EPA now asserts that those units must reduce their PM emissions to the point where the assumed contribution of *filterable* PM to opacity is “negligible” before the opacity standard becomes unnecessary. According to EPA, units that have filterable PM emissions of 0.03 lb/MMBtu or less will have “little or no visible emissions (*i.e.*, less than 5 percent opacity)” due to filterable PM. 74 Fed. Reg. at 5073-74; *see also supra* p. 18. Moreover, according to EPA, while still sufficient to *prove violations at any* PM emissions level (including the Subpart D limit of 0.10 lb/MMBtu), PM CEMS are *no longer* sufficient to *demonstrate compliance* with a PM standard above 0.030 lb/MMBtu. *Id.* As a result, a boiler NSPS unit with an applicable PM standard *above* 0.030 lb/MMBtu *now* must perform additional

periodic Method 9 visible emissions testing using a trained human observer to somehow “confirm” that the previously sufficiently accurate PM CEMS are working properly. *Id.*

EPA’s new positions, and the 2009 NSPS that resulted from them, are unsupported and were adopted without required procedures. As for violation of the CAA’s rulemaking requirements, EPA proposed one rule (the full opacity exemption) based on its longstanding positions regarding the purpose of the opacity standard and the accuracy of PM CEMS, and then adopted a very different rule without any notice of its new rationale or positions. Although EPA expressed concern about the contribution of CPM to opacity, and as a result proposed to add new CPM testing requirements, EPA’s rationale for those new requirements (a concern about the need to study CPM) gave no hint that EPA in the final rule would require sources that might have “some visible emissions” due to *filterable* PM to further reduce their filterable PM emissions in order to avoid the added burden of periodic visible emissions monitoring. *See supra* p.15. EPA’s proposal also gave no hint that EPA might change its view, reiterated in a number of prior rulemakings, of accuracy of PM CEMS.

The substantive flaws in the final rule are equally clear. EPA provided no support for the rule beyond conclusory remarks. EPA’s only basis for questioning its reliance on PM CEMS -- that the readings cannot be verified as easily as other

CEMS -- is equally true at emission levels below 0.030 lb/MMBtu, where EPA has not only allowed, but required, their use to determine compliance. *See supra* p. 13. EPA provided no information to suggest that PM CEMS are less accurate at higher emission levels, or that such levels demand greater accuracy. Absent some real difference in PM CEMS accuracy, and a corresponding superior accuracy in visible emissions measurements, the requirement for additional visible emissions monitoring has no purpose other than to attempt to leverage sources to agree to a more stringent PM standard, contrary to the opacity standard's original purpose.

Visible emissions readings with Method 9 can be burdensome and do not provide a more accurate assessment of PM control device operation (or PM emissions) than a PM CEMS, especially at the sorts of units most likely to install PM CEMS. Many boiler NSPS units opt to install PM CEMS in order to obtain exemption from using COMS after installing a wet scrubber, because condensed water vapor prevents the required COMS from reading opacity accurately. Unfortunately, readings with Method 9 also are difficult under such circumstances because the observer must try to read the opacity at a point before condensation occurs or after the water vapor has dissipated. *See supra* pp. 11-12. Method 9 measurements, which are conducted for 3 hours at most and averaged over 6-minute periods, also have little relevance to the 24-hour average PM standard applicable to boiler NSPS units using PM CEMS. 40 C.F.R. § 60.11(b); UARG

2012 NSPS Comments at 37-38 (JA \_\_\_ - \_\_\_). Finally, the fact that Method 9 readings also are dependent upon sunlight and weather mean that those tests, which require notice to the regulatory agency, often cannot be completed on time and must be rescheduled. Method 9 § 2; 40 C.F.R. § 60.11(e).

When EPA granted UARG's reconsideration petition, EPA had the opportunity to cure the rule's defects. But EPA's new proposal was no more illuminating than the defective 2009 final rule. EPA, for a second time, failed to provide a basis for, or solicit comment on, the apparent change in its views of the opacity standard and the accuracy of PM CEMS. EPA even failed to explain and solicit comment on its procedurally deficient final rule. Instead, EPA again asked whether it should provide the relief it had originally proposed. In supporting that result for a second time, UARG commented on every aspect of the issue it could imagine would be relevant to EPA's final decision. *See supra* pp. 19-20. But EPA again moved the target, and in the final rule eschewed its prior rationale -- that PM CEMS were not sufficiently accurate -- and articulated two new ones: (1) that the opacity standard is "separate" from the PM standard, and (2) that in another three years the EGU MACT would render the issue moot. *See supra* pp. 21-22. In short, in 2012, EPA not only failed to cure the defects in its 2009 rule, it compounded them.

Neither of EPA's new rationales make sense either. The opacity standard in Subpart Da is just as "separate" from the PM standard as the Subpart D standard, and EPA exempted Subpart Da units using PM CEMS from it. The fact that some units may in the future qualify for the conditional exemption is not a reason to withhold the exemption now.

With respect to the visible emissions testing requirements, EPA has never addressed in any proposal the impacts of the periodic visible emissions testing on the Subpart D units it had proposed to exempt from the standard, but did not exempt in the final rule. EPA also failed to respond to UARG's comments on that issue. And, EPA provided no reason for its failure to reduce the testing frequency for Subpart D units in 2012 in the same manner it did for Subpart Da units, despite saying that it did so. EPA did not propose to distinguish between Subparts D and Da units on this issue. *See supra* pp. 20-21.

EPA's failure to provide (1) *any* notice of its change in position, or of the content of its 2009 final rule, (2) *any* technical support or policy reason for the new positions upon which its rule is based, and (3) *any* response to UARG's detailed comment in the 2012 "reconsideration" proceeding, warrant vacatur of the 2009 final action on opacity. *Small Refiner Lead Phase-Down Task Force*, 705 F. 2d at 519 (the fundamental purpose of CAA § 307(d)(3) is to require that "EPA . . . give a detailed explanation of its reasoning at the 'proposed rule' stage" of the

rulemaking process); *Home Box Office, Inc.*, 567 F.2d at 35 (without a response to significant comment, the “opportunity to comment is meaningless”). However, because the Subpart D, Db, and Dc provisions provide benefit to those units willing to meet EPA’s conditions, those provisions should remain in place pending a remand with instructions that EPA take action consistent with the Agency’s longstanding positions, or justify any change. *Fertilizer Inst.*, 935 F.2d at 1312 (allowing a beneficial exemption challenged as too narrow to remain in place pending remand). The visible emission testing requirements for units with PM CEMS, however, have not been justified and should be vacated.

## **VII. The Affirmative Defense Provisions Should Be Remanded**

For both the EGU MACT and NSPS EGU rules, Texas asked EPA to consider including a provision allowing states to use state affirmative defense provisions in lieu of EPA’s affirmative defense provisions. Texas EGU MACT Comments at 21 (JA\_\_\_); Texas NSPS Comments at 3 (JA\_\_\_). Texas asked to continue to apply its state affirmative defense, which is very similar to the affirmative defense in this rule and has already been approved by EPA in the context of its SIP, to reduce the regulatory confusion and administrative burdens that will inevitably arise as a result of applying different administrative defense standards to different facilities. *Id.*; Texas Reconsideration Petition at 27-28 (JA\_\_\_ - \_\_\_).

For the EGU MACT rule, which governs hazardous air pollutants at coal- and oil-fired EGUs, EPA addressed the Texas comment and said that states could apply to use their own provisions in lieu of EPA's through 40 C.F.R. § 63.93. EPA EGU MACT RTC, Vol. 2, at 438 (JA\_\_\_). But for Texas' identical comment in the NSPS rule, which applies to non-hazardous emissions at the same units, EPA said that SIP provisions do not apply to NSPS and provided its rationale for including an affirmative defense provision in the rule. EPA 2012 NSPS RTC at 26 (JA\_\_\_). Texas brought this apparent misunderstanding to EPA's attention in its petition for reconsideration but EPA chose not to reconsider it. Texas Reconsideration Petition at 27-28 (JA\_\_\_).

As a result, states that avail themselves of § 63.93 will find themselves applying two different affirmative defense standards to certain EGUs, depending on the pollutants that are emitted. *See* EPA 2012 NSPS RTC at 26 (JA\_\_\_). Nowhere in its response to comments does EPA offer any explanation for why it would treat states flexibly under the EGU MACT, but not under NSPS. *Id.*

CAA § 307(d) requires EPA to provide the public with the opportunity to comment on proposed rules. Similarly, for over 30 years, this Court has held that "the opportunity to comment is meaningless unless the agency responds to significant points raised by the public." *Home Box Office*, 567 F.2d at 35-36; *see also Sherley v. Sebelius*, 689 F.3d 776, 784 (D.C. Cir. 2012). Moreover, the

response by the agency must be sufficient to allow this Court “to see what major issues of policy were ventilated by the informal proceedings and why the agency reacted to them as it did.” *Home Box Office*, 567 F.2d at 36 (citation omitted).

The failure to appropriately respond to comments is significant when it demonstrates that the agency’s decision was not based on the consideration of relevant factors. *Sherley*, 689 F.3d at 784, *citing Covad Commc’ns v. FCC*, 450 F.3d 528, 550 (D.C. Cir. 2006).

Streamlining the administration of air programs and reducing regulatory confusion are both relevant and significant factors that EPA should have considered in its NSPS rulemaking. But because EPA does not appropriately respond to Texas’ comment, this Court cannot know whether EPA considered the comment at all, or, if it did, whether it had a rational basis for applying different affirmative defense standards to different pollutants being emitted from the same unit. Absent this explanation, EPA’s action is arbitrary and capricious, and, therefore, the rule should be remanded to EPA for further review.

### **CONCLUSION**

For the forgoing reasons, the Court should vacate the (1) mandate that newly constructed or reconstructed Subpart Da units demonstrate compliance using PM CEMS, (2) the PM standard for newly modified Subpart Da units, (3) the revised PM standard for original Subpart Da units, (4) the CPM testing requirement for

newly constructed, reconstructed, and modified Subpart Da units, and (5) the Subpart D, Db, and Dc periodic visible emissions testing requirements for units using PM CEMS. The court should remand to EPA (1) the Subpart D, Db, and Dc provisions limiting exemption from the opacity standard for units using PM CEMS to those meeting a PM emission standard of 0.03 lb/MMBtu, and (2) the affirmative defense provisions.

Respectfully submitted,

Dated: October 23, 2012

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**CERTIFICATE OF COMPLIANCE**

Pursuant to Rule 32(a)(7)(C) of the Federal Rules of Appellate Procedure and Circuit Rules 32(a)(1) and 32(a)(2)(C), I hereby certify that the foregoing Joint Brief of Petitioners contains 13,915 words, as counted by a word processing system that includes headings, footnotes, quotations, and citations in the count, and therefore is within the word limit set by the Court.

Dated: October 23, 2012

/s/ Lauren E. Freeman

**CERTIFICATE OF SERVICE**

Pursuant to Rule 25 of the Federal Rules of Appellate Procedure and Circuit Rule 25(c), I hereby certify that I have this 23rd day of October, 2012, served a copy of the foregoing Joint Brief of Petitioners electronically through the Court's CM/ECF system.

*/s /Lauren E. Freeman* \_\_\_\_\_