

ORAL ARGUMENT NOT YET SCHEDULED

No. 11-1108 (and consolidated cases)

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

UNITED STATES SUGAR CORPORATION, ET AL.,
Petitioner,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ET AL.,
Respondent.

**On Petitions for Review of an Action of the
United States Environmental Protection Agency**

**JOINT BRIEF OF INDUSTRY INTERVENOR-RESPONDENTS
IN RESPONSE TO ENVIRONMENTAL PETITIONERS**

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CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

A. Parties, Intervenors, and Amici

The parties, intervenors, and amici in this action are those set forth in the certificate filed on August 12, 2014 with the Opening Brief of Industry Petitioners (Doc. 1507310).

B. Rulings Under Review

The rulings under review in this action are those set forth in the aforementioned certificate.

C. Related Cases

The cases related to this action are those set forth in the aforementioned certificate.

CORPORATE DISCLOSURE STATEMENTS

Industry Intervenor-Respondents submit the following statements pursuant to Rule 26.1 of the Federal Rules of Appellate Procedure and Circuit Rule 26.1:

American Chemistry Council (“ACC”) is a not-for-profit trade association that participates on its members’ behalf in administrative proceedings and in litigation arising from those proceedings. ACC represents the leading companies engaged in the business of chemistry. ACC has no outstanding shares or debt securities in the hands of the public and has no parent company. No publicly held company has a ten percent (10%) or greater ownership interest in ACC.

American Coke & Coal Chemicals Institute (“ACCCI”) is a non-profit, national trade association incorporated in Illinois and headquartered in the District of Columbia. ACCCI has no parent corporation, and no publicly held company has a ten percent (10%) or greater ownership interest in ACCCI. ACCCI serves as the voice of American producers of metallurgical coke and coal chemicals in the public policy arena and advances the legislative, regulatory and technical interests of its members. ACCCI’s producer members comprise 100% of the U.S. production of metallurgical coke and coal chemicals, which collectively have operations in 12 states.

American Forest and Paper Association (“AF&PA”) serves to advance a sustainable U.S. pulp, paper, packaging, and wood products manufacturing industry through fact-based public policy and marketplace advocacy. AF&PA member companies make products essential for everyday life from renewable and recyclable resources and are committed to continuous improvement through the industry’s sustainability initiative – Better Practices, Better Planet 2020. The forest products industry accounts for approximately four percent of the total U.S. manufacturing GDP, manufactures approximately \$210 billion in products annually, and employs nearly 900,000 men and women. The industry meets a payroll of approximately \$50 billion annually and is among the top 10 manufacturing sector employers in 47 states. No parent corporation or publicly held company has a ten percent (10%) or greater ownership interest in AF&PA.

American Home Furnishings Alliance (“AHFA”) is a non-profit industry trade association headquartered in High Point, North Carolina. AHFA’s membership consists of approximately 450 companies in the home furnishings industry, including most domestic wood manufacturers. AHFA has no parent corporation and no publicly held company has a ten percent (10%) or greater ownership interest in AHFA.

American Iron and Steel Institute (“AISI”) is a non-profit, national trade association headquartered in the District of Columbia. AISI has no parent

corporation, and no publicly held company has a ten percent (10%) or greater ownership interest in AISI. AISI serves as the voice of the North American steel industry in the public policy arena and advances the case for steel in the marketplace as the preferred material of choice. AISI is comprised of 20 producer member companies, including integrated and electric furnace steelmakers, and 125 associate and affiliate members who are suppliers to or customers of the steel industry. AISI's member companies represent more than three quarters of both U.S. and North American steel capacity.

American Municipal Power, Inc. (“AMP”) is a non-profit corporation headquartered in Columbus, Ohio, that provides services on a cooperative, non-profit basis for its member communities operating municipal electric systems. AMP has no parent corporation and no publicly held company has a ten percent (10%) or greater ownership interest in AMP.

American Petroleum Institute (“API”) is a national trade association that represents all aspects of America's oil and natural gas industry. API has over 600 members, from the largest major oil company to the smallest of independents, from all segments of the industry, including producers, refiners, suppliers, pipeline operators and marine transporters, as well as service and supply companies that support all segments of industry. API has no parent company and no publicly held company has a ten percent (10%) or greater ownership interest in API.

American Wood Council (“AWC”) is the voice of North American traditional and engineered wood products, representing over 75% of the industry. From a renewable resource that absorbs and sequesters carbon, the wood products industry makes products that are essential to everyday life and employs over one-third of a million men and women in well-paying jobs. AWC’s engineers, technologists, scientists, and building code experts develop state-of-the-art engineering data, technology, and standards on structural wood products for use by design professionals, building officials, and wood products manufacturers to assure the safe and efficient design and use of wood structural components. AWC also provides technical, legal, and economic information on wood design, green building, and manufacturing environmental regulations advocating for balanced government policies that sustain the wood products industry.

The Auto Industry Forum (“AIF”) states that it is a trade association of automobile manufacturing companies that operate manufacturing facilities in the United States. These facilities are affected by the final action of the United States Environmental Protection Agency (“EPA”) challenged in this action. The AIF participates in administrative proceedings before EPA under environmental statutes and in litigation arising from those proceedings that affect its members.

Biomass Power Association (“BPA”) is a non-profit, national trade association headquartered in Portland, Maine, and organized under the laws of the

state of Maine. BPA has no parent corporation and no publicly held company has a ten percent (10%) or greater ownership interest in BPA. BPA serves as the voice of the U.S. biomass industry in the federal public policy arena. BPA is comprised of 23 member companies who either own or operate biomass power plants and 16 associate and affiliate members who are suppliers to or customers of the industry. BPA's member companies represent approximately 80 percent of the U.S. biomass to electricity sector.

The Chamber of Commerce of the United States of America (“U.S. Chamber”) is a non-profit corporation organized and existing under the laws of the District of Columbia. U.S. Chamber is not a publicly held corporation and no corporation or other publicly held entity holds more than ten percent (10%) of its stock. U.S. Chamber is the world's largest business federation. U.S. Chamber represents 300,000 direct members and indirectly represents the interests of more than 3 million companies and professional organizations of every size, in every industry, from every region of the country. An important function of U.S. Chamber is to represent the interests of its members in matters before the courts, Congress, and the Executive Branch. Many of U.S. Chamber's members are subject to the regulations at issue in this matter.

Coalition for Responsible Waste Incineration (“CRWI”) is a non-profit trade association as described in Circuit Rule 26.1(b) that provides information

about, and conducts advocacy regarding, the use of high temperature combustion which is used at facilities owned or operated by CRWI members. Some of CRWI's members are regulated by the rule at issue in this proceeding. No publicly held corporation owns ten percent (10%) or more of CRWI and CRWI does not have a parent corporation.

Corn Refiners Association (“CRA”) is a non-profit, national trade association headquartered in the District of Columbia. CRA has no parent corporation. CRA serves as the voice of the U.S. corn wet millers industry in the public policy arena. CRA is comprised of 6 member companies with 23 plants located throughout the United States.

Council of Industrial Boiler Owners (“CIBO”) is a trade association of industrial boiler owners, architect-engineers, related equipment manufacturers, and University affiliates with over 100 members representing 20 major industrial sectors. CIBO has no parent corporation and no publicly held company holds any ownership interest in CIBO.

Eastman Chemical Company (“Eastman”) is a publicly traded company (symbol EMN), incorporated in the state of Delaware, with its headquarters in the city of Kingsport, Tennessee. Eastman has no parent corporation and based upon current ownership filings with the Securities and Exchange Commission, no

publicly held company has a ten percent (10%) or greater ownership interest in Eastman.

Florida Sugar Industry (“FSI”) is comprised of the Sugar Cane Growers Cooperative of Florida, the Osceola Farms Company, and U.S. Sugar Company. The FSI is joined in this proceeding by the Rio Grande Valley Sugar Growers, Inc., of Texas and the Hawaiian Commercial & Sugar Company of Hawaii. For the purposes of this proceeding, FSI includes all five of these entities.

FSI is an informal coalition of these five business entities that share common interests in the Boiler Rules and other environmental regulations. Each member of the FSI processes sugarcane to produce sugar and other products, and each member of the group owns and operates boilers that will be subject to the EPA rules at issue in this proceeding.

The Florida Sugar Industry is not a corporation or other formal business entity. Accordingly, FSI has not issued any shares or debt securities to the public. No parent corporation or publicly held company has a ten percent (10%) or greater ownership interest in FSI. None of the members of FSI have issued shares or debt securities to the public; however, the Hawaiian Commercial & Sugar Company is a division of Alexander & Baldwin, Inc., which is a publicly traded company.

JELD-WEN inc. is a window and door manufacturer headquartered in North Carolina. JELD-WEN is a privately held company. The parent company of

its operations is JELD-WEN Holding, inc., a privately held company. Onex Corporation (TSX: OCX), a publicly held corporation, holds more than 10 percent interest in JELD-WEN Holding, inc.

National Association of Manufacturers (“NAM”) is the nation’s largest industrial trade association, representing small and large manufacturers in every industrial sector and in all 50 states. The NAM’s mission is to enhance the competitiveness of manufacturers by shaping a legislative and regulatory environment conducive to U.S. economic growth and to increase understanding among policymakers, the media and the general public about the vital role of manufacturing to America’s economic future and living standards. The NAM has no parent company and no publicly held company has a ten percent (10%) or greater ownership interest in the NAM.

National Oilseed Processors Association (“NOPA”) is a non-profit, national trade association headquartered in the District of Columbia. NOPA has no parent corporation and no publicly held company has a ten percent (10%) or greater ownership interest in NOPA. NOPA represents 13 companies engaged in the production of food, feed, and renewable fuels from oilseeds, including soybeans. NOPA’s member companies process more than 1.6 billion bushels of oilseeds annually at 63 plants located in 19 states throughout the country, including 57 plants that process soybeans.

Rubber Manufacturers Association (“RMA”) is a non-profit, national trade association headquartered in the District of Columbia. RMA has no parent corporation and no publicly held company has a ten percent (10%) or greater ownership interest in RMA. RMA is the national trade association representing tire manufacturing companies that manufacture tires in the United States. RMA member companies include: Bridgestone Americas, Inc.; Continental Tire the Americas, LLC; Cooper Tire & Rubber Company; The Goodyear Tire & Rubber Company; Michelin North America, Inc.; Pirelli Tire North America; Toyo Tire Holdings of Americas Inc. and Yokohama Tire Corporation. RMA’s eight member companies operate 30 tire manufacturing plants, employ thousands of Americans and ship over 90 percent of the original equipment tires and 80 percent of the replacement tires sold in the United States.

Southeastern Lumber Manufacturers Association (“SLMA”) is a trade association that represents independently owned sawmills, lumber treaters, and their suppliers in 17 states throughout the Southeast. SLMA’s members produce more than 2 billion board feet of solid sawn lumber annually, employ over 12,000 people, and responsibly manage over a million acres of forestland. These sawmills are often the largest job creators in their rural communities, having an economic impact that reaches well beyond people that are in their direct employment. The association serves as the unified voice of its members on state and federal

government affairs and offers various other programs including networking events, marketing and management, and operational issues. No parent corporation and no publicly held company have a ten percent (10%) or greater ownership interest in SLMA.

United States Sugar Corporation (“U.S. Sugar Corp.”) has no parent corporation and no publicly held corporation owns ten percent (10%) or more of its stock.

Utility Air Regulatory Group (“UARG”) is an ad hoc, unincorporated association of individual electric companies and industry 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 ten percent (10%) or greater ownership interest in UARG.

Waste Management, Inc. is a publicly-traded holding company; it does not have a parent company and all of its operations are conducted by its subsidiaries. No publicly-held company has a 10% or greater ownership interest in Waste Management, Inc.

WM Renewable Energy, LLC is a wholly-owned subsidiary of Waste Management Partner Holdings, Inc. Waste Management Partner Holdings, Inc. is

a wholly-owned subsidiary of Waste Management Holdings, Inc., which is a wholly-owned subsidiary of Waste Management, Inc. Waste Management, Inc., through its subsidiaries, including WM Renewable Energy, LLC, is the largest residential recycler in North America and a leader in waste based energy technologies. Headquartered in Houston, Texas, the company serves over 20 million customers with environmentally sound management of solid wastes and transformation of wastes into usable resources.

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GLOSSARY OF TERMS

Act	Clean Air Act
Agency	U.S. Environmental Protection Agency
API	American Petroleum Institute
CAA	Clean Air Act
CO	Carbon Monoxide
EPA	U.S. Environmental Protection Agency
HAP	Hazardous Air Pollutant
IB	Industrial, Commercial, and Institutional Boilers and Process Heaters
ICAC	Institute of Clean Air Companies
JA	Joint Appendix
MACT	Maximum Achievable Control Technology
NPRA	National Petrochemical and Refiners Association
PM	Particulate Matter
ppm	Parts Per Million
RTC	Response to Comments
UPL	Upper Prediction Limit

STATUTES AND REGULATIONS

With the exception of 40 C.F.R. § 60.44b(a), all applicable statutes and regulations are contained in the briefs of Environmental Petitioners and Respondent U.S. Environmental Protection Agency (“EPA” or “Agency”). The aforementioned provision is appended to this brief.

ISSUES PRESENTED

1. Did EPA reasonably use the Upper Prediction Limit (“UPL”) methodology to determine the value that the best performing source(s) would achieve 99 percent of the time to account for variability and ensure that the resulting standard could be met by the best performing sources over the full range of foreseeable operating conditions?
2. Did EPA reasonably use carbon monoxide (“CO”) as a surrogate for non-dioxin organic hazardous air pollutant (“HAP”) emissions where CO is an indicator of efficient combustion, which is the control method for non-dioxin organic HAPs?
3. Is EPA’s creation of subcategories based on the principal fuel that a unit is designed to combust consistent with the Clean Air Act (“CAA”) and reasonable, where EPA determined that the principal fuel determines boiler design and affects both emission characteristics and applicable emission control methods?

SUMMARY OF ARGUMENT

Industry Intervenor-Respondents endorse EPA's defense of the industrial, institutional, and commercial boiler and process heater ("IB") maximum achievable control technology ("MACT") rules against the four issues raised by Environmental Petitioners, and file this brief to supplement EPA's defense on three of the issues: (1) EPA's application of the UPL methodology to account for emissions variability of the best performing units on which the standard was based (Environmental Petitioners' Issue 4); (2) EPA's choice of CO as a surrogate for non-dioxin organic HAP emissions (Environmental Petitioners' Issue 1); and (3) EPA's approach to subcategorization (Environmental Petitioners' Issue 2).¹

First, as detailed in the UPL Remand Memorandum that EPA filed with the Court in the instant case,² the UPL methodology used by EPA in the IB MACT rulemaking is the same methodology that was at issue in the litigation over the sewage sludge incinerator standards. *Nat'l Ass'n of Clean Water Agencies v. EPA*, 734 F.3d 1115 (D.C. Cir. 2013) ("*NACWA*"). Remand Memorandum at 2 (JA__).

¹ The fourth issue raised by Environmental Petitioners involves the data on which EPA relied in setting certain standards. *See* Env'tl. Pet'rs' Br. at Argument § II.B. Industry Intervenor-Respondents endorse EPA's response to that argument and have nothing further to add.

² Memorandum from Stephen D. Page, Dir., EPA Office of Air Quality Planning and Standards to Docket ID No. EPA-HQ-OAR-2002-0058, "EPA's Response to Remand of the Record for Major Source Boilers" (July 14, 2014) (Doc. 1502494), EPA-HQ-OAR-2002-0058-3892 ("Remand Memorandum") (JA__).

In *NACWA*, this Court remanded application of the UPL methodology to EPA. The Court did so in a very prescribed way, however, asking EPA to provide further explanation of certain distinct aspects of the applied methodology.

EPA has addressed all of the questions related to the UPL methodology that were raised first by environmental petitioners in *NACWA* and again in this litigation. As a result, the UPL methodology should be upheld here as a reasonable and justified approach to account for variability not reflected in short-term stack testing data alone. Application of the UPL methodology to short-term stack testing data allows EPA to reasonably estimate the “average emissions limitation achieved over time by the best performing source or sources,” Remand Memorandum at 1 (JA __), consistent with the Agency’s obligations under CAA § 112(d)(3), 42 U.S.C. § 112(d)(3).

Second, Environmental Petitioners challenge EPA’s determination that CO is an appropriate surrogate for organic HAP emissions. Their challenge is mostly based on two prior decisions of this Court in which the use of particulate matter (“PM”) as a surrogate for metal HAP emissions was at issue. *See Sierra Club v. EPA*, 353 F.3d 976 (D.C. Cir. 2004) and *National Lime Ass’n v. EPA*, 233 F.3d 625 (D.C. Cir. 2000). While these cases support the overarching principle that EPA may use surrogates when it is reasonable to do so, these cases are otherwise inapposite here because the concerns raised by the Court with regard to PM and

metal HAPs were specific to that particular surrogacy relationship. EPA provided ample justification and record support for using CO as a surrogate for non-dioxin organic HAPs. Accordingly, the CO-based emissions standards should be upheld.

Third, in the IB MACT rulemaking, EPA appropriately subcategorized units based on the type of fuel burned and corresponding differences in boiler operation and design. Industry Intervenor-Respondents support EPA's explanation of how boiler design and operational characteristics depend on the fuel combusted. EPA Br. at 77. Industry Intervenor-Respondents further add that *nothing* in the statute instructs EPA to establish subcategories based on the "classes, types, and sizes" of sources. EPA must take those factors into account only when it sets standards *within* a category or subcategory. CAA § 112(d)(1), 42 U.S.C. § 7412(d)(1). Thus, EPA's authority to establish subcategories is broader than the Environmental Petitioners and even EPA suggest in their briefs.

ARGUMENT

I. EPA Is Well Within Its Legal Authority to Use the UPL Methodology and Has Provided Ample Justification for Using the UPL Methodology in Setting Standards in This Rulemaking.

This Court has numerous times recognized in evaluating EPA's MACT floor-setting under CAA § 112(d)(3) that the relevant standard for review is whether EPA's analysis generates a "reasonable[] estimate [of] the performance of the ... best-performing plants." *Mossville Env'tl. Action Now v. EPA*, 370 F.3d

1232, 1241 (D.C. Cir. 2004) (quoting *Cement Kiln Recycling Coal. v. EPA*, 255 F.3d 855, 862 (D.C. Cir. 2001) (per curiam)). In developing a reasonable estimate, which must be supported by “substantial evidence,” *NACWA*, 734 F.3d at 1131 (internal quotation marks omitted), EPA is not required to rely only on “actual data, but [may] lawfully rely on estimates drawn from the regulatory data as to what the best performing 12 percent [are] achieving” and must simply provide ““evidence supporting the reasonableness of the approximation.”” *Mossville Env'tl. Action Now*, 370 F.3d at 1241 (citing and quoting *Sierra Club v. EPA*, 167 F.3d 658, 663 (D.C. Cir. 1999)).

As EPA explains, when it set the MACT floors in the IB rulemaking, it had stack testing data that provided only limited duration “snapshots” of the emissions limitation achieved by the better performing sources. EPA Br. at 16. It would not be lawful or reasonable to deem those limited measurements representative of *actual* performance over a more extended period of time during which boiler operations can vary according to process conditions, energy needs of affected facilities, and other relevant factors.³ Instead, this Court has made clear that MACT floors should be set at a level that is “achievable ‘under [the] most adverse circumstances which can reasonably be expected to recur’” with regard to the

³ Cf. *NACWA*, 734 F.3d at 1133 (“Recognizing that variability in the performance of sources can make identifying the best-performing sources based on short-term emissions data a nearly impossible task....”).

performance of the average of the best performing sources. *Sierra Club*, 167 F.3d at 665 (quoting *Nat'l Lime Ass'n v. EPA*, 627 F.2d 416, 431 n.46 (D.C. Cir. 1980)); *see also* EPA Br. at 82-83.

To meet its statutory obligation to develop floors that represent the average performance of the best-performing sources *over time*, EPA applied the UPL methodology to the data at hand to develop a “reasonable estimate,” as this Court’s case law requires.

Environmental Petitioners cannot dispute that EPA may account for emissions variability in setting MACT floors, as that is firmly established D.C. Circuit law. Instead, they attempt to attack specific aspects of EPA’s chosen methodology of accounting for variability and do so in the same manner in which they did in *NACWA*.⁴ They claim application of the UPL methodology creates an estimate that is not an “average” and that does not represent performance that has been “achieved” (past tense). Env’tl. Pet’rs’ Br. at 40. These UPL-specific challenges are unconvincing and without merit.

This Court has already conducted an in-depth assessment of the UPL methodology and Environmental Petitioners’ claims with respect to the UPL

⁴ *NACWA*, 734 F.3d at 1130 (“Sierra Club ... challenges EPA’s use of the upper prediction limit, arguing that EPA does not demonstrate that the upper prediction limit presented the ‘average emissions limitation achieved’ and was therefore unlawful and arbitrary.”); *id.* at 1140-41 (describing Sierra Club’s arguments in further detail).

methodology in *NACWA*. Based on that assessment, the Court required EPA to evaluate a few very specific potential issues with the methodology on remand. As explained further below, EPA has specifically addressed the *NACWA* Court's order to further explain the Environmental Petitioners' claims through the Remand Memorandum that was provided to this Court in July 2014.⁵ Thus, EPA's use of the UPL methodology in the IB MACT rulemaking is without question appropriate and justified.

A. The Reasonable Estimates Developed by EPA Using the UPL Methodology Represent the Average Emissions of the Best Performers Achieved Over Time (Present Tense).

One reason that the *NACWA* Court remanded EPA's use of the UPL methodology for further consideration was because the Court was unsure if the methodology generated only a *future* estimate of emissions and not an estimate of actual *past* performance. Specifically, the Court asked:

It is not clear to us, however, that the "average emissions limitation achieved by the best performing 12 percent" would refer to the *future*

⁵ Industry petitioners in *NACWA* also challenged aspects of the UPL methodology and its application to sewage sludge incinerators. The Court agreed with two points made by *NACWA* (the industry petitioners). One issue concerned whether the UPL methodology could be used only in evaluating intra-unit variability, or something more. *NACWA*, 734 F.3d at 1145-46. This issue was not raised by environmental petitioners in *NACWA* or Environmental Petitioners in this case. The second issue was specific to the data set at issue in *NACWA*, and likewise is not relevant here. *Id.* at 1146 (discussing industry petitioners' concern that time of year when stack testing was conducted was not representative of emissions over time).

average of a 3-run test that EPA predicts a source in the best-performing 12 percent will fall below with 99 percent confidence.

NACWA, 734 F.3d at 1142 (emphasis added).

In the Remand Memorandum, EPA addressed the *NACWA* Court's concern regarding this issue. As EPA explains, the UPL methodology produces an estimate of "the range of *current* average emissions performance of [the best performers]." Remand Memorandum at 3 (emphasis added) (JA__). According to EPA, this estimate of current performance reasonably represents variability in emissions performance both prior to the time testing was conducted and for future periods after testing is complete. *Id.* Thus, the UPL methodology produces a reliable estimate of what the best performers actually "achieved" and are expected to "achieve" over time.

In addition, in the Remand Memorandum, EPA explains that the calculated limit incorporates variability associated with "the emissions of [best-performing] sources at times other than when the emissions tests occurred." *Id.* With 99 percent confidence, the MACT floor limit "is the level of emissions ... achieved *by the average source* represented in a dataset over a long-term period based on its previous, measured performance history as reflected in short term stack test data." *Id.* at 10 (JA__). In other words, the UPL methodology produces an estimate of the "average emissions limitation achieved" by the best performing sources.

In short, EPA uses the UPL methodology to capture the variability of the best performers and identify the range of expected performance of those boilers outside of a steady-state, planned 3-hour stack test. This methodology characterizes the range of emissions levels expected to be achieved by the top performers because it uses actual stack test data from those top performers and examines the variability of those data. Because this statistical method is not time-dependent, it is equally valid for predicting past performance (i.e., the range of emissions levels expected to have been experienced in the past by the best performers during periods when actual emissions testing was not underway) and future performance. Thus, the UPL methodology provides a valid estimate of the “average emissions limitation achieved” by the best performing sources.

B. EPA Has Addressed, or Is Addressing, the Court’s Concerns About the Results Produced by the UPL Methodology.

In *NACWA*, the Court also questioned EPA’s contention that the UPL methodology was an appropriate method for meeting the Agency’s obligation to “set MACT floors that the best performing sources can expect to meet every day and under all operating conditions” so as to estimate actual performance. *NACWA*, 734 F.3d at 1144 (internal quotation omitted). The Court questioned whether the UPL methodology resulted in predictions of “sufficient accuracy.” *Id.* The Court’s concern largely stemmed from MACT floors calculated from *small* data sets of sewage sludge incinerator emissions. As explained in the Remand

Memorandum, and as approved by this Court, EPA has agreed to reevaluate application of the UPL methodology to small data sets of boiler emissions.⁶ Thus, the primary methodological concern of the Court in *NACWA* is not before the Court in the instant case.

Of the remaining standards actually under review in this litigation, Environmental Petitioners can point to only two that they allege raise concerns about the accuracy of the UPL methodology. *See* Env'tl. Pet'rs' Br. at 14-15. As EPA recognizes, in one of their examples, Environmental Petitioners have inaccurately represented the limit. EPA Br. at 91. And in the second, the limit is a mere 4 *millionths* of a pound per million Btu above the emissions test results of best performers, an unalarming amount given that the methodology is supposed to account for *variable* results. *See id.* Environmental Petitioners have therefore identified no cause to question the accuracy of the UPL methodology in estimating variability based on larger data sets (i.e., those composed of more than nine data points).

⁶ Order, Case No. 11-1108 (May 15, 2014) (Doc. 1493171) (granting EPA's request for partial remand without vacatur of MACT standards based on small data sets); *see also* EPA's Motion for Remand of the Record, for Partial Voluntary Remand Without Vacatur, and for Revision of the Briefing Schedule, Case No. 11-1108, at 10 (Feb. 28, 2014) (Doc. 1482091) (in light of post-*NACWA* evaluation, "seeking a voluntary remand without vacatur of numeric MACT limits that were established on the basis of 9 or fewer data points").

Nonetheless, EPA has addressed the *NACWA* Court's related suggestion – which stemmed from its concern about application of the UPL methodology to small data sets:

While it is true that we “owe particular deference to EPA when its rulemakings rest upon matters of scientific and statistical judgment within the agency’s sphere of special competence and statutory jurisdiction,” *American Coke & Coal Chemicals Institute v. EPA*, 452 F.3d 930, 941 (D.C. Cir. 2006), EPA must still articulate a “rational connection between the facts found and the choice made.” *Burlington Truck Lines, Inc. v. United States*, 371 U.S. 156, 168, 83 S. Ct. 239, 9 L.Ed. 2d 207 (1962). Because we are already remanding the upper prediction limit, we encourage EPA to elaborate *how* the statistical formula it uses can predict the upper limit of incinerator emissions. We are hesitant to rubber-stamp EPA’s invocation of statistics without some explanation of the underlying principles or reasons why its formulas would produce an accurate result, particularly when the “facts found”—the MACT floor datasets—demonstrate flaws in the formula.

NACWA, 734 F.3d at 1145 (emphasis in original). As explained above, none of the standards being challenged in this litigation raise a question from an accuracy perspective as to whether the UPL methodology was appropriately applied. But, in any event, EPA has provided a detailed explanation of how the UPL methodology works, including discussion of how and why this methodology is widely used across diverse disciplines. Remand Memorandum at 4 (JA__). This explanation clearly demonstrates that the UPL methodology produces appropriate results.

II. CO Is a Reasonable Surrogate for Non-Dioxin Organic HAPs.

As EPA explains in its brief, the Environmental Petitioners are fundamentally misapplying the holdings from *Sierra Club v. EPA*, 353 F.3d 976 (D.C. Cir. 2004) and *National Lime Ass'n v. EPA*, 233 F.3d 625 (D.C. Cir. 2000). EPA Br. at 71. EPA correctly explains that those cases did not set out a generally applicable test for determining whether the use of a surrogate is reasonable. *Id.* Instead, those cases were “specific to determining ‘whether the *use of PM* as a surrogate for HAPs is reasonable.’” *Id.* (quoting *Sierra Club*, 353 F.3d at 984) (emphasis added by EPA). Some further elaboration of this important point is warranted. Moreover, as explained below, Environmental Petitioners’ scattershot attempts to dispute the reasonableness of CO as a surrogate are unsupported.

A. The PM-Specific Criteria in *Sierra Club* and *National Lime* Do Not Apply.

The Court in *Sierra Club* and *National Lime* determined that it was necessary to make sure that “PM control technology indiscriminately captures HAP metals along with other particulates.” *Sierra Club*, 353 F.3d at 985; *Nat’l Lime*, 233 F.3d at 639. This was necessary because the record in both cases showed that HAP metal concentrations in PM can vary. The Court reasoned that such variability would not undermine EPA’s PM-based standards, provided that the PM controls would effectively capture whatever amount of HAP metal happened to be present in the particulate matter.

That problem does not exist here. EPA has demonstrated a strong positive correlation between CO emissions and non-dioxin organic HAP emissions for this particular source category.⁷ Memorandum from Eastern Research Group, Inc. to Jim Eddinger, EPA/SPPD, Revised MACT Floor Analysis (August 2012) for the Industrial, Commercial, and Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants – Major Source at 11 & Appendix H Chart H-1a, EPA-HQ-OAR-2002-0058-3836 (“2012 MACT Floor Memo”) (JA __, __). Unlike the PM standards under consideration in *Sierra Club* and *National Lime*, there is an established direct relationship between emissions levels of organic HAPs and CO (e.g., when CO emissions are high, organic HAP emissions are high, and vice versa). The record conclusively demonstrates that organic HAP emissions levels and CO emissions levels truly are tied at the hip.

The Court in *Sierra Club* and *National Lime* also found it necessary to require that PM control must be the only way that HAP metal reductions are achieved. *Sierra Club*, 353 F.3d at 984-85; *Nat’l Lime*, 233 F.3d at 639. This was out of concern that the amount of metal HAP emitted by a particular source might be influenced by factors in addition to the type of PM emissions control employed

⁷ This correlation holds, except at low concentrations, when CO becomes an overly conservative surrogate. EPA Br. at 74-75. In addition, Industry Petitioners have argued that the numerical CO standards for coal boilers should be replaced with work practice standards. Indus. Pet’rs’ Br. at 45-50. The position of the Industry Petitioners is not inconsistent with the argument here.

by the source. For example, as suggested by the environmental petitioners in *Sierra Club*, lower metal HAP emissions might be achieved by reducing the amount of metal HAP in the raw materials used by a particular process. *Sierra Club*, 353 F.3d at 984.

Again, that problem does not exist here. As EPA observed in response to comments on the use of CO as a surrogate for non-dioxin organic HAPs:

Under conditions of ideal combustion, a carbon-based or hydrocarbon fuel will completely oxidize to produce only CO₂ and water. Under conditions of incomplete or non-ideal combustion, a greater amount of CO will be formed. With complex carbon-based fuels, combustion is rarely ideal and some CO and concomitant organic compounds are expected to be formed. Because CO and organics are both products of poor combustion, it is logical to expect that limiting the production of CO would also limit the production of organics.

2011 RTC⁸, Vol. 2 at 15 (JA__).⁹ Because CO and non-dioxin organic HAPs are produced by inefficient combustion, EPA determined that they “can be controlled by either improving the combustion efficiency of the unit, or installing an

⁸ EPA’s *Responses to Public Comments on EPA’s National Emission Standards for Hazardous Air Pollutants for Major Source Industrial Commercial Institutional Boilers and Process Heaters* (Nov. 2011), EPA-HQ-OAR-2002-0058-3289 (“2011 RTC”) (JA__).

⁹ *See also* 2011 RTC, Vol. 2 at 33 (endorsing comments filed by the American Petroleum Institute (“API”) and National Petrochemical and Refiners Association (“NPRA”) that explain why CO is a good surrogate for organic HAPs) (JA__); Attachment C to API and NPRA Comments (Aug. 23, 2010), EPA-HQ-OAR-2002-0058-2960 (cited in RTC, Vol. 2, at 28 (JA__)) (JA__); *see also* API and American Fuel & Petrochemical Manufacturers 2012 Comments at 33-34 (Feb. 21, 2012), EPA-HQ-OAR-2002-0058-3677 (explaining how CO still remains after organic HAPs are oxidized) (JA__-__).

oxidation catalyst on the exhaust of a combustion unit.” Memorandum from Amanda Singleton & Graham Gibson, Eastern Research Group to Brian Shrager, EPA, OAQPS/SPPD, Revised Methodology for Estimating Cost and Emissions Impacts for Industrial, Commercial, Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants – Major Source at 5 (Feb. 17, 2011), EPA-HQ-OAR-2009-0058-3259 (JA__); *see also* 2011 RTC, Vol. 2 at 15 (data showing “organic HAP reductions via oxidation catalysts”) (JA__). Thus, the amount of organic HAP emitted by a boiler is not affected by factors that would not be reflected in the CO emissions from that boiler.

The Environmental Petitioners suggest that burning “cleaner fuels” might be a mechanism for reducing organic HAP emissions in a way that would not be reflected in the CO emissions levels. Env'tl. Pet'rs' Br. at 24. But, the record shows that EPA actually *did* consider fuel switching as a possible “above the floor” standard. 75 Fed. Reg. 32006, 32026 (June 4, 2010) (“For each subcategory, fuel switching to natural gas is an option that would reduce HAP emissions.”) (JA__). The Agency rejected fuel switching for two reasons. First, “natural gas supplies are not available in some areas, and supplies to industrial customers can be limited during periods when natural gas demand exceeds supply.” *Id.* Second, EPA determined that the cost of mandatory fuel switching to natural gas would be prohibitive in relation to the emissions reductions that would be achieved:

[T]he estimated emissions reductions that would be achieved if solid and liquid fuel units switched to natural gas were compared with the estimated cost of converting existing solid fuel and liquid fuel units to fire natural gas. The annualized cost of fuel switching was estimated to be \$13.5 billion compared with \$3.5 billion under the floor approach. The emission reduction associated with fuel switching was estimated to be 4,296 tons per year for metallic HAP, 8 tons per year for mercury, and 50,332 tons per year for inorganic HAP (HCl and HF). The cost for fuel switching is over double the cost of the floor approach while the emission reductions associated with fuel switching are approximately the same.

Id. This assessment is un rebutted by the Environmental Petitioners. It conclusively demonstrates that fuel switching is not viable as a basis for establishing emissions standards under this rule and, therefore, provides no basis for disqualifying CO as a surrogate for organic HAPs.

In any event, EPA established subcategories according to fuel type in order to accommodate the wide variety of fuels used by IB owners and operators and the corresponding differences in boiler design and operation. *Id.* at 32017 (“Boiler systems are designed for specific fuel types and will encounter problems if a fuel with characteristics other than those originally specified is fired.”) (JA__). It would be unreasonable and arbitrary for EPA to mandate fuel switching in this rule because it would defeat EPA’s purpose in establishing subcategories in the first instance.

B. Environmental Petitioners Provide No Substantive Support for Their Assertions about the Properties of CO as Compared to Non-Dioxin Organic HAPs.

The Environmental Petitioners nevertheless argue that CO is not a good surrogate for non-dioxin organic HAPs because, in their view, certain organic HAPs may form outside of the combustion chamber. Env'tl. Pet'rs' Br. at 23. EPA has conclusively shown, based on record evidence, that is not the case. EPA Br. at 72-74. It is notable that EPA decided to set separate standards for certain organic HAPs – the categories of chemicals known as dioxins and furans – precisely because dioxins and furans “can be formed outside the combustion unit” and, therefore, “CO may not be an appropriate surrogate” for these compounds. 75 Fed. Reg. at 32018 (JA__). Thus, EPA clearly was attuned to the possibility that certain organic HAPs may be formed outside the boiler and, where record evidence indicated the need, the Agency set separate standards rather than relying on CO as an ill-fitting surrogate.

The Environmental Petitioners also assert that CO is not an appropriate surrogate for organic HAPs because the level of CO can sometimes increase while levels of organic pollutants decrease. Env'tl. Pet'rs' Br. at 24. They attempt to support their assertion by reference to comments submitted by the Institute of Clean Air Companies (“ICAC”) and by Southern Company. *Id.* A closer look at

these comments shows that they do not support the Environmental Petitioners' contention.

ICAC offers three arguments in questioning the use of CO as a surrogate for organic HAPs. First, ICAC argues that CO is not a good surrogate for dioxin. ICAC Comments at 20 (Aug. 23, 2010), EPA-HQ-OAR-2002-0058-2937 (JA__). As explained above, EPA agrees with this point, which is why the Agency set a separate standard for dioxin instead of using CO as a surrogate.

ICAC next argues that removing CO with a catalyst does not necessarily mean that comparable amounts of organic HAPs are removed by the catalyst. *Id.* at 21 (JA__). But later in the same section of its comments, ICAC asserts that using a catalyst is actually an effective way to control organic HAP emissions from industrial boilers. *Id.* at 22 (“The ICAC would also like to note that controlling CO emissions in coal fired boilers can be achieved with an oxidation catalyst Oxidation catalysts have also been successfully applied to biomass and waste fired boilers to reduce CO and organic HAPS.”) (JA__). So, ICAC's comments actually support the conclusion that a catalyst can be effective in reducing both CO and organic HAP emissions.

Lastly, ICAC asserts that “a boiler operator can control organic HAP with the addition of activated carbon,” but that “CO is not controlled” by activated carbon. *Id.* at 21 (JA__). For one thing, ICAC asserts this to be true, but provides

no substantiating data or studies. Such an unsupported assertion cannot be considered substantial evidence. Moreover, ICAC provides no indication that the owners or operators of affected boilers use or plan to use activated carbon systems or use them in a way that might possibly result in organic HAP reductions (e.g., even if used, ICAC provides no information as to whether activated carbon feed rates would be sufficient to have any effect on organic HAP emissions). Thus, on closer examination, ICAC's comments do not undermine EPA's determination that CO is an appropriate surrogate for organic HAPs.

The same is true for the comments submitted by Southern Company. Most importantly, as EPA explains in its brief, Southern's main point is that CO should not be used as a surrogate for organic HAPs because, in some cases, CO would be an overly conservative indicator of the presence of organic HAPs. Southern Comments at 11 (Aug. 23, 2010), EPA-HQ-OAR-2002-0058-2741 (citing C.J. Lawn, *Principles of Combustion Engineering for Boilers* (1987) for the proposition that "at elevated furnace temperatures, high CO partial pressures may give a false warning on" organic HAP emissions) (JA__). This outcome is the diametric opposite of the Environmental Petitioners' concern.

A concern that CO overstates organic HAP emissions at elevated temperatures does not undermine the use of CO as a surrogate for non-elevated temperatures. Moreover, at elevated temperatures, the Southern comments suggest

only that steps needed to control CO may be more than is necessary to control organic HAPs. Southern's comments do not elaborate on factors such as the temperature at which this phenomenon might arise and whether that temperature should generally be expected to exist in affected boilers. Without such information, there is no basis for adjusting the use of CO as a surrogate to account for this issue. With or without threshold temperature information, EPA is well within its discretion to use CO as a surrogate for organic HAP emissions.

C. The Relationship Between CO and Organic HAPs Does Not Break Down Such that It Compromises Use of CO as a Surrogate.

The Environmental Petitioners' last argument is that, at very low emission levels, there is a "breakdown" in the relationship between CO emissions and organic HAP emissions. Env'tl. Pet'rs' Br. at 25-26. Environmental Petitioners fail to note, however, that the alleged "breakdown" occurs because, below a certain point, essentially all organic HAPs capable of being combusted have been combusted even though there still may be measurable amounts of CO. This is starkly evident in the technical analysis that EPA prepared in support of the final CO standards. *See* 2012 MACT Floor Memo (JA __ - __).

Appendix H to the 2012 MACT Floor Memo includes three graphs that summarize the information that EPA had available on CO and organic HAP emissions from affected boilers. The first, "Chart H-1a," vividly shows the clear positive relationship that generally exists between CO and formaldehyde, the HAP

that EPA deemed most representative of the organic HAP for which CO is a surrogate under the Boiler Rule. 2012 MACT Floor Memo at Appendix H Chart H1-a (JA__); *see also* 78 Fed. Reg. 7138, 7145 (Jan. 31, 2013) (“Formaldehyde was selected as the basis of the organic HAP comparison because it is the most prevalent organic HAP in the emission database and a large number of paired tests existed for boiler and process heaters for CO and formaldehyde.”) (JA__).

The second and third, “Chart H-1b” and “Chart H-1c,” provide a closer look at the lower level emissions data. 2012 MACT Floor Memo at Appendix H Charts H-1b and H-1c (JA__ - __). They plainly show that emissions of organic HAP fall to near-zero when CO emissions are still measured in the hundreds of parts per million (“ppm”). These data are conclusive and reasonably support EPA’s conclusion that, below measured CO values of 130 ppm, organic HAP emissions should be expected to be at or near zero.

Lastly, Environmental Petitioners note in their Statement of the Case that these data do not support a surrogacy relationship between CO and organic HAPs because “at carbon monoxide levels below 150 ppm, levels of one organic hazardous air pollutant (formaldehyde) ‘appear to increase.’” Env’tl. Pet’rs’ Br. at 6 (citing 78 Fed. Reg. at 7145 (JA__)). This assertion misstates EPA’s conclusion with regard to these data. EPA observes in the final rule that “we are aware of no reason why CO concentrations would continue to decrease and formaldehyde

concentrations would increase as combustion conditions improve.” 78 Fed. Reg. at 7145 (JA__). The Agency concludes that the formaldehyde emissions data likely are skewed higher at low concentrations due to “imprecise formaldehyde measurements at low concentrations (i.e., 1-2 ppm).” *Id.* The Environmental Petitioners do not attempt to rebut EPA’s technical assessment on this point.

Moreover, to the extent Environmental Petitioners are voicing disagreement with the CO level that best represents the “breakdown” point, that issue is foreclosed from consideration in this case because it has been severed and placed in Case No. 13-1256. *See* Order, Case No. 11-1108 (Oct. 16, 2013) (Doc. 1461576).

III. EPA Is Not Required to Consider “Classes, Types, and Sizes” of Sources When It Establishes a Category or Subcategory of Sources.

Environmental Petitioners assert that EPA can only establish subcategories of sources if the subcategorization is based on differences in “classes, types, and sizes” of the sources. This argument is meritless, as it is premised on a fundamental misreading of the statute. CAA § 112(d)(1) reads, in full:

The Administrator shall promulgate regulations establishing emission standards for each category or subcategory of major sources and area sources of hazardous air pollutants listed for regulation pursuant to subsection (c) of this section in accordance with the schedules provided in subsections (c) and (e) of this section. The Administrator may *distinguish among classes, types, and sizes* of sources *within a category or subcategory* in establishing such standards except that, there shall be no delay in the compliance date for any standard

applicable to any source under subsection (i) of this section as the result of the authority provided by this sentence.

CAA § 112(d)(1), 42 U.S.C. § 7412(d)(1) (emphases added).

As the plain language of the statute indicates, EPA *can* distinguish *within* a subcategory based on classes, types, and sizes of sources in establishing MACT standards. The statute does not say that EPA must establish a subcategory based upon those factors.

In fact, the only provision in the statute that has any bearing on the manner in which EPA may establish subcategories is CAA § 112(c)(1), which states that “[t]o the extent practicable, the categories and subcategories listed under this subsection shall be consistent with the list of source categories established pursuant to [CAA § 111, 42 U.S.C.] section 7411 of this title and part C.” That provision further makes it abundantly clear, however, that that qualification does not “limit[] the Administrator’s authority to establish subcategories under ... section [112], as appropriate.” CAA § 112(c)(1), 42 U.S.C. § 7412(c)(1).

In any event, EPA distinguishes among fuels and boiler types in its section 111 boiler standards. *E.g.*, 40 C.F.R. § 60.44b(a) (setting PM limits based on “Fuel/steam generating unit type”). Thus, EPA’s approach to subcategorization taken in the IB MACT rule is consistent with what EPA has historically done under CAA § 111.

CONCLUSION

For the reasons set out above and in EPA's brief, the Court should deny Environmental Petitioners' petition for review of the IB MACT rules.

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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 Industry Intervenor-Respondents in Response to Environmental Petitioners in proof form contains 5,613 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: December 17, 2014

/s/ William L. Wehrum Jr.

CERTIFICATE OF SERVICE

I hereby certify that, on this 17th day of December 2014, a copy of the Joint Brief of Industry Intervenor-Respondents in Response to Environmental Petitioners in proof form was served electronically through the Court's CM/ECF system on all ECF-registered counsel.

/s/ William L. Wehrum, Jr.

REGULATORY ADDENDUM

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§ 60.44b

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fuel (or a mixture of these fuels) in combination with other fuels not subject to a PM standard in §60.43b and not using a post-combustion technology (except a wet scrubber) to reduce SO₂ or PM emissions is not subject to the PM limits in (h)(1) of this section.

(6) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, an owner or operator of an affected facility located in a noncontinental area that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.5 weight percent sulfur, coke oven gas, a mixture of these fuels, or either fuel (or a mixture of these fuels) in combination with other fuels not subject to a PM standard in §60.43b and not using a post-combustion technology (except

a wet scrubber) to reduce SO₂ or PM emissions is not subject to the PM limits in (h)(1) of this section.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009; 77 FR 9459, Feb. 16, 2012]

§ 60.44b Standard for nitrogen oxides (NO_x).

(a) Except as provided under paragraphs (k) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that is subject to the provisions of this section and that combusts only coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain NO_x (expressed as NO₂) in excess of the following emission limits:

Fuel/steam generating unit type	Nitrogen oxide emission limits (expressed as NO ₂) heat input	
	ng/J	lb/MMBtu
(1) Natural gas and distillate oil, except (4):		
(i) Low heat release rate	43	0.10
(ii) High heat release rate	86	0.20
(2) Residual oil:		
(i) Low heat release rate	130	0.30
(ii) High heat release rate	170	0.40
(3) Coal:		
(i) Mass-feed stoker	210	0.50
(ii) Spreader stoker and fluidized bed combustion	260	0.60
(iii) Pulverized coal	300	0.70
(iv) Lignite, except (v)	260	0.60
(v) Lignite mined in North Dakota, South Dakota, or Montana and combusted in a slag tap furnace	340	0.80
(vi) Coal-derived synthetic fuels	210	0.50
(4) Duct burner used in a combined cycle system:		
(i) Natural gas and distillate oil	86	0.20
(ii) Residual oil	170	0.40

(b) Except as provided under paragraphs (k) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts mixtures of only coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain NO_x in excess of a limit determined by the use of the following formula:

$$E_n = \frac{(EL_{go} H_{go}) + (EL_{ro} H_{ro}) + (EL_c H_c)}{(H_{go} + H_{ro} + H_c)}$$

Where:

- E_n = NO_x emission limit (expressed as NO₂), ng/J (lb/MMBtu);
- EL_{go} = Appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/MMBtu);
- H_{go} = Heat input from combustion of natural gas or distillate oil, J (MMBtu);