ORAL ARGUMENT NOT YET SCHEDULED

No. 15-1385 (consolidated with Nos. 15-1392, 15-1490, 15-1491, and 15-1494)

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

MURRAY ENERGY CORPORATION,

Petitioner,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,

Respondent.

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

FINAL BRIEF OF INDUSTRY RESPONDENT-INTERVENORS

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CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

Pursuant to D.C. Circuit Rule 28(a)(1), Industry Respondent-Intervenors in Case No. 15-1490 – the Chamber of Commerce of the United States of America, National Association of Manufacturers, American Petroleum Institute, Utility Air Regulatory Group, Portland Cement Association, American Coke and Coal Chemicals Institute, Independent Petroleum Association of America, National Oilseed Processors Association, American Fuel & Petrochemical Manufacturers, American Chemistry Council, American Forest & Paper Association, American Foundry Society, American Iron and Steel Institute, and American Wood Council (jointly "Industry Respondent-Intervenors") – state as follows:

A. Parties, Intervenors, and *Amici*.

Because these consolidated cases involve direct review of a final agency action, the requirement to furnish a list of parties, intervenors, and *amici curiae* that appeared below is inapplicable. These cases involve the following parties:

Petitioners:

Case No. 15-1385: Murray Energy Corporation.

Case No. 15-1392: State of Arizona, State of Arkansas, New Mexico Environment Department, State of North Dakota, and State of Oklahoma.

Case No. 15-1490: Sierra Club, Physicians for Social Responsibility, National Parks Conservation Association, Appalachian Mountain Club, and West Harlem Environmental Action, Inc. (jointly "Environmental Petitioners").

Case No. 15-1491: Chamber of Commerce of the United States of America, National Association of Manufacturers, American Petroleum Institute, Utility Air Regulatory Group, Portland Cement Association, American Coke and Coal Chemicals Institute, Independent Petroleum Association of America, National Oilseed Processors Association, and American Fuel & Petrochemical Manufacturers.

Case No. 15-1494: State of Texas and Texas Commission on Environmental Quality.

Respondents

Respondents are the United States Environmental Protection Agency (in all of the above cases) and Gina McCarthy, Administrator of the United States Environmental Protection Agency (in Case Nos. 15-1392, 15-1490, 15-1491, and 15-1494).

Intervenors

Intervenors in support of Petitioners in Case No. 15-1392 are the States of Wisconsin, Utah, and Kentucky and, through a separate motion, the State of Louisiana.

Intervenors in support of Respondents consist of two groups: (1) American Lung Association, Sierra Club, Natural Resources Defense Council, and Physicians for Social Responsibility; and (2) Industry Respondent-Intervenors identified above (in Case No. 15-1490).

Amici Curiae

The American Thoracic Society and the American Lung Association have filed a brief as *amici curiae* in support of Petitioners in Case No. 15-1490. The National Association of Home Builders has filed a brief as *amicus curiae* in support of Petitioners in Case Nos. 15-1385, 15-1392, 15-1491, and 14-1494. The Institute for Policy Integrity at the New York University School of Law has filed a brief as *amicus curiae* in support of Respondents. The California Air Resources Board, along with the States of Massachusetts, New York, Rhode Island, and Vermont, the Delaware Department of Natural Resources and Environmental Control, and the District Columbia, have filed a brief as *amicus curiae* in support of Respondents in Case Nos. 15-1385, 15-1392, 15-1491, and 14-1494.

B. Rulings Under Review

These consolidated cases involve final action of the United States Environmental Protection Agency ("EPA") entitled "National Ambient Air Quality Standards for Ozone," published in the *Federal Register* at 80 FR 65292 (Oct. 26, 2015).

C. Related Cases

These consolidated cases have not previously been before this Court or any other court.

RULE 26.1 DISCLOSURE STATEMENTS

Pursuant to Rule 26.1 of the Federal Rules of Appellate Procedure and D.C. Circuit Rule 26.1, Industry Respondent-Intervenors make the following statements:

The ***Chamber of Commerce of the United States of America*** (the "Chamber") is the world's largest business federation. The Chamber is a not-for-profit corporation that represents 300,000 direct members and indirectly represents the interests of more than 3 million companies, state and local chambers, and trade associations of every size, in every industry sector, and from every region of the country. A central function of the Chamber is to advocate for the interests of its members in matters before Congress, the Executive Branch, and the courts. The Chamber has no parent corporation, and no publicly held company has 10% or greater ownership in the Chamber.

The ***National Association of Manufacturers*** ("NAM") is the largest manufacturing association in the United States. It is a national not-for-profit trade association representing small and large manufacturers in every industrial sector and in all 50 states. Manufacturing employs nearly 12 million men and women, contributes more than $2.17 trillion to the U.S. economy annually, has the largest economic impact of any major sector, and accounts for three-quarters of private-sector research and development. 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. It is the powerful voice of the manufacturing community and the leading advocate for a policy agenda that helps manufacturers compete in the global economy and create jobs across the United States. The NAM has no parent corporation, and no publicly held company has 10% or greater ownership in the NAM.

The ***American Petroleum Institute*** ("API") is a national not-for-profit trade association representing over 650 oil and natural gas companies 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 the industry. Its members are leaders of a technology-driven industry that supplies most of America's energy, supports more than 9.8 million jobs and 8% of the U.S. economy, and, since 2000, has invested nearly $2 trillion in U.S. capital projects to advance all forms of energy, including alternatives. API has no parent corporation, and no publicly held company owns a 10% or greater interest in API.

The ***Utility Air Regulatory Group*** ("UARG") is a group of individual electric generating companies and national trade associations. UARG's purpose is to participate on behalf of its members collectively in administrative proceedings

under the Clean Air Act that affect electric generators and in litigation arising from those proceedings. 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.

The ***Portland Cement Association*** ("PCA") is a national not-for-profit trade association representing companies responsible for more than 92% of cement-making capacity in the United States. Its members operate facilities in all 50 states. On behalf of its members, PCA promotes safety, sustainability, and innovation in all aspects of construction; fosters continuous improvement in cement manufacturing and distribution; and generally promotes economic growth and sound infrastructure investment. PCA has no parent corporation, and no publicly held company owns a 10% or greater interest in PCA.

The ***American Coke and Coal Chemicals Institute*** ("ACCCI"), founded in 1944, is an international trade association that represents 100% of the U.S. producers of metallurgical coke used for iron and steelmaking, and 100% of the Nation's producers of coal chemicals, who combined have operations in 12 states. It also represents chemical processors, metallurgical coal producers, coal and coke sales agents, and suppliers of equipment, goods, and services to the industry. ACCCI has no parent corporation, and no publicly held company has 10% or greater ownership in ACCCI.

The ***Independent Petroleum Association of America*** ("IPAA") is a national not-for-profit trade association that represents the thousands of independent oil and natural gas producers and service companies across the United States. Independent producers develop 90% of American oil and gas wells, produce 54% of American oil, and produce 85% of American natural gas. IPAA has over 6,000 members, including companies that produce oil and natural gas ranging in size from large publicly traded companies to small businesses, companies that support this production such as drilling contractors, service companies, and financial institutions. IPAA has no parent corporation, and no publicly held company owns a 10% or greater interest in IPAA.

The ***National Oilseed Processors Association*** ("NOPA") is a national not-for-profit trade association that represents 12 companies engaged in the production of vegetable meals and vegetable oils from oilseeds, including soybeans. NOPA's member companies process more than 1.6 billion bushels of oilseeds annually at 63 plants in 19 states, including 57 plants which process soybeans. NOPA has no parent corporation, and no publicly held company has 10% or greater ownership in NOPA.

The ***American Fuel & Petrochemical Manufacturers*** ("AFPM") is a national not-for-profit trade association whose members comprise approximately 400 companies, including virtually all United States refiners and petrochemical

manufacturers, and supply consumers with a wide range of products and services that are used daily in homes and businesses. AFPM has no parent corporation, and no publicly held company owns a 10% or greater interest in AFPM.

The ***American Chemistry Council*** ("ACC") represents the leading companies engaged in the business of chemistry. ACC members apply the science of chemistry to make innovative products and services that make people's lives better, healthier, and safer. ACC is committed to improved environmental, health, and safety performance through Responsible Care®, common sense advocacy designed to address major public policy issues, and health and environmental research and product testing. The business of chemistry is an $801 billion enterprise and a key element of the nation's economy. ACC has no parent corporation, and no publicly held company has 10% or greater ownership in ACC.

The ***American Forest & Paper Association*** ("AF&PA") is the national trade association of the paper and wood products industry, which accounts for approximately 4% of the total U.S. manufacturing gross domestic product. The industry makes products essential for everyday life from renewable and recyclable resources, producing about $210 billion in products annually and employing nearly 900,000 men and women with an annual payroll of approximately $50 billion. AF&PA has no parent corporation, and no publicly held company has 10% or greater ownership in AF&PA.

The ***American Foundry Society*** ("AFS"), founded in 1896, is the leading U.S.-based metalcasting society, assisting member companies and individuals to effectively manage their production operations, profitably market their products and services, and equitably manage their employees. The association is composed of more than 7,500 individual members representing over 3,000 metalcasting firms, including foundries, suppliers, and customers. AFS has no parent corporation, and no publicly held company has 10% or greater ownership in AFS.

The ***American Iron and Steel Institute*** ("AISI") serves as the voice of the North American steel industry and represents 19 member companies, including integrated and electric furnace steelmakers, accounting for the majority of U.S. steelmaking capacity with facilities located in 41 states, Canada, and Mexico, and approximately 125 associate members who are suppliers to or customers of the steel industry. AISI has no parent corporation, and no publicly held company has 10% or greater ownership in AISI.

The ***American Wood Council*** ("AWC") is the voice of North American traditional and engineered wood products, representing over 75% of the industry that provides approximately 400,000 men and women with family-wage jobs. AWC members make products that are essential to everyday life from a renewable resource that absorbs and sequesters carbon. AWC has no parent corporation, and

no publicly held company has a ten percent (10%) or greater ownership interest in AWC.

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GLOSSARY OF TERMS

Act	Clean Air Act
ATS	American Thoracic Society
CAA	Clean Air Act
CASAC	Clean Air Scientific Advisory Committee
CASAC Letter	CASAC Review of the EPA's *Second Draft Policy Assessment for the Review of the Ozone National Ambient Air Quality Standards* (June 26, 2015), Docket ID No. EPA-HQ-OAR-2008-0699-0190
Env.Pet.Br.	Opening Brief of Public Health and Environmental Petitioners
EPA	U.S. Environmental Protection Agency
EPA.Br.	Brief for Respondent EPA
FEV_1	forced expiratory volume in one second
FR	Federal Register
Ind.Pet.Br.	Joint Opening Brief of Industry Petitioners
ISA	Integrated Science Assessment
J.A.	Joint Appendix
NAAQS	National Ambient Air Quality Standard
O_3	ozone
ppb	parts per billion
ppm-hours	parts per million-hours
PSD	Prevention of Significant Deterioration

SIP	State Implementation Plan
W126	a cumulative seasonal metric of ozone concentrations
≥	greater than or equal to

STATUTORY PROVISIONS

Provisions of the Clean Air Act ("CAA" or "Act") cited herein are reproduced in the Statutory Addendum to the Joint Opening Brief of Industry Petitioners, with the exception of Section 160, which is reproduced in the Statutory and Regulatory Addendum hereto.[1] The regulations discussed herein (other than those set forth in EPA's final rule at issue here) are also reproduced in the Statutory and Regulatory Addendum.

PRELIMINARY STATEMENT

Industry Respondent-Intervenors, many of which are also petitioners in these consolidated cases, believe that EPA's decision to lower the level of the national ambient air quality standards ("NAAQS") for ozone from 75 to 70 parts per billion ("ppb"), as published in 80 *Federal Register* ("FR") 65292 (Oct. 26, 2015), Joint Appendix ("J.A.") 290-467, was unlawful. *See* Joint Opening Brief of Industry Petitioners ("Ind.Pet.Br."). At the same time, Industry Respondent-Intervenors have a strong interest in demonstrating that the arguments of Environmental Petitioners (defined above as petitioners in Case No. 15-1490) that EPA was required to make the NAAQS even more stringent, as well as their other

[1] All statutory citations herein are to the CAA; the Table of Authorities provides parallel citations to the U.S. Code. The Statutory Addenda referenced in the text show both the U.S. Code and the CAA citations.

arguments, are without merit. This brief presents that demonstration. However, nothing herein should be considered an endorsement of EPA's revised NAAQS of 70 ppb.

SUMMARY OF ARGUMENT

1. Primary Standard. Environmental Petitioners argue that the revised primary standard is unlawful because, due to its level and form, it would allow multiple days of exposure to ozone concentrations above a level, 72 ppb, at which, they say, EPA found that adverse effects would occur in some people. Although EPA noted that the responses shown at 72 ppb would be considered "adverse" under some criteria, EPA is not required to set a NAAQS at a level that would prevent all occurrences of concentrations that could produce such responses, but must consider other factors in determining the level "requisite to protect the public health." Those factors include the potential frequency of occurrence of such responses, and the exposures that could produce such responses, in the real world. EPA conducted such an assessment here, which justified its decision not to make the standard even stricter.

Environmental Petitioners also argue that EPA arbitrarily changed its definition of "adverse" health effects from the one it adopted in 2008, so as to exclude evidence of such effects below 70 ppb. That is also incorrect. In 2008,

EPA recognized that clinical studies had shown lung function decrements of 10% or more in some subjects at levels down to 60 ppb, but it decided not to set the NAAQS at that level. Environmental Petitioners challenged that decision, making similar arguments to those raised here; but this Court upheld EPA's decision. The newer studies continue to show similar responses at the same levels (60 and 63 ppb), and EPA again decided that those responses did not warrant setting the standard at those levels. That determination is consistent with EPA's 2008 action.

Environmental Petitioners argue further that EPA failed to explain its departure from the "scientific finding" of the Clean Air Scientific Advisory Committee ("CASAC") that adverse effects occur at 70 ppb. That is incorrect too. EPA recognized CASAC's view that adverse effects will occur in some people at 70 ppb, but it also considered the frequency of those responses. It noted CASAC's conclusion that there is "adequate scientific evidence" to recommend a range of levels *that included 70 ppb* and that the choice of a level within the range is a "policy judgment." 80 FR at 65361 (J.A.360). EPA further acknowledged CASAC's policy advice to set the standard below 70 ppb, but explained its reasons for reaching a different policy judgment.

2. Secondary Standard. Environmental Petitioners argue that EPA erred in three respects when it revised the secondary standard. They argue that: (a) EPA should have adopted the "W126" exposure index as the form of the standard; (b)

EPA misinterpreted the science and CASAC's advice when it determined the requisite level of the revised NAAQS; and (c) EPA failed to adopt a standard directly aimed at protecting leaves from visible damage due to ozone exposure. None of these arguments has merit.

Consistent with CASAC's advice, EPA determined that it would use the W126 exposure index, a cumulative, seasonal ozone exposure metric expressed in parts per million-hours ("ppm-hours"), to identify the level of air quality requisite to protect the public welfare. Using that approach, EPA determined that exposures at or below 17 ppm-hours would protect the public welfare. But EPA was under no obligation to adopt the W126 index as the form of the standard. Instead, the Agency evaluated how to achieve 17 ppm-hour or lower exposure levels under a standard that uses a traditional form and is thus implementable using the existing monitoring network. EPA's analysis demonstrated that a 70 ppb standard, using the same form as the revised primary NAAQS, would provide that level of protection.

Environmental Petitioners also argue that EPA adopted an insufficiently stringent secondary NAAQS because it misinterpreted the science and CASAC's advice with respect to the key welfare effect that EPA evaluated, tree growth reduction. Environmental Petitioners argue, for instance, that such reduction must be limited to no more than 2% and that EPA improperly discounted effects found

in one study on one species of tree. EPA adequately explained its reasons and provided a rational basis for these and other, similar decisions.

Finally, Environmental Petitioners argue that EPA should have adopted a more stringent secondary NAAQS to protect against visible leaf damage, a spotting or discoloration effect. EPA explained that it could not reliably make a determination that this effect was adverse to the public welfare. This Court has upheld EPA's decision not to adopt secondary NAAQS to address particular effects when this sort of uncertainty exists.

3. Grandfathering of Complete PSD Permit Applications.

Environmental Petitioners argue that EPA's "grandfathering" provision that exempts a few complete pending applications for construction permits under the Agency's "prevention of significant deterioration" ("PSD") program from a requirement to demonstrate compliance with the newly promulgated ozone NAAQS is contrary to Section 165(a)(3) of the Act. This argument fails. Neither the Act nor EPA's implementing regulations contain a generic requirement that a permit applicant demonstrate compliance with a NAAQS promulgated after the filing of a complete permit application. EPA's transitional approach to incorporating the new ozone NAAQS into this permitting program is a reasonable exercise of the Agency's discretion.

ARGUMENT

I. Environmental Petitioners' Arguments Regarding the Primary Standard Are Without Merit.

A. The Revised NAAQS Is Not Inadequate to Protect Public Health.

Environmental Petitioners argue that EPA itself found that adverse health effects occur at an ozone level of 72 ppb and that, given that finding, EPA acted unlawfully by establishing a standard with a level (70 ppb) and form (three-year average of the annual fourth-highest daily maximum 8-hour average ozone concentration) that will permit concentrations above that level on multiple days each year. Opening Brief of Public Health and Environmental Petitioners ("Env.Pet.Br.") at 19-30. Environmental Petitioners express this argument in various ways, but all boil down to the same claim: that the standard allows numerous days of exposure higher than the level that EPA found causes adverse health effects. That argument is erroneous and fails to take account of the context of EPA's use of the word "adverse."

EPA did state that the responses reported in the human clinical study by Schelegle *et al*. (2009)[2] at 72 ppb – a combination of lung function decrements (specifically, decreases in forced expiratory volume in one second ["FEV_1"]) and subjective respiratory symptoms in some subjects – met the American Thoracic

[2] Full citations for the scientific references discussed herein are given in the Table of Authorities.

Society ("ATS") criteria for an adverse response, which were also adopted by CASAC. 80 FR at 65343, 65353, 65357 (J.A.342, 352, 356). EPA concluded elsewhere that those responses provide "a strong indication of the potential for exposed individuals to experience this combination of effects," are "properly viewed as adverse," and "can be adverse." *Id*. at 65330-31, 65331, 65363 (J.A.329, 330, 362).

Contrary to Environmental Petitioners' contention, however, as both EPA and this Court have recognized, the fact that such responses in some subjects can be considered "adverse" does not require EPA to set a standard that will prevent all occurrences of ozone concentrations that could produce such responses. *See id*. at 65354 n.124 (J.A.353); *Mississippi v. EPA*, 744 F.3d 1334, 1350-51 (D.C. Cir. 2013) (noting that although the standard challenged there may allow "some number of individuals [to] continue to experience health effects …, we have previously acknowledged the impossibility of eliminating all risk of health effects from 'non-threshold' pollutants like ozone"). Rather, EPA must consider other factors to determine the level "requisite to protect the public health" (CAA §109(b)(1)).

In this case, the responses reported by Schelegle *et al*. at 72 ppb consisted of modest and transient decreases in lung function and subjective symptoms in a relatively small number of subjects (with no correlation between those two types of

effects) even after exposure to this relatively elevated ozone level for over six hours during exercise (which increases the breathing rate and thus ozone exposure compared to most real-world exposures). Given this nature of the responses, it was critical that EPA consider the frequency of such responses in the real world. EPA itself noted that not every person who is exposed to ozone at these levels will experience a response and that not every response will be adverse. 80 FR at 65310, 65331, 65353, 65363 (J.A.309, 330, 352, 362). Thus, the determination of overall adversity to the public health involves considering the frequency of occurrence of the effects. *See id*. at 65353 (J.A.352) ("[a]lthough these FEV_1 decrements provide perspective on the potential for the occurrence of adverse respiratory effects following ozone exposure," EPA agrees that "a more general consensus view of the adversity of moderate responses emerges as the frequency of occurrence increases") and *id*. at 65353 and 65363 (J.A.352, 362) ("repeated occurrences" of the effects "could increase the likelihood of adversity"). Accordingly, in making its decision, EPA considered its assessment of the potential frequency of the exposures that could produce such responses – and, to a lesser extent, its assessment of the frequency of the responses themselves – given the current form of the standard. *Id*. at 65353-54, 65363-64 (J.A.352-353, 362-363). *See* Brief for Respondent EPA ("EPA.Br.") at 58-62.

Environmental Petitioners contend that EPA's reliance on this exposure assessment was unlawful. Env.Pet.Br. at 25-26. As noted above, however, the frequency of occurrence of exposures that could produce the effects of interest is clearly relevant to the establishment of a level requisite to protect public health, particularly given the transient and modest nature of the effects reported at levels below 80 ppb. Moreover, in prior NAAQS rulemakings, EPA has utilized such exposure/risk assessments, and this Court has upheld that practice. *See American Farm Bureau Federation v. EPA*, 559 F.3d 512, 527 (D.C. Cir. 2009); *Mississippi*, 744 F.3d at 1352 (approving EPA's "cautious" treatment of such assessments).[3]

EPA's consideration of these factors thus provides a supportable basis for rejecting Environmental Petitioners' argument that EPA was obligated to make the primary standard even more stringent than it did.[4]

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[3] Environmental Petitioners argue further, that even if the exposure assessment here were relevant and reliable, it shows that the standard would simply allow too many children to experience such exposures. Env.Pet.Br. at 26-29. However, EPA's policy decision here was reasonable given the modest and transient nature of the responses at these ozone levels.

[4] Additional factors also support EPA's decision not to adopt a more stringent standard. These include the proximity of such lower standards to naturally occurring and internationally transported background ozone levels that are not subject to regulation under the CAA. In response to Industry and State Petitioners' opening arguments regarding such background levels, EPA focuses on the impact of background levels on a standard of 70 ppb, EPA.Br. at 100-105, and it concedes that EPA "may consider background ozone when choosing a level within [the] range" of "requisite values," *id*. at 119. Indeed, this Court has indicated that EPA

B. EPA's Decision Not to Adopt a Standard Below 70 ppb Is Consistent with its Decision in 2008.

Environmental Petitioners argue further that EPA arbitrarily changed its definition of "adverse" health effects from that adopted in 2008 so as to exclude evidence of adverse health effects at levels below 70 ppb – evidence which they contend required EPA to reduce its standard below that level. Env.Pet.Br. at 35-40. That argument is incorrect and misleading.

In 2008, EPA recognized that, although the "most certain evidence of adverse health effects" comes from human clinical studies involving exposures to ozone concentrations of 80 ppb and above, 73 FR 16436, 16476 (Mar. 27, 2008) (J.A.28, 68), the exposure-response relationship does not end at that level, but reflects a "continuum ranging … down to [60 ppb]." *Id*. at 16465 (J.A.57). EPA noted specifically that studies by Adams (2002, 2006) showed both lung function (FEV_1) decrements and increases in respiratory symptoms in healthy subjects exposed to 60 ppb, and that some subjects in that study experienced FEV_1 decrements greater than or equal to ("≥") 10%. *Id*. at 16454 (J.A.46). EPA characterized an FEV_1 decrement ≥ 10% in various ways. In a passage cited by

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may consider proximity to peak background ozone levels in setting NAAQS. *American Trucking Ass'ns v. EPA*, 175 F.3d 1027, 1036 (D.C. Cir. 1999), and 283 F.3d 355, 379 (D.C. Cir. 2002). Since levels of 60 or 65 ppb are even closer to background than the 70 ppb standard, background ozone would have a greater impact in preventing attainment of standards at those levels. This provides an additional basis for not setting a standard at those levels.

Environmental Petitioners (Env.Pet.Br. at 40), EPA noted that "this level of response may not represent an adverse health effect in healthy individuals but does represent a level that should be considered adverse for asthmatic individuals." *Id*. at 16455 (J.A.47). In other places, however, EPA noted that such a change in lung function "*can be* clinically significant," *id*. at 16449 (J.A.41) (emphasis added), and is "appropriate for estimating *potentially adverse* lung function decrements in people with lung disease," *id*. at 16463 (J.A.55) (emphasis added, citing CASAC).

Regardless of these characterizations, the critical point is that, in 2008, EPA did not set the NAAQS at the level at which such changes were observed by Adams, given the "small percentage of subjects" that experienced FEV_1 decrements $\geq$ 10%[5] and the "increasing uncertainty" about the likelihood of actual health effects at these levels. *Id*. at 16454, 16465-66, 16478 (J.A.46, 57-58, 70).

Environmental Petitioners challenged that decision in *Mississippi*, making arguments very similar to those they advance here: that the Adams studies demonstrated that adverse health effects would occur, particularly in asthmatics, at

[5] EPA's 2013 *Integrated Science Assessment for Ozone and Related Chemical Oxidants* ("ISA") noted that, at 60 ppb, 20% of the subjects in Adams (2002) and 3% of the subjects in Adams (2006) experienced FEV_1 decrements $\geq$ 10%. ISA at 6-18 (J.A.877).

60 ppb, and that EPA was thus required to set the NAAQS at that level. Final Brief for Environmental Petitioners in *Mississippi v. EPA* (No. 08-1200, Document #1391580) at 17-21 (J.A.2283-2287).

This Court rejected those arguments, noting that the Adams studies involved only a limited number of subjects, with only a small number (which the Court described as up to 6 of 30 subjects) experiencing lung function decrements ≥ 10%, that "it was rational to treat the [60 ppb] results with skepticism," and that although the Adams results indicate that some individuals might "experience health effects at and below [75 ppb]," it is impossible to eliminate "all risk of health effects from 'non-threshold' pollutants like ozone." *Mississippi*, 744 F.3d at 1350-51.[6]

In the current rulemaking, EPA noted again that "[t]here is a smooth dose-response curve without evidence of a threshold for exposures between 40 and 120 ppb." 80 FR at 65303 (J.A.302). The new study results fit right into that expected exposure-response relationship, as shown by the graphs in EPA's ISA at 6-8 (J.A.867). Schelegle *et al*. (2009) evaluated lung function changes and subjective symptoms at 88, 81, 72, and 63 ppb, finding a decreasing magnitude of such

[6] In their current brief, Environmental Petitioners quote the Court's statement in *Mississippi* that future similar studies might "yet reveal that the [60 ppb] level produces significant adverse decrements…." Env.Pet.Br. at 36, quoting 744 F.3d at 1350. As shown below, however, the more recent studies do *not* show "significant adverse" effects at 60 ppb that would require establishment of a NAAQS at that level, as EPA determined.

responses over that range, with no statistically significant changes at 63 ppb. As in the Adams studies, only a relatively small number of the subjects exposed at the two lowest levels (19% or about 6 of 33 at 72 ppb and 16% or about 5 of 33 at 63 ppb) showed FEV_1 decrements ≥ 10%. ISA at 6-17 (J.A.876). Similarly, Kim *et al*. (2011) reported small lung function decrements and airway inflammation at 60 ppb, with only 3 of 59 subjects (5%) showing FEV_1 decrements ≥ 10%. *Id*. at 6-18 (J.A.877). There were no new clinical studies on asthmatics.

In lowering the NAAQS to 70 ppb, EPA placed heavy weight (erroneously in our view; *see* Ind.Pet.Br. at 37-39) on the Schelegle *et al*. finding of a combination of lung function decrements and respiratory symptoms in some subjects at 72 ppb. 80 FR at 65343, 65353 (J.A.342, 352). However, EPA also determined, as it had in 2008, that the effects reported at 63 and 60 ppb did not warrant setting the standard at those levels, due to "less confidence" and "greater uncertainty" regarding the extent to which those effects are adverse to public health. *Id*. at 65344, 65357, 65361, 65363 (J.A.343, 356, 360, 362).[7] *See also id*. at 65358 (J.A.357), noting that the lack of information "on the extent to which a

[7] In this regard, EPA noted that ATS considers an FEV_1 decrement ≥ 10% to represent an "abnormal," but not necessarily "adverse," response, 80 FR at 65303 (J.A.302), EPA's Responses to Comments at 20, 51 (J.A.1128, 1147), and that CASAC stated that such a change "could be adverse" in individuals with lung disease, 80 FR at 65353, 65358 (J.A.352, 357).

short-term transient decrease in lung function in a population … could affect the risk of other, more serious respiratory effects" supports EPA's "judgment that there is uncertainty in the adversity of effects shown to occur at 60 ppb." EPA thus decided not to reduce the standard to 60 ppb. That determination is consistent with what EPA did in 2008 and cannot be said to be arbitrary and capricious.[8]

C. EPA Acted Consistently with CASAC's Scientific Advice and Adequately Explained its Departure from CASAC's Policy Recommendations.

Environmental Petitioners claim that EPA failed to "rationally explain" its "departure" from CASAC's "scientific finding" that adverse effects occur at 70 ppb. Env.Pet.Br. at 31-34. Specifically, they cite CASAC's statements that lung function decrements and respiratory symptoms "almost certainly occur in some people, including asthmatics and others with low lung function …, at levels of 70 ppb and below," and that "[a]t 70 ppb, there is substantial scientific certainty of a variety of adverse effects …." *Id*. at 31, quoting CASAC's Letter of June 25, 2014

[8] *Amici* ATS and American Lung Association argue, *inter alia*, that EPA put too much weight on human clinical studies of healthy subjects, thus disregarding the epidemiological evidence on effects on sensitive subgroups (Br. at 25-27). However, EPA fully evaluated the epidemiological evidence on sensitive subgroups, acknowledging and considering the uncertainties in those studies and the risk estimates derived from them, 80 FR at 65335, 65341 (J.A.334, 340); and it properly concluded that these studies "do not provide a compelling basis" and are of "more limited utility" in distinguishing between the appropriateness of 70 ppb and lower levels, *id* at 65359, 65364 (J.A.358, 363).

("CASAC Letter") at 6 and 8 (J.A.529, 531). Environmental Petitioners claim that EPA did not address that finding, contrary to CAA Sections 307(d)(3)&(d)(6) and this Court's decision in *Mississippi*. That contention is wrong.

EPA quoted CASAC's above-cited statement from its Letter at 6, 80 FR at 65322 (J.A.321); and it noted several times that CASAC had judged that the combination of lung function decrements and respiratory symptoms constituted an "adverse" response and will "almost certainly occur in some people" (*e.g.*, asthmatics) at levels below 72 ppb. *Id*. at 65343, 65344, 65353, 65357 (J.A.342, 343, 352, 356).

But that is not the end of the matter, because, as discussed above, EPA was not required to set the standard at a level that would eliminate *all* such responses, but was obligated to consider other factors as well, including the frequency of occurrence of such responses. Even if certain types of responses would "almost certainly occur" in some individuals at a given ozone level, the question whether the occurrence of those responses, considering their nature and frequency, would be "adverse" to public health, thus warranting a lower standard, is not a scientific question; it is a policy question.

Here, EPA specifically quoted CASAC's conclusion that, despite the statements cited by Environmental Petitioners, there is "adequate scientific evidence to recommend a range of levels … from 70 ppb to 60 ppb" – a range that

thus *included 70 ppb* – and that "the choice of a level within the range recommended based on scientific evidence is a policy judgment...." *Id*. at 65361 (J.A.360) (quoting CASAC Letter at ii and 8). *See also id*. at 65355 (J.A.354) and EPA.Br. at 66-67. EPA also noted CASAC's concurrence with the protectiveness of the current form of the standard. *Id*. at 65352 (J.A.351) (quoting CASAC Letter at 6). Finally, EPA observed that CASAC offered the "policy advice" to set the standard below 70 ppb, *id*. at 65361 (J.A.360, quoting CASAC Letter at ii and 8); but EPA explained in detail its rationale for reaching a different policy judgment, *id*. at 65361-65 (J.A.360-364). That is sufficient to comply with the CAA and this Court's *Mississippi* decision.

II. Environmental Petitioners' Arguments Regarding the Secondary Standard Are Without Merit.

EPA revised the secondary NAAQS to a level of 70 ppb using the same form as the primary standard. 80 FR at 65369 (J.A.368). Environmental Petitioners contend EPA should have adopted a NAAQS with a new, alternative form and that EPA set the level of the NAAQS too high. EPA provided a thorough rationale for rejecting these positions. Environmental Petitioners also argue that EPA was obligated to revise the NAAQS to specifically protect against visible leaf damage (discoloration). Under Section 109(b) of the Act, EPA may revise a secondary NAAQS only to protect the public welfare from "known or anticipated

adverse effects"; and EPA properly found here that the evidence could not reliably support a finding that visible leaf damage constitutes an adverse public welfare effect.

In considering the evidence that could support a secondary standard, EPA focused on the evidence relating ozone exposures to reductions in growth (biomass loss) in trees, which EPA identified as a proxy for all vegetation-related welfare effects of ozone. EPA found that the limited body of science available suggested that keeping tree growth loss below 6% in nearly all instances would protect plant and ecosystem health. 80 FR at 65407 (J.A.406).

To evaluate how to achieve this goal, EPA used the W126 exposure index. Unlike the NAAQS themselves, the W126 index "is a cumulative seasonal aggregate of weighted hourly O_3 values observed between 8 a.m. and 8 p.m." *Id.* at 65300 (J.A.299). This index measures the amount of ozone that vegetation is exposed to over a growing season during daylight hours, when relatively higher ozone concentrations have a greater impact. Use of this index thus allows EPA to capture the exposures of concern and design a standard to address them.

That is how EPA proceeded here. EPA first determined that a three-year average W126 index of 17 ppm-hours of ozone was associated with median biomass loss below 6% and was thus an appropriate benchmark for determining welfare protection. *Id.* at 65407 (J.A.406). EPA then evaluated how to achieve

protection consistent with 17 ppm-hours through a NAAQS. EPA's analysis showed that a 70 ppb standard using the same form as the primary standard (and thus implementable using the existing monitoring network) would achieve 17 ppm-hour or lower ozone exposures in nearly all instances and accordingly would be protective. *Id*. at 65408-09 (J.A.407-408).

Environmental Petitioners disagree with this approach. But for the reasons below, their arguments should be rejected.

A. EPA Was Not Required to Adopt the W126 Index as the Form of the Secondary Standard.

EPA considered adopting a cumulative weighted index secondary standard in the 1997 and 2008 ozone NAAQS reviews, but decided not to do so. 62 FR 38856, 38876-78 (July 18, 1997) (J.A.4, 13-15); 73 FR at 16486-87, 16497-16500 (J.A.78-79, 89-92). Again in the present rulemaking, EPA determined that adoption of a W126 form for the secondary NAAQS is unnecessary. Environmental Petitioners challenge that determination, claiming that CASAC foreclosed the option of a traditional-form standard and that EPA concurred in CASAC's judgment. Env.Pet.Br. at 48-49.

Environmental Petitioners misrepresent CASAC's and EPA's positions. The CASAC discussion they quote addressed the adequacy of the *previous 75 ppb standard* to achieve a 15 ppm-hour level of protection, based on an analysis

contained in EPA's second draft Welfare Risk and Exposure Assessment. CASAC Letter at 11-12 (J.A.534-535). It did not address – and CASAC never specifically commented on – the key analysis demonstrating the correlation between the protection afforded by the revised 70 ppb standard and a W126 level of 17 ppm-hours.[9]

In any case, to the extent that EPA rejected CASAC's advice, it fully and adequately explained the reasons for its decision. EPA explained that, although it had concluded, consistent with CASAC's advice, that the W126 index was appropriate for identifying the requisite level of welfare protection, that does not dictate use of that form for the standard. 80 FR at 65399 (J.A.398). It explained further that it had identified a three-year average W126 index value of 17 ppm-hours or lower as adequately protective, that a revised secondary standard should thus restrict cumulative seasonal exposures to that level in nearly all instances, and that an 8-hour standard of 70 ppb using the traditional form would provide such protection. *Id*. at 65408-09 (J.A.407-408). Such an explanation is all that is required where EPA deviates from CASAC's advice. *See Mississippi*, 744 F.3d at 1354-55.

[9] That analysis was presented in an EPA memorandum by Benjamin Wells (2015), Docket No. EPA-HQ-OAR-2008-0699-4325 (J.A.1235-1253).

Environmental Petitioners also challenge the validity of the air quality analyses that EPA used to support its determination that a 70 ppb NAAQS would provide the requisite protection. Env.Pet.Br. at 49-51. They claim that an analysis based on a 7 ppm-hour rather than a 17 ppm-hour benchmark, or a one-year rather than a three-year averaging period, would have shown that a 70 ppb standard is not adequate. These arguments are without merit. As explained further in Section II.B, EPA explained its reasons for adopting a 17 ppm-hour benchmark with a three-year averaging period and rejecting lower W126 benchmarks. 80 FR at 65400 (J.A.399).

Finally, EPA's decision on the form of the secondary NAAQS is consistent with this Court's decisions in *American Farm Bureau*, 559 F.3d at 530, and *Mississippi*, 744 F.3d at 1359-61, both of which rejected secondary NAAQS that were based on EPA analyses intended to demonstrate that the protection afforded by the primary standard would also be protective of public welfare. Those analyses were nothing like EPA's demonstration here. In *American Farm Bureau*, EPA simply compared the percentage of counties that would meet the primary standard to those that would meet the secondary standard under consideration, offering no meaningful information about the level of protection that either standard would afford. 559 F.3d at 530. In *Mississippi*, EPA compared relative levels of protection between the revised primary standard and various seasonal

levels, but did not identify any level that was "requisite to protect the public welfare." 744 F.3d at 1361. EPA's analysis here showed that the standard EPA adopted will provide the 17 ppm-hour level of protection that EPA determined to be requisite.[10] That is precisely what this Court has called for, and EPA's determination should be upheld.

B. EPA Reasonably Rejected Establishing a Secondary Standard at a Level More Stringent than the Primary NAAQS.

Environmental Petitioners claim that the revised secondary standard is flawed because EPA identified an incorrect level of protection as its benchmark. They claim that CASAC determined that the benchmark should reflect no more than 2% median biomass loss, that CASAC identified 7 ppm-hours as the appropriate benchmark for protecting forests, and that CASAC discouraged EPA from promulgating a standard based on a three-year average. Env.Pet.Br. at 42-43.

Environmental Petitioners mischaracterize the nature of CASAC's 2% biomass loss recommendation. As EPA's brief explains, CASAC recommended only that EPA *consider* a standard that would achieve an estimated median 2% biomass loss, and EPA did just that. EPA.Br. at 80-81; CASAC Letter at iii and 14 (J.A.518, 537).

[10] *See* Wells (2015), *supra*, at 6, Table 4 (J.A.1240).

Even if CASAC had recommended a median 2% loss benchmark, EPA adequately explained its decision not to adopt that benchmark. As EPA noted, the identification of an appropriate target level of tree growth protection is a policy judgment. 80 FR at 65387 (J.A.386). EPA explained further that the 2% threshold was based on the findings of a 1996 workshop and a study by Wittig *et al*. (2009), *id*. at 65394 (J.A.393), that the workshop was unreliable because it provided "no explicit rationale" for the 2% threshold, *id*. at 65378 (J.A.377), and that Wittig *et al*. (2009) did not address 2% biomass loss and in fact evaluated yearly biomass loss values "all above 20%," *id*. at 65394 (J.A.393). Because there was no scientific basis for a 2% median biomass loss benchmark, EPA adopted a target of below 6% as a more supportable alternative.

EPA then determined that, based on the exposure-response functions for 11 tree species, W126 levels of 19 ppm-hours and 17 ppm-hours are associated with median biomass losses of 6% and 5.3%, respectively. *Id*. at 65396, 65407 (J.A.395, 406). Environmental Petitioners argue that this determination also contravenes CASAC's advice.

First, Environmental Petitioners assert that CASAC determined that only a 7 ppm-hour standard could protect against adverse biomass loss. Env.Pet.Br. at 44. The record shows otherwise. CASAC expressly recommended that EPA consider a standard set at a level "*within the range* of 7 ppm-hrs to 15 ppm-hrs." CASAC

Letter at iii (J.A.518) (emphasis added). It further acknowledged that the choice as to level was a "policy judgment," not a scientific decision within CASAC's expertise. *Id*.

Second, Environmental Petitioners argue that EPA arrived at its 19 ppm-hour level of equivalence to 6% biomass loss only by excluding the exposure-response function for the eastern cottonwood. Env.Pet.Br. at 43. As explained in its brief, however, EPA reasonably decided to focus on tree species for which it had more robust data, and that reasoning was consistent with CASAC's advice. EPA.Br. at 81-82; 80 FR at 65384 (J.A.383).

Reassessing the exposure-response functions after discounting the cottonwood study, EPA found that the biomass loss estimate for 17 ppm-hours was nearly identical to its prior estimate for biomass loss at 15 ppm-hours – that is, *below* 6%, not *at* 6% as its previous analysis had shown – and thus below the level that CASAC had found to be "unacceptably high." *Id*. at 65393 n.197, 65396 (J.A.392, 395). Accordingly, a range including 17 ppm-hours was effectively equivalent to the upper end of CASAC's recommended range. *Id*. And even if it were not, EPA adequately explained any departure from CASAC's recommendation.

Environmental Petitioners also challenge EPA's decision to rely on a three-year average benchmark rather than a single-season benchmark. First, they argue

that EPA's "stability" rationale for adopting a three-year average was unfounded. Env.Pet.Br. at 45. Program stability, however, was only one of EPA's rationales for using a three-year average. As EPA's brief explains, a three-year average also responds to uncertainties in the science associated with single-year exposures and better addresses cumulative effects over multiple years. EPA.Br. at 84; *see also* 80 FR at 65390, 65398 (J.A.389, 397). EPA addressed CASAC's recommendations regarding the averaging period, noting CASAC's recognition that this issue was "a matter of policy" and noting the significant scientific uncertainties associated with impacts over only a single year. *Id*. at 65404 (J.A.403).

Second, Environmental Petitioners argue that EPA improperly relied on single-year data when deriving its three-year average benchmark. Env.Pet.Br. at 46. However, EPA did consider three-year average information, including: an evaluation in EPA's Welfare Risk and Exposure Assessment of three-year average W126 index values at various levels, 80 FR at 65374 (J.A.373); a Policy Assessment analysis that evaluated biomass loss estimates in terms of a three-year average W126 index, *id*. at 65380 (J.A.379); and an assessment of 22 "Class I" areas that evaluated "the occurrence of 3-year average W126 index values at or above 19 ppm-hrs," *id*. at 65385 (J.A.384).

Finally, Environmental Petitioners argue that a three-year benchmark will allow exposures in excess of 19 ppm-hours. Env.Pet.Br. at 46-47. However, the

record establishes that using a three-year averaging period will not result in such exposures. EPA's brief explains that the single-year exposure examples Environmental Petitioners cite in fact support use of a three-year average. EPA.Br. at 85-86. Further, EPA explained that its initial assessment of W126 values associated with sites meeting a 70 ppb NAAQS (Wells 2014, Docket No. EPA-HQ-OAR-2008-0699-0155, J.A.476-492) identified just one site with a W126 value over 19 ppm-hours (at 19.1 ppm-hours), which was the only such occurrence "in the nearly 4000 3-year W126 index values" evaluated. 80 FR at 65400 (J.A.399). EPA then expanded its technical analysis by providing additional details and summary tables for all three-year periods from the 13-year dataset. *Id*. That additional analysis confirmed that no other site experienced an exposure of 19 ppm-hours or higher. This information provides a sufficient basis for EPA's determination that a 70 ppb standard will prevent ozone exposures of 19 ppm-hours and will most often result in much lower exposures.

Environmental Petitioners ask this Court to overrule EPA's scientific and policy judgments based on unsupported claims and their own policy preferences. Their arguments should be rejected, as EPA acted well within the bounds of the law and its discretion in declining to adopt a different secondary standard.

C. EPA Properly Determined that the Science Did Not Justify Setting a NAAQS to Protect Against Visible Leaf Damage.

EPA evaluated three categories of welfare effects: (1) impacts on tree growth, (2) visible leaf damage, and (3) crop-yield loss. 80 FR at 65370 (J.A.369). As described above, EPA selected biomass loss in trees as the basis for assessing whether to revise the secondary ozone NAAQS. EPA also found that a standard designed to address that effect would provide additional protection against visible leaf damage and crop-yield loss, but concluded that it could not establish a standard precisely aimed at those effects because the available information was too limited. *Id*. at 65405-06 (J.A.404-405).

Environmental Petitioners contend that EPA's secondary standard unlawfully fails to protect against visible leaf damage. Env.Pet.Br. at 52-56.[11] Under Section 109(b), secondary standards must be no more or less stringent than required to "protect the public welfare" from "known or anticipated *adverse effects*" of a pollutant. CAA §109(b)(2) (emphasis added). The secondary standards thus require proof of such known or anticipated "adverse" effects and, unlike the primary health-based standards, do not require a precautionary margin of safety. Environmental Petitioners have failed to establish that EPA was

[11] Environmental Petitioners do not argue that EPA should have revised the secondary standard to address crop-yield loss. Regardless, EPA provided a rational basis for declining to establish such a standard. 80 FR at 65379 (J.A.378).

obligated to set a secondary standard to protect the public welfare from an adverse effect linked to visible leaf damage.

As EPA's brief explains, the Agency properly concluded that the available evidence could not reliably support a finding that visible leaf damage is adverse to public welfare. EPA.Br. at 87-89. EPA acknowledged that ozone exposure can cause leaf discoloration, but it could not link that phenomenon to any effect of significance, like reduced growth or productivity. 80 FR at 65378 (J.A.377). EPA further noted that there are no criteria "regarding a level or prevalence of visible foliar injury considered to be adverse to the affected vegetation." *Id*. Environmental Petitioners argue that leaf discoloration is enough in itself to require a NAAQS revision, but the presence of a welfare effect is not the same as a demonstration that an effect is adverse to the public welfare. Environmental Petitioners fail to address that central element of the secondary standard.

In reviewing this claim, the Court should consider its decision in *Center for Biological Diversity v. EPA*, 749 F.3d 1079 (D.C. Cir. 2014). As in that case, the uncertainties EPA faced here were so great that the Agency could not formulate a secondary NAAQS that would satisfy the CAA's statutory standard. Although the specific uncertainties obviously differ, both situations are fundamentally the same: uncertainties prevented EPA from making a reasoned judgment as to the point at which an effect becomes adverse to the public welfare, much less determining the

level of any standard that would be "requisite" to protect the public welfare from such an effect.

Environmental Petitioners attempt to distinguish *Center for Biological Diversity* on the ground that the uncertainties were greater there. Env.Pet.Br. at 55-56. However, determining the degree of uncertainty that would justify not setting a standard is a judgment that "is emphatically the province of EPA." *Center for Biological Diversity*, 749 F.3d at 1090.[12] Although Environmental Petitioners cite differing ranges of ppm-hour exposure levels identified by CASAC and the National Park Service as potentially protective against visible leaf damage (Env.Pet.Br.at 55-56), they have failed to rebut EPA's judgment that broader uncertainties as to the significance of this effect prevent a reasoned judgment as to whether those effects are adverse to public welfare. There is no basis for vacating or remanding EPA's determination.

[12] Environmental Petitioners cite *Sierra Club v. EPA*, 719 F.2d 436 (D.C. Cir. 1983), for the proposition that EPA has a "heavy burden" when it determines not to establish a NAAQS to address a given effect. Env.Pet.Br. at 56. That case and the cases it relies on address the administrative impossibility doctrine. EPA did not invoke that doctrine, which involves an agency's failure to undertake a mandatory statutory duty as a result of such things as budget or time constraints, and that doctrine is not at issue here. On the contrary, EPA fulfilled its statutory obligation to review the secondary ozone standard and properly determined that the record did not warrant setting a standard directed specifically to leaf damage.

III. Environmental Petitioners' Arguments Regarding the Grandfathering of Complete PSD Permit Applications Are Without Merit.

In its final rule, EPA amended its existing regulations to specify that, for a very limited number of pending applications for new source construction permits under the Agency's PSD program, a permit may be issued if the application demonstrates that emissions from the new source will not cause or contribute to an exceedance of the pre-existing 75 ppb NAAQS, instead of the revised 70 ppb NAAQS. 80 FR at 65460 (J.A.459) (codified at 40 C.F.R. §§51.166(i)(11); 52.21(i)(12)). Environmental Petitioners challenge this "grandfathering" provision as violative of Section 165(a)(3) of the Act. Env.Pet.Br. at 57-62. This argument also fails.

A. The Act Does Not Require a PSD Permit Applicant to Demonstrate Compliance with a NAAQS Promulgated After a Complete Permit Application Has Been Filed.

The PSD permit program, which implements Section 165 of the Act, requires a pre-construction permit for construction of a major emitting facility in any area other than a nonattainment area. CAA §165(a). Issuance of such a permit occurs only after review of a completed permit application demonstrating compliance with all applicable CAA requirements in accordance with EPA's regulations. CAA §165(a)(2). A permit application is complete when it "contains all of the information necessary for processing the application." 40 C.F.R.

§§51.166(b)(22); 52.21(b)(22). Once complete, the application must be granted or denied within one year. CAA §165(c). Contrary to Environmental Petitioners' argument, neither the Act nor EPA's implementing regulations address, on a generic basis, changes to NAAQS that are promulgated *after* the complete application is accepted for review and *before* the permit is issued.

Section 165 and EPA's implementing regulations, 40 C.F.R. §§51.166 & 52.21, require the owner or operator of a proposed new source to file a PSD permit application demonstrating compliance with NAAQS, other PSD requirements, and applicable emission standards. 40 C.F.R. §§51.166 (j)-(p), 52.21(j)-(p). In particular, a complete application must demonstrate that emissions from the proposed facility will not cause or contribute to air pollution in excess of any NAAQS. CAA §165(a)(3); 40 C.F.R. §§51.166(k); 52.21(k). A finding that an application is "complete" cabins the NAAQS addressed in that application and shifts the burden to the permitting agency to determine, within one year, whether to grant or deny the permit. CAA §165(c). Although EPA or another permitting authority may request additional information from an applicant, neither the Act nor EPA's regulations require generically that an applicant amend the application to address NAAQS that are revised after the application is deemed complete, or direct the permitting authority to address compliance with NAAQS that are not, and could not have been, included in the completed application.

Thus, under the "familiar two-step *Chevron* framework" for reviewing an agency's statutory interpretation, *Mississippi Comm'n on Envtl. Quality v. EPA*, 790 F.3d 138, 151 (D.C. Cir. 2015) (citing *Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 843-44 (1984)), since Congress has not spoken directly to the issue, EPA has no *Chevron* Step 1 obligation to require PSD permit applicants with completed applications to demonstrate compliance with subsequently promulgated NAAQS. Accordingly, EPA may exercise *Chevron* Step 2 discretion to fill the statutory "gap."

B. EPA's Modifications to its PSD Regulations in the 2015 Ozone Rule Are a Legitimate Exercise of EPA's Discretion.

As shown above, Congress did not resolve the question of how new NAAQS will be addressed by permitting authorities reviewing pending PSD permit applications. EPA interpreted the Act to allow the Agency to specify how permitting authorities are to address a new NAAQS. In the current rule, EPA adopted a tiered transitional approach to this issue. EPA determined the relevant ozone NAAQS for the required NAAQS impact analysis are as follows: (1) for a permit application that was formally found to be complete by October 1, 2016, the NAAQS in effect at the time of the completed application; (2) for a permit application on which notice of a preliminary permit determination or draft permit had been published by December 28, 2015, the NAAQS in effect at the time of that

notice or draft; and (3) for all other permit applications, the new revised ozone NAAQS. 80 FR at 65460 (J.A.459) (codified at 40 C.F.R. §§51.166(i)(11), 52.21(i)(12)). For permit applicants that do not have to demonstrate compliance with the new NAAQS, those NAAQS would be addressed through the State Implementation Plan ("SIP") process, as is the case for NAAQS promulgated after permit issuance.

In adopting this approach, EPA exercised discretion to fill the "gap" left by Congress regarding the treatment of new NAAQS when a permit application is pending. *Chevron*, 467 U.S. at 843-44. That exercise of discretion is within EPA's authority under the Act, as the Ninth Circuit recognized in *Sierra Club v. EPA*, 762 F.3d 971, 982-83 (9th Cir. 2014), with respect to the grandfathering of pending PSD permit applications from newly adopted NAAQS.

EPA's exercise of its discretion was not arbitrary, capricious, or an abuse of discretion. The Agency gave sound reasons for its action. First, EPA recognized that, for sources for which completed PSD permit applications are pending when NAAQS are revised, tension exists between the requirement of Section 165(a)(3)(B) to demonstrate compliance with the NAAQS and the requirement of Section 165(c) for action on a complete permit application within a year. 80 FR at 65433-34 (J.A.432-433). The Agency also knew that preparation of a permit application is time-consuming. *See* 79 FR 75234, 75378 (Dec. 17, 2014) (J.A.256)

(acknowledging the "significant level of effort, resources and time involved in preparing all of the information necessary for a complete permit application").[13] It knew further that the time required to conduct supplemental analysis for an application completed substantially before the ozone NAAQS revision could prevent a permitting agency from taking action on the application within the year provided under Section 165(c). In these circumstances, EPA adopted an interpretation of Section 165(a)(3)(B) that reasonably filled a gap concerning treatment of new NAAQS by sources for which PSD permit applications were previously completed.

Second, as EPA explained, "[t]he legislative history [of the Act] illustrates congressional intent to avoid delays in permit processing." 80 FR at 65434 (J.A.433), citing S. Rep. No. 94-717 (1976). The tiered transitional approach EPA adopted in the ozone rule minimizes unnecessary delay and is consistent with the purpose of the PSD program to "insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources." CAA §160(3).

[13] *See also* Axiall Corporation Comments (2015) (Docket No. EPA-HQ-OAR-2008-0699-1982) at 3 (J.A.1379) ("[i]t is not uncommon for new projects to take five years from conception to permit application").

Third, EPA permissibly exercised its discretion to limit the number of permits that could be issued without addressing the revised NAAQS. EPA's Responses to Comments at 329 ("the grandfathering provision is limited in scope and by design").

Finally, as shown in EPA's brief (at 132-33), EPA acted consistently with its long-standing approach of using grandfather provisions in applying the requirements of Section 165(a)(3) to a new or revised NAAQS. *See* 78 FR 3086, 3258-59 (Jan. 15, 2013) (J.A.1, 2-3); 73 FR 28321, 28340 (May 16, 2008) (J.A.109, 110); 52 FR 24672, 24683 (July 1, 1987) (J.A.107, 108).

In short, EPA's action concerning PSD permitting represented a reasonable exercise of its discretion to interpret the statute. It therefore should be upheld.

CONCLUSION

For the foregoing reasons, this Court should reject all Environmental Petitioners' arguments.

Respectfully submitted,

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Dated: September 26, 2016

CERTIFICATE OF COMPLIANCE

Pursuant to Rule 32(a)(7)(C) of the Federal Rules of Appellate Procedure and Circuit Rule 32(e)(3), I hereby certify that the foregoing Final Brief of Industry Respondent-Intervenors contains 7,734 words, as counted by a word processing system that includes headings, footnotes, quotations, and citations in the count, and is thus within the word limit of 7,750 words for this brief, as set by the Court in its Order dated March 9, 2016.

/s/ James R. Bieke
James R. Bieke

STATUTORY AND REGULATORY ADDENDUM

INDEX TO STATUTORY AND REGULATORY ADDENDUM

CAA § 160, 42 U.S.C. § 7470, Congressional declaration of purpose

The purposes of this part are as follows:

(1) to protect public health and welfare from any actual or potential adverse effect which in the Administrator's judgment may reasonably be anticipate to occur from air pollution or from exposures to pollutants in other media, which pollutants originate as emissions to the ambient air), notwithstanding attainment and maintenance of all national ambient air quality standards;

(2) to preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic, or historic value;

(3) to insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources;

(4) to assure that emissions from any source in any State will not interfere with any portion of the applicable implementation plan to prevent significant deterioration of air quality for any other State; and

(5) to assure that any decision to permit increased air pollution in any area to which this section applies is made only after careful evaluation of all the consequences of such a decision and after adequate procedural opportunities for informed public participation in the decisionmaking process.

40 C.F.R. § 51.166, Prevention of significant deterioration of air quality

* * *

(b) *Definitions.* All State plans shall use the following definitions for the purposes of this section. Deviations from the following wording will be approved only if the State specifically demonstrates that the submitted definition is more stringent, or at least as stringent, in all respects as the corresponding definitions below:

* * *

(22) *Complete* means, in reference to an application for a permit, that the application contains all the information necessary for processing the application. Designating an application complete for purposes of permit processing does not preclude the reviewing authority from requesting or accepting any additional information.

* * *

(j) *Control technology review.* The plan shall provide that:

(1) A major stationary source or major modification shall meet each applicable emissions limitation under the State Implementation Plan and each applicable emission standards and standard of performance under 40 CFR parts 60 and 61.

(2) A new major stationary source shall apply best available control technology for each a regulated NSR pollutant that it would have the potential to emit in significant amounts.

(3) A major modification shall apply best available control technology for each a regulated NSR pollutant for which it would be a significant net emissions increase at the source. This requirement applies to each proposed emissions unit at which a net emissions increase in the pollutant would occur as a result of a physical change or change in the method of operation in the unit.

(4) For phased construction projects, the determination of best available control technology shall be reviewed and modified as appropriate at the least reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project. At such time, the owner or operator of the applicable stationary source may be required to demonstrate the adequacy of any previous determination of best available control technology for the source.

(k) *Source impact analysis*—(1) *Required demonstration.* The plan shall provide that the owner or operator of the proposed source or modification shall demonstrate that allowable emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases or reduction (including secondary emissions), would not cause or contribute to air pollution in violation of:

(i) Any national ambient air quality standard in any air quality control region; or

(ii) Any applicable maximum allowable increase over the baseline concentration in any area.

(2) [Reserved]

(l) *Air quality models.* The plan shall provide for procedures which specify that—

(1) All applications of air quality modeling involved in this subpart shall be based on the applicable models, data bases, and other requirements specified in appendix W of this part (Guideline on Air Quality Models).

(2) Where an air quality model specified in appendix W of this part (Guideline on Air Quality Models) is inappropriate, the model may be modified or another model substituted. Such a modification or substitution of a model may be made on a case-by-case basis or, where appropriate, on a generic basis for a specific State program. Written approval of the Administrator must be obtained for any modification or substitution. In addition, use of a modified or substituted model must be subject to notice and opportunity for public comment under procedures set forth in §51.102.

(m) *Air quality analysis*—(1) *Preapplication analysis.* (i) The plan shall provide that any application for a permit under regulations approved pursuant to this section shall contain an analysis of ambient air quality in the area that the major stationary source or major modification would affect for each of the following pollutants:

(*a*) For the source, each pollutant that it would have the potential to emit in a significant amount;

(*b*) For the modification, each pollutant for which it would result in a significant net emissions increase.

(ii) The plan shall provide that, with respect to any such pollutant for which no National Ambient Air Quality Standard exists, the analysis shall contain such air quality monitoring data as the reviewing authority determines is necessary to assess ambient air quality for that pollutant in any area that the emissions of that pollutant would affect.

(iii) The plan shall provide that with respect to any such pollutant (other than nonmethane hydrocarbons) for which such a standard does exist, the analysis shall contain continuous air quality monitoring data gathered for purposes of determining whether emissions of that pollutant would cause or contribute to a violation of the standard or any maxiumum allowable increase.

(iv) The plan shall provide that, in general, the continuous air monitoring data that is required shall have been gathered over a period of one year and shall represent the year preceding receipt of the application, except that, if the reviewing authority determines that a complete and adequate analysis can be accomplished with monitoring data gathered over a

period shorter than one year (but not to be less than four months), the data that is required shall have been gathered over at least that shorter period.

(v) The plan may provide that the owner or operator of a proposed major stationary source or major modification of volatile organic compounds who satisfies all conditions of 40 CFR part 51 appendix S, section IV may provide postapproval monitoring data for ozone in lieu of providing preconstruction data as required under paragraph (m)(1) of this section.

(2) *Post-construction monitoring.* The plan shall provide that the owner or operator of a major stationary source or major modification shall, after construction of the stationary source or modification, conduct such ambient monitoring as the reviewing authority determines is necessary to determine the effect emissions from the stationary source or modification may have, or are having, on air quality in any area.

(3) *Operation of monitoring stations.* The plan shall provide that the owner or operator of a major stationary source or major modification shall meet the requirements of appendix B to part 58 of this chapter during the operation of monitoring stations for purposes of satisfying paragraph (m) of this section.

(n) *Source information.* (1) The plan shall provide that the owner or operator of a proposed source or modification shall submit all information necessary to perform any analysis or make any determination required under procedures established in accordance with this section.

(2) The plan may provide that such information shall include:

(i) A description of the nature, location, design capacity, and typical operating schedule of the source or modification, including specifications and drawings showing its design and plant layout;

(ii) A detailed schedule for construction of the source or modification;

(iii) A detailed description as to what system of continuous emission reduction is planned by the source or modification, emission estimates, and any other information as necessary to determine that best available control technology as applicable would be applied;

(3) The plan shall provide that upon request of the State, the owner or operator shall also provide information on:

(i) The air quality impact of the source or modification, including meteorological and topographical data necessary to estimate such impact; and

(ii) The air quality impacts and the nature and extent of any or all general commercial, residential, industrial, and other growth which has occurred since August 7, 1977, in the area the source or modification would affect.

(o) *Additional impact analyses.* The plan shall provide that—

(1) The owner or operator shall provide an analysis of the impairment to visibility, soils, and vegetation that would occur as a result of the source or modification and general commercial, residential, industrial, and other growth associated with the source or modification. The owner or operator need not provide an analysis of the impact on vegetation having no significant commercial or recreational value.

(2) The owner or operator shall provide an analysis of the air quality impact projected for the area as a result of general commercial, residential, industrial, and other growth associated with the source or modification.

(p) *Sources impacting Federal Class I areas—additional requirements*—(1) *Notice to EPA.* The plan shall provide that the reviewing authority shall transmit to the Administrator a copy of each permit application relating to a major stationary source or major modification and provide notice to the Administrator of every action related to the consideration of such permit.

(2) *Federal Land Manager.* The Federal Land Manager and the Federal official charged with direct responsibility for management of Class I lands have an affirmative responsibility to protect the air quality related values (including visibility) of any such lands and to consider, in consultation with the Administrator, whether a proposed source or modification would have an adverse impact on such values.

(3) *Denial—impact on air quality related values.* The plan shall provide a mechanism whereby a Federal Land Manager of any such lands may present to the State, after the reviewing authority's preliminary determination required under procedures developed in accordance with paragraph (r) of this section, a demonstration that the emissions from the proposed source or modification would have an adverse impact on the air quality-related values (including visibility) of any Federal mandatory Class I lands, notwithstanding that the change in air quality resulting from emissions from such source or modification would not cause or contribute to concentrations which would exceed the maximum allowable increases for a Class I area. If the State concurs with such demonstration, the reviewing authority shall not issue the permit.

(4) *Class I Variances.* The plan may provide that the owner or operator of a proposed source or modification may demonstrate to the Federal Land Manager that the emissions from such source would have no adverse impact on the air quality related values of such lands (including visibility), notwithstanding that the change in air quality resulting from emissions from such source or modification would cause or contribute to concentrations which would exceed the maximum allowable increases for a Class I area. If the Federal land manager concurs with such demonstration and so certifies to the State, the reviewing authority may: *Provided,* That applicable requirements are otherwise met, issue the permit with such emission limitations as may be necessary to assure that emissions of sulfur dioxide, $PM_{2.5}$, PM_{10}, and nitrogen oxides would not exceed the following maximum allowable increases over minor source baseline concentration for such pollutants:

Pollutant	Maximum allowable increase (micrograms per cubic meter)
$PM_{2.5}$:	
Annual arithmetic mean	4
24-hr maximum	9
PM_{10}:	
Annual arithmetic mean	17
24-hr maximum	30
Sulfur dioxide:	
Annual arithmetic mean	20
24-hr maximum	91
3-hr maximum	325
Nitrogen dioxide:	
Annual arithmetic mean	25

(5) *Sulfur dioxide variance by Governor with Federal Land Manager's concurrence.* The plan may provide that—

(i) The owner or operator of a proposed source or modification which cannot be approved under procedures developed pursuant to paragraph (q)(4) of this section may demonstrate to the Governor that the source or modification cannot be constructed by reason of any maximum allowable increase for sulfur dioxide for periods of twenty-four hours or less applicable to any Class I area and, in the case of Federal mandatory Class I areas, that a variance under this clause would not adversely affect the air quality related values of the area (including visibility);

(ii) The Governor, after consideration of the Federal Land Manager's recommendation (if any) and subject to his concurrence, may grant, after notice and an opportunity for a public hearing, a variance from such maximum allowable increase; and

(iii) If such variance is granted, the reviewing authority may issue a permit to such source or modification in accordance with provisions developed pursuant to paragraph (q)(7) of this section: *Provided,* That the applicable requirements of the plan are otherwise met.

(6) *Variance by the Governor with the President's concurrence.* The plan may provide that—

(i) The recommendations of the Governor and the Federal Land Manager shall be transferred to the President in any case where the Governor recommends a variance in which the Federal Land Manager does not concur;

(ii) The President may approve the Governor's recommendation if he finds that such variance is in the national interest; and

(iii) If such a variance is approved, the reviewing authority may issue a permit in accordance with provisions developed pursuant to the requirements of paragraph (q)(7) of this section: *Provided,* That the applicable requirements of the plan are otherwise met.

(7) *Emission limitations for Presidential or gubernatorial variance.* The plan shall provide that in the case of a permit issued under procedures developed pursuant to paragraph (q) (5) or (6) of this section, the source or modification shall comply with emission limitations as may be necessary to assure that emissions of sulfur dioxide from the source or modification would not (during any day on which the otherwise applicable maximum allowable increases are exceeded) cause or contribute to concentrations which would exceed the following maximum allowable increases over the baseline concentration and to assure that such emissions would not cause or contribute to concentrations which exceed the otherwise applicable maximum allowable increases for periods of exposure of 24 hours or less for more than 18 days, not necessarily consecutive, during any annual period:

MAXIMUM ALLOWABLE INCREASE
[Micrograms per cubic meter]

Period of exposure	Terrain areas	
	Low	High
24-hr maximum	36	62
3-hr maximum	130	221

40 C.F.R. § 52.21, Prevention of significant deterioration of air quality

* * *

(b) *Definitions.* For the purposes of this section:

* * *

(22) *Complete* means, in reference to an application for a permit, that the application contains all of the information necessary for processing the application.

* * *

(j) *Control technology review.* (1) A major stationary source or major modification shall meet each applicable emissions limitation under the State Implementation Plan and each applicable emissions standard and standard of performance under 40 CFR parts 60 and 61.

(2) A new major stationary source shall apply best available control technology for each regulated NSR pollutant that it would have the potential to emit in significant amounts.

(3) A major modification shall apply best available control technology for each regulated NSR pollutant for which it would result in a significant net emissions increase at the source. This requirement applies to each proposed emissions unit at which a net emissions increase in the pollutant would occur as a result of a physical change or change in the method of operation in the unit.

(4) For phased construction projects, the determination of best available control technology shall be reviewed and modified as appropriate at the latest reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project. At such time, the owner or operator of the applicable stationary source may be required to demonstrate the adequacy of any previous determination of best available control technology for the source.

(k) *Source impact analysis*—(1) *Required demonstration.* The owner or operator of the proposed source or modification shall demonstrate that allowable emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases or reductions (including secondary emissions), would not cause or contribute to air pollution in violation of:

(i) Any national ambient air quality standard in any air quality control region; or

(ii) Any applicable maximum allowable increase over the baseline concentration in any area.

(2) [Reserved]

(l) *Air quality models.* (1) All estimates of ambient concentrations required under this paragraph shall be based on applicable air quality models, data bases, and other requirements specified in appendix W of part 51 of this chapter (Guideline on Air Quality Models).

(2) Where an air quality model specified in appendix W of part 51 of this chapter (Guideline on Air Quality Models) is inappropriate, the model may be modified or another model substituted. Such a modification or substitution of a model may be made on a case-by-case basis or, where appropriate, on a generic basis for a specific state program. Written approval of the Administrator must be obtained for any modification or substitution. In addition, use of a modified or substituted model must be subject to notice and opportunity for public comment under procedures developed in accordance with paragraph (q) of this section.

(m) *Air quality analysis*—(1) *Preapplication analysis.* (i) Any application for a permit under this section shall contain an analysis of ambient air quality in the area that the major stationary source or major modification would affect for each of the following pollutants:

(*a*) For the source, each pollutant that it would have the potential to omit in a significant amount;

(*b*) For the modification, each pollutant for which it would result in a significant net emissions increase.

(ii) With respect to any such pollutant for which no National Ambient Air Quality Standard exists, the analysis shall contain such air quality monitoring data as the Administrator determines is necessary to assess ambient air quality for that pollutant in any area that the emissions of that pollutant would affect.

(iii) With respect to any such pollutant (other than nonmethane hydrocarbons) for which such a standard does exist, the analysis shall contain continuous air quality monitoring data gathered for purposes of determining whether emissions of that pollutant would cause or contribute to a violation of the standard or any maximum allowable increase.

(iv) In general, the continuous air quality monitoring data that is required shall have been gathered over a period of at least one year and shall represent at least the year preceding receipt of the application, except that, if the Administrator determines that a complete and adequate analysis can be accomplished with monitoring data gathered over a period shorter than one year (but not to be less than four months), the data that is required shall have been gathered over at least that shorter period.

(v) For any application which becomes complete, except as to the requirements of paragraphs (m)(1) (iii) and (iv) of this section, between June 8, 1981, and February 9, 1982, the data that paragraph (m)(1)(iii) of this section, requires shall have been gathered over at least the period from February 9, 1981, to the date the application becomes otherwise complete, except that:

(*a*) If the source or modification would have been major for that pollutant under 40 CFR 52.21 as in effect on June 19, 1978, any monitoring data shall have been gathered over at least the period required by those regulations.

(*b*) If the Administrator determines that a complete and adequate analysis can be accomplished with monitoring data over a shorter period (not to be less than four months), the data that paragraph (m)(1)(iii) of this section, requires shall have been gathered over at least that shorter period.

(*c*) If the monitoring data would relate exclusively to ozone and would not have been required under 40 CFR 52.21 as in effect on June 19, 1978, the Administrator may waive the otherwise applicable requirements of this paragraph (v) to the extent that the applicant shows that the monitoring data would be unrepresentative of air quality over a full year.

(vi) The owner or operator of a proposed stationary source or modification of volatile organic compounds who satisfies all conditions of 40 CFR part 51 Appendix S, section IV may provide post-approval monitoring data for ozone in lieu of providing preconstruction data as required under paragraph (m)(1) of this section.

(vii) For any application that becomes complete, except as to the requirements of paragraphs (m)(1) (iii) and (iv) pertaining to PM_{10}, after December 1, 1988 and no later than August 1, 1989 the data that paragraph (m)(1)(iii) requires shall have been gathered over at least the period from August 1, 1988 to the date the application becomes otherwise complete, except that if the Administrator determines that a complete and adequate analysis can be accomplished with monitoring data over a shorter period (not to be less than 4 months), the data that paragraph (m)(1)(iii) requires shall have been gathered over that shorter period.

(viii) With respect to any requirements for air quality monitoring of PM_{10} under paragraphs (i)(11) (i) and (ii) of this section the owner or operator of the source or modification shall use a monitoring method approved by the Administrator and shall estimate the ambient concentrations of PM_{10} using the data collected by such approved monitoring method in accordance with estimating procedures approved by the Administrator.

(2) Post-construction monitoring. The owner or operator of a major stationary source or major modification shall, after construction of the stationary source or modification, conduct such ambient monitoring as the Administrator determines is necessary to determine the effect emissions from the stationary source or modification may have, or are having, on air quality in any area.

(3) Operations of monitoring stations. The owner or operator of a major stationary source or major modification shall meet the requirements of Appendix B to part 58 of this chapter during the operation of monitoring stations for purposes of satisfying paragraph (m) of this section.

(n) *Source information.* The owner or operator of a proposed source or modification shall submit all information necessary to perform any analysis or make any determination required under this section.

(1) With respect to a source or modification to which paragraphs (j), (l), (n) and (p) of this section apply, such information shall include:

(i) A description of the nature, location, design capacity, and typical operating schedule of the source or modification, including specifications and drawings showing its design and plant layout;

(ii) A detailed schedule for construction of the source or modification;

(iii) A detailed description as to what system of continuous emission reduction is planned for the source or modification, emission estimates, and any other information necessary to determine that best available control technology would be applied.

(2) Upon request of the Administrator, the owner or operator shall also provide information on:

(i) The air quality impact of the source or modification, including meteorological and topographical data necessary to estimate such impact; and

(ii) The air quality impacts, and the nature and extent of any or all general commercial, residential, industrial, and other growth which has occurred since August 7, 1977, in the area the source or modification would affect.

(o) *Additional impact analyses.* (1) The owner or operator shall provide an analysis of the impairment to visibility, soils and vegetation that would occur as a result of the source or modification and general commercial, residential, industrial and other growth associated with the source or modification. The owner or operator need not provide an analysis of the impact on vegetation having no significant commercial or recreational value.

(2) The owner or operator shall provide an analysis of the air quality impact projected for the area as a result of general commercial, residential, industrial and other growth associated with the source or modification.

(3) *Visibility monitoring.* The Administrator may require monitoring of visibility in any Federal class I area near the proposed new stationary source for major modification for such purposes and by such means as the Administrator deems necessary and appropriate.

(p) *Sources impacting Federal Class I areas—additional requirements*—(1) *Notice to Federal land managers.* The Administrator shall provide written notice of any permit application for a proposed major stationary source or major modification, the emissions from which may affect a Class I area, to the Federal land manager and the Federal official charged with direct responsibility for management of any lands within any such area. Such notification shall include a copy of all information relevant to the permit application and shall be given within 30 days of receipt and at least 60 days prior to any public hearing on the application for a permit to construct. Such notification shall include an analysis of the proposed source's anticipated impacts on visibility in the Federal Class I area. The Administrator shall also provide the Federal land

manager and such Federal officials with a copy of the preliminary determination required under paragraph (q) of this section, and shall make available to them any materials used in making that determination, promptly after the Administrator makes such determination. Finally, the Administrator shall also notify all affected Federal land managers within 30 days of receipt of any advance notification of any such permit application.

(2) *Federal Land Manager.* The Federal Land Manager and the Federal official charged with direct responsibility for management of such lands have an affirmative responsibility to protect the air quality related values (including visibility) of such lands and to consider, in consultation with the Administrator, whether a proposed source or modification will have an adverse impact on such values.

(3) *Visibility analysis.* The Administrator shall consider any analysis performed by the Federal land manager, provided within 30 days of the notification required by paragraph (p)(1) of this section, that shows that a proposed new major stationary source or major modification may have an adverse impact on visibility in any Federal Class I area. Where the Administrator finds that such an analysis does not demonstrate to the satisfaction of the Administrator that an adverse impact on visibility will result in the Federal Class I area, the Administrator must, in the notice of public hearing on the permit application, either explain his decision or give notice as to where the explanation can be obtained.

(4) *Denial—impact on air quality related values.* The Federal Land Manager of any such lands may demonstrate to the Administrator that the emissions from a proposed source or modification would have an adverse impact on the air quality-related values (including visibility) of those lands, notwithstanding that the change in air quality resulting from emissions from such source or modification would not cause or contribute to concentrations which would exceed the maximum allowable increases for a Class I area. If the Administrator concurs with such demonstration, then he shall not issue the permit.

(5) *Class I variances.* The owner or operator of a proposed source or modification may demonstrate to the Federal Land Manager that the emissions from such source or modification would have no adverse impact on the air quality related values of any such lands (including visibility), notwithstanding that the change in air quality resulting from emissions from such source or modification would cause or contribute to concentrations which would exceed the maximum allowable increases for a Class I area. If the Federal land manager concurs with such demonstration and he so certifies, the State may authorize the Administrator: *Provided,* That the applicable requirements of this section are otherwise met, to issue the permit with such emission limitations as may be necessary to assure that emissions of sulfur dioxide, $PM_{2.5}$, PM_{10}, and nitrogen oxides would not exceed the following maximum allowable increases over minor source baseline concentration for such pollutants:

Pollutant	Maximum allowable increase (micrograms per cubic meter)
$PM_{2.5}$:	
Annual arithmetic mean	4
24-hr maximum	9
PM_{10}:	
Annual arithmetic mean	17
24-hr maximum	30
Sulfur dioxide:	
Annual arithmetic mean	20
24-hr maximum	91
3-hr maximum	325
Nitrogen dioxide:	
Annual arithmetic mean	25

(6) *Sulfur dioxide variance by Governor with Federal Land Manager's concurrence.* The owner or operator of a proposed source or modification which cannot be approved under paragraph (q)(4) of this section may demonstrate to the Governor that the source cannot be constructed by reason of any maximum allowable increase for sulfur dioxide for a period of twenty-four hours or less applicable to any Class I area and, in the case of Federal mandatory Class I areas, that a variance under this clause would not adversely affect the air quality related values of the area (including visibility). The Governor, after consideration of the Federal Land Manager's recommendation (if any) and subject to his concurrence, may, after notice and public hearing, grant a variance from such maximum allowable increase. If such variance is granted, the Administrator shall issue a permit to such source or modification pursuant to the requirements of paragraph (q)(7) of this section: *Provided,* That the applicable requirements of this section are otherwise met.

(7) *Variance by the Governor with the President's concurrence.* In any case where the Governor recommends a variance in which the Federal Land Manager does not concur, the recommendations of the Governor and the Federal Land Manager shall be transmitted to the President. The President may approve the Governor's recommendation if he finds that the variance is in the national interest. If the variance is approved, the Administrator shall issue a permit pursuant to the requirements of paragraph (q)(7) of this section: *Provided,* That the applicable requirements of this section are otherwise met.

(8) *Emission limitations for Presidential or gubernatorial variance.* In the case of a permit issued pursuant to paragraph (q) (5) or (6) of this section the source or modification shall comply with such emission limitations as may be necessary to assure that emissions of sulfur dioxide

from the source or modification would not (during any day on which the otherwise applicable maximum allowable increases are exceeded) cause or contribute to concentrations which would exceed the following maximum allowable increases over the baseline concentration and to assure that such emissions would not cause or contribute to concentrations which exceed the otherwise applicable maximum allowable increases for periods of exposure of 24 hours or less for more than 18 days, not necessarily consecutive, during any annual period:

MAXIMUM ALLOWABLE INCREASE
[Micrograms per cubic meter]

Period of exposure	Terrain areas	
	Low	High
24-hr maximum	36	62
3-hr maximum	130	221

CERTIFICATE OF SERVICE

Pursuant to Rule 25 of the Federal Rules of Appellate Procedure and Circuit Rule 25(c), I hereby certify that on this 26th day of September, 2016, I served one copy of the foregoing Final Brief of Industry Respondent-Intervenors, including the attached Statutory and Regulatory Addendum, on all registered counsel in these consolidated cases through the Court's CM/ECF system.

/s/ James R. Bieke
James R. Bieke